

## ANNEX A

### BACKGROUND AND DESCRIPTION OF THE PROPOSED AMENDMENTS

#### I. BACKGROUND

##### A. Principles underlying development of existing regulatory framework

In 2001, the Canadian Securities Administrators (CSA) established a framework to permit competition among traditional exchanges and other marketplaces, while ensuring that trading would be fair and transparent. This was effected through the creation and implementation of National Instrument 21-101 *Marketplace Operation* (NI 21-101) and NI 23-101 (together, the Marketplace Rules). The regulatory objectives of the Marketplace Rules at that time were to facilitate greater availability of investor choice, improve price discovery, decrease execution costs, and improve market integrity.<sup>2</sup>

Underlying those regulatory objectives were certain characteristics viewed as being essential to an efficient market. These were outlined both in the 1997 TSE *Report of the Special Committee on Market Fragmentation: Responding to the Challenge*, and subsequently in a 2006 report titled *Ideal Attributes of a Marketplace*.<sup>3</sup> They can be summarized as follows:

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| <i>Liquidity</i>    | Liquidity can be defined as the market's capacity to absorb trades from customers' buy and sell orders at, or near, the last sale price of a particular stock. The greater the number of orders and shares available at a particular price, the more liquid the market will be. Some of the characteristics of liquidity are market depth, market breadth, and resiliency. <sup>4</sup> |
| <i>Immediacy</i>    | Immediacy refers to how fast an order can be filled and is closely linked to market liquidity, because as liquidity increases, the time to complete a trade should decrease.  |
| <i>Transparency</i> | Transparency refers to the degree to which there is real-time dissemination of information about orders and trades to the public. <sup>5</sup>  |

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<sup>2</sup> See *Notice of National Instruments, Companion Policies and Forms – The Regulation of Marketplaces and Trading*, published on August 17, 2001 at (2001) 24 OSCB (Supp).

<sup>3</sup> Eric Kirzner, *Ideal Attributes of a Marketplace*, June 22, 2006, Task Force to Modernize Securities Legislation in Canada, *Canada Steps Up*, Volume 4 – *Maintaining a Competitive Capital Market in Canada*.

<sup>4</sup> Market depth refers to the number of orders at different prices that line the order book. Market breadth is the number of shares that are wanted or offered at a particular price level and the ability to absorb an incoming large order. Resiliency is the ability for a market to attract offsetting orders relatively quickly when order imbalances occur.

<sup>5</sup> In Canada, pre-trade transparency of information regarding orders is required when a marketplace displays orders of exchange-traded securities, and should contain all relevant information including details as to volume, symbol, price and time of the order. Post-trade transparency by a marketplace is always required. Order and trade information must be provided to an information processor or an information vendor if an information processor does not exist. Currently in Canada, TSX Inc. is the information processor for exchange-traded securities other than options.

*Price Discovery* Price discovery refers to the process through which the execution price for a trade is established. The discovery of a security's fair market value is derived from two sources: the supply of and demand for the security, which indicate a participant's willingness to transact at a given price, and information about transactions which have actually occurred.

If prices are not transparent to participants, or there is unequal or incomplete information, participants will not be able to make informed decisions. In addition, if participants are not given access to markets where a security trades, they may be discouraged from trading in that security and a less efficient price discovery process may occur.

*Fairness* Fairness refers to the perception and the reality that all participants are subject to the same rules and conditions and that no individual or group has an unfair advantage or disadvantage. The "fairness" of a market may relate to fair access to a specific marketplace or the market as a whole, fair access to trading information, or the fair treatment of orders.

*Market Integrity* The integrity of the market relates to the level of confidence in the marketplace as a whole or in a particular marketplace. This confidence level is closely associated with both investors' perception of fairness in the market, and also the effectiveness of the regulatory environment.

*Transaction costs* Transaction costs represent the cost of implementing an investor's investment strategy and are important to investors as they directly reduce the net return on investment. They are a major factor in determining on which marketplace investors or brokers will choose to execute trades. These can be broken down into a number of categories, including brokerage commissions and / or dealer mark-ups, transaction fees and market impact costs. Low transaction costs are a characteristic of an effective and efficient market.

Consideration of the above-noted characteristics has continued throughout the ongoing development of the Marketplace Rules and other market structure initiatives, including the subsequent revisions to best execution and the implementation of OPR and the regulatory framework for dark liquidity.<sup>6</sup> Despite some inherent tensions among these characteristics, we have attempted to balance them, where possible.

In our view, any regulatory change necessitates consideration of the above-noted characteristics of an efficient and effective market in the context of our collective mandates to protect investors, and to foster fair and efficient capital markets. In addition, competition and innovation must also be considered given their important role in facilitating the fairness and efficiency of our markets.

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<sup>6</sup> For example, these characteristics were referred to by the CSA in the background paper entitled "Regulation of Alternative Trading Systems in Canada" published on July 2, 1999 at (1999) 22 OSCB (ATS Supp) and in Joint CSA/IIROC Consultation Paper 23-404 *Dark Pools, Dark Orders, and other Developments in Market Structure in Canada* published at (2009) 32 OSCB 7771.

## B. History and principles underlying OPR

Canada has had a form of trade-through regime in place for trading in exchange-traded securities for some time, although the scope of application and underlying principles has evolved. Obligations to respect best price existed in the requirements of the Bourse de Montréal and Toronto Stock Exchange when they traded securities listed on both exchanges,<sup>7</sup> and subsequently were embedded in the initial iteration of best execution obligations reflected in NI 23-101<sup>8</sup> and included in former UMIR Rule 5.2 *Best Price*.

The “realignment” of the Canadian stock exchanges in 1999 resulted in an environment where exchange-traded securities were traded solely on the listing venue, eliminating the need for cross-market trade-through requirements. In anticipation of a return to a multiple marketplace environment, Market Regulation Services Inc. (now IIROC) and the CSA published a series of papers and proposals in connection with a broader review of evolving market developments (primarily, the development of a multiple marketplace environment) and the regulatory framework applicable at the time – this included the development and formalization of the trade-through requirements that were ultimately reflected in OPR.<sup>9</sup>

In the absence of a form of trade-through regime but with competing marketplaces trading the same securities,<sup>10</sup> there were concerns that investors, including retail investors, would perceive an un-level playing field if their orders were not being executed despite showing the best price. This could lead to a loss of confidence in the fairness and integrity of the market, the subsequent withdrawal of investors and / or liquidity from the market, and a decrease in the efficiency of the price discovery process and the markets in general. Critics of OPR however, expressed concerns about the potential for increased costs, and that it would lead to a lack of innovation and competition in Canada.

OPR was finalized in November 2009 and implemented in February 2011.<sup>11</sup> It changed the obligation from solely a dealer obligation to being a marketplace obligation. However, it also gave marketplace participants (primarily dealers) the option to assume the obligations under the rule.

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<sup>7</sup> The “realignment” of Canadian exchanges in 1999 ultimately led to the TSX becoming the market for senior equities, the TSX Venture Exchange becoming the market for venture securities, and the Bourse de Montréal becoming the market for listed derivatives.

<sup>8</sup> A form of best-price obligations were included in the best execution obligations when the Marketplace Rules were first implemented. These obligations were modified, and the best-price obligations removed, when amendments to NI 23-101 were implemented in September 2008.

<sup>9</sup> The CSA began its review of order protection or trade-through in 2005 with the issuance of Discussion Paper 23-403 *Market Structure Developments and Trade-Through Obligations* published on July 22, 2005 at (2005) 28 OSCB 6333, in which the CSA, jointly with the former Market Regulation Services Inc., reviewed developments in market structure and regulation in the US and Europe in the context of best execution and order protection. This led to proposals to formalize OPR that were first published for comment on April 20, 2007 in the notice titled *Joint Canadian Securities Administrators / Market Regulation Services Inc. Notice on Trade-Through Protection, Best Execution and Access to Marketplaces* published at (2007) 30 OSCB (Supp-3). An amended proposal was published on October 17, 2008, under the title *Notice of Proposed Amendments to National Instrument 21-101 Marketplace Operation and National Instrument 23-101 Trading Rules*, published at (2008) 31 OSCB 10033.

<sup>10</sup> At the end of 2007 there were three visible marketplaces trading TSX-listed securities (TSX, Pure and Omega).

<sup>11</sup> *Canadian Securities Administrators Notice of Amendments to National Instrument 21-101 Marketplace Operation and National Instrument 23-101 Trading Rules* published on November 13 2009 at (2009) 32 OSCB 9403.

The CSA notice of amendments described OPR as a requirement that would “ensure that all immediately accessible, visible, better-priced limit orders are executed before inferior-priced limit orders and are not traded through”. It was confirmed to be an obligation owed to the market as a whole: it could not be waived. The CSA noted that OPR was intended to instill confidence on the part of all types of investors so that they would contribute to price discovery by posting visible limit orders.

In finalizing OPR, the CSA recognized the need to maintain a balance between promoting efficient trading services through marketplace competition, while ensuring fairness and integrity through the efficient pricing and trading of exchange-traded securities across multiple marketplaces.

### **C. Relevant requirements and guidance**

Under the current OPR, a trade-through occurs when an order is executed at a price that is either lower than a displayed bid or higher than a displayed offer (displayed bids and offers are considered “protected orders” under the current rule).

Trade-throughs themselves are not expressly prohibited as OPR is drafted as a policies and procedures requirement. The obligations fall first upon the marketplaces which are required to establish, maintain and ensure compliance with written policies and procedures that are reasonably designed to prevent trade-throughs.<sup>12</sup> However, marketplace participants can, and in many cases do, assume responsibility for the obligations through the use of the directed-action order (DAO). The rule also provides for exceptions for certain types of trade-throughs.<sup>13</sup>

Where a marketplace participant chooses to assume the OPR obligations through the use of a DAO, the marketplace participant must first establish, maintain and ensure compliance with written policies and procedures that are reasonably designed to prevent trade-throughs, with the same exceptions noted above.

Regardless of whether a marketplace or marketplace participant assumes the obligation for compliance with OPR, the requirements apply to the full depth-of-book, as was the case in the pre-existing best price obligations. The majority of commenters to the 2005 Discussion Paper and the subsequent formal OPR proposals agreed with the full depth-of-book application.<sup>14</sup> In maintaining the

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<sup>12</sup> The obligations were placed first and foremost on marketplaces because of the potential advantages of doing so. For example, this would reduce the need for linkages from dealers to each marketplace (and therefore less costs for dealers), better facilitate of monitoring and enforcement, and provide better outcomes in terms of consistency of approach.

<sup>13</sup> Exceptions include trade throughs resulting from systems issues at another marketplace, situations such as flickering quotes, or if a marketplace participant has decided to take on trade-through responsibilities for the order through the use of the DAO marker.

<sup>14</sup> An Implementation Committee was also struck in connection with the amendments proposed in October 2008. Part of the Committee’s work included considering whether OPR should be applied at top-of-book, full depth-of-book or at some other level (e.g., to five price levels). Views of the committee members were split. Although the committee agreed that full depth was more complete and philosophically consistent with the policy objectives of the CSA, there was no consensus on whether the incremental protection offered by full depth was sufficient to justify the incremental costs. Questions were posed by the CSA to the committee to investigate this further and, ultimately, OPR was implemented with full depth-of-book protection.

same full depth-of-book standard, the CSA confirmed its view that the policy objectives of investor confidence in the fairness and integrity of the market are more effectively accomplished through full depth protection. It is important for investors, including retail investors, to know that any order they enter on a marketplace will be executed before an inferior-priced order, and a shift to a different standard of protection in Canada (such as a top-of-book obligation) may be perceived as adopting a lower level of investor protection.

## **II. OPR REVIEW**

Since 2007, the Canadian market has evolved into a competitive environment for equity marketplaces, with multiple visible marketplaces trading TSX-, TSXV-, or CSE-listed equity securities.<sup>15</sup> This competition has fragmented order flow across various trading facilities, while at the same time bringing choice – marketplaces have introduced different fee models, faster or innovative technology, and new order types.

This evolution has provided the CSA with an opportunity to assess the outcomes of OPR in the multiple marketplace environment in which it was intended to operate. This assessment includes both the benefits we sought to achieve as well as any costs and unintended consequences. Market participants have raised concerns that the costs of complying with OPR outweigh its benefits. We have noted that these concerns increase with the introduction of each new visible marketplace whose displayed orders are protected by the rule. As a result of our assessment and the concerns of participants, a primary focus of our review was to weigh the benefits of OPR, such as:

- efficiency gains from the virtual consolidation of access to fragmented marketplaces;
- an increased investor perception of a level playing field resulting from their visible better-priced quotes trading ahead of other inferior-priced orders; and
- the effect it has had in fostering the emergence of competition (and the results of that competition);

against the costs of OPR, including the inefficiencies that might arise if:

- market participants have become captive consumers of marketplace services in order to comply with OPR;
- captive consumers are generating revenues for marketplaces, supporting an otherwise unsustainable level of competition; and
- the existence of any such unsustainable competition results in excessive complexities, costs and inefficiencies for equities trading.

In carrying out our review, we interviewed approximately 35 market participants located in British Columbia, Alberta, Ontario and Quebec, representing a variety of sell-side, buy-side, marketplace and vendor interests. The purpose of the interviews was to better understand the effects of OPR, both in terms of benefits and costs. OSC staff also consulted with its Market

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<sup>15</sup> In addition, there are currently four dark marketplaces (including IntraSpread, a facility of Alpha Exchange) trading these same securities.

Structure Advisory Committee, comprised of representatives from similar types of firms. Some data analysis was also performed through IIROC to better understand how OPR operates in a multiple marketplace environment. We also had the benefit of considering comments received on a pre-filing by Aequitas Innovations Inc. The proposals in this pre-filing challenged certain fundamental principles underlying the current regulatory framework (including those underlying OPR), and many commenters took the opportunity to present their specific views on the benefits and costs of OPR. The results of our review are reflected below.

## **A. Review of benefits of OPR**

### **1. Impact of OPR on confidence in the fairness and integrity of the market**

As indicated earlier, the primary objective of OPR is to promote confidence in the fairness and integrity of the market in order to support both liquidity and the efficiency of the price discovery process. Generally, the parties interviewed agreed that OPR assists with these objectives as it provides comfort and certainty in trading outcomes - best-priced displayed orders should generally be executed before inferior-priced orders.<sup>16</sup> Where an investor's primary objective is achieving best price for marketable orders, it was also expressed that OPR provides a mechanism to ensure that the interests of the client are satisfied by their dealer in the order execution process.

However, a common view expressed was that many investors, and retail investors in particular, are likely not aware of OPR and its implications for their orders and, as such, its effect on investor confidence might be difficult to measure. It was also suggested that the ability to measure the effect of OPR on confidence, liquidity and price discovery might be further complicated by the fact that some form of trade-through protection had already existed in the Canadian regulatory framework. The true impact of OPR might not be evident unless the rule was to be loosened or repealed. More generally, it was also noted that the impact on investor perceptions due to the competing effects of macroeconomic conditions, various high-profile technology glitches seen in the operation of foreign markets and high frequency trading, could also challenge any attempt to isolate the impact of OPR on confidence in the fairness and integrity of the markets.

Questions were also raised regarding the benefit of protecting displayed limit orders on markets other than the dominant market for trading (generally, the listing market). It was also questioned whether OPR is having its intended effect if orders on the other marketplaces belong to parties, such as professional traders, whose confidence in the fairness and integrity of the markets would be least likely to be negatively affected in a material way in the absence of the rule. In considering this question further, we examined trade data from each visible marketplace and grouped participants based on certain identifying factors that may proxy for retail, institutional and professional traders. This was done with the objective of examining active/passive ratios<sup>17</sup> for each group, and assessing whose limit orders are receiving the benefit of protection on each

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<sup>16</sup> Except in the types of scenarios where trade-throughs are permitted to occur as outlined in section 6.2 and paragraph 6.4(1)(a) of the current NI 23-101.

<sup>17</sup> Active/passive ratio refers to the comparative calculation of orders which are liquidity providing (passive orders) and liquidity removing (active orders).

visible trading venue.<sup>18</sup> What is generally suggested by the analysis is that the vast majority of the retail and institutional client order flow is entered for display on the listing markets (e.g., on TSX or TSXV), and that a much smaller percentage of retail or institutional order flow is displayed on other marketplaces. Much of the remaining order flow displayed on other marketplaces appears to belong to professional traders. This is further supported by anecdotal evidence provided by dealers during our interviews, regarding the placement of their passive retail and institutional client orders. Some of the results of our analysis are included at Appendix A-1.

## **2. Other identified benefits of OPR**

Based on our observations of the evolution of the multiple marketplace environment, and feedback received during our interviews, OPR has also resulted in increased trading efficiency through the technological investment made by marketplaces, dealers and service providers (vendors) to manage orders across multiple venues. It has also been suggested that OPR, in concert with existing pre-trade transparency requirements, has mitigated the impact of liquidity fragmentation through the virtual consolidation of the central limit order books from each visible market by various market participants and vendors. Finally, we heard generally positive statements from participants regarding the effect that OPR and the preceding UMIR ‘best-price’ obligations had on fostering competition at a time when nearly all trading was conducted on the listing markets (i.e., pre-2008). Although many indicated that competition has put downward pressure on certain fees, this was often overshadowed by concerns with how overall costs have increased as a result of OPR and / or the evolution to a multiple marketplace environment.

## **B. Review of costs and unintended consequences of OPR**

As outlined earlier, OPR requires that all best-priced displayed orders be executed first, regardless of where the orders are displayed (subject to the exceptions noted above). For participants that choose to assume the OPR obligations and control their own order flow through the use of DAOs, the practical result has been the need to acquire (whether directly or indirectly) both market data from, and access to all visible marketplaces. Marketplace participants have suggested that this has led to a situation where they are captive to certain marketplace services, with significant cost implications. It has also been suggested that OPR causes or contributes to certain market inefficiencies, whether in connection to the captive consumer issue or for other reasons. We discuss each of these in more detail below.

### **1. Cost implications of the “captive consumer issue”**

Participants have expressed concerns to us regarding the increased cost burden and market inefficiencies associated with the captive consumer issue for some time. These concerns have become

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<sup>18</sup> Trader IDs were grouped together based on their use of any of: (1) the intentional cross marker (to proxy for institutional client orders); (2) SDL orders on Alpha IntraSpread (stated to be limited to orders of clients that meet the definition of ‘Retail Customer’ under IROC’s member rules); (3) post-only orders (most likely to be used by professional traders executing a market making strategy dependent on the placement of passive orders); (4) and the SME marker (generally intended to capture professional trading in arbitrage accounts, formal market making accounts, informal market making / high-frequency trading accounts, and dealer facilitation accounts).

more pronounced in recent years both as existing marketplaces continue to develop service offerings and introduce fees on new or existing services, and as new marketplaces begin operations.

Based on our interviews and consultations, the direct and indirect costs most commonly connected to OPR and the captive consumer issue can be grouped into the following four categories: marketplace fees, technology costs and risks, trading inefficiencies, and ‘other’ operational implications (e.g., marketplace liability, and compliance burdens).

(i) *Marketplace fees*

During our interviews, a number of marketplace fees were identified as being impacted by the captive consumer issue, specifically trading fees, market data fees and membership or subscriber fees. The materiality of each of these fees in relation to overall cost impact varied between the dealers interviewed. Some viewed trading and data as being the most relevant and indicated that less choice existed in paying these fees, while others specified that membership and subscriber fees were also a significant cost. We note that some of the concerns with respect to marketplace fees are not directly resulting from the implementation of OPR. These are discussed in later sections of this notice.

Regarding trading fees, participants raised specific concerns about the implications of OPR on their costs to execute marketable order flow, given that OPR necessitates that participants trade with the best-priced displayed orders, regardless of the level of fees charged by marketplaces displaying those orders.

The primary concerns raised with data fees were similar to those identified in CSA Staff Consultation Paper 21-401 *Real Time Market Data Fees*<sup>19</sup> (Data Fees Paper). These specifically were that: data fees are generally high; data costs in aggregate have increased significantly as additional visible marketplaces begin charging for data; data fees may not be subject to sufficient competitive forces to bring discipline to the level of fees being charged; and where necessary to comply with regulatory obligations (most notably OPR and best execution obligations), participants are captive to market data fees.

Some dealers expressed concerns about membership or subscriber fees. The extent of the concern depended on whether the dealer’s business model necessitated that it directly access every marketplace. In some examples noted by dealers, their monthly invoices for membership or subscriber fees were significant multiples of the total amount invoiced for trades executed on the marketplace during the month. However, other dealers have addressed these cost concerns by choosing an alternative and entering into jitney arrangements.<sup>20</sup>

One final category of marketplace fees identified were those related to connectivity (i.e. physical connections to the marketplace that are provided by the marketplace). These were an identified

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<sup>19</sup> Published on November 8, 2012 at (2012) 35 OSCB 10099.

<sup>20</sup> The exercise of some degree of choice by dealers with respect to access to trading can also be seen in the recently published results of IIROC’s survey on best execution. See the discussion on Marketplace Access in section 3.1 of IIROC Notice 14-0082 *Best Execution Survey Results* published on March 28, 2014 at [http://www.iiroc.ca/Documents/2014/61ec2e27-7e15-4a42-9adc-5c7895d16c81\\_en.pdf](http://www.iiroc.ca/Documents/2014/61ec2e27-7e15-4a42-9adc-5c7895d16c81_en.pdf).



concern for dealers that access trading on marketplaces through their own managed connections, rather than through a vendor.

In the context of the captive consumer issue, we note that concerns regarding marketplace fees were identified as being an issue primarily for dealers and vendors, as parties who are typically impacted directly by these fees. The institutional investors interviewed indicated there was a general lack of transparency around the impact of trading fees and data fees on their explicit trading costs, as such fees are typically covered by flat rate commissions commonly charged to institutional clients for their trades. As a result, they were generally not in a position to comment on the implications of OPR on these costs. Some noted, however, that certain dealers had begun to charge directly for data fees previously recovered through commissions.

*(ii) Technology costs and risks*

Technology costs were also identified by many dealers as a significant cost associated with the captive consumer issue. The primary costs identified were those relating to the technology infrastructure and staff resources needed to manage the increasing volume of data and complexity that have accompanied the evolution of the multiple marketplace environment. Part of the technology costs included not only internal infrastructure but also any infrastructure needed to facilitate connectivity to a marketplace, which result in connectivity costs that are separate from any connectivity fees charged by a marketplace. It was also acknowledged that many of these technology-related costs might persist in the absence of OPR. They are in many cases a by-product of multiple marketplaces trading the same securities, and the emergence of new trading methodologies. However, some dealer and vendor representatives expressed frustration over their inability to better manage the scope and timing of their technology spend given the implications of OPR for their technology resource allocation. This was the case when discussing both the impact of significant system changes initiated by existing marketplaces, as well as the cost and time needed to prepare for the launch of each new visible marketplace. These costs are incurred regardless of whether the marketplace has demonstrated value for clients. It was noted that these costs included not only the hard and soft development and maintenance costs, but also the opportunity costs of having to defer or abandon other technology projects and improvements.

The risks imposed by the scope, timing or frequency of system changes at visible marketplaces were also identified as a concern by both dealer and vendor representatives. It was noted that such marketplace system changes can introduce risks to their systems, and sufficient testing time is needed to ensure the continued proper operation of systems and algorithms. It was not clear from our discussions whether this issue stemmed from a concern with the actual amount of lead-time currently being afforded by marketplaces, or if it related more to the need to accommodate the scheduling of marketplace changes regardless of any competing internal technology resource demands and pressures.

Again, as was the case for marketplace fees, in the context of OPR these costs were only raised as a concern by dealer and vendor representatives. The institutional investors interviewed were generally reliant on the system infrastructure provided to them by a dealer or vendor.

### *(iii) Trading inefficiencies*

OPR has also been identified to us as creating or compounding certain trading inefficiencies that could have a variety of implications for both dealers and their clients. The scope of the impact included execution quality, implicit and explicit trading costs, and the administrative costs associated with back-office trade processing. Such inefficiencies can arise because OPR compliance requires an order to trade against the best prices displayed across all marketplaces. This can result in execution quality being negatively impacted, especially in instances where the size of the order necessitates trading with displayed orders at multiple price levels.<sup>21</sup> It was suggested that this can result in signalling and latency which advantages other participants, and can result in worse executions or lost fills for the client. It was also suggested that the costs associated with routing in such a manner are often not sufficiently outweighed by the benefits of capturing small volume orders displayed on each marketplace at a better, or even the best, price (e.g., 100 shares). As noted earlier, in such circumstances additional questions were raised as to whether the passive orders receiving the benefits of OPR belong to counterparties who are in greatest need of the protection afforded by the rule.

Many dealers also identified 'ticketing costs' that are often charged by the dealer's back-office service providers for each fill received from each marketplace submitted for clearing. Given the effect that OPR can have on the routing of an order across multiple marketplaces, participants indicated that ticketing costs have increased significantly as orders that previously might have been filled at once on one marketplace, are now being split into multiple fills (and incurring multiple tickets costs). We understand that some dealers have implemented or are in the process of implementing mechanisms to mitigate these costs through 'trade compression'.<sup>22</sup>

### *(iv) Other operational implications*

Dealers have expressed concerns regarding the lack of negotiating power with marketplaces to which they feel captive as a result of OPR. The most notable of these concerns relates to the liability provisions contained in marketplace membership or subscriber agreements that, as a result of OPR, many dealers feel compelled to sign in order to access trading on a marketplace as a member or subscriber. They believe this results in an unreasonable transfer of risk from the marketplace to the dealer where the marketplace disclaims or severely limits liability for member or subscriber losses caused by the marketplace.

Dealers also identified increased compliance cost issues associated with each new visible market displaying orders that must be accessed to comply with OPR.

## **2. Potential impact on broader market efficiency**

In addition to an increased cost burden, OPR is also viewed by some as creating or contributing to broader market inefficiencies. It can be argued that OPR acts as a support for marketplaces, in that it

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<sup>21</sup> Even in the absence of OPR, it was indicated that these costs will continue to exist to the extent a dealer has determined it necessary to trade their client orders in a similar way to achieve best execution.

<sup>22</sup> Trade compression has been described as a cost minimization process where multiple trades in the same security are grouped / netted to the extent possible before being submitted for clearing purposes, resulting in fewer 'tickets' and 'ticketing charges' by the back-office service vendors.

allows visible marketplaces to collect fees from those who might not otherwise use their services in the absence of OPR.

Where OPR acts as a support for marketplaces, it can also support the launch or continued operation of visible marketplaces that might not otherwise be going-concerns. This can facilitate increased fragmentation which may impact market quality, complexity, and the costs to participants.

Market inefficiencies can also arise to the extent that OPR, and any support for marketplaces resulting from OPR, might stifle competition and innovation – a potential outcome noted in comments to the original OPR proposals. The last few years have shown innovation and competition between marketplaces to be largely occurring on the basis of fees, technology and speed, and via the launch of second trading facilities by existing marketplaces that also appear to be differentiated primarily based on trading fees.

### **C. Other Contributing Market Issues**

We note that many of the issues relating to the costs and market inefficiencies identified above can also be related to factors and issues connected to the broader market structure evolution. This makes separating the effect of OPR from the effect of these other factors or issues more difficult. At a minimum, it is important to consider how each of these might relate to the costs and market inefficiencies, in order to identify what actions might best address the concerns raised.

#### **1. Emergence of the multiple marketplace environment**

As noted earlier, the competitive environment for equity marketplaces has evolved to include multiple marketplaces trading TSX-, TSXV-, and / or CSE-listed equity securities. Even in the absence of OPR, the existence of multiple marketplaces can present many of the same complexities, costs and inefficiencies identified earlier, as order flow is increasingly fragmented across the various markets. OPR, and best execution obligations to a lesser extent, can influence the degree and means of access to each market thereby increasing the potential for added costs and inefficiencies in a multiple marketplace environment.

#### **2. Payment of rebates under maker-taker and inverted maker-taker fee models**

In 2005, TSX introduced a volume-based maker-taker fee model to incentivize the posting of liquidity to compete with marketplaces in the U.S trading interlisted securities. Under this fee model, the liquidity providing side (the maker) of the trade receives a rebate while the liquidity taking side of the trade (the taker) pays a fee. While initially introduced by TSX on securities interlisted on NASDAQ and AMEX, this model was extended in 2006 to trading in all TSX and TSXV listed equity securities. Since then, it has generally formed the basis for trading fee models used by the competing visible equities markets in Canada for their continuous trading sessions.

The payment of a rebate under the maker-taker fee model can be viewed as both an incentive intended to attract order flow to a particular marketplace, and also as a means of rewarding or compensating a liquidity provider for the risk associated with placing that order and contributing

to the price discovery process. With an increased incentive to place passive orders, the maker-taker model has been credited by some for resulting in narrowed spreads, and better execution prices for marketable orders. However, competition to capture passive rebates by some participants may have reduced the ability for other market participants to receive fills on passive orders. As a result certain participants ‘cross the spread’ more often, resulting in both greater execution costs in the form of the spread paid<sup>23</sup>, and increased trading fees.

More recently in both Canada and the U.S., the concept of a payment from a ‘liquidity taker’ to a ‘liquidity maker’ has broadened as markets have evolved. An example of this evolution is illustrated by the increased use of the “inverted” maker-taker model – where the liquidity taker receives a rebate and the liquidity provider pays a fee. The result is a situation where a rebate is no longer being paid to reward for risk and / or price discovery contribution.

Staff are of the view that the payment of rebates under either traditional or inverted maker-taker models is impacting behaviour with respect to both trading and order routing strategies on the part of a variety of market participants. We are concerned that the payment of rebates is incentivizing behaviours in ways which may have a negative impact on our market. These concerns have been raised with us regarding the maker-taker model in connection with the OPR review, the comments received to the Aequitas pre-filing notice, and through our ongoing oversight of marketplaces and market structure. Further, certain issues have been identified in a number of market structure research papers and publications.

*(i) Fragmentation and Segmentation of Order Flow*

We have heard that the variation in trading fee levels and models is contributing to increased fragmentation of order flow beyond what might normally result from a multiple marketplace environment. As noted earlier, Canadian marketplaces have been competing increasingly on the basis of fees. This can be seen through an examination of the various fee changes implemented by venues, and the subsequent fee changes implemented by competitors in response. It can also be seen in connection with the launch of second marketplaces that are differentiated primarily based on fees.

Through our interviews and ongoing oversight activities, we have also heard the view that one of the primary motivations for a marketplace to operate multiple trading facilities with different fees and / or models is to segment order flow in order to cater to certain participants or categories of order flow. An example of this can be seen through the use of the inverted maker-taker model. Under an inverted maker-taker model, a compelling reason must exist for a liquidity provider to pay to post liquidity on a marketplace given that such a decision means forgoing the passive rebate paid by other marketplaces utilizing the traditional maker-taker model. It is our understanding that two primary reasons are as follows:

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<sup>23</sup> There may also be benefits received in the form of narrower spreads and increased liquidity (e.g., increased immediacy) that can have the effect of offsetting these costs to some extent. For example, if retail investor orders historically have tended to be active (and thus cross the spread), these continue to be active but cross a narrower spread resulting in a better execution price for the investor.

- to move the passive order to the top of the consolidated order book, based on the assumption that, given multiple marketplaces displaying orders at the best available price, a cost-sensitive dealer may choose to route a marketable order first to the venue which pays a rebate; and
- to increase the chances of trading with order flow most likely to be sensitive to active trading fees – specifically that of the retail dealer.

To mitigate the resulting increased trading costs, participants may seek less costly means of executing traditionally active flow, as is the case with retail orders. The use of dark pools is one way to address the higher costs associated with routing active orders<sup>24</sup>, given the lower fees typically charged by dark pools, and more recently, inverted maker-taker models are being used for similar purposes.

*(ii) Conflicts of interest*

As noted above, the payment of rebates is being used to incentivize particular routing behaviours, both in inverted and traditional maker-taker models. As a result, the rebate payment raises the potential for conflicts of interest in routing decisions on the part of dealers managing client orders. Angel, Harris and Spatt reference this issue in a 2010 paper and a subsequent 2013 update.<sup>25</sup> They note that dealers may be incentivized to route their clients' limit orders to marketplaces paying the highest rebates, and their marketable orders (subject to the price requirements under OPR) to venues with the lowest active fees (or to venues with an inverted maker-taker model where they receive a rebate). Typically, these rebates are not passed on to the end client.<sup>26</sup> In a July 2013 research publication, Pragma Securities further noted that “a trade execution strategy that is optimal for the broker may not be optimal for the client.”<sup>27</sup> Similar issues were raised in a December 2013 report by the International Organization of Securities Commissions (IOSCO) titled *Trading Fee Models and their Impact on Trading Behaviour*,<sup>28</sup> in which some regulators indicated concern with the impact on best execution for clients if routing decisions are being made by dealers based on the potential for the dealer to earn a rebate or discount (via low fees) on the trade.

*(iii) Transparency issues*

Another concern raised by the maker-taker model is that high rebates may distort the transparency of quoted spreads. Many also believe that while the payment of rebates to liquidity providers may have narrowed spreads due to competition for the rebate, this narrowing is subsidized by the market participant who ultimately pays the fee on the transaction.

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<sup>24</sup> As an example, the use of Alpha IntraSpread is only available to retail order flow due to its restriction on the use of the “seek dark liquidity” (SDL) order type.

<sup>25</sup> *Equity Trading in the 21<sup>st</sup> Century*, Angel, Harris and Spatt, May 2010 and June 2013.

<sup>26</sup> We understand this is the case for Canadian marketplace participants as indicated in section 3.4 of IIROC Notice 14-0082 *Best Execution Survey Results* published on March 28, 2014 at [http://www.iiroc.ca/Documents/2014/61ec2e27-7e15-4a42-9adc-5c7895d16c81\\_en.pdf](http://www.iiroc.ca/Documents/2014/61ec2e27-7e15-4a42-9adc-5c7895d16c81_en.pdf).

<sup>27</sup> *A Conflict Inherent in the Maker-Taker Model: Equities vs. Futures*, Pragma Securities, July 2013, p. 1.

<sup>28</sup> Available at: [www.iosco.org/library/pubdocs/pdf/IOSCOPD430.pdf](http://www.iosco.org/library/pubdocs/pdf/IOSCOPD430.pdf).

When rebates and fees are not passed on to the end client in all circumstances, and only certain market participants are able to gain the potential economic benefit which might come from the rebate payment, an unlevel environment for investors is created. It has been suggested that a potential solution would be to require all fees and rebates to be passed on to the end client, and that this would not only level the economic outcomes of trades for all participants, but would also eliminate any dealer conflicts of interest noted above with respect to routing. However, various industry participants representing different business segments have indicated to us that such a solution may be very difficult and costly to implement from a technology perspective.

Further, and relating specifically to the inverted maker-taker model, Angel, Harris and Spatt note that such models essentially allow the liquidity provider to quote ahead of another participant at what is effectively a sub-penny price<sup>29</sup> not permitted under existing rules.

*(iv) Increased intermediation on highly liquid securities*

Providing incentives to encourage the provision of liquidity can be seen as an objective which is likely to yield positive benefits for the market, but achieving that objective should not come at an unreasonable cost for other market participants. As the multiple marketplace environment expanded and the maker-taker model emerged as the primary fee model utilized to attract passive order flow, a greater number of short-term liquidity providers entered the market. The result has been an increase in liquidity provision, but predominantly in securities which are the most highly liquid. This was illustrated in IIROC's publication of the results of Phases I and II of their study on high frequency trading.<sup>30</sup> In this report it was noted that for user ID's identified as part of the study group, 77% of the volume, 88% of the value and 84% of the number of trades executed were in the most highly liquid TSX-listed securities.

Staff are concerned that while the payment of rebates has successfully increased the level of liquidity primarily in the most liquid securities, it may have led to a situation where there is unnecessary intermediation by short term liquidity providers in securities where such intermediation is least needed. This raises questions regarding the appropriateness of a fee model which necessitates a payment from a liquidity taker to a liquidity provider, where sufficient liquidity already exists.

*(v) Marketplace competition*

We note that competition for rebate-driven volume may reduce the incentive for marketplaces to make changes to their fee models that might address the identified issues (absent a requirement for their competitors to do the same). As an example, there might be a limit to which a marketplace might lower the rebates it pays under a maker-taker model, as a decrease below a certain level could result in significantly lower passive order flow being directed to that market, and a subsequent loss of trading volume, market share and revenue.<sup>31</sup> Especially where competitive pressures are stronger (e.g., interlisted securities and liquid non-interlisted securities

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<sup>29</sup> *Equity Trading in the 21<sup>st</sup> Century*, June 2013, p. 28.

<sup>30</sup> Published at: [http://www.iiroc.ca/Documents/2012/c03dbb44-9032-4c6b-946e-6f2bd6cf4e23\\_en.pdf](http://www.iiroc.ca/Documents/2012/c03dbb44-9032-4c6b-946e-6f2bd6cf4e23_en.pdf).

<sup>31</sup> We acknowledge that, effective November 1, 2013, the TSX and TSXV revised its fee model for securities priced under \$1 to introduce symmetrical fees (i.e., both the active and passive sides pay the same fee per share traded).

priced over \$1), there may be less incentive for marketplaces to deviate from a fee model that involves the payment of rebates for provided liquidity.

### 3. High frequency trading

The Canadian equity marketplace has experienced significant growth in high speed, low latency and technologically- driven trading activity, transforming market dynamics across the industry. The IIROC report on Phases I and II of its study of high frequency trading (HFT), points to a number of factors as having helped to lay the groundwork for HFT. They include the advent of decimalization, multiple marketplaces, increased competition among marketplaces, the globalization of trading and the advancement of trading technologies.<sup>32</sup> In an update presented at the joint OSC / IIROC Market Structure Conference in November of 2013, IIROC identified HFT as representing 15% of volume, 24% of value and 35% of the number of trades executed between January 2012 and June 2013.<sup>33</sup> Further information regarding HFT characteristics, strategies and risks can be found in the July 2011 IOSCO Consultation Report *Regulatory Issues Raised by the Impact of Technological Changes on Market Integrity and Efficiency*<sup>34</sup> and in a March 2014 review published by Staff of the Division of Trading and Markets of the U.S. Securities and Exchange Commission.<sup>35</sup>

While supporters of HFT point to increased liquidity and narrowed spreads as being positive outcomes, others have raised questions about the accessibility of the liquidity being provided and the extent to which spreads have actually narrowed.<sup>36</sup> Concerns have also been raised regarding how potential technology and speed advantages of HFT firms, together with competition amongst them for passive rebates, may have contributed to increased intermediation and the “crowding out at the quote” of other participants. This is said to be contributing to the increased cost burden for dealers, and in particular retail dealers, to the extent that they are more frequently takers of liquidity, and thus more frequently paying active trading fees.

IIROC is continuing with Phase III of its HFT study that may help to identify whether there are in fact specific market quality or market integrity issues with high frequency trading that need to be addressed through new or amended regulation.

In the meantime, we and IIROC have been focussed on introducing and amending requirements applicable to the “infrastructure of trading”. Specifically, the introduction of National Instrument 23-103 *Electronic Trading and Direct Electronic Access to Marketplaces* (ETR) and the proposed amendments to the Marketplace Rules and other requirements found in UMIR, impose requirements on dealers and marketplaces to manage the risks associated with all electronic access to marketplaces, including HFT. These requirements include pre-trade controls, coordinated volume and price thresholds, single stock and market wide circuit breakers, and a host of operational requirements, including quality assurance requirements, applicable to marketplaces in introducing and launching systems. A report published by the OSC relating to

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<sup>32</sup> Published at: [http://www.iiroc.ca/Documents/2012/c03dbb44-9032-4c6b-946e-6f2bd6cf4e23\\_en.pdf](http://www.iiroc.ca/Documents/2012/c03dbb44-9032-4c6b-946e-6f2bd6cf4e23_en.pdf).

<sup>33</sup> Published at: [http://www.iiroc.ca/Documents/2013/03603d99-c3ef-4fb6-8b94-a6b6aa857cf3\\_en.pdf](http://www.iiroc.ca/Documents/2013/03603d99-c3ef-4fb6-8b94-a6b6aa857cf3_en.pdf).

<sup>34</sup> Published at: [www.iosco.org/library/pubdocs/pdf/IOSCOPD354.pdf](http://www.iosco.org/library/pubdocs/pdf/IOSCOPD354.pdf).

<sup>35</sup> Published at: [http://www.sec.gov/marketstructure/research/hft\\_lit\\_review\\_march\\_2014.pdf](http://www.sec.gov/marketstructure/research/hft_lit_review_march_2014.pdf).

<sup>36</sup> See for example: *Evolution of Canadian Equity Markets*, RBC Capital Markets, February 2013.

work performed by a consultant retained to examine the regime concluded that currently no gaps exist in ETR.<sup>37</sup>

#### **4. Implementation of regulatory framework for dark liquidity (Dark Rules)**

Commencing in October 2009, the CSA together with IIROC published a series of joint papers that resulted in the implementation of the Dark Rules, which outline the regulatory approach to dark liquidity.<sup>38</sup> These rules require a resting dark order to provide meaningful price improvement to another order which is small in size, define the “minimum price improvement” needed to be meaningful, and establish priority for visible orders over dark orders at the same price on the same marketplace.

What has been observed since the implementation of the Dark Rules is that certain dark trading facilities experienced a sharp decline in trading activity.<sup>39</sup> It has been suggested that the primary reason for this is that the price improvement requirements removed the economic incentive for the liquidity providers in these facilities to continue to provide passive liquidity. As a result, the dealers that were utilizing those dark facilities to help manage their active trading costs (while also providing their clients with price improvement opportunities) are having more of their active flow trading on visible markets with higher active trading fees. This contributes to their overall cost burden and provides incentives to find alternative means to mitigate their costs.

We note that the implementation of the Dark Rules did not introduce the issues that are contributing to high active-passive ratios for dealers, and high active trading costs. However, when they were introduced, they changed the economics of trading in the dark and the landscape within which dealers could find cost relief. That being said, we note that the intended outcome of the Dark Rules was to reassert the priority of the visible market and the importance of price discovery being achieved through the use of visible orders.

#### **5. Potential issues with market data fees**

The magnitude of market data fees incurred by a dealer is directly impacted by its business model, and the choices it has made with respect to the services it will provide to clients. This has become clear through our continued work on data fees since the publication of the Data Fees Paper and our ongoing discussions with market participants. For example, in some cases dealers (typically those with a specific client base to whom data is not provided) did not identify market data fees as an area of significant concern. For these firms however, the primary issues identified with respect to market data fees were related to the potential for OPR to support marketplaces

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<sup>37</sup> OSC Staff Notice 23-702 *Electronic Trading Risk Analysis Update*, published at:

[http://www.osc.gov.on.ca/documents/en/Securities-Category2/sn\\_20131212\\_23-702\\_electronic-trading-update.pdf](http://www.osc.gov.on.ca/documents/en/Securities-Category2/sn_20131212_23-702_electronic-trading-update.pdf).

<sup>38</sup> This consisted of three joint papers being: (1) Joint CSA / IIROC Consultation Paper 23-404 *Dark Pools, Dark Orders, and Other Developments in Market Structure in Canada* published in October 2009 at (2009) 32 OSCB 7877; (2) Joint CSA / IIROC Position Paper 23-405 *Dark Liquidity in the Canadian Market* published in November 2010 at (2010) 33 OSCB 10764; and (3) Joint CSA / IIROC Staff Notice 23-311 *Regulatory Approach to Dark Liquidity in the Canadian Market* published in July 2011 at (2011) 34 OSCB 8219.

<sup>39</sup> Most notably, Alpha IntraSpread which saw its market share of volume drop from 3.6% in the calendar month before the implementation of the Dark Rules (being September 2012) to 0.3% in the calendar month after (being November 2012).



through the captive consumer issue, and their view as to the potential disconnect between the value and cost of data for some of the smaller marketplaces. Further, we also heard frustration regarding larger marketplaces which may have seen sustained decreases in market share but have not correspondingly adjusted their data fees.

For other dealers, especially those that provide data to clients (whether institutional or retail), and those with a large retail investment advisor network, market data fees were a significant concern. Aside from any relationship that might exist between data fees and OPR (and to a lesser extent best execution), the concerns with respect to market data fees incurred by these dealers seemed to relate mostly to the following:

- the increasing cost to acquire data from all markets as a result of additional visible marketplaces charging for data;
- the potential that data fees are not subject to sufficient competitive forces as a result of both marketplace control over the production and pricing of their market data products, and the inability to substitute market data from one marketplace with that from another.

These issues were considered in the Data Fees Paper, but only in relation to fees paid by professional subscribers. As a result of our discussions with participants and further consideration of data fee issues more generally, we have placed some additional focus on the level of non-professional market data fees.

While non-professional data subscribers would not be subject to the captive consumer issue associated with OPR, they may be subject to a similar effect as a result of the second of the two issues identified in the bullets above. This group may use data primarily to obtain indicative pricing information and as such, acquiring data from all marketplaces may not be necessary. Although this potentially allows for competitive pricing to manage the fees charged to these groups, it appears that the industry continues to rely primarily (and in many cases solely) on the listing exchanges as their source of market data for indicative pricing purposes.<sup>40</sup> This observation is based both on our interviews with participants, as well as our understanding of other marketplaces' efforts in recent years to present their market data to the dealer community as a cheaper but effective substitute for indicative pricing purposes. As it relates to non-professional subscribers, a comparative review of the fees charged by Canadian listing exchanges and similar fees both in the US and internationally indicates that non-professional market data subscribers in Canada receive a significantly lower percentage discount to professional fees, relative to their US and international peers. More details on this analysis are provided later in this notice.

## **6. Best Execution in a multiple marketplace environment**

The best execution requirements under Part 4 of NI 23-101 and UMIR 5.1 become more complex in a multiple marketplace environment. Although best execution is currently subject to compliance with OPR requirements, it is still a fundamental principle. Notwithstanding that compliance with OPR may require direct or indirect access to marketplaces and market data, best execution may ultimately raise similar captive consumer issues. However, in the context of best

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<sup>40</sup> Part of this might also relate to a non-professional client's lack of awareness of markets other than the listing exchanges, and their desire to see their non-marketable limit orders displayed on the exchange.

execution, these issues may result more from the particular business decisions made by dealers in determining whether executing on particular marketplaces would result in best execution for their clients.

Best execution in a multiple marketplace environment can also be impacted by conflicts of interest that may influence the handling and routing of client orders. These conflicts can arise from ownership in marketplaces, including ownership incentive programs, or as a result of the incentives created by fees and fee models, such as those mentioned earlier in this notice in the context of the maker-taker and inverted maker-taker fee models.

#### **D. SUMMARY OF REVIEW**

In completing our review of OPR, we are of the view that the objectives of the rule (the protection of better-priced displayed orders across multiple marketplaces to instil and ensure confidence, and to facilitate liquidity provision and efficient price discovery) continue to be important. As a result, we remain committed to our view that order protection is and should continue to be, a fundamental part of the Canadian market. However, our review of the costs and benefits of OPR, and our observations during the evolutionary years of the current competitive environment (spanning the former ‘best-price regime’ and the current OPR regime), indicate that OPR as implemented, has contributed to additional costs and inefficiencies that should be addressed.

More specifically, we think that the costs and inefficiencies associated with protecting 100% of displayed orders from trade-throughs<sup>41</sup> may not be sufficiently justified by the benefits of full-scope protection. Furthermore, we are concerned that OPR does act as a support for marketplaces in that market participants are captive consumers of certain marketplace services. While it appears that some degree of choice does exist for some dealers to manage access to visible markets and the associated costs (e.g., membership and connectivity costs), the fact remains that OPR compliance necessitates that all marketplace participants must access trading on each visible market either directly or indirectly – ultimately some participant must be a member of a marketplace to facilitate connectivity for themselves and others. Consequently, we think that OPR does provide support for all visible marketplaces, from dealers and access vendors seeking access to trading. This translates into costs for marketplace participants (whether directly, or indirectly through the fees charged by an executing broker or vendor for facilitating access) that may not be reasonable. In addition, we agree that dealers controlling their own order flow must obtain data to make routing choices, which further bolsters the argument that OPR is acting as a support for marketplaces, and impacts dealer and vendor costs. We note however, that the debate regarding the extent of the data or number of data feeds necessary for these purposes will likely continue.

In addition where OPR is acting as a support for marketplaces, providing incentives for the launch of new trading venues or supporting the continued viability of a marketplace that would not otherwise exist, we think that the rule is promoting both the trading inefficiencies and broader market inefficiencies discussed in this notice.

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<sup>41</sup> Other than those trade-throughs for which exceptions are currently provided under OPR.

Against this backdrop remain questions regarding whether full-scope application of OPR is necessary to produce the desired results of confidence in the fairness and integrity of the market and the efficiency of the price discovery process and the market in general. This is particularly the case when considering the likelihood that many of the passive displayed orders benefitting from OPR protection may be entered by participants whose confidence in the fairness and efficiency of the markets, and whose continued willingness to participate and contribute to price discovery, may be less impacted by any variation in the level of protection afforded. As previously noted, a further consideration is the benefit provided by OPR to those clients whose primary interest is obtaining the best price for their orders, in that OPR ensures continued alignment of client and dealer interests in such circumstances.

Consequently, as a result of our review of OPR we are of the view that we should take steps to help reduce the extent to which OPR acts as a support for marketplaces, and to mitigate the related cost issues. However, these measures must be balanced against both the original objectives of OPR, and considerations related to the effect on competition and innovation. Further, based on our assessment of matters relating to trading and data fees as well as related work on the Data Fees Paper, we think that other existing issues in these areas warrant further attention.

Finally, in considering any potential solution to these issues, it is important to recognize that best execution obligations in a multiple marketplace environment could produce similar captive consumer and regulatory support issues, if a dealer believes that access to certain venues is essential for ensuring compliance with rules. We are of the view that the best execution guidance, along with dealer reporting requirements should be examined to ensure clarity of expectations by both regulators and clients.

### **III. APPROACH TO ADDRESSING ISSUES ASSOCIATED WITH OPR**

We are proposing an approach that will adjust the application of OPR, primarily by limiting order protection to marketplaces that meet a threshold, and more directly regulating trading and data fees (the Proposed Approach). Using this approach, we are maintaining OPR as a fundamental part of our regulatory regime while recognizing some of the inefficiencies and costs resulting from full OPR implementation and addressing the captive consumer and regulatory support issues. The Proposed Approach is also intended to provide dealers with flexibility to determine when and if to access trading on certain marketplaces to achieve best execution for clients. We are also setting out a proposal regarding trading fees, which will involve a cap on active trading fees in the near-term for some securities, and the outline of our intention to study the imposition of restrictions on the maker-taker fee model. Finally, we are proposing a response on data fees to address the primary areas of concern raised during our consultations with stakeholders through both the Data Fees Paper, and the interviews conducted during the OPR review. More details on the Proposed Approach are set out below.

The amendments proposed to NI 23-101 are necessary to implement the Proposed Approach. These amendments are described below and a blacklined version NI 23-101 and 23-101CP is included at Annex C to this notice.

## A. Amendments to OPR

We are proposing that the scope of the application of OPR be reduced, so that it does not apply to displayed orders on all visible marketplaces. This approach allows for consistency with our objectives for OPR – primarily those relating to confidence and promoting price discovery – while acknowledging that a full-scope application of OPR to displayed orders on all markets might not be efficient or necessary to reasonably achieve those objectives.

The implementation of an approach that would reduce the scope of the application of the rule is intended to provide additional flexibility for dealers, as OPR will not apply to the displayed orders on all marketplaces. This should help dealers to better manage some of the implicit and explicit costs associated with accessing trading on all visible marketplaces, and also reduce the extent to which OPR acts as a support for marketplaces.

### 1. Description of OPR proposal

- Visible orders entered on a marketplace that meets or exceeds a market share threshold set by the CSA will be protected.
- Visible orders on exchanges that do not meet the OPR threshold will be protected for securities listed on that exchange.
- The initial market share threshold will be set at 5% market share of the adjusted share volume and value of trades.
- The market share threshold will be calculated based on continuous auction trades that involve passive displayed orders subject to the protection of OPR and will exclude trades such as crosses, or those involving dark orders, opening and closing calls, special terms, etc.

We are proposing to introduce a market share threshold at or above which the displayed orders on a marketplace will be protected. What this means is that marketplaces and dealers that choose to take on the OPR obligation will be required to have policies and procedures that are reasonably designed to prevent trade-throughs of displayed orders on a marketplace, or on its market or facility<sup>42</sup>, that has a market share at or above the threshold. This will be achieved by amendments to the definitions in NI 23-101. Specifically, we propose to make the following changes.

- We propose to amend the existing definitions of ‘protected bid’ and ‘protected offer’ to add the qualification that the order be entered on a marketplace that has met the market share threshold or on a listing exchange (both referred to as ‘protected markets’ for the purposes of this notice, and other marketplaces that have not met the threshold being referred to as ‘unprotected markets’), subject to certain limitations for orders entered on listing exchanges as outlined below.

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<sup>42</sup> The definition of “marketplace” in NI 21-101 and under the *Securities Act* (Ontario) includes reference to a market or facility.

- We will confirm in section 1.1.7 of the 23-101CP that the definition of ‘trade-through’ applies to a trade executed on either a protected or unprotected market, where the trade occurs at an inferior price to the best priced protected order. It does not apply to a trade that occurs at an inferior price to an order displayed on an unprotected market.

(i) *Calculation of the market share threshold*

We are proposing a 5% adjusted<sup>43</sup> market share threshold to achieve a protection objective of at least 85-90% of the volume and value of adjusted trades (adjusted based on the exclusions outlined below). In our view, it is important to address the inefficiencies associated with the full implementation of OPR, but maintain a meaningful level of order protection.

We propose that the 5% adjusted market share calculation be based on a combined average share of the volume and value traded (each equally weighted). It will be calculated based on the share of trading over a one-year period, and will be applied at the market or facility level where the marketplace is comprised of more than one visible market or facility.<sup>44</sup>

Volume traded was selected as a trade metric because, in our view, it is most related to our objectives to protect passive orders. We propose to equally weight volume traded with value traded, however, to offset some of the effects on share volume of a market that trades primarily low value securities. We had considered using the number of trades on a marketplace to determine the market share threshold, but were concerned that this measure could potentially overweight the results in favour of marketplaces which may have a high number of low-volume trades. It is our view that the total volume traded on each marketplace would account for the same data without the potential outcome skewing which could result from a measure of the number of individual trades.

We considered the use of order-based metrics, which may seem to be more consistent with our objective of order protection. However, we were concerned that these might be more susceptible to manipulation for the purposes of achieving a threshold.<sup>45</sup>

With respect to the calculation of the market share threshold, we propose excluding all trades that did not involve a passive displayed order subject to the protection of OPR. Generally this would exclude trades involving non-displayed orders as well as ‘calculated-price orders’ and ‘non-standard orders’.<sup>46</sup> More specifically, excluded from the calculation of market share would be:

- trades involving dark passive orders,
- the non-interfered portion of intentional crosses<sup>47</sup>,

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<sup>43</sup> Equally weighted between the combined average share of the volume and value traded.

<sup>44</sup> For example, there are currently marketplaces comprised of distinct visible continuous auction order books to which the market share threshold should be applied separately.

<sup>45</sup> It may be easier for a marketplace to incent the placement of orders for the sole purposes of affecting the outcome of a threshold calculation, than it would be to incent actual trades.

<sup>46</sup> The terms ‘calculated-price orders’ and ‘non-standard’ orders are currently defined in NI 23-101.

<sup>47</sup> On some marketplaces, the execution of an intentional cross by a dealer can be broken up or “interfered” with by an existing order from the same dealer, which has already been entered on the marketplace at the same price as the

- trades from call markets or call facilities (including existing opening and closing call facilities),
- odd-lot trades,
- auto-executed trades in fulfillment of a market maker’s minimum guarantee obligation or through participation rights/obligations, and
- trades involving special terms orders.

We note that we are not proposing to calculate the market share on a listed-market basis (that is, market share would be calculated on a total market basis rather than on a listed-market basis). We had considered this alternative approach; however, we found that it might have the effect of introducing additional complexity and confusion, particularly if it results in different marketplaces being protected for one set of traded securities but not another.<sup>48</sup> We recognize, however, that our proposed approach would have this effect given that an exchange could be protected only for its listed securities – although, the potential for this issue to arise is higher if we were to calculate the market share threshold on a listed-market basis.

As indicated, we are of the view that full OPR implementation has led to some costs and inefficiencies. We think that the application of a 5% market share threshold, with the objective of capturing at least 85-90% of the volume and value of adjusted trades, would alleviate some of these costs and inefficiencies while maintaining our policy objectives to have order protection to foster confidence in markets and price discovery. To assess the potential impact, we calculated the adjusted market share in the manner proposed and applied the market share threshold based on calendar 2013 data. The following reflects the results:

| <b>Market</b> | <b>Share of 2013<br/>Adjusted<br/>Traded Volume</b> | <b>Share of 2013<br/>Adjusted<br/>Traded Value</b> | <b>Average Share of<br/>2013 Adjusted<br/>Traded Volume<br/>and Value</b> |
|---------------|---|--|---|
| Alpha         | 15.06%  | 16.23%   | 15.65%  |
| Chi-X         | 9.59%   | 14.48%   | 12.04%  |
| CX2           | 3.05%   | 2.79%  | 2.92%   |
| CSE           | 1.77%   | 1.56%  | 1.67%   |
| Omega         | 1.82%   | 1.28%  | 1.55%   |
| TMX Select    | 1.71%   | 1.93%  | 1.82%   |
| TSXV          | 23.33%  | 0.81%  | 12.07%  |
| TSX           | 43.67%  | 60.93%   | 52.30%  |

As seen from the above, four of the eight visible markets in operation as at the end of 2013 would have met the 5% threshold based on the average of the volume and value of adjusted trades (boxed portion of above chart). One additional marketplace that did not meet the

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intentional cross. Because the interfering order would have been subject to OPR protection, it would be included in the calculation of market share.

<sup>48</sup> For example, it could result in an ATS (or multiple ATSs) being considered a protected market for X-listeds, but not for Y-listeds. This could create additional complexities for ensuring trade-through prevention, as well as the prevention of locked and crossed markets. It could also create additional confusion for market participants if some securities traded on the ATS (the unprotected set) are subject to a higher incidence of trade throughs, and are being locked and crossed with by orders on other markets.

threshold and is a recognized exchange (CSE) would have also been considered a protected market, but only for its listed securities. We also found that slightly over 90% of the volume and value of adjusted trades would have occurred on what would have been considered to be protected markets.<sup>49</sup>

*(ii) Treatment of Listing Exchanges*

We are proposing that the displayed orders of a recognized exchange that does not meet the market share threshold would be protected, but only with respect to those securities listed and traded by the exchange. A newly established recognized exchange would automatically be a protected market upon commencement of trading, subject to the same limitations. Similar to how the market share threshold calculation will be applied, protected market status for any recognized exchange in these circumstances may be applied at a market or facility level – for example, where the recognized exchange is comprised of more than one visible market or facility.

This approach is intended to ensure that a listing market which would otherwise be unprotected is not unfairly disadvantaged by OPR with respect to its own listings, in circumstances where another protected market chooses to offer trading in those listings.<sup>50</sup> We also think that it is important to provide protection to those markets that are contributing to the capital raising process, but note that despite considering an exchange to be protected when below the market share threshold, OPR will not force participants to trade the securities listed by any such exchange. OPR will only be relevant for that exchange if a participant chooses to offer trading in the listed securities to its clients, and where there is another marketplace trading those same securities. We had considered limiting protection in these circumstances to the listed securities of the exchange that are not already cross-listed on another protected exchange. This was intended to ensure that an exchange would not use cross-listings to obtain benefit, or additional benefit, from protected market status. However, we were concerned with the potential burden this might impose on dealers and vendors as it may require new technology solutions to enable routers to distinguish between markets on a symbol-by-symbol basis. We intend to monitor for the possibility of an exchange seeking cross-listings solely for the purpose of seeking some benefit from protected market status, and will consider further steps to address this if necessary.

For the approach being proposed, there may also be additional considerations for routers in unique circumstances where a security is listed on two exchanges.<sup>51</sup> We note, however, that such situations can exist under the current OPR framework and that this is not introducing any new complications or costs.

As a matter of implementation, where not all displayed orders on a recognized exchange are protected, we are considering whether it would be necessary and appropriate to require that it

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<sup>49</sup> We acknowledge that the market share results may have differed had the market share threshold actually been applied to 2013. However, we note that the markets that would not have been protected based on the 2013 threshold year may have seen a reduction in routed active order flow, to the extent that certain participants are only routing to those markets for OPR compliance and might not continue to do so in all cases, if not otherwise required.

<sup>50</sup> Regardless of whether any other protected market also lists these securities, or only makes these available for trading.

<sup>51</sup> For example, if a new ETF was to simultaneously list on two exchanges, it would likely necessitate that it be treated as being a listing of each exchange and routers must be able to accommodate the cross listing.

provide access to trading and market data pertaining to those listed securities in an ‘unbundled’ manner.<sup>52</sup>

*(iii) Process for setting the market share threshold and identifying the protected markets*

It is proposed that the process for calculating the market share threshold and identifying those marketplaces, markets or facilities, whose displayed orders would be protected (i.e. those at or above the threshold, and certain listing exchanges) will be carried out on an annual basis. This will be done by the CSA, with input and assistance from IIROC. A list of protected markets (including any recognized exchanges whose listed securities only will be protected) would be made public on the websites of both the securities regulatory authorities and IIROC.

We also propose that marketplace participants and marketplaces be given approximately three months after publication of each annual list to make any adjustments to operational processes required to reflect changes in the status of protected and unprotected markets – after this, the published list will take effect.<sup>53</sup> We are proposing an effective period for protection of one year, subject to annual renewal, in order to minimize both the costs for dealers and vendors, as well as the confusion for investors that might arise if protected market identification was performed more frequently (e.g., monthly or quarterly).

We also intend for information regarding the threshold criteria and process, including the specifics regarding the time periods covered by the calculation and the effective date and duration of the published lists, to be publicly available.

*(iv) Changes to threshold criteria or process*

We note that in the proposed amendments to section 1.1.3 of the 23-101CP, we indicate that the market share threshold will be monitored and reviewed. As the market will continue to change over time, we will continuously examine these metrics relative to the objective of ensuring that at least 85-90% of the volume and value of trading involving passive displayed orders occurs on protected markets, and will make changes if and where appropriate. Any changes will be made with sufficient advance notice to industry.

*(v) Initial implementation*

We note that prior to the initial implementation of the OPR amendments, there may be additional visible marketplaces seeking to commence operations that would display orders protected by OPR as at the marketplace’s launch, but which might then not be considered protected once the OPR amendments are implemented. Consideration may be given as to whether it might be

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<sup>52</sup> For example, by offering membership to trade only those symbols for which the orders displayed on the recognized exchange would be protected, or by offering market data feeds comprising order and trade information for those symbols. We note that in circumstances where an exchange only offers trading in its listed securities (including cross-listeds), imposing these additional requirements may not be necessary. These requirements may be more necessary for an exchange that also trades securities solely listed on another exchange (sometimes referred to by exchanges in Canada as ‘other traded securities’).

<sup>53</sup> As an example, if the threshold is calculated based on market share of trading over January 1 to December 31 of a year, the list could be published on January 15 to become effective on April 1.



appropriate to not apply OPR with respect to a visible marketplace that launches before initial implementation, depending on the particular circumstances.

- Question 1:** Please provide your views on the proposed market share threshold metrics, including the types of trades to be included in and excluded from the market share calculations, and the weighting based on volume and value traded. Please describe any alternative approach.
- Question 2:** Is a 5% percent market share threshold appropriate? If not, please indicate why.
- Question 3:** Will the market share threshold as proposed help to ensure an appropriate degree of continued protection for displayed orders? In that regard, will the target of capturing at least 85-90% of volume and value of adjusted trades contribute to that objective?
- Question 4:** Will the market share threshold as proposed affect competition amongst marketplaces, both in relation to the current environment or for potential new entrants? Please explain your view.
- Question 5:** Is it appropriate for a listing exchange that does not meet the market share threshold to be considered to be a protected market for the securities it lists? If not, why not?
- Question 6:** If the Proposed Amendments are approved, should an exchange be required to provide unbundled access to trading and market data for securities it lists and securities that it does not list? Please provide details.
- Question 7:** What are your views on the time frames under consideration for the market share calculation and identification of 'protected market' status?
- Question 8:** What allowances should be made for a new dealer that begins operations during the transitional notice period with respect to accessing a marketplace for OPR purposes that no longer meets the threshold?
- Question 9:** Are there any implementation issues associated with the 'protected market' approach?
- Question 10:** What should the transition period be for the initial implementation of the threshold approach, if and when the Proposed Amendments are adopted, and why?

## **2. Implications for “best bid price”, “best ask price” and “better price” under UMIR**

In our view, implementation of the OPR amendments would necessitate changes to UMIR in order to ensure clarity and consistency with the revised approach to OPR. Specifically, changes would need to be made to UMIR to redefine “best bid price”, “best ask price” and “better price” so as to relate these to the best-priced *protected* bid and offer as displayed across *protected* markets. The best bid price, best ask price and a better price would thus be calculated based on the consolidated best-priced “protected orders”<sup>54</sup>, and would not include displayed orders on unprotected markets. We think that price discovery should continue to be efficient, and expect that the consolidated best prices across protected markets should generally reflect the best prices across all visible markets (both protected and unprotected).

We acknowledge that re-defining best and better price under UMIR to reflect the best-priced protected bid and offer for OPR purposes, might not fully achieve the policy results intended under the specific UMIR provisions (e.g., best / better price requirements or exceptions under order exposure and dark trading rules). However, we think that this approach is appropriate to mitigate other complexities and inconsistencies that could arise if “best bid price”, “best ask price” and “better price” under UMIR differed from best price for OPR purposes. We, together with IIROC, intend to monitor the extent to which best prices on unprotected markets differ from best prices on protected markets to assess whether this approach requires modification.

We note that other amendments to UMIR may be necessary to facilitate the implementation of the OPR amendments. IIROC is publishing its proposed amendments for comment concurrently with the publication of this notice – please refer to IIROC Rule Notice 14-0124.

## **3. Locked and crossed markets**

With the changes being proposed to OPR, the provisions relating to locked and cross markets also require amendment. We continue to be of the view that the provisions preventing intentional locks and crosses of orders are appropriate to foster investor confidence and market efficiency. However, imposing a market share threshold on the application of OPR without changing the locked and cross markets provisions would force participants to access marketplaces solely to prevent locked and crossed markets, despite not being required to for OPR purposes. This outcome would undermine the objectives that we are trying to achieve.

Consequently, we are proposing to limit the application of the locked and crossed provisions to protected orders. This would not preclude participants from entering orders on protected markets that would lock or cross orders displayed on an unprotected market. Although this would result in an increase in the instances of locked and crossed markets across all visible markets, we think that the outcome represents a reasonable balance between important policy objectives of the prohibition and the goal of addressing some of the costs and inefficiencies of OPR in its current form.

We note that a locked or crossed market created when a protected order locks or crosses an order displayed on an unprotected market should be minimal in duration, as the requirements would

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<sup>54</sup> As defined in NI 23-101.

continue to restrict any further orders from being entered that would intentionally lock or cross with that protected order.

**Question 11: Please provide your views on the proposed approach to locked and crossed markets. If you disagree, please describe an alternative approach.**

#### **4. Best execution obligations and disclosure**

##### *(i) Dealers achieving best execution*

By imposing a market share threshold for the application of OPR, the Proposed Amendments provide marketplace participants with the ability to determine whether to access displayed orders on the marketplaces below the threshold. We expect that this determination will include considerations based on best execution obligations. We recognize that in a multiple marketplace environment, achieving best execution is more complex and challenging. Dealers must regularly and rigorously review their practices, market conditions and the needs of their clients in order to determine on which marketplaces they must access trading. There is no requirement under the best execution obligations in NI 23-101 or UMIR that would require all marketplace participants to access trading on all marketplaces – it is a decision to be made in the context of obtaining the most advantageous execution terms reasonably available in the circumstances. As such, we do not think it is appropriate to dictate best execution practices or provide a checklist. Each dealer has different business models and different clients, and it is our view that to achieve best execution, dealers need the flexibility to examine these models and their clients to determine their best approach. It may be that the various business lines or trading desks have slightly different policies and procedures, and we think that this outcome is appropriate as different clients may each have specific needs.

That being said, we are of the view that additional guidance is necessary to provide greater clarity with respect to how to determine best execution policies and procedures. We have therefore amended and added guidance in the 23-101CP to indicate that in making decisions as to whether to access trading on a particular marketplace, including an unprotected market, a dealer should consider how this decision will impact its ability to achieve best execution for its clients. This is intended to provide the dealer with additional flexibility to decide for itself what is best for its clients.

The proposed guidance also sets out our expectation that documented best execution policies and procedures include the rationale for decisions on accessing marketplaces, and that the rationale should be reviewed for continued reasonableness at least annually, and more frequently if needed because of changes to the trading environment and market structure. We have also identified a number of factors that should be considered as part of such decisions, including the frequency at which a better priced order is available on a marketplace, size and depth of quotes, traded volumes, the potential for market impact, and market share.

We have also clarified that what constitutes “best execution” will vary depending on the particular circumstances, and is subject to a “reasonable efforts” test. We have reiterated that best execution obligations do not apply on an order-by-order basis – it is a policies and procedures

obligation to achieve best execution based on the circumstances, market conditions and the needs of clients.

To meet the “reasonable efforts” test, a dealer should be able to demonstrate that it has designed and maintained, and has abided by, policies and procedures that (i) require it to follow the client’s instructions and the objectives set, and (ii) outline the process it has designed towards the objective of achieving best execution.

We note that because many marketplace participants are exempt from the requirements in NI 23-101 as they are subject to UMIR requirements, we expect that similar changes to the best execution guidance would also be made to UMIR policies and guidance.

**Question 12: Is the guidance provided sufficient to provide clarity yet maintain flexibility for dealers? If not, what changes should be considered?**

*(ii) Dealer disclosure to clients*

It is also important in the complex trading environment for clients to be able to better understand how their dealers are handling and routing their orders. They need this information to be able to make informed decisions regarding the use of a dealer’s services. To foster the provision of this information, we are proposing new disclosure requirements for dealers regarding their best execution policies. The required disclosure will focus on clarity of order handling and routing, and on potential conflicts of interest arising as a result of ownership or fee considerations that could impact its order handling and routing decisions. Proposed section 4.4 of NI 23-101 sets out these requirements. Proposed changes to the 23-101CP will also provide additional guidance regarding the expected level of disclosure.

Some of the more general disclosure being proposed applies to dealers with respect to all securities, while the more detailed disclosure regarding order handling and routing practices applies only with respect to exchange-traded securities, other than options. Because of the application of best execution and trading restrictions imposed on or being considered for dealers that are not investment dealers, the proposed disclosure requirements in effect apply to investment dealers. We are not contemplating any best execution disclosure requirements applicable to advisers at this time.

We note that best execution disclosure requirements for dealers had previously been proposed in 2007 and 2008,<sup>55</sup> but it was decided not to proceed at that time. We think that proposing some disclosure for dealers at this time is appropriate given how the OPR amendments might introduce added uncertainty for clients around the handling and routing of their orders in the context of unprotected markets.

**Question 13: Please provide your views on the proposed dealer disclosure to clients.**

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<sup>55</sup> As proposed in *Joint Canadian Securities Administrators / Market Regulation Services Inc. Notice on Trade-Through Protection, Best Execution and Access to Marketplaces* published at (2007) 30 OSCB (Supp-3) and re-proposed in *Proposed Amendments to National Instrument 21-101 Marketplace Operation and National Instrument 23-101 Trading Rules*, published at (2008) 31 OSCB 10033.

**Question 14: What should the transition period be for the proposed disclosure requirements, if and when the Proposed Amendments are adopted, and why?**

**5. Consolidated data**

CSA Staff Notice 21-309 *Information Processor for Exchange-Traded Securities other than Options*<sup>56</sup> described the need for an information processor as being twofold:

*“first, where there are multiple marketplaces trading the same exchange-traded security, an information processor will address information fragmentation and provide investors and market participants with at least one source of consolidated data. Second, an information processor will facilitate compliance by marketplace participants with relevant regulatory requirements in a multiple marketplace environment. It will ensure the availability of consolidated data that meets regulatory standards and which users, as well as regulators, could use to demonstrate or evaluate compliance with certain regulatory requirements like best execution, short selling and "best price" or trade-through obligations.” [emphasis added]*

Staff continue to think that consolidated data from all equity marketplaces, including any unprotected markets, should continue to be made available by the IP for the purposes of the above-stated objectives. However, due to the proposed OPR amendments, the IP may be required to make changes to how it consolidates and distributes data to allow consumers to distinguish data from protected and unprotected markets, and to discern which best priced displayed orders are protected. We will discuss this issue with the TSX IP and will determine what changes are necessary prior to the implementation of the OPR amendments.

**Question 15: Are changes to the consolidated data products provided by the IP needed if the amendments to OPR are implemented? If so, what changes are needed and how should they be implemented?**

**B. Trading fees**

In the context of the OPR review and more generally, participants have raised concerns regarding trading fees. Some of these concerns are tied to the implementation of OPR. In particular, participants raised concerns about the implications of OPR on their active trading costs given that OPR necessitates that participants trade against the best-priced displayed orders regardless of the fees charged by a marketplace showing those orders. Other concerns have been raised that are not related to OPR, pertaining to the predominant trading fee model being used by Canadian marketplaces – the maker-taker model. Specifically, as we have discussed, arguments have been made that the model distorts transparency of the quoted spread, introduces inappropriate incentives and excessive intermediation, and creates conflicts of interest that are more difficult to manage.

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<sup>56</sup> Published on June 5, 2009 at (2009) 32 OSCB 4585.

When OPR was initially proposed, we considered implementing a cap on trading fees. The primary rationale for the cap was to ensure that marketplaces did not substantially raise their fees to try to take advantage of the OPR regime.

During the comment process, commenters were divided on whether a cap should be implemented. Several expressed the view that an upper limit on fees should be set, but there was no consensus on what this limit should be. One commenter suggested that the CSA adopt procedures to prevent marketplaces from establishing fee models which take advantage of OPR by paying large credits for liquidity with the intention of charging high fees for orders routed pursuant to OPR. Others believed that a strict fee cap should not be set and that the issue would be addressed by market competition. A report from the OPR Implementation Committee concluded that it was advisable to include a trading fee limitation as part of the proposed rule. While divided on a specific cap, the Implementation Committee recommended that the CSA should consider adopting the model used in the United States, which defines a fee cap for stocks trading above \$1, and a percentage of the value of the trade for stocks trading below \$1. The CSA ultimately took the position of maintaining a principles-based approach and did not set a specific trading fee cap.

Since that time, we have observed competition among marketplaces based on both trading fee levels and models. We have also seen how the entrance of new competitors initially created downward pressure on trading fees. Despite this, there are incentives for marketplaces to charge high active trading fees, and competitive pressures that should otherwise mitigate this issue might not be as effective in an OPR environment.

In response to the concerns about the captive consumer issue and high fees, we are proposing that a cap be implemented on trading fees in the short term. We are also intending to move forward with the development of a pilot study to determine the implications of a prohibition of the payment of trading rebates.

## **1. Description of trading fee proposal**

- Cap active trading fees for trading in equity securities and exchange-traded funds upon implementation of the OPR amendments, as follows:
  - \$0.0030 per share or unit traded for equities / units priced at or above \$1.00
  - \$0.0004 per share or unit traded for equities / units priced below \$1.00
- Conduct a pilot study on the prohibition of the payment of rebates by marketplaces for a sample of securities.

### *(i) Caps on active trading fees*

In response to concerns raised about marketplaces taking advantage of captive consumers to charge high active fees, we are proposing to cap active trading fees for all continuous auction trading in equity securities and exchange-traded funds (ETFs) (together, the included securities).

The cap proposed for trades in the included securities when priced at or above \$1.00 is 30 mills or \$0.0030 per share or unit traded – the same level as the current U.S. cap. For trades in the included securities when priced below \$1.00, the cap proposed is 4 mills or \$0.0004 per share or unit traded – the highest active trading fee currently charged by a Canadian marketplace with respect to trading in TSX and TSXV-listed securities. The caps would take effect upon implementation of the OPR amendments. The caps are reflected in the proposed addition of section 6.6.1 to NI 23-101.

We are proposing to set the active trading fee cap for securities priced at or above \$1.00 at the same level as that which is applied in the U.S. to all marketplaces for those securities. This proposed cap represents an established baseline that was created in the U.S. in the context of similar order protection requirements. When comparing current marketplace active fee levels for continuous auction trading in included securities priced at or above \$1.00, we note that most marketplaces charge active trading fees that are slightly under this cap. However, we estimate that over the last three months of 2013, approximately 40% of the total volume traded in securities priced at or above \$1.00 would have been subject to active trading fees higher than the proposed cap.<sup>57,58</sup> We recognize that this fee cap is considered by some in the U.S. to be high. We chose to use it as it was an established benchmark, and note that we are planning to take further action with respect to the payment of rebates (outlined below). We think it is more appropriate to focus on the design of the pilot being considered, and the measurement of its results, than on a different number for the caps that are primarily intended to be interim measures.

For the cap on active trading fees for included securities priced below \$1.00, we similarly considered applying the U.S. cap for similarly priced securities – being 0.3% of the value traded. However, we noted that when comparing current marketplace fee levels for included securities priced under \$1.00, they are in many cases already well below what would be charged if the U.S. cap was applied.<sup>59</sup> In addition, we estimate that over the last three months of 2013, only approximately 6% of the total volume traded in securities priced below \$1.00 would have occurred at fee levels above the U.S. cap.<sup>60</sup> Consequently, we questioned the rationale for implementing a similar cap at this time for trades in included securities priced under \$1.00. We also questioned the rationale for imposing a cap that is applied as a percentage of value traded given that current billing practices for the included securities are to charge at a per share or unit rate. We determined it would therefore be appropriate that if imposing a cap for included

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<sup>57</sup> The 40% represents continuous auction trading in equity securities only, as no visible marketplace during that period charged fees for continuous auction trading in ETFs in excess of the proposed cap. It also reflects only those continuous auction trades that involve a passive displayed order that would have been subject to the current OPR. This is represented as a percentage of total volume traded across all marketplaces, which is inclusive of both continuous and non-continuous auction trading and other trades that would not otherwise involve a passive displayed order.

<sup>58</sup> We also note that impacted marketplaces may be able to adjust the rebates they provide to maintain its profit per trade.

<sup>59</sup> As an example, as compared to the U.S. cap of 0.3% of value traded, based on current fees charged for securities under \$1 on TSX and TSXV, the most that would be charged by these marketplaces when considered on a % of value traded basis would be .075% of value traded for securities priced between \$0.10 and \$0.99 and 0.25% for securities priced between \$0.01 and \$0.09. Certain other marketplaces, such as Omega ATS and CX2 Canada ATS, pay rebates to the active side of trades in securities priced under \$1.

<sup>60</sup> This was estimated in a similar way as the estimate made and for securities priced over \$1.00 – see footnote 57.

securities priced below \$1.00, it be set at the highest rate currently being charged for either of TSX or TSXV-listed securities<sup>61</sup> – being 4 mills or \$0.0004 per share or unit traded.

We note that under a revised OPR regime, there may be some visible marketplaces that will not have captive consumers. Despite this, we are proposing to apply the active trading fee caps to all visible marketplaces because we think that the caps should be applied equally from a fairness perspective. This is also proposed to help ensure that fees charged and rebates provided by unprotected markets are not set at a level that may encourage inappropriate trading activities and thereby negatively affect market integrity. Again, we note that this is an interim measure until a more permanent approach regarding trading fees is adopted.

We are also not proposing to implement trading fee caps on non-continuous auction trading or on exchange-traded securities other than equities,<sup>62</sup> such as rights, warrants, debentures and notes (excluded securities). We note that for non-continuous auction trading such as an opening or closing facility, the orders within these facilities are not typically protected by OPR. For trading in the excluded securities, we note that currently applicable fee models tend to differ from the standard per-share or per-unit fee commonly applied to the included securities and that the traded volumes in these tend to be much lower than for equities. We further note that in the context of our various consultations on OPR, we have not heard any concerns with the active fees charged for trading in these securities. While we are not proposing to implement caps for the excluded securities, we will continue to subject any fee changes proposed by marketplaces for these securities to a review and approval process, to ensure the reasonableness of any such changes (in those jurisdictions where review and/or approval is required).<sup>63</sup> We also will continue to monitor these fees to determine if trading fee caps might be necessary.

**Question 16: Please provide your views on the proposed trading fee caps as an interim measure. Please describe any proposed alternative.**

**Question 17: What should the transition period be for the proposed trading fee caps, if and when the Proposed Amendments are adopted, and why?**

*(ii) Prohibition on payment of rebates by marketplaces*

In the context of reviewing OPR and fees, we have examined other steps that could be used to manage trading fees and address the concerns raised with respect to the maker-taker pricing model. We are of the view that the payment of rebates by a marketplace, or any other entity, is changing 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

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<sup>61</sup> Trading in TSX and TSXV-listed securities represented over 99% of the volume and value traded in exchange-traded securities other than options during 2013.

<sup>62</sup> We again note that the cap would also apply to ETFs.

<sup>63</sup> Subsection 3.2(2) of NI 21-101 requires amendments be filed to marketplace Forms 21-101F1 and 21-101F2 if amending or introducing marketplace fees. The guidance in subsection 7.1(5) of Companion Policy 21-101CP outlines how the fair access requirements in section 5.1 of NI 21-101 apply with respect to fees. In connection with these requirements, marketplace trading fees are subject to review and approval in Ontario, and also in BC and Alberta with respect to fees charged by the TSX Venture Exchange. In Quebec, these fees are subject to review.



decisions, and creating unnecessary conflicts of interest for dealer routing decisions that may be difficult to manage.

Further, given the nature of liquidity provision and the concentration of passive order flow in securities which are already considered to be highly liquid, we question the appropriateness of a fee model which can cause a market participant with a marketable order to pay what results in a higher fee to a short-term intermediary, when such intermediation may not be necessary.

We intend to move forward with a pilot study that will examine the impact of disallowing the practice of payment of rebates by marketplaces. During the pilot study, marketplaces would be restricted from providing rebates on either of the active or passive sides of trades for the symbols included in the sample population (discussed below).

In our view, the need for a pilot study stems from the concern that a prohibition on the payment of rebates could present risks to liquidity, if those currently providing passive liquidity reduce their activity or leave the market. This is a risk particularly for securities that are interlisted in the U.S. However, we recognize that certain participants who most often receive rebates in the context of their trading strategies also participate in markets without the payment of rebates and will likely adjust their trading behaviour.<sup>64</sup>

Prohibiting rebates could also have greater effect on trading costs for investors' marketable orders if spreads were to widen to compensate for the lack of rebate.<sup>65</sup> At the same time, however, a widening of spreads might also provide increased opportunity for investors to participate and be filled at the quote with passive limit orders, rather than having to 'cross the spread'.

It is our intention to work with academics to design the pilot study and the measurements of its results, and intend to issue a request for proposals at a later date. We are open to discussion on timing but our preliminary thoughts would be to commence the study approximately six months after the implementation of the OPR amendments. This will provide time for participants to adjust to the new OPR regime and make the required technical changes while also enabling marketplaces to adjust fees or fee models for trading in those securities that will be subject to the pilot.

To ensure that meaningful academic study can be conducted between a sample and control population, a sufficiently large sample size will be necessary, likely one-third to one-half of all exchange-traded securities. The objective will be to ensure that a representative sample of symbol types and categories is selected (e.g., price, liquidity profile, sector, index inclusion, etc.)

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<sup>64</sup> For example, we note that the earlier mentioned December 2013 IOSCO report titled *Trading Fee Models and their Impact on Trading Behaviour* indicated that generally the maker-taker or inverted maker-taker fee model was being applied for equities trading and not for derivatives trading. For derivatives markets, it appeared that the most common form of pricing model was a symmetrical pricing model. The report also identified Australia as a jurisdiction where there is currently no maker-taker or inverted maker-taker pricing for its equities marketplaces. The report also indicated that not all major European marketplaces offer a form of maker-taker or inverted maker-taker pricing.

<sup>65</sup> Whether as an adjustment to the loss of the rebate or because of a reduction in provided passive liquidity.

for comparison against a control population. Consideration will also be given to the appropriate duration for the pilot, which could be upwards of six months to a year.

**Question 18: Is action with respect to the payment of rebates necessary? Why or why not?**

**Question 19: What are your views on a pilot study for the prohibition of the payment of rebates? What issues might arise with the implementation of a pilot study and what steps could be taken to minimize these issues?**

**Question 20: Should all types or categories of securities be included in the pilot study (including interlisted securities)? Why or why not?**

**Question 21: When should the pilot study begin? Is it appropriate to wait a period of time after the implementation of any change to OPR or could the pilot start before or concurrent with the implementation of the OPR amendments (with a possible overlap between the implementation period for the OPR amendments and the pilot study period)? Why or why not?**

**Question 22: What is an appropriate duration for the pilot study and why?**

*(iii) Possible credits for market makers*

We also note that it may be reasonable to continue to allow rebates or credits only for market makers as a form of compensation in connection with their obligations to provide liquidity. In these circumstances, we are considering whether any such rebates or credits to a market maker should be limited to an amount which offsets trading fees charged in any given period (e.g., over each month) so that a market maker is never paid for trading, net of its trading fees (i.e., the rebates or credits could only ever be applied to reduce the market maker's trading fees to zero over the month, but any additional rebate or credit earned during that month could not be paid).

**Question 23: If rebates were to be prohibited, would it be appropriate to continue to allow rebates to be paid to market makers and, if so, under what circumstances?**

*(iv) Payment for order flow by intermediaries*

Like the payment of rebates by marketplaces, the payment for order flow by intermediaries can also distort behaviour and trading incentives. In our view, similar conflicts also arise for dealers when receiving payment for order flow directed to an intermediary.<sup>66</sup> We will continue to consider these issues going forward.

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<sup>66</sup> We note that section 7.5 of UMIR has the effect of prohibiting payment for order flow by an IIROC dealer that is a Participant under UMIR.

## C. Market data fees

### 1. Description of market data fee proposal

- Implement a transparent methodology to assess the relative value of real-time market data provided by each marketplace to its professional data subscribers, for the purposes of regulatory oversight of real-time professional data subscriber fees.
- Require marketplaces to submit their professional market data fees for review and re-approval on an annual basis, justifying their fees in the context of the results of applying the relative value assessment methodology.
- Consider further action towards the regulation of market data fees for non-professionals that could involve a cap or the implementation of a separate assessment methodology.

The issues relating to market data fees have been discussed for a number of years. The primary concerns raised by participants over time and more recently in our interviews, were identified in the Data Fees Paper. Specifically, concerns include that:

- market data fees are too high;
- data costs in aggregate have increased significantly as a result of additional visible marketplaces charging for data;
- market data fees are not subject to sufficient competitive forces to bring discipline to the level of fees being charged; and
- participants are captive to the fees charged for market data where necessary to comply with regulatory obligations (most notably OPR and best execution obligations).

In addition to this, there was discussion regarding the level of transparency around the regulatory review of market data fees.

A number of options for addressing these issues were identified in the Data Fees Paper, and attracted varying levels of support. As noted in CSA Staff Notice 21-312 – *Update on Consultation Paper 21-401 Real Time Market Data Fees (Data Fees Update)*<sup>67</sup>, only the following two options examined in the Data Fees Paper garnered some level of support from commenters: (1) limiting real-time market data fees charged by existing or new marketplaces until they reach an established activity level;<sup>68</sup> and (2) publishing market data fee proposals and changes to fee models for comment.<sup>69</sup> It was also suggested in the Data Fees Update that further exploration of possible options was needed given that neither option would address concerns about the current level of market data fees charged by marketplaces that would be above any ‘activity level’ established in accordance with the first option noted above. It was further

<sup>67</sup> Published at (2013) 36 OSCB 10601.

<sup>68</sup> This option was supported by marketplaces and market participants, although some of the smaller marketplaces were opposed to this approach.

<sup>69</sup> This option was supported by industry associations and one market participant.

indicated that the examination of market data fees would continue in the OPR review, due to the relationship between the two issues.

If the OPR amendments being proposed are implemented, we do not think it is necessary to directly limit or restrict the charging of market data fees by new or existing marketplaces that fall below an established activity level. In our view, the implementation of the OPR amendments will provide flexibility for dealers to choose whether to purchase data from marketplaces below the market share threshold, making such limitations or restrictions unnecessary.

At the same time, we acknowledge that the OPR amendments would not address the captive consumer issues as they relate to marketplaces above the market share threshold. Further, it is our view that the work done to date suggests there is cause from a fair and efficient capital markets perspective to impose more discipline on the costs of data.

We are therefore proposing an approach that seeks to ensure that market data fees charged to professional data subscribers remain fair and reasonable, through the implementation of a methodology for assessing relative value. The methodology will be made transparent, in order to facilitate greater transparency into the market data fee review process with respect to those fees subject to the methodology.

Further action is also being contemplated that would facilitate the provision of market data to non-professional users at a price that is more commensurate with the relative value of the data to these users.

*(i) Use of methodology in oversight of professional market data fees*

As part of the work done on the Data Fees Paper, OSC staff began developing a more rigorous methodology to assess professional market data fees, both for top-of-book (Level 1) and full depth-of-book (Level 2) data. It was intended that it be used to facilitate the review of changes to professional market data fees proposed by marketplaces in Ontario. It is this methodology that we are proposing be formally adopted to manage the issues associated with the professional market data fees identified in this notice.

We propose to require all equity marketplaces to:

- submit their professional market data fees to us on annual basis, and
- justify these fees in the context of the results of applying the relative value assessment methodology.

In Ontario, each recognized exchange and ATS is subject to a protocol that governs the review and approval of the information in Form 21-101F1 and F2, including fees.<sup>70</sup> It is being contemplated that in Ontario, these protocols would be amended to require the annual

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<sup>70</sup> The standard review and approval protocol currently applicable to recognized exchanges in Ontario can be found at: [http://www.osc.gov.on.ca/documents/en/Marketplaces/notices\\_20121004\\_exchange\\_protocol.pdf](http://www.osc.gov.on.ca/documents/en/Marketplaces/notices_20121004_exchange_protocol.pdf), and the similar version applicable to ATSs in Ontario can be found at: [http://www.osc.gov.on.ca/documents/en/Marketplaces/notices\\_20121004\\_ats\\_protocol.pdf](http://www.osc.gov.on.ca/documents/en/Marketplaces/notices_20121004_ats_protocol.pdf).

submission of professional market data fees for re-approval, and a notice would be published outlining the methodology for assessing the fees. Because of the differences in the approach of each CSA jurisdiction, we view this as the best way to implement this methodology. This approach would capture all equities exchanges and ATs in Canada, other than the TSX Venture Exchange. BC and Alberta, as co-lead regulators for the TSX-V, will also consider the review methodology for data fees.

*(ii) The methodology for the review of professional market data fees*

Under the methodology, we propose that marketplaces be ranked based on their contribution to price discovery and trading activity. An estimated fee or fee range for each marketplace would be determined based on the relative ranking. This methodology would establish a consistent and transparent approach for the review of professional market data fees for all marketplaces when seeking approval or re-approval of those fees, and would be intended to address the broader issues associated with professional market data fees, whether they arise in the context of OPR or because of the potential that these fees are not subject to sufficient competitive forces. The complete methodology is outlined in Appendix A-2, with the key components summarized below. There are three steps to the calculation. Step 1 involves the calculation of pre- and post-trade metrics. Step 2 ranks the marketplaces and Step 3 assigns an estimated fee or fee range for market data fees.

Step 1 – Calculation of pre- and post-trade metrics

The first step involves the calculation of pre-trade and post-trade metrics to feed into the ranking formulas. The underlying principle of each of the metrics is that pre-trade and post-trade contribution to price discovery and liquidity should be equally rewarded. The specifics of each of these pre- and post-trade metrics are included in Appendix A-2.

The proposed pre-trade metrics primarily reward marketplaces for contribution to price (and size) discovery at the market-wide NBBO (top-of-book), and do not reward for any price and size depth outside of that. To account for this, we considered including a pre-trade metric that measured the quoted value at the top five price levels as a measure of market depth outside of the best quote. However, we are not convinced that including depth-of-book measures would produce different results, particularly if such a measure were to give higher weightings to price levels at or near the NBBO. A further consideration was the added complexity involved with incorporating depth-of-book information into the calculations. An example of a depth measure we considered is included in Appendix A-2.

Step 2 – Rank marketplaces based on relative share of order and trade metrics

The next step proposed is to use a combination of the pre- and post-trade metrics to rank marketplaces based on their assessed relative contribution to price discovery and liquidity (reflected through their relative share for the various metrics). Three different approaches for the ranking process, using different metrics, are presented in Appendix A-2. We note that despite the differences in the combination of metrics or weightings, testing each of the three ranking methods produced very similar results.

### Step 3 – Use the rankings to assign an estimated fee or fee range

Once the ranking process has been applied, the last step proposed is to assess the relationship between a marketplace's existing or proposed market data fees and its relative ranked share of order and trade activity. This would allocate an estimated fee or fee range to a marketplace, reflecting its relative share of a total reference amount for real-time market data in Canada (for each of Level 1 and Level 2 data).

To do that, we tested two approaches:

- *Domestic reference* - The first approach tested takes the market data fees charged by each marketplace and aggregates them into a single “pool” that is then re-distributed based on the three ranking methods outlined in Appendix A-2. This approach assumes that the aggregate amount of market data fees currently charged by marketplaces is reasonable.
- *International reference* - The second approach tested would rely on international comparisons to determine an average market data fee per \$100 million traded. This approach assumes that the value of the international peers' data is relatively comparable to that of the Canadian exchanges and that the value of this data is relative to the value of securities traded on the exchanges.

We note that the two reference methods tested may ultimately be determined to be inappropriate. In our view, one of the key components of this proposal is the identification and updating of an appropriate reference amount to be used for applying the distribution model – i.e., the determination of an appropriate estimate that reflects a fair and reasonable fee for real-time Level 1 and Level 2 market data from all marketplaces in Canada. While we are seeking comment on all aspects of the proposed data fee review methodology (see **Appendix A-2 for specific questions pertaining to the details of the proposed methodology**), we note the importance of receiving specific detailed comment on how an appropriate reference amount should be identified. We are considering retaining an industry expert to analyze and determine an appropriate reference amount.

**Question 24: Will the implementation of a methodology for reviewing data fees adequately address the issues associated with data fees, or should other alternatives be considered? Please provide details regarding any alternative approach.**

## **2. Further action under consideration for market data fees**

In addition to the proposal to implement a formal methodology, we are also examining additional steps to manage potential issues identified in connection with non-professional trading fees. Although not directly related to OPR, we think that the level of non-professional fees in Canada should be considered in the context of our mandate to foster fair and efficient markets, and confidence in those markets, and so investors should have access to data at a reasonable cost.

Further, we had indicated in the Data Fees Paper that we would examine issues relating to market data fees for non-professional users at a later date.<sup>71</sup>

Since the Data Fee Paper was published, we have examined the non-professional fees charged by the listing exchanges relative to similar fees charged in the US and internationally. It appears that non-professional data subscribers in Canada are provided much less of a discount from professional fees in percentage terms relative to their US and international peers.

For example, when examining the discounts typically applied to non-professional market data fees by Canadian equity marketplaces, we found that non-professional market data fees are often charged at a rate of approximately 20% and 40% of the professional market data fees charged, for Level 1 and Level 2 data, respectively. In dollar terms, the fees charged by each marketplace currently charging non-professional data subscribers ranged from \$2 to \$6/user/month for Level 1 and from \$2 to \$36/user/month for Level 2.

While a discount is applied for non-professional data user fees domestically, international comparisons identify even greater discounts being made available. For example, to purchase real-time consolidated Level 1 data from the Security Information Processors (SIPs) in the U.S., a non-professional user would be charged a total of \$3/month for access to Level 1 quote and last sale information from all U.S. equity exchanges - \$1 for each of Network A (NYSE-listeds), Network B (NYSE MKT) and NASDAQ UTP (NASDAQ-listeds). These rates are approximately 2%-5% of the fees charged by the SIPs for access to the same data by professional users.

In Europe, examples of discounts for non-professional data users seen can often result in Level 1 and Level 2 fees that are 1% to 5% of the professional fees charged for the same data, but can be higher under tiered volume programs at the low-tier level. However, even in those circumstances where fees were higher under a tiered volume program, the results continue to show their non-professional data subscribers being given a greater discount to professional fees than typically provided in Canada. More of the results of our analysis are available at Appendix A-3.

To address this disparity, we are examining a cap that would restrict each marketplace to charging non-professional data subscribers at a rate set as a percentage of that marketplace's reviewed and/or approved professional data subscriber rate. Alternatively, we may implement a methodology similar to that being proposed above for professional data subscriber fees.

**Question 25: Do you have concerns with respect to market data fees charged to non-professional data subscribers that securities regulatory authorities need to address? If so, how should the concerns be addressed?**

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<sup>71</sup> As part of the work done reviewing market data fees for the Data Fees paper, we reviewed and analyzed the fees charged to non-professional users by marketplaces in Canada. However, since their needs and uses of market data are significantly different, we felt that we would be unable to adequately address concerns raised by both types of market data users (being professional and non-professional users) within one paper. It was determined that additional work on non-professional data fees would be deferred until a later date.

### **3. Consideration of other options presented in the Data Fees Paper**

The Data Fees Paper outlined a number of potential options for addressing issues associated with data fees which can be categorized under the headings below. We have provided some views on each of these in the context of the Proposed Amendments.

*Cap data fees charged by a marketplace for ‘core data’* - In our view, the data fee proposal implements a modified form of this option as it will increase regulatory scrutiny over existing professional data subscriber fees for Level 1 and Level 2 data, which in practice broadly represent ‘core data’.

*Cap data fees charged by a marketplace until it reaches a de minimis threshold (with or without increasing caps)* –As indicated earlier, we are not proposing to implement a threshold below which a marketplace would be restricted in its ability to charge for data. We think that the implementation of the OPR amendments would allow for added flexibility around accessing orders on and consuming data feeds from unprotected markets. This may produce results that are sufficiently similar to the implementation of a threshold for data fees.

*Regulate or cap data fees for consolidated data when sold by or through an IP or vendor / Mandate a cost-recovery data utility* - In our view, if implemented in full, the data fee proposal will likely achieve some of the benefits of these options. While we may consider the feasibility of requiring the creation of a data utility, this is a longer-term consideration given both the complexity in doing so and that it would require legislative change and new regulations in many jurisdictions. In the meantime, if the industry views a data utility as the best mechanism to deal with the management of data and its costs, we encourage the industry to work together and develop a proposal for discussion.

*Publish amendments to data fees and models for comment* - We are still considering this option. Publishing data fees and models for comment may or may not be appropriate depending on the circumstances, and we are concerned that the comments received will be focussed on commercial rather than regulatory issues. We note that where new trading fee models have been proposed, OSC staff have published them for comment, where appropriate. We may follow a similar approach for data fees, where appropriate.

### **IV. ALTERNATIVE APPROACHES CONSIDERED**

In arriving at the Proposed Approach reflected in this notice, we had considered alternative approaches and options to address the issues discussed. The first approach would have only involved changes to OPR, with the options considered ranging from limiting its scope (e.g., based on types or liquidity classes of securities, client vs. non-client orders, order sizes, or a threshold for protection) to a complete repeal of the OPR regime with full reliance on best execution obligations only. The effectiveness of any these options in addressing the captive consumer issue and regulatory support issues would be dependent on the means and extent of the limitations to the scope of OPR. Pursuing greater limitations to OPR would also, however, minimize the importance of OPR as a fundamental part of our regulatory regime. Pursuing an



approach involving only changes to OPR would also not help to address the other issues identified in this notice relating to trading and data fees.

The second approach contemplated leaving OPR unchanged, and instead focusing on more direct regulation of access, trading and data costs. This approach would have been intended to address the cost burden resulting in part from OPR, but would not have addressed the underlying captive consumer and regulatory support issues. It would also have helped with some of the other issues associated with trading and data fees discussed in this notice. Some of the options considered included capping various types of marketplace fees, the elimination of trading fee rebates, establishing thresholds that marketplaces would have to achieve before certain fees could be charged, and other options specific to data fees that were outlined in the Data Fees Paper and discussed in the preceding section.

The third approach, being a combination of the two approaches described above, represents the Proposed Approach outlined in this notice. As noted earlier, the amendments being proposed to OPR are intended to maintain OPR as a fundamental part of our regulatory regime, while allowing dealers added flexibility to determine when and if to access trading on certain marketplaces to achieve best execution for clients. Through this, we are seeking to address some of the captive consumer and regulatory support issues. The Proposed Approach also includes proposals regarding trading fees that are intended to address issues associated with trading fees that can arise in the context of OPR, as well as other issues pertaining to the payment of rebates by marketplaces. The data fee proposal is intended to address the primary areas of concern raised during our consultations with stakeholders through both the Data Fees Paper, and the interviews conducted during the OPR review.

**Question 26: Is modifying OPR by introducing a threshold, and at the same time dealing with trading fees and data fees, an appropriate approach to address the issues raised? If not, please describe your alternative approach in detail.**

**Question 27: What is the expected impact of the Proposed Approach on you, your organization or your clients? If applicable to you, how would the Proposed Approach impact your costs?**

**Question 28: Is the Proposed Approach an effective way, relative to the other approaches described, to support a competitive market environment that encourages innovation by marketplaces? Please explain your view.**

#### **A. Regulation of other marketplace fees or operational matters in the context of OPR**

We have also considered certain other options specifically relating to certain marketplace fees and operational matters in the context of OPR. These relate to issues or concerns raised with us through the interviews conducted during the OPR review and in connection with our ongoing oversight of marketplaces and market structure.

*(i) Membership and Connectivity Fees*

The proposal outlined above includes measures involving the regulation of trading fees and market data fees. In the context of our review, we also considered whether it was necessary to directly regulate other fees charged by marketplaces for access to trading – particularly, fees charged by marketplaces for membership or connectivity. This could possibly be achieved through fee caps or similar limitations on amounts charged. Our consideration in this regard was based on concerns that, due to OPR or even a dealer’s business model, marketplace participants are captive to paying high fees for membership and connectivity to marketplaces.

We are not proposing at this time to take any action with respect to these other fees. The proposed changes to OPR, and existing best execution obligations, do not necessitate that each dealer become a member or subscriber of each visible market, or directly connect to each market to access trading. The OPR amendments should provide dealers with added flexibility to determine when and if to access trading on unprotected visible marketplaces, which should help to manage these costs to some extent. We acknowledge that business model considerations of dealers will impact whether membership in and direct connectivity to a marketplace is necessary. However, we note that some have determined it is not necessary to become or continue to be members of or directly connect to all marketplaces and instead use marketplace routers or jitney arrangements. This indicates that at least for some, alternatives and choices are available. (These alternatives and choices have their own set of costs, some of which likely reflect a portion of the membership and connectivity costs borne by the router or jitney provider.)

Despite not proposing any further action on these other fees at this time, we note that these fees will continue to be subject to review and / or approval by the securities regulatory authorities.<sup>72</sup>

**Question 29: Considering the Proposed Approach, is it necessary to take additional steps to regulate membership and connectivity fees charged by marketplaces? If so, why, and if not, why not?**

*(ii) Scheduling of technology changes*

In the course of our consultations with stakeholders, it was suggested that in order to manage risk, regulators should impose scheduling requirements on marketplaces in relation to the introduction of new markets and material systems changes. It was argued that changes are often scheduled in close proximity to each other, or are implemented without allowing participants sufficient testing time. This was also suggested as a means to allow dealers to better manage their technological resource planning.

We note that, in Ontario, OSC Staff Notice 21-706 – *Marketplaces’ Initial Operations and Material System Changes*<sup>73</sup> sets out OSC staff’s expectations that marketplaces delay launch of operations for at least three months from the date of the publication of a notice of approval, and that they delay the implementation of a material systems change to allow a reasonable amount of

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<sup>72</sup> These fees are subject to review and approval in Ontario, and also in BC and Alberta with respect to the fees charged by the TSX Venture Exchange. In Quebec, these fees are subject to review.

<sup>73</sup> Published at (2012) 35 OSCB 8928.

time for dealers and vendors to complete the necessary work and testing. We intend to codify these expectations in proposed amendments to NI 21-101 that have been published for comment under a separate notice.<sup>74</sup> We also note that the OPR amendments should help dealers better manage some of their technology planning and costs in connection with their access to new or existing unprotected markets. As a result, we are not proposing to take any further action at this time, and will continue to monitor whether the launch protocol and our oversight of marketplace changes can sufficiently manage any issues.

*(iii) Marketplace Liability / Compensation*

Concerns have been raised regarding the impact of OPR on the ability of dealers to negotiate with marketplaces regarding marketplace liability. Specifically, with a full OPR regime in place, we have heard that marketplaces use OPR obligations as leverage, requesting that dealers sign agreements that include liability provisions that dealers think are unreasonable. Others have indicated that the liability terms in marketplace agreements are inappropriate now that marketplaces are no longer mutualized and are for-profit entities.

We note that, in the U.S., most exchanges have rules that give them the discretion to compensate their members for losses arising from failures of their systems or due to their employees' negligent acts or omissions – we also note that in the U.S., there is industry debate about these provisions. However, currently in the U.S., the types of losses considered for such discretionary compensation are usually linked to market failures that result in orders being incorrectly executed or unexecuted orders that were entered on a marketplace's system. There is no regulation in the U.S. that requires these compensation provisions. We note that similar provisions are not included in the rules of Canadian exchanges or in ATS subscriber contracts.

As part of our review of this issue, we consulted with various dealer and marketplace representatives, separate from the interviews carried out as part of our OPR review, to see if industry members could arrive at a common position on compensation for marketplace participants. A common position by industry was not attained. We examined the regulatory issues and considered proposing provisions that would require marketplaces to establish, maintain and ensure compliance with policies and procedures that provide for reasonable compensation to their marketplace participants. Upon examining the appropriate role of the CSA and the different possible approaches, it was determined that, at this point, we would rely on the changes being made to OPR to address the concerns raised by dealers. It is the overlay of OPR that makes dealers "captive consumers" and therefore, we think that the OPR amendments that we are proposing will help mitigate this issue. We will monitor the impact of these changes and consider in future the need for additional regulation relating to marketplace liability generally. In the interim, we encourage industry members to work together to seek a common resolution to what some argue is a commercial, not regulatory, issue.

**Question 30: Considering the Proposed Approach, is it necessary to take additional steps at this time to address issues relating to marketplace liability? If so, why, and if not, why not?**

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<sup>74</sup> Published at (2014) 37 OSCB 4197.

## Appendix A-1

### Comparison of Active and Passive Volumes by Type of User ID, by Marketplace Covering the Period - June 1, 2013 to September 30, 2013

#### Objective

The objective of the analysis outlined in this appendix was to assess whose limit orders are receiving the benefit of protection on each visible trading venue. As indicated in this Annex A, questions were raised about whether orders that are being protected on marketplaces originate with market participants whose confidence in the fairness and integrity of the markets is in most need of support. It was questioned whether OPR is having its intended effect if such orders originate with parties whose confidence in the fairness and integrity of the markets would be least likely to be negatively affected in a material way in the absence of the rule.

#### Description of analysis

In performing this analysis, we examined the active-passive ratios for certain user categories that may proxy for retail, institutional and professional traders over various time periods, and across each visible marketplace. The data used for the analysis was the regulatory data received and stored by IIROC for its market surveillance activities, and therefore included non-public content such as TraderIDs (referred to as UserIDs).

Before grouping the data, an attempt was made to eliminate material portions of trade volume that would not otherwise have involved a passive displayed order subject to OPR (e.g., trade volume was removed for trades that were intentional crosses, or that resulted from opening and closing call auctions). The 'adjusted traded volume' was then grouped into the following four user categories:

- (1) 'CrossOrder' – Contains trade volume for UserIDs that exhibited use of the intentional cross marker<sup>75</sup> (but does not include the trade volume for any intentional crosses, as all intentional cross volume was removed in arriving at the 'adjusted traded volume' described above). Intended to proxy for institutional client order flow.
- (2) 'SDL' – Contains trade volume for UserIDs that exhibited use of the SDL<sup>76</sup> order type on Alpha IntraSpread. Intended to proxy for retail client order flow given Alpha's restriction on the use of SDL orders to orders of clients that meet the definition of 'Retail Customer' under IIROC Member Rules.

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<sup>75</sup> An intentional cross is defined in UMIR to refer to a trade resulting from the entry by a Participant or Access Person of both the order to purchase and the order to sell a security, but does not include a trade in which the Participant has entered one of the orders as a jitney order.

<sup>76</sup> A "Seek Dark Liquidity" or SDL order is an order exclusive to Alpha Exchange's IntraSpread, which is designed to trade with dark orders, and visible orders in the central limit order book if possible. The use of this order type is restricted to retail clients.

- (3) 'PostOnly' – Contains trade volume for UserIDs that exhibited use of a post-only<sup>77</sup> order feature. Intended to proxy for professional traders executing a market making strategy dependent on the placement of passive orders.
- (4) 'SME' – Contains trade volume for UserIDs that exhibited use of the short-marking exempt<sup>78</sup> (SME) marker. Intended to capture professional trading in arbitrage accounts, formal market making accounts, informal market making / high-frequency trading accounts, and dealer facilitation accounts.

Any of the remaining adjusted trade volume that could not be grouped into the above four categories was categorized as 'Other'. We expect the 'Other' category to represent a mix of institutional, retail and professional trader interests.

### Limitations

Given certain limitations, any results of the analysis are not precise and are intended only to be indicative, and not conclusive. For example, the four categories identified above are only meant to be proxies for certain user types – overlap between the categories exists. The effect of this overlap means that where a UserID exhibited use of more than one of the above-noted markers / order features, the volume traded for that UserID is reflected in more than one category. Most notably, overlap between categories was seen between the PostOnly and SME categories (e.g., UserIDs that used a post-only order feature often also exhibited use of the SME marker). We also note that, as a result of overlap, the sum of each of the four categories identified above, together with the 'Other' category, represents more than 100% of the volume traded.

### Results

Results of the analysis performed over the most recent of the time periods examined, being the period from June 1, 2013 to September 30, 2013, are contained in the charts on the following pages of this appendix. What is suggested by the analysis, is that the vast majority of the passive displayed retail and institutional client order flow traded is entered for display on the listing markets (e.g., on TSX or TSXV), and that a much smaller percentage of the passive displayed retail or institutional order flow traded is entered for display on other marketplaces. Much of the remaining passive displayed order flow traded on other marketplaces appears to originate with professional traders whose interests may be more short-term. It also suggests that marketable active orders of retail and institutional clients are more dispersed across markets – this is indicative of the effect of OPR on active order flow.

We note that the results of this analysis are supported by anecdotal evidence provided by dealers during our interviews, regarding the placement of their passive retail and institutional client orders. It is also supported by similar analysis that we performed over the same time periods for

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<sup>77</sup> A "post-only" order feature ensures that an order will not actively remove liquidity from a marketplace.

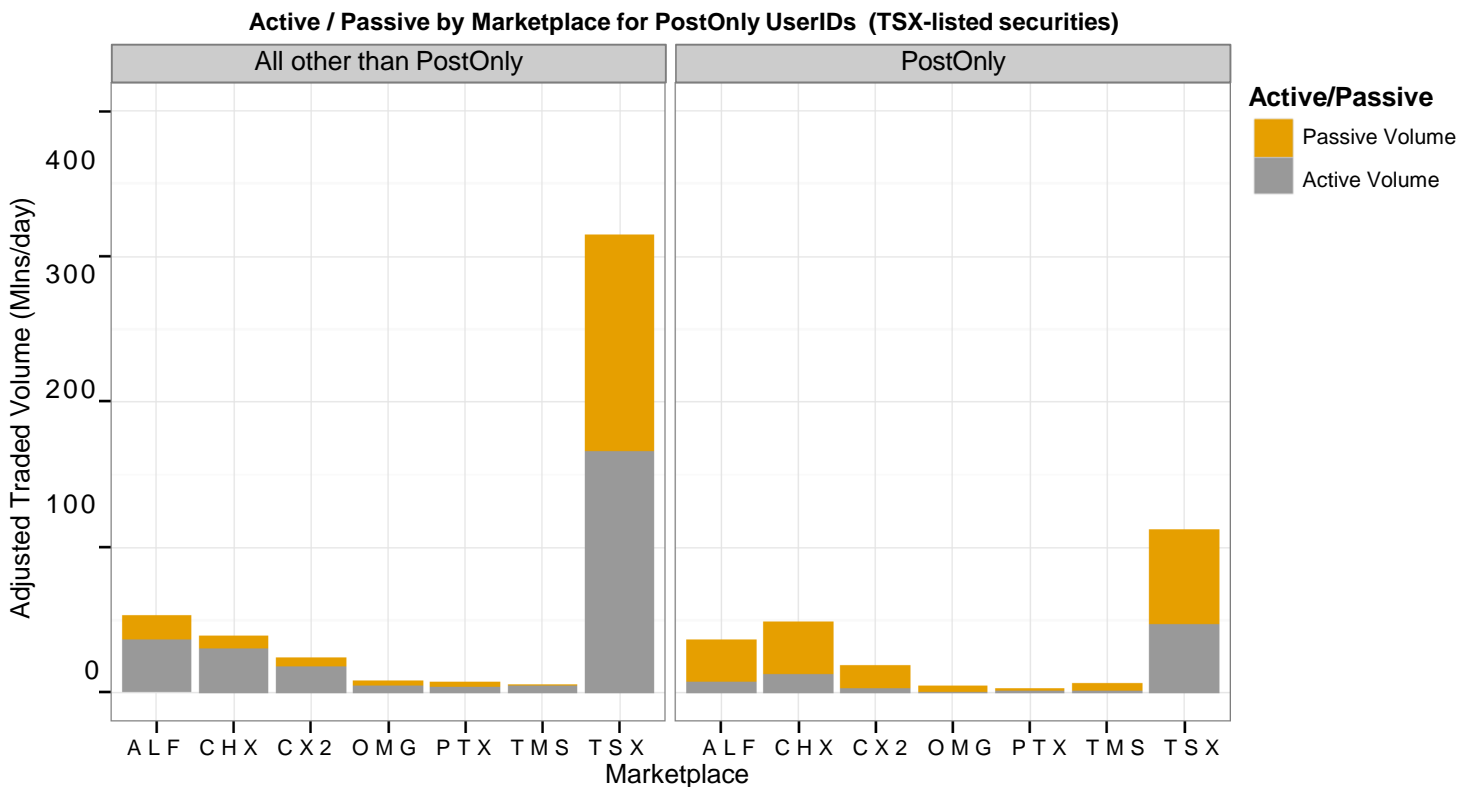
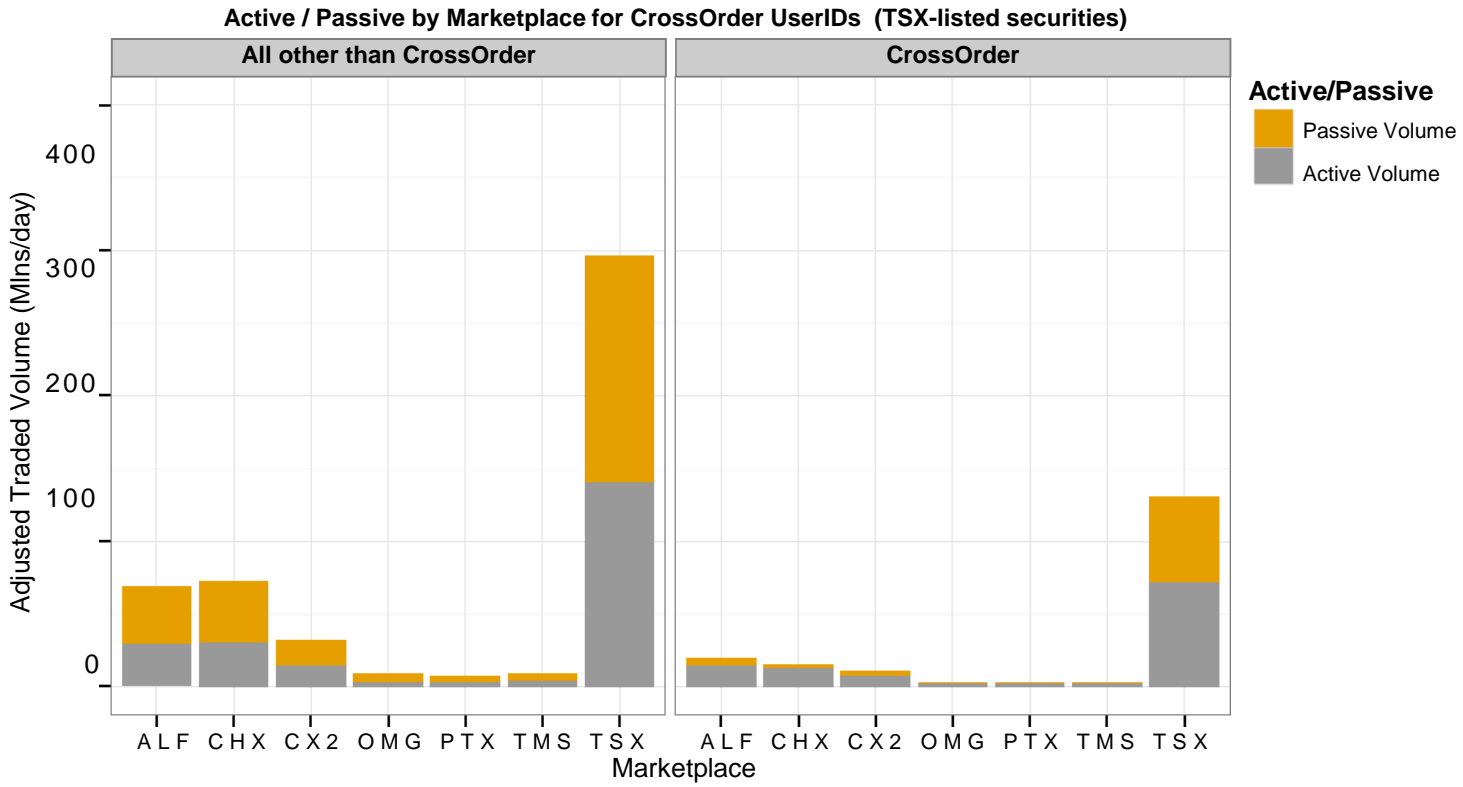
<sup>78</sup> The SME marker is a regulatory designation which is included on orders from accounts which are not required to mark short sales of securities as short. Further information regarding the use of the SME designation is available at: [http://www.iiroc.ca/Documents/2012/37862a81-d93b-4a21-9843-c5fc3ced83f2\\_en.pdf](http://www.iiroc.ca/Documents/2012/37862a81-d93b-4a21-9843-c5fc3ced83f2_en.pdf)

user groupings created by IIROC for its ongoing research into high-frequency trading, but which are not reflected in the following summary charts.

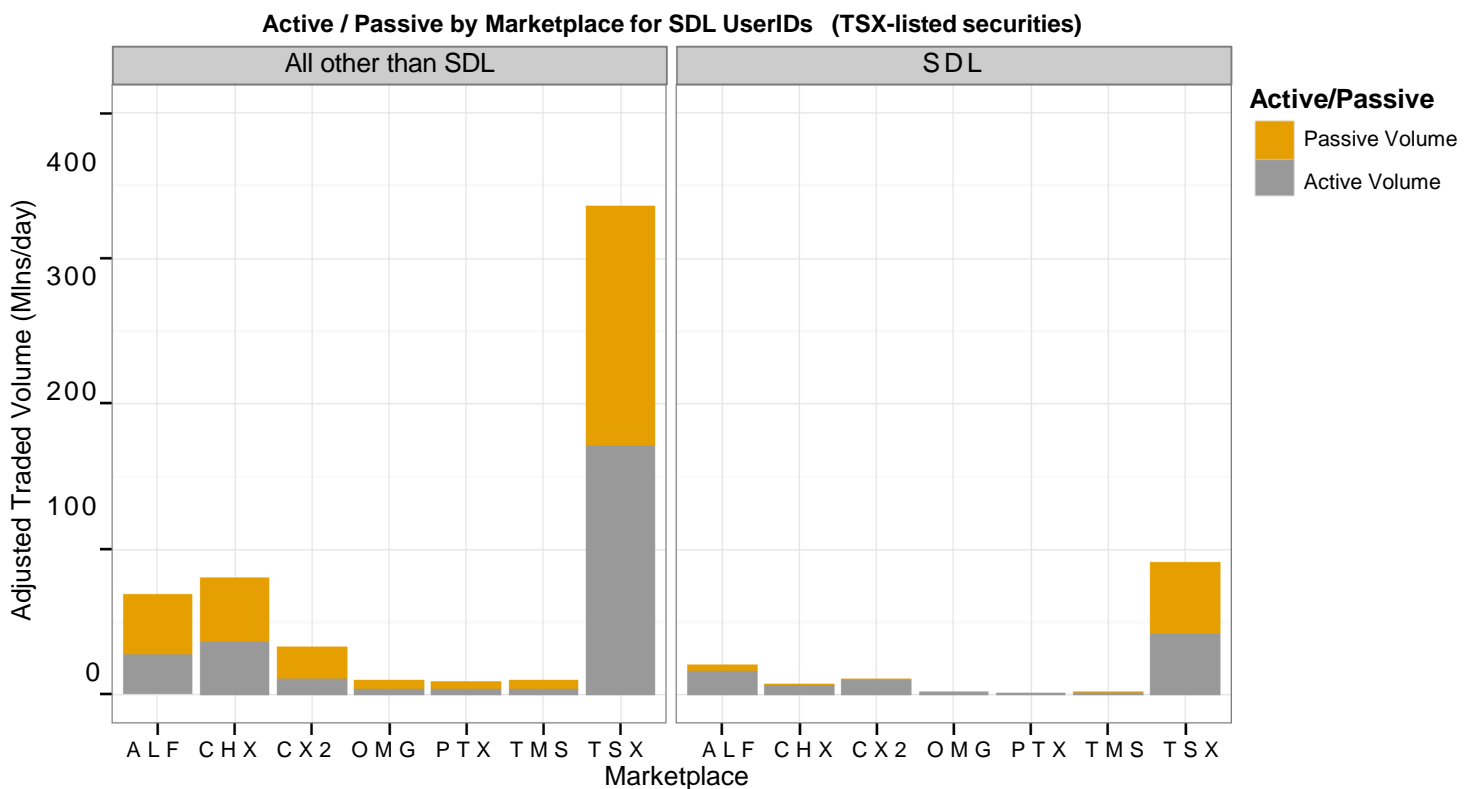
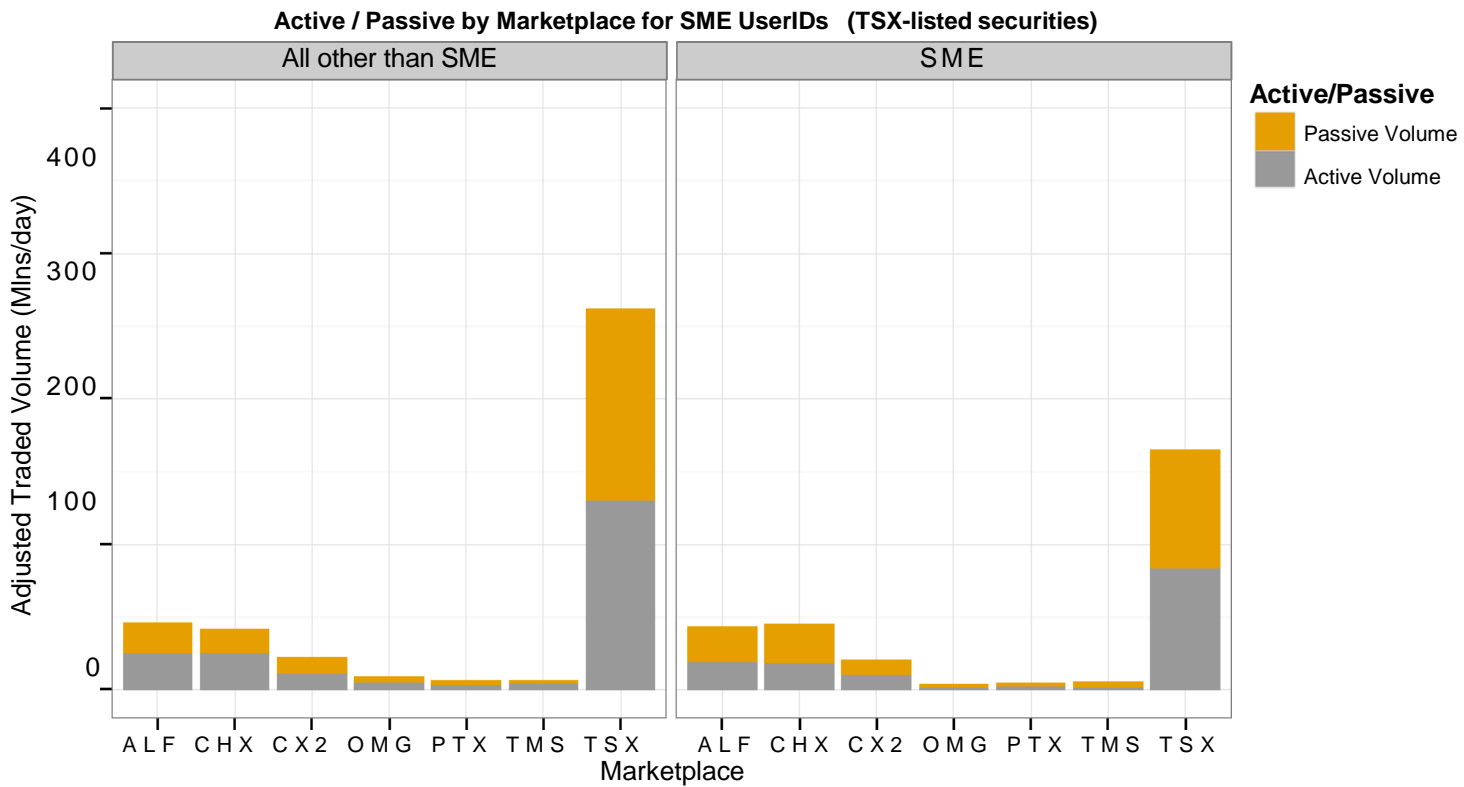
Legend for marketplace references in following charts:

|      |                      |
|------|----------------------|
| ALF  | Alpha Exchange       |
| TSXV | TSX Venture Exchange |
| CHX  | Chi-X Canada ATS     |
| CX2  | CX2 Canada ATS       |
| OMG  | Omega ATS            |
| PTX  | Pure Trading         |
| TMS  | TMX Select           |
| TSX  | TSX                  |

1. Chart-set pertaining to trading in TSX-listed securities over the period of June 1, 2013 to September 30, 2013



1. Chart-set pertaining to trading in TSX-listed securities over the period of June 1, 2013 to September 30, 2013 (cont'd)





**2. Additional information pertaining to data underlying the preceding charts (based on trades in TSX-listed securities)**

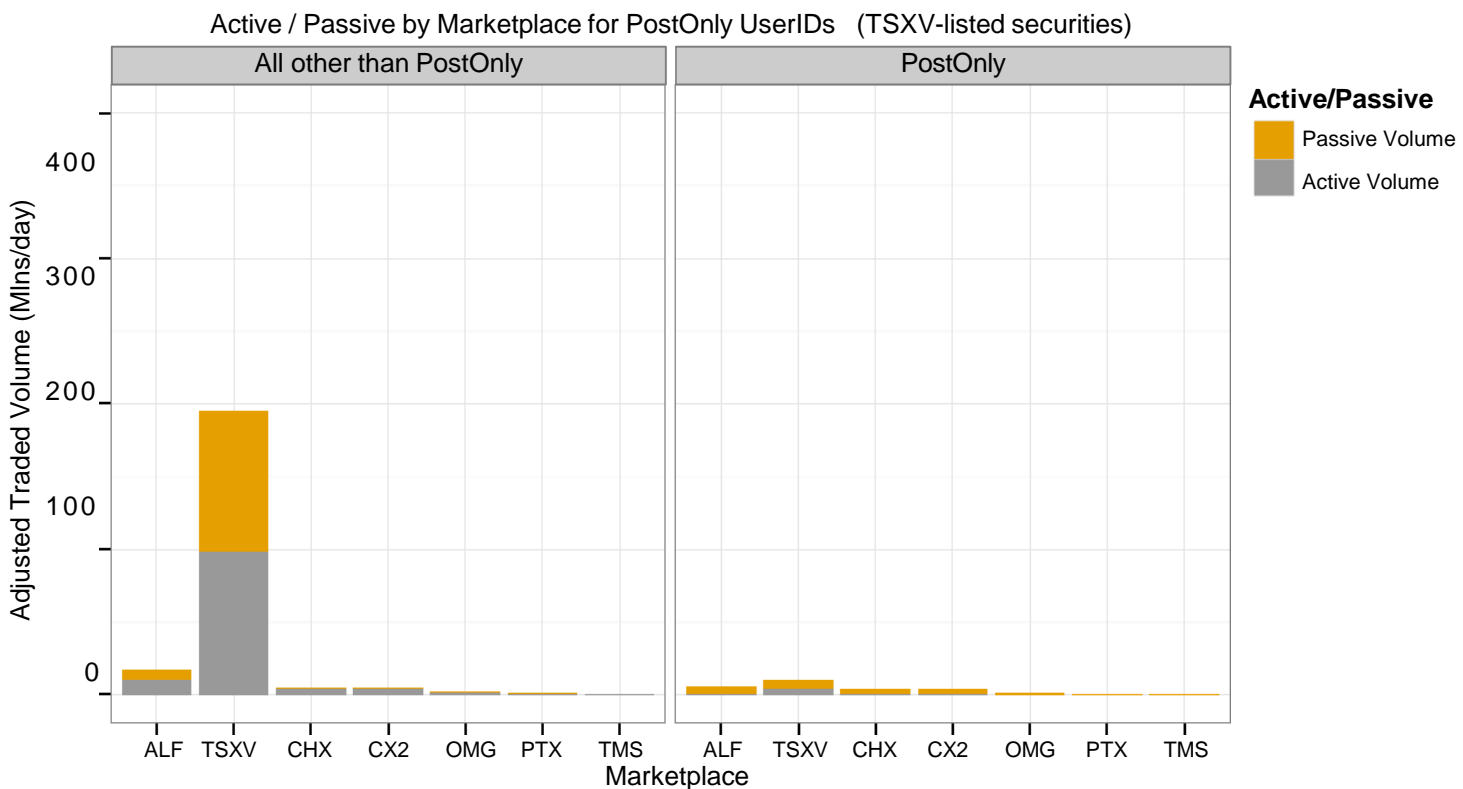
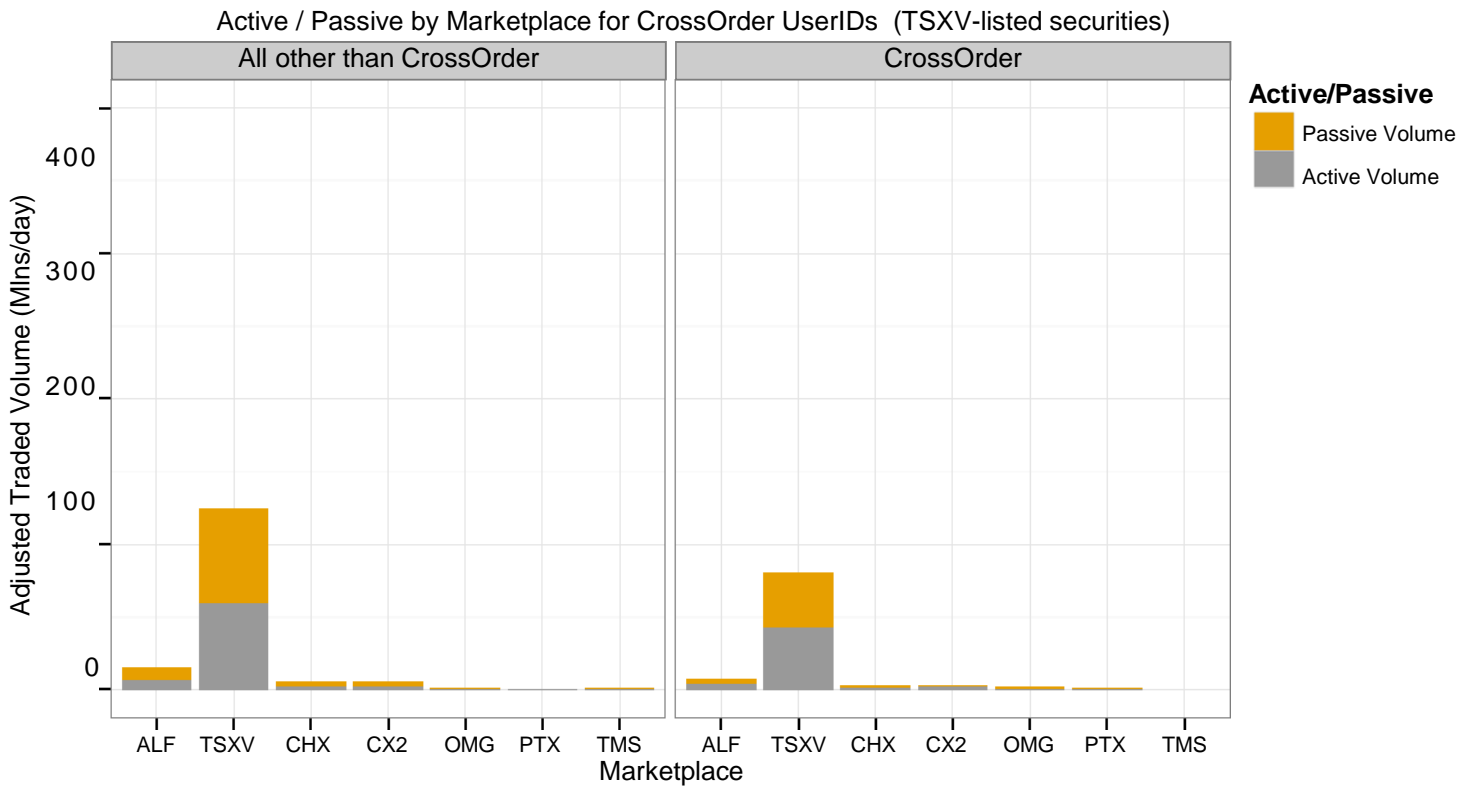
**Active / passive ratio for each UserIDs reflected in charts (expressed as the % of adjusted traded volume that was active)**

| <b>UserID Category</b> | <b>ALF</b> | <b>CHX</b> | <b>CX2</b> | <b>OMG</b> | <b>PTX</b> | <b>TMS</b> | <b>TSX</b> | <b>Across all marketplaces</b> |
|------------------------|------------|------------|------------|------------|------------|------------|------------|--------------------------------|
| CrossOrder             | 75%        | 87%        | 68%        | 86%        | 67%        | 75%        | 55%        | 62%                            |
| PostOnly               | 22%        | 27%        | 19%        | 20%        | 35%        | 18%        | 42%        | 33%                            |
| SME                    | 44%        | 40%        | 48%        | 43%        | 47%        | 33%        | 51%        | 47%                            |
| SDL                    | 81%        | 98%        | 96%        | 98%        | 97%        | 96%        | 46%        | 60%                            |
| Other                  | 57%        | 68%        | 85%        | 48%        | 45%        | 86%        | 50%        | 54%                            |

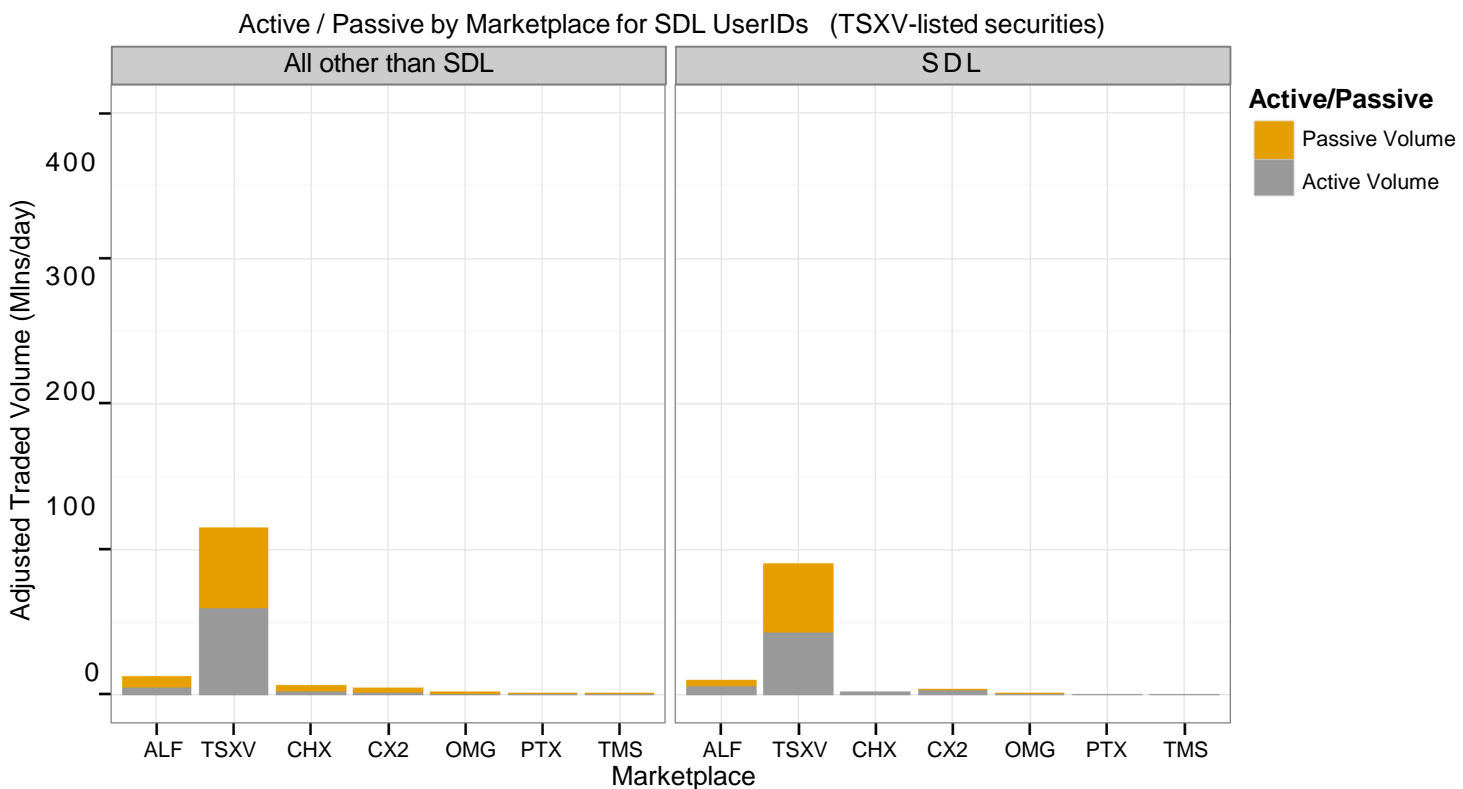
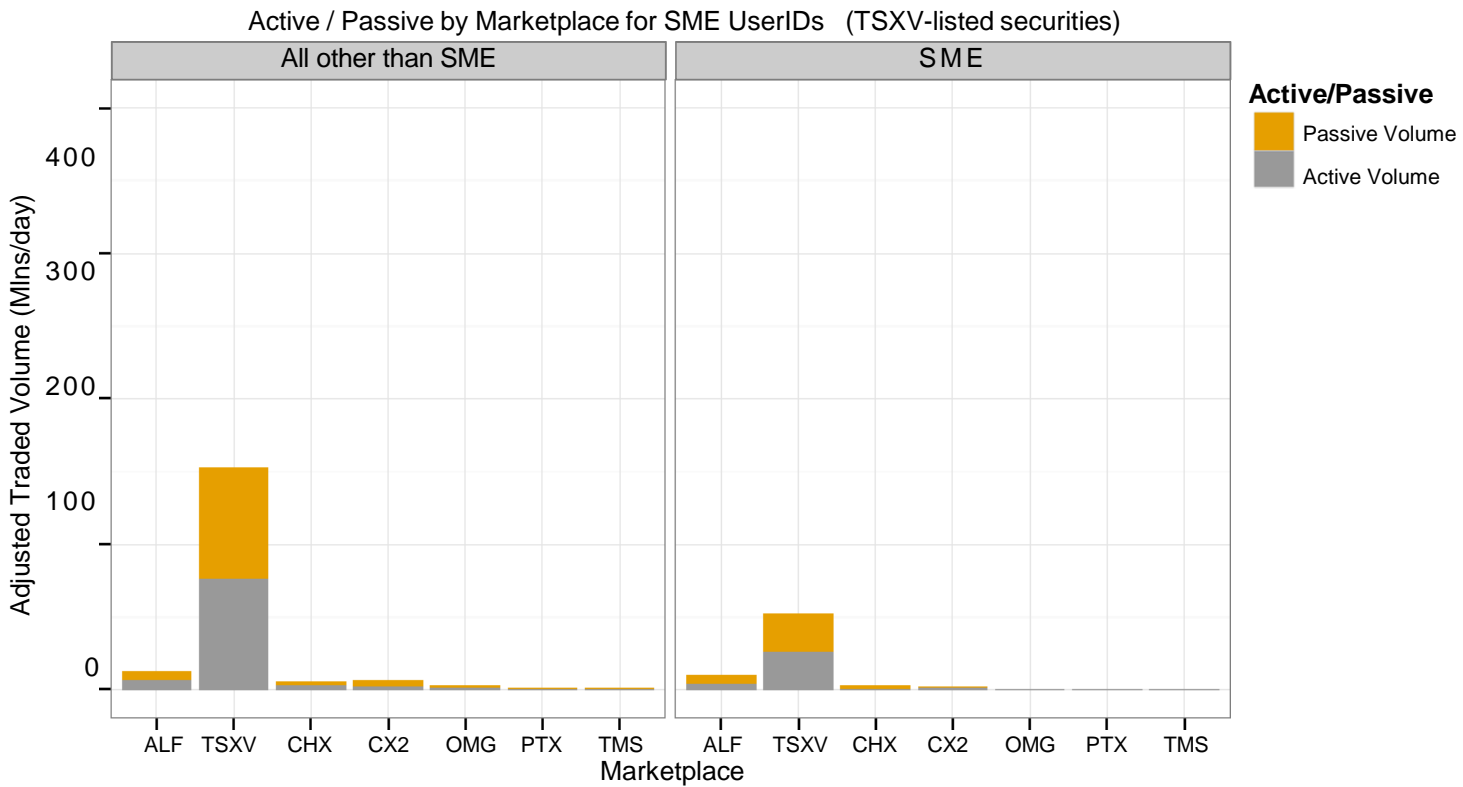
**% of adjusted traded volume for UserIDs reflected in charts**

| <b>UserID Category</b> | <b>ALF</b> | <b>CHX</b> | <b>CX2</b> | <b>OMG</b> | <b>PTX</b> | <b>TMS</b> | <b>TSX</b> | <b>Total for all marketplaces</b> |
|------------------------|------------|------------|------------|------------|------------|------------|------------|-----------------------------------|
| CrossOrder             | 2.9%       | 2.2%       | 1.6%       | 0.4%       | 0.5%       | 0.4%       | 19.2%      | 27.1%                             |
| PostOnly               | 5.3%       | 7.2%       | 2.8%       | 0.6%       | 0.5%       | 0.9%       | 16.5%      | 33.7%                             |
| SME                    | 6.3%       | 6.7%       | 3.0%       | 0.5%       | 0.6%       | 0.8%       | 24.3%      | 42.3%                             |
| SDL                    | 3.0%       | 1.0%       | 1.5%       | 0.3%       | 0.2%       | 0.3%       | 13.4%      | 19.8%                             |
| Other                  | 2.7%       | 2.8%       | 0.8%       | 0.6%       | 0.5%       | 0.3%       | 17.0%      | 24.7%                             |
| Totals                 | 20.3%      | 19.8%      | 9.7%       | 2.4%       | 2.2%       | 2.7%       | 90.3%      | 147.5%                            |

3. Chart-set pertaining to trading in TSXV-listed securities over the period of June 1, 2013 to September 30, 2013



3. Chart-set pertaining to trading in TSXV-listed securities over the period of June 1, 2013 to September 30, 2013 (cont'd)



4. Additional information pertaining to data underlying the preceding charts (based on trades in TSXV-listed securities)

**Active / passive ratio for each UserIDs reflected in charts (expressed as the % of adjusted traded volume that was active)**

| UserID Category | ALF | TSXV | CHX | CX2 | OMG | PTX | TMS | Across all marketplaces |
|-----------------|-----|------|-----|-----|-----|-----|-----|-------------------------|
| CrossOrder      | 58% | 53%  | 56% | 83% | 52% | 47% | 84% | 54%                     |
| PostOnly        | 11% | 43%  | 10% | 4%  | 5%  | 20% | 11% | 23%                     |
| SME             | 44% | 50%  | 35% | 85% | 84% | 76% | 58% | 49%                     |
| SDL             | 58% | 48%  | 96% | 88% | 96% | 88% | 88% | 52%                     |
| Other           | 69% | 51%  | 70% | 74% | 82% | 60% | 76% | 53%                     |

**% of adjusted traded volume for UserIDs reflected in charts**

| UserID Category | ALF   | TSXV   | CHX  | CX2  | OMG  | PTX  | TMS  | Total for all marketplaces |
|-----------------|-------|--------|------|------|------|------|------|----------------------------|
| CrossOrder      | 3.0%  | 32.4%  | 1.2% | 1.0% | 0.7% | 0.3% | 0.1% | 38.6%                      |
| PostOnly        | 2.1%  | 3.9%   | 1.4% | 1.3% | 0.5% | 0.1% | 0.2% | 9.5%                       |
| SME             | 3.9%  | 21.0%  | 1.0% | 0.7% | 0.1% | 0.1% | 0.1% | 26.8%                      |
| SDL             | 4.1%  | 36.2%  | 0.8% | 1.3% | 0.3% | 0.0% | 0.1% | 43.0%                      |
| Other           | 1.5%  | 24.7%  | 0.7% | 0.4% | 0.2% | 0.1% | 0.1% | 27.6%                      |
| Totals          | 14.7% | 118.2% | 5.2% | 4.7% | 1.8% | 0.6% | 0.5% | 145.5%                     |

## Appendix A-2

### Data Fee Review Methodology

In order to determine each marketplace's relative contribution to pre- and post-trade activities, we used certain pre- and post-trade metrics. A number of these metrics that will be described below are used by the Securities Information Processor (SIP) in the United States and others were proposed by marketplaces and marketplace participants as ways to capture the contribution of a marketplace to price discovery. The underlying principle of each of the metrics is that pre-trade and post-trade contributors to price discovery and liquidity should be equally rewarded. These metrics would then be used in three ranking models that would provide a basis for us to rank each marketplace's relative contribution to price discovery and liquidity. These ranking models are described below.

We used the following notations for the pre- and post-trade metrics and the ranking methods:

i = a transparent marketplace  
m = total number of transparent marketplaces  
t = trades 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  
j = stocks traded on a transparent marketplace  
J = total stocks traded on all transparent marketplaces

#### a. Pre-Trade Metrics

1. **Percent of Best Bid and Offer (BBO)**<sup>79</sup> - means the percent of the day for which a marketplace had a quote at the national best bid (BB) or best ask (BA) for security *j*. This metric is scaled to sum to one.

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

This metric rewards marketplaces for being at the BBO for a longer period during the day. While this metric is not as easy to compute, it can be 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,

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<sup>79</sup> The time at BBO could be calculated in fractions of a second, given the rapidity of quoting.

and each individual marketplaces' percentage is then divided by this total to scale the metric to one.

One potential problem with this metric is that a marketplace, knowing that its performance will be assessed using this metric, may choose to incentivize its participants to 'quote stuff', that is to reward them for posting small lots slightly improving the current BBO for a millisecond or less. This behaviour, although rewarded, does not contribute to price discovery. This kind of activity could also be achieved by introducing 'pegged orders'. Such limit orders would not be entered at a fixed price, but rather be 'pegged' to the current BBO. If an order were pegged to the BBO, this would ensure that the marketplace remained at the BBO for a majority of the day by simply "following" the price innovators.

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

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

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

The construction of this metric also requires quote level data. This metric tends to reward marketplaces for providing liquidity at both the BB and BA, by establishing the narrowest spread on the market. 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 marketplaces' percentage is then divided by this total to scale the metric to one.

Like metric 1, this metric could be manipulated using either quote-stuffing or pegged orders. The advantage of this metric is that it rewards only that marketplace that quotes at both the BB and BA. One potential flaw of this metric, especially in illiquid stocks, is that it could reward two marketplaces that both had the same sized spread at different bid and ask prices, though this situation is relatively unlikely (this would result in locked or crossed markets).

3. **\$Time(equal)** - 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 best bid and ask are considered.

$$\$Time(equal)_i = \frac{Time_i}{\sum_{i=1}^m Time_i} Time_i$$

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

This metric tends to reward marketplaces not only for providing some liquidity at the best bid and ask, but for the depth of liquidity available at BBO. In order to construct this metric, both quoted prices and volumes are required. This metric has an advantage over Percent of BBO in that marketplaces encouraging quote stuffing will not be well rewarded for the meagre liquidity they provide at the BBO. One potential disadvantage of this metric is that it does not reward marketplaces for providing liquidity at any level apart from the BBO. With relatively wide quotes, it is possible that a marketplace wishing to manipulate this measure could provide incentive to create very shallow improvements to the BBO without providing any real capacity to trade at depth at that price level.

4. **\$Time(value)** is the same as \$Time(equal) as above, however each stock is weighted by the value traded in the period of consideration, as described in the weighting “w” below.

$$\begin{aligned} \$Time(value)_i &= \frac{Time(v)_i}{\sum_{i=1}^m Time(v)_i} Time(v)_i \\ &= \frac{\sum_{j=1}^J [Price_j * Volume_j * seconds\ at\ BB + Price_j * Volume_j * seconds\ at\ BA] * w_j}{\sum_{j=1}^J \sum_{i=1}^m (Price_j * Volume_j * seconds\ at\ BB + Price_j * Volume_j * seconds\ at\ BA) * w_j} \\ &\quad * 100 \end{aligned}$$

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

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.

5. **Additional pre-trade metric not currently reflected in ranking formulas that takes into consideration price and size depth**

**5-level \$Time** is the percent of quoted time dollar volume for each market, out of the total quoted time dollar volume for the entire market for the period, when all 5 levels of volume are considered, with the following weightings

| Orderbook Level | Weighting (w) |
|-----------------|---------------|
| 1               | 16x           |
| 2               | 8x            |
| 3               | 4x            |
| 4               | 2x            |

$$\$5leveltime_i = \frac{\sum_{l=1}^m w_l * \$time_l}{31} * 100$$

5-level \$time is the most data intensive of the considered metrics, requiring not only the price and volume available at the best bid and offer, but also up to 5 levels away from the BBO. This measure has the advantage of rewarding exchanges for providing liquidity at the BBO and also at levels away from it, weighting the BBO most highly. In the case of wide quotes, an exchange that provides very shallow improvement solely to become the “holder” of the NBBO would be rewarded for narrowing the quotes, but would also recognize the depth provided by other markets, unlike \$Time.

**Question 31: Taking into consideration how these pre-trade metrics will be used within the various ranking models, are these reasonable proxies for assessing a marketplace’s contribution to price and size discovery? Are there other metrics we should consider? Please provide details.**

**Question 32: Are the pre-trade metrics described appropriate for a marketplace that predominantly trades less liquid securities? Please indicate and describe what pre-trade metrics would be appropriate to use for such a marketplace.**

**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.

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

The square-root of dollar volume is individually constructed for each transaction. While this metric is not widely published, it is easily constructed from trade reports. It 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.

$$Scope_i = \frac{1}{D} \sum_{t=1}^T \frac{Number\ of\ symbols\ traded_{i,d}}{MAX[Number\ of\ symbols\ traded_{i,t}] \quad i = [1 - 5]}$$

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.

**Question 33: Taking into consideration how these post-trade metrics will be used within the various ranking models, are these reasonable proxies for marketplace liquidity? Are there other metrics we should consider? Please provide details.**

**Question 34: Are the post-trade metrics appropriate for a marketplace that predominantly trades less liquid securities? Please indicate and describe any additional post-trade metrics would be appropriate to use for such a marketplace.**

**c. Ranking Models**

In order to rank each marketplace’s contribution to price discovery we constructed three models from the pre- and post-trade metrics. While each of these models are 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. **SIP Equal** - The SIP Equal model is very similar to the SIP Value Model, however instead of weighting the metrics by the value traded in each marketplace, each stock in the market is equally weighted. This index rewards marketplaces for providing price discovery across the full spectrum of traded stocks.

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

3. **Model 3** - differs significantly from the previous two. 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 are equally weighted. The average of both the pre- and post-trade metrics is multiplied by the Scope of the marketplace, weighting the outcome for each marketplace by the number of symbols in which it actively trades. The resulting pre- and post-trade metrics are then equally weighted to come up with the final index.

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

**Question 35: Are the ranking models described appropriate for ranking a marketplaces' contribution to price discovery and liquidity? Are there other ranking methods we should consider? Please provide details.**

**Question 36: If you had to choose one of the three ranking methods described, which method would you chose and why?**

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 acknowledge the two approaches we propose may present several challenges, including the inability to directly observe the true "value" placed on these feeds by market participants, as well as the need to establish either internal or external comparisons.

We used the following two approaches to arrive at an estimated or fee range per marketplace.

- (1) Domestic reference - The first approach 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 three ranking methods, giving us six estimated fees.

The difficulty with using this measure is that it does not provide an external evaluation of the Canadian securities data. If all fees for market data in Canada are overpriced, this method will not provide an unbiased measure of the true value of marketplaces’ data fees. Rather, it will provide an indication as to whether any one market is charging relatively more or less than “average” for its data.

- (2) International reference - The second approach uses international comparisons to determine an average data fee per \$100 million traded. This approach assumes that the value of the international peers’ data is relatively comparable to that of the Canadian exchanges’, and that the value of this data is relative to the value of securities traded on the exchanges. The result is then redistributed based on the three ranking methods, giving us another six estimated fees. The choice of exchanges included in the comparison would impact the determination of the fair value for the Canadian data.

**Question 37: Please provide your views on the reasonableness of the two approaches for establishing an appropriate reference amount for data fees to be used in applying the data fee review methodology?**

**Question 38: What other options should we consider for identifying an appropriate reference amount? Please provide details.**

**Question 39: How frequently should any selected reference amount for data fees be reviewed for their continued usefulness?**

## Appendix A-3

### Comparison of Non-Professional Market Data Fees

#### Background

The Data Fee Paper defined real-time market data as consisting of pre- and post-trade data that is distributed immediately after an order has been entered, amended or cancelled or a trade has been executed. It is used by marketplace participants to make trading and order routing decisions. Pre-trade data provides details of orders entered on a marketplace and identifies the price and volume associated with each order. Post-trade data provides details of executed trades in a security.

Generally, marketplaces provide two types of real-time data feeds. Top-of-book, also known as Level 1 (L1) data consists of information on the last sale of a security, the best bid and offer, and the aggregate volume available for purchase and sale at those prices. Depth-of-book data, also known as Level 2 (L2) data consists of information on all visible orders in the marketplace (price and volume) and all trades.

Marketplaces charge different fees based on whether the L1 and/or L2 feed(s) will be used by a professional or non-professional user. These user fees are known as subscriber fees. Generally, professional users are individuals or organizations that use market data for business purposes (for example, dealers and their employees). Non-professional users are individuals that use market data for personal use.

In terms of the fees charged by for each feed and by type of user, L2 data is usually more expensive than L1 data and data for professional users is more expensive than for non-professional user for each feed type. In addition, in Canada, the fees charged for TSX-listed securities are generally higher than the ones charged for TSXV-listed securities for both L1 and L2 data.

Another way fees differ between marketplaces, in Canada and abroad, is in how these fees are charged. Generally, if a marketplace participant purchases both feeds (respectively L1 and L2) the fee charged for the most expensive feed includes the fee charged for the less expensive feed. However, there are some exceptions from this approach in Canada.<sup>80</sup>

Taking the above into consideration, the following is a comparison of the non-professional fees to professional fees charged by equities marketplaces in Canada, and for some international comparables.

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<sup>80</sup> TSX and TSXV charge the aggregated amount of L1 and L2 data if a user wants to purchase L2 data. Also, Omega charges a fee for its L1 data and has a fee holiday in place for its L2 data. Specifically, someone buying L2 data will pay the L1 fee.

## A. Non-professional versus Professional Fees Comparison

### 1. Canada

| Data Products by Listing Market           | Non-Professional Fee | Professional Fee | Non-Professional Fee as a % of Professional Fee |
|---|----------------------|------------------|---|
| <b>TSX listeds</b>                        |                      |                  |   |
| TSX TL1                                   | \$ 6.00              | \$ 30.00         | 20.00%  |
| TSX TL2 MarketBook                        | \$ 36.00             | \$ 80.00         | 45.00%  |
| Chi-X L1                                  | \$ -                 | \$ 12.00         | 0.00%   |
| Chi-X L2                                  | \$ -                 | \$ 30.00         | 0.00%   |
| CX2 L1                                    | \$ -                 | \$ -             | 0.00%   |
| CX2 L2                                    | \$ -                 | \$ -             | 0.00%   |
| Alpha L1                                  | \$ 3.00              | \$ 15.00         | 20.00%  |
| Alpha L2 MarketBook                       | \$ 18.00             | \$ 48.00         | 37.50%  |
| Omega L1 (TSX, TSXV & CSE)                | \$ 2.85              | \$ 2.85          | 100.00%   |
| Omega L2 (TSX, TSXV & CSE)                | \$ 2.85              | \$ 2.85          | 100.00%   |
| Lynx L1 (TSX & TSXV)                      | \$ -                 | \$ -             | 0.00%   |
| Lynx L2 (TSX & TSXV)                      | \$ -                 | \$ -             | 0.00%   |
| CSE - L1 - all (incl. CSE)                | \$ 2.40              | \$ 12.00         | 20.00%  |
| CSE - L2 - all (incl. CSE)                | \$ 20.40             | \$ 30.00         | 68.00%  |
|   |                      |                  |   |
| <b>TSXV listeds</b>                       |                      |                  |   |
| TSXV CL1                                  | \$ 6.00              | \$ 25.00         | 24.00%  |
| TSX TL2 MarketBook                        | \$ 30.00             | \$ 51.00         | 58.82%  |
| Chi-X L1                                  | \$ -                 | \$ 5.25          | 0.00%   |
| Chi-X L2                                  | \$ -                 | \$ 10.00         | 0.00%   |
| CX2 L1                                    | \$ -                 | \$ -             | 0.00%   |
| CX2 L2                                    | \$ -                 | \$ -             | 0.00%   |
| Alpha L1                                  | \$ 1.50              | \$ 7.50          | 20.00%  |
| Alpha L2 MarketBook                       | \$ 9.00              | \$ 24.50         | 36.73%  |
|   |                      |                  |   |
| <b>CSE (CSE-listeds only) L1 &amp; L2</b> | \$ 2.00              | \$ 10.00         | 20.00%  |

## 2. United States

| US Tapes                                  | Non-Professional Fee | Professional Fee | Non-Professional Fee as a % of Professional Fee |
|---|----------------------|------------------|---|
| CTA - Tape A - L1 (high user tier)        | \$ 1.00              | \$ 20.00         | 5.0%  |
| CTA - Tape A - L1 (low user tier)         | \$ 1.00              | \$ 50.00         | 2.0%  |
| CTA - Tape B - L1                         | \$ 1.00              | \$ 24.00         | 4.2%  |
| UTP - Tape C - L1                         | \$ 1.00              | \$ 23.00         | 4.3%  |
| <b>Total (including Tape A low tier)</b>  | <b>\$ 3.00</b>       | <b>\$ 97.00</b>  | <b>3.1%</b>                                     |
| <b>Total (including Tape A high tier)</b> | <b>\$ 3.00</b>       | <b>\$ 67.00</b>  | <b>4.5%</b>                                     |

## 3. International

| Data Products by Market                   | Non-Professional Fee | Professional Fee | Non-Professional Fee as a % of Professional Fee |
|---|----------------------|------------------|---|
| BATS / Chi-X Europe - L1                  | £ -                  | £ 20.00          | 0.0%  |
| BATS / Chi-X Europe - L2                  | £ -                  | £ 45.00          | 0.0%  |
| LSE - Member - L1 (low non-pro tier)      | £ 4.10               | £ 28.70          | 14.3%   |
| LSE - Member - L1 (high non-pro tier)     | £ 0.20               | £ 28.70          | 0.7%  |
| LSE - Member - L2                         | £ 6.00               | £ 105.00         | 5.7%  |
| LSE - Non-Member - L1 (low non-pro tier)  | £ 4.10               | £ 40.00          | 10.3%   |
| LSE - Non-Member - L1 (high non-pro tier) | £ 0.20               | £ 40.00          | 0.5%  |
| LSE - Non-Member - L2                     | £ 6.00               | £ 157.50         | 3.8%  |
| Borsa Italia - L1 (low non-pro tier)      | € 0.42               | € 12.60          | 3.3%  |
| Borsa Italia - L1 (high non-pro tier)     | € 0.32               | € 12.60          | 2.5%  |
| Borsa Italia - L2                         | € 1.25               | € 42.00          | 3.0%  |
| NASDAQ OMX Nordic - L1                    | € 1.00               | € 29.00          | 3.4%  |
| NASDAQ OMX Nordic - Totalview             | € 10.00              | € 74.00          | 13.5%   |
| NYSE Euronext European - L1               | \$ 1.00              | \$ 61.00         | 1.6%  |
| NYSE Euronext European - L2               | \$ 1.00              | \$ 86.00         | 1.2%  |
| ASX Total - L2                            | \$ 25.00             | \$ 55.00         | 45.5%   |
| BM&F BOVESPA (BOVESPA feed) - L2          | BRL 1.50             | BRL 90.00        | 1.7%  |