Cost-benefit Analysis

Proposed Amendments to National Instrument 21-101 *Marketplace Operation* and National Instrument 23-101 *Trading Rules*

1) Introduction

The Canadian Securities Administrators (CSA) are proposing amendments to National Instrument 21-101 *Marketplace Operation* (NI 21-101) and National Instrument 23-101 *Trading Rules* (NI 23-101). The proposed amendments cover two areas:

a) Best execution
   i) Acknowledging in the rule that advisers managing a client's portfolio have a best execution obligation to their clients. When acting for their client, advisers must make reasonable efforts to achieve best execution.
   ii) Broadening best execution beyond "best execution price" in NI 23-101. Best execution would be defined as "the most advantageous execution terms reasonably available under the circumstances".
   iii) Dealers would be required to report order execution statistics and marketplaces would report market quality information. Additionally, dealers would be required to disclose any material aspects of a dealer's relationship with a particular marketplace.

b) Non-dealer market access
   Currently non-dealer ATS subscribers are subject to a subset of Universal Market Integrity Rules (UMIR) provisions while direct market access (DMA)[1] clients are not subject to UMIR[2]. Non-dealer participants would be subject to UMIR provisions regardless of whether they are an ATS subscriber or a DMA client of an investment dealer. Additionally, it is proposed that DMA clients and ATS subscribers sign an agreement with the applicable regulation service provider to ensure compliance with the rules. To ensure that representatives of these market participants are knowledgeable about the rules, they would be required to first successfully complete an examination relating to an industry-approved training course (e.g. Canadian Securities Institute's Trader Training course).

This cost-benefit analysis (CBA) will focus on the proposed introduction of market quality and execution statistics as it would involve technology and infrastructure costs for investment dealers and marketplaces. The other changes in the proposed amendments would cause participants to make changes to their policies and procedure but these are unlikely to involve significant costs and are likely to be predominantly one-time costs.

[1] "Direct market access" are clients with direct intermediated access (i.e., through or "sponsored by" a dealer) to an exchange or ATS. Subscribers have direct access to an ATS.

[2] The dealer must monitor and supervise the trading of their DMA accounts as they are still technically responsible for any UMIR breaches.

2) The Issue

The CSA are updating the requirements in NI 21-101 and NI 23-101 to reflect market structure developments. Although these National Instruments have allowed for a security to be traded on more than one marketplace, that situation has only recently become a reality. This leads to a number of issues:

a) Dealers are required to reasonably provide best execution. In the absence of marketplace statistics, dealers are missing an important tool for determining the most suitable marketplace for their client.

b) Investors may be constrained in their ability to monitor how trades are executed. A standardized set of execution statistics would allow investors to make comparisons and more informed investing decisions.

c) All marketplaces have an incentive to maintain or improve their market share. In the absence of standardized disclosure, marketplaces may make available the most favourable statistics and so comparisons between marketplaces may be difficult if not impossible. A standardized set of statistics will enable participants to compare the quality of individual marketplaces and make more informed order routing decisions.

In effect, there is an information asymmetry[3] issue; intermediaries are unable to comprehensively evaluate the service they receive from a marketplace and investors are limited in their ability to evaluate their intermediaries. As a result, regulation may be required to address the issue.

3) Outcome

The market quality and order execution statistics in the proposed amendments should help:

a) Foster a competitive environment for marketplaces;

b) Promote better informed trading and compliance with fiduciary obligations and rule requirements through order execution and marketplace quality statistics; and

c) Investors determine which dealer would best suit their needs given order routing dealer statistics.

[3] Information asymmetry occurs when relevant information is known to some but not all market participants. This prevents markets from operating efficiently as some market participants are unable to make fully-informed decisions.

4) Background

The December 2001 adoption of NI 21-101 and NI 23-101 established a framework for competition between traditional exchanges and other marketplaces while ensuring that trading is fair and efficient. Obtaining the best terms available is rarely an issue for investors when a security trades on a single marketplace. That single marketplace structure guarantees best price, which for most retail investors is the best terms available. In a multiple marketplace environment, providing clients with the most advantageous execution terms reasonably available under the circumstances becomes more complicated. Dealers may also need to consider execution speed, price, overall transaction cost, and order fill certainty[4].

Evaluating best execution

In order for market participants to ensure they are achieving the most advantageous execution terms available, they need to be able to make informed choices about how well their dealer meets its best execution obligation and which marketplaces are used to execute their transactions. In a multiple marketplace environment, most retail investors are unlikely to have the sophistication or infrastructure available to determine whether their dealer is providing them with best execution. They are also unable to determine which dealer(s) suit their needs. To help investors make better decisions, dealers should provide investors with accessible data on their order routing decisions. The CSA propose that such information would include the percentage of orders that were directed to a marketplace without specific routing instructions, whether there are any material agreements between the dealer and marketplace, and the marketplaces available.

In order for a dealer to provide best execution to clients, it must have a process for analysing the marketplaces where a security trades and data upon which to base execution decisions. This information is more consistent and measurable if marketplaces provide standardized periodic and timely order execution quality statistics.

5) Alternatives

Given the above identified issues, we have identified three alternative policy responses: (a) implement the CSA's proposed order execution and market quality statistics; (b) proceed with no reporting requirements (status quo); or (c) implement proposed order execution and market quality statistics as specified in a) and also include marketplace spread statistics, as required in SEC Rule 605.

a. Implement the CSA's proposed order execution and market quality statistics

As proposed, marketplaces would be required to provide, on a monthly basis, market quality statistics which would include:

i) Liquidity measures (e.g. the number of orders that the marketplace received, cancelled, and executed)

[4] As discussed in the introduction, the proposal would amend the "best execution price" since in today's environment, investors may demand speed, order execution certain, and transaction cost, in addition to price.

ii) Trading statistics (e.g. the volume and value of all trades on marketplace, average trade size, and the number of trades of a given size)

iii) Speed and certainty of execution measures (e.g. the number of orders at the best bid price and best ask price of the marketplace executed within certain time ranges)

The information in i) to iii) would be categorized by security and, order type. For more detailed information on these statistics, refer to Part 14.1 of the proposed amendments to NI 21-101.

Dealers would be required to provide quarterly statistics on order routing. The proposed CSA reporting requirements for dealers are similar to the SEC rule. These include the percentage executed at a location determined by the dealer, the identity of marketplaces and the percentage of orders routed to each marketplace, and the disclosure of material arrangements with any marketplace. Also, upon request, a dealer would be required to disclose to its client the identity of the marketplace where the client's orders were routed for execution in the six months prior to the request, whether the dealer was specifically instructed to route to a particular marketplace for execution and the time of the transactions, if any, that resulted from such orders.

Costs

- Although marketplaces already maintain records of orders received and trades executed, they would realize incremental costs associated with manipulating the raw data into the required statistics. This would include software and systems costs associated with the manipulation and resources devoted to ensuring the integrity of the marketplace statistics. Alternatively, service providers may emerge to generate and report these statistics on behalf of a marketplace for a fee, as has occurred in the U.S.
- Dealers are already likely to keep track of the client orders, the associated routing instructions, and the details of how the order was routed and so there should be limited data acquisition costs. However, that information will have to be stored in a way that is accessible on-demand, and can be manipulated into aggregate reports or reports for an individual client. As a result dealers may incur costs associated with changing how this information is stored and implementing reporting tools.
- A new marketplace's ability to attract liquidity may be hampered by published marketplace statistics. The statistics may reinforce that new entrants often have a limited ability to attract liquidity.
- Dealers would also incur costs related to ensuring the integrity of published execution statistics. The publication of incorrect information could pose a risk to a firm's reputation.

- Misinterpreted order routing statistics may result in frivolous lawsuits; clients might claim their dealer is not meeting their best execution requirement[5]. This may be compounded by the fact that dealers cannot always execute trades exactly as the client would like.

Benefits

- Marketplace quality statistics provide guidance to dealers to help meet their best execution obligation[6].
- Increased information about marketplace quality enables traders to develop more advanced routing algorithms with the aim of decreasing trading costs for clients.
- The combination of dealer order routing information and marketplace quality statistics would allow investors to become more informed about execution options.
- A uniform set of marketplace quality statistics would enable participants to objectively compare marketplaces. Participants would be able to determine if a marketplace has a comparative advantage in a specific area (e.g. speed, order fill rates, etc) and this would encourage competition between marketplaces. The statistics could also help new marketplaces identify underserved segments of the market.
- Order routing decisions and client trade data might help investors determine whether their dealer is obtaining best execution[7]. Investors would also be in a better position to be able to compare the order routing practices of different dealers. Some investors may lack the knowledge to be able to interpret the order routing and marketplace quality statistics. However, other stakeholders may interpret and communicate the relevant facts to such individuals[8].

b. Proceed with no reporting requirements (status quo)

Under the status quo, the market would continue to develop and securities would trade on multiple marketplaces while there would be no order execution and market quality statistics requirements.

[5] See Morgan Stanley Dean Witter & Co's comment letter to SEC regarding the proposed disclosure of order-routing and execution practices rule. September 25, 2000. Source: http://www.sec.gov/rules/proposed/s71600/roger1.htm

[6] In a recent study of the US market, it was found that marketplace statistics influence a dealer's order routing decisions. The marketplaces that provided fast execution and lower execution costs received more order flow. This paper also provided anecdotal evidence of companies claiming to use the dealer statistics. Source: Boehmer, E., and Jennings, R, and Wei, L, "Public Disclosure and Private Decisions: Equity Market Execution Quality and Order Routing" (2006), Review of Financial Studies (forthcoming).

[7] Investors would also have to consider brokerage fees, service requirements, and other features which are not captured in these statistics.

[8] This was a criticism of the SEC's proposal but the SEC anticipated that this would not be an issue since "independent analysts, consultants, broker-dealers, the financial press, and market centers would analyze the information and produce summaries that respond to the needs of investors". Source: http://www.sec.gov/rules/final/34-43590.htm

Costs

- As the number of marketplaces grows, investors and intermediaries would find it increasingly difficult to evaluate the different execution options.
- Without greater knowledge, investors would not be able to meaningfully measure the execution achieved by their dealer.
- Although some dealers and marketplaces may choose to report certain information there would be no requirement for standardized statistics. Market quality information is only beneficial if all marketplaces provide it and participants are able to make better informed decisions. Investors can only use order execution information to make informed decisions if it is available from all dealers and is comparable.

Benefits

- There would be no additional costs to dealers or marketplaces.
- There is little additional benefit for investors.

c. Implement proposed order execution and market quality statistics as specified in a) and also include marketplace spread statistics, as required in SEC Rule 605.

The SEC's marketplace statistics also include measure of the average effective and average realized spreads which are reported on a monthly basis[9]. These spread statistics are intended to provide an estimate of how well a marketplace offers price improvement and liquidity, respectively, on a given security[10]. Since the CSA are soliciting feedback on whether these spread statistics should be included, this section examines the potential costs and benefits of these figures.

In order to calculate the average effective and realized spread, a marketplace would need to compare the transaction price with the best bid and offer across all marketplaces. Each individual marketplace could calculate the best bid and offer across all marketplaces or, if commercially viable, a single information processor may provide this service.

Alternatively, the effective and realized spread could be calculated using the individual marketplace's best quoted bid and ask. These statistics would be

[9] The US requires spread calculations for each security by order size (ranges) and order type.

The average effective spread measures the distance between the midpoint of the market at the time an order is entered and the execution price received. This value is then doubled to incorporate the whole bid/ask spread.

The average realized spread measures the execution price to the midpoint of the national best bid and ask 5 minutes after the order is entered.

[10] Aggregated marketplace statistics may be subject to selection bias for markets that specialize in smaller stocks, trade more volatile stocks, or trade difficult order flow (e.g. knowledgeable investors that trade large blocks). See Bessembinder H, "Selection Biases and Cross-Market Trading Cost Comparisons" (2003), Working Paper.

considerably less informative and some marketplaces would be unable to produce usable statistics because limited liquidity can mean that there is no two-sided market for a security.

Costs

- Costs associated with alternative (a) also apply to (c)
- Given the complexity of effective and realised spread statistics, marketplaces would likely incur higher costs than the current proposed amendments
- In order to calculate the spread, marketplaces would have to get data from an information processor (if available) or directly from other marketplaces. Some marketplaces may, as part of their business model, need access to the best bid and offer across all marketplaces.

Benefits

- The benefits of alternative (a) also apply to (c)
- If marketplace spread statistics are introduced, they can be used to conduct transaction cost analysis (difference between bid/ask spread on round-trip trade, etc).
- Although more costly to implement, marketplaces could offset some of the cost by selling transaction cost analysis tools back the marketplace participants
- Participants would be better able to assess the liquidity risk of a particular security.
- The addition of marketplace spread statistics would further improve a dealer's ability to make trading decisions that would be most beneficial to their clients.

6) Conclusions

More informed industry participants would improve the efficiency and fairness of Canada's capital markets. On that basis, the introduction of order routing and market quality statistics is more desirable than continuing with the status quo.

On a qualitative basis there is reason to believe that the introduction of order execution and market quality statistics would be beneficial. At this stage there is very little available information about how these statistics may be used in the Canadian market and the likely cost of producing them. Without that data it is difficult to make assess the relative costs and benefits of options (a) and (c) above.

As such, the OSC will survey investment dealers, marketplaces, and other market participants to collect quantitative estimates of the cost and benefits or order execution and market quality statistics. We will begin surveying during the spring of 2007. The results of that survey will be published in a revised CBA.

7) Additional request for comments

Do you believe there are any other costs to implement best execution reporting that are not covered by this CBA?

If you wish to participate in CBA discussions on the best execution reporting requirements, please contact:

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