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To: All Canadian Securities Administrators and CIRO, via e-mail

December 4, 2023

Re: CSA/CIRO Staff Notice 23 – 331 – Request for Feedback on December 2022 SEC Market Structure Proposals and Potential Impact on Canadian Capital Markets

TD Securities welcomes the opportunity to comment on the CSA/CIRO *Request for Feedback on December 2022 SEC Market Structure Proposals and Potential Impact on Canadian Capital Markets*.

TD Securities is a leading securities dealer in Canada with a global footprint. TD Securities is a top ranked block trader in Canadian equities and options based on dollar value and shares traded. TD Securities also acts as the executing dealer for TD Waterhouse, the largest direct investing brokerage firm in Canada.

The Canadian equity market is one of the most robust, innovative, and collaborative globally. We have been a thought leader in many aspects from the listing of the first ETF, early adoption of automated trading (CATS), the first speed bump marketplace, and new matching engine logic such as long life orders.

Our equity markets can be thought of in three categories:

1) Canadian listed equities
2) Canadian listed equities that are inter-listed with the US
3) Canadian listed ETFs

The US is the largest equities market in the world with the deepest and most liquid capital pool. US market structure is unnecessarily complicated in our opinion due to a high degree of market fragmentation. We are thankful for the opportunity to comment on the proposed US rule changes and implications for the Canadian marketplace. Our goal is to continue the Canadian tradition of maintaining efficient, liquid, transparent and accessible capital markets for all investors in our ecosystem.

TDS Canadian Market Study

In our responses below, we will be referring to data on the Canadian equity market during the CIRO study period spanning January 1, 2023 – April 30, 2023 (continuous trading excluding intentional cross). We have derived this information from in-house tick databases. In our analysis we will consider the most liquid high-value securities meeting the following criteria:

- Exclude warrants & debentures
- Securities must have a minimum notional value traded of >$1 million in the study period
- Securities must trade at least 90% of trading days in the period
- Time-weighted mid-price average was >= $1 at least 70% of trading days in the period

Over the study period, this criteria includes a set of 1,032 Canadian equities and 688 ETFs.

Responses to CIRO/CSA request for comment

Question 1 - If adopted as proposed by the SEC, please provide your views regarding whether Canada should harmonize with an amended SEC rule..

We recommend that inter-listed securities, non-inter-listed securities, and ETFs should be treated as three separate categories with individualized minimum pricing increments. Each segment is uniquely different in liquidity profile, execution alternatives, and needs of the originating investor.

We examined the median spread in basis points for non-interlisted stocks, interlisted stocks and ETFs, and reviewed the same spread statistics for the first 15 minutes of market open when liquidity is most thin. We note that the median time-weight spread of interlisted single stocks and ETFs is 4-6 times tighter than non-interlisted single stocks and this absolute difference is more material in the first 15 minutes of trading. Again, supporting our view that the categories are distinctly different.

Security Category	Symbol Count	Median Spread In BPS (9:30am-4pm)	Median Spread In BPS (9:30-9:45am)
Non Interlisted Single Stock	851	83.7	145
Interlisted Single Stock	181	17.3	33.6
ETFs	688	13.7	22.5

**Spread defined by the time-weighted average of the bid-ask spread divided by the mid quote*

In general, inter-listed securities are the deepest and most liquid Canadian names. The future treatment of inter-listed securities is a core concern given our collective desire to ensure global flows seeking Canadian exposure continue to prioritize execution on Canadian venues. To maintain competitiveness, inter-listed names must at a minimum match the equivalent trading and pricing increment as determined by their US counterpart. If a dynamically calculated model is adopted in the US, the Canadian interlisted names must also follow suit to keep the markets in sync. Otherwise, global flows will be prioritized to US venues by interlisted routers targeting narrower spreads. We are concerned this will harm the Canadian market volume and future liquidity.

Non-interlisted securities are not subject to the same foreign competition in the absence of a US listing venue. Additionally, the majority of non-interlisted liquidity and executed volume is sourced within Canada. The goal for non-interlisted securities should be to maintain displayed quotes that are stable, accessible, and sizable. We have concerns that if a minimum increment is too small there will be excessive fragmentation of liquidity, reducing the available notional at top-of-book and making queue jumping less expensive.

The SEC proposes the following minimum pricing increments based on the average spreads observed during the evaluation period:

Minimum Pricing Increment	If the Time Weighted Average Quoted Spread for the NMS stock during the Evaluation Period was:
$0.001	Less than $0.008
$0.002	Greater than $0.008 and less than or equal to $0.016
$0.005	Greater than $0.016 and less than or equal to $0.04
$0.01	Greater than $0.04

If we apply the same increments to the 1,032 liquid Canadian securities from our analysis, we can estimate the effect on top-of-book quoted notional for each increment tier.

Time Weighted Average Spread Tier	Symbol Count	One-Sided Top Of Book Quote Notional	Post Increment One-Sided TOB Quote Notional
A: Less than or equal to $0.016	190	$49,810	$9,962 (/5)
B: Greater than $0.016 and less than or equal to $0.04	295	$16,319	$8,159 (/2)
C: Greater than $0.04	547	$39,470	$39,470 (/1)

**One-sided TOB Quote Notional = [(bidPx * bidSize) + (askPx * askSize)] / 2*

For a highly liquid Canadian security in tier A, the spread would move from $.01 to $.002, or a narrowing factor of 5. We believe best case scenario is that previous liquidity gets spread out across the 5 new tick sizes and results in a much less TOB notional as shown in ***'Post Increment One-sided TOB.'*** Marketable orders may see less than $10k in immediate accessible TOB liquidity which is materially less than volume aggregated at a penny.

To summarize, we recommend single stocks listed only in Canada should not follow SEC price increment tiers as there is no direct linkage to a foreign market and there is a risk of top-of-book fragmentation. We support matching the SEC price increment tiers on interlisted securities to remain competitive with the US.

<u>Question 2 - What would happen if Canadian requirements as related to minimum pricing increments are not amended in response to an amended SEC rule as proposed?</u>

We believe that marketplace participants would send less flow to Canadian marketplaces if the combination of a minimum price increment and access fee structure created a scenario where a tighter total execution price could be achieved on US venues for interlisted securities. We note that comparisons of US and Canadian pricing increments and access fees should be viewed through the lens of foreign exchange rates and harmonized to greatest extent possible.

Question 3 - Do you have concerns related to operational resilience or increased message traffic?

We are broadly concerned about potential stress on our trading ecosystem with narrow tick increment given the variety of market participants with differing levels of infrastructure. We are specifically cautious of material upticks in message traffic resulting from changes in minimum tick increments. Tick-constrained stocks currently aggregate displayed liquidity in consistent price levels. These stocks often trade at prices matching the common top of book quote. However, in the case of non-tick constrained names, these stocks can suffer from excessive quote flickering as a byproduct of execution algos or liquidity providers adjusting for price priority. We do not argue the benefits of a better price, but we want to be conscious of the increase in message traffic if increments are changed. This is true not only for top-of-book, but also deeper in the order book as the finer price increments present more opportunities to gain order priority.

Using our liquid Canadian equities from the previous section, we filtered for all the names that traded above >$1B total notional in the study period. We count a price change as a single update in the best available bid or ask price. We found that non-tick constrained names had on average three times as many price changes as tick constrained securities.

>$1b Notional Volume Names	Average Daily Price Changes
Tick Constrained <= 0.011	3,229
Non Tick Constrained > 0.011	10,296

Question 4 – Do you agree that any Canadian proposal to amend minimum pricing increments would introduce complexity in managing orders?>

Any increase in load on systems in the Canadian marketplace is not without risk. Message traffic that is consumed and aggregated by venues, vendors, smart-order-routers, risk checks, and trading systems will increase which at a minimum can result in processing delays by those components. We expect infrastructure costs will rise as participants upgrade their systems to improve processing bandwidth.

The industry will need to update configurations and test the new spread increments. From an application software point of view, we believe this is something that can be achieved in a few months. Open GTC orders may need to be adjusted to reflect new pricing increments.

It is not clearly understood how changing minimum pricing increments will impact the activity of institutional and retail traders. Full investor education is something that would be difficult to implement. The complexity around dynamic pricing increments can be partially addressed through a well-designed user interface in trade entry systems, but the end investors will also need to be aware of the change in market structure.

Question 5 - Would participants still be providing meaningful price improvement in circumstances where a "better price" is required?

Yes, in our view that the spirit of the rule is not violated if increments are reduced. The meaningful price improvement rules have historically benefitted market participants by preventing de minimis execution improvement and encouraging participants who rest displayed liquidity. If the pricing increments are reduced, then price improvement of one full increment (or half increment if the spread is one increment wide) remains consistent with the quoted price levels.

Question 6 - Views on expected outcomes (positive and negative) associated with any changes to minimum trading increments and evaluation metrics?

On the positive side, reduced pricing increments have the potential to reduced transaction costs on market-taking orders through tighter spreads, especially for securities which are currently tick-constrained.

Negative implications are the potential for reduced top of book size leading to higher market impact, disadvantages to liquidity providers through loss of queue priority from orders "stepping ahead" at smaller price increments, increased message traffic that might require infrastructure upgrades, and a potential increase in adverse selection as fewer firms at top-of-book gain increased market flow information. We are also concerned that trade-through management will become more challenging with finer tick increments and more rapid quote updates, which may require a review of DOA and OPR frameworks.

We recommend the following metrics be monitored to evaluate the effectiveness of a change in pricing increments:

- Count of participants at top of book benchmarked against historical
- Volume traded at top of book
- Volume traded within a one-increment spread
- Market impact experienced by participants
- Stock quote stability and price volatility
- Balance of US and Canada interlisted volume to monitor market share erosion

Question 7 - Please discuss whether fee caps should also apply to "taker-maker" fee models

Yes, fee caps should apply to taker-maker models. For interlisted names, it is essential to keep the range of fee caps in line with US limits.

Question 8 - Should fees be deterministic upfront?

Yes, exchange fees and rebates should be determinable and immediately known at time of execution. Market participants should be directly aware of their potential execution costs. There are certain niche scenarios where there are exceptions:

- Auto-execution fills based on routing participant such as MGF on TSX
- Dynamic fee codes should continue to exist for unintentional cross. Trading participants know their costs ahead of time and this helps achieve intra-broker efficiencies.

<u>Question 9 - If adopted as proposed by the SEC, please provide your views on a Canadian approach to fee caps:</u>

Changes to the access fee/rebate may have a greater impact in Canada compared to the US due to the differences in market structure.

Inverted markets are 15-20% of total consolidated volume in Canada due to limitations on off-marketplace trading. Volumes on inverted markets benefit from fee sensitive routing including retail. In the US, currently around 43% of volume is executed off-exchange on the TRF via wholesaling, single dealer platforms, and ATSs. Roughly 3.5% of US volume is executed on inverted venues which are all protected. The US market structure allows for dark executions at the touch and private side agreements, which limits the importance of fee/rebate caps for US exchanges.

In Canada, wider spread names tend to favour speed bump venues when trading on inverted markets. This can be attributed to many reasons including protections from adverse selection on less liquid or higher dollar value names. One concern we have is if the rebate provided for quoting on a protected inverted market is reduced, volume that currently contributes materially to price discovery could move from being readily accessible to a non-protected venue with a speed bump.

Interlisted

Time Weighted Average Spread Tier	% Shares on Inverted Markets	% Shares of Speedbump Venues in Inverted Trading
A: Less than or equal to $0.016	14.8%	38.6%
B: Greater than $0.016 and less than or equal to $0.04	16.4%	51.7%
C: Greater than $0.04	19.2%	54.6%

Non-Interlisted

Time Weighted Average Spread Tier	% Shares on Inverted Markets	% Shares of Speedbump Venues in Inverted Trading
A: Less than or equal to $0.016	16.4%	50.5%
B: Greater than $0.016 and less than or equal to $0.04	17.7%	58.6%
C: Greater than $0.04	17.0%	62.1%

**Inverted = Alpha, CSE, CSE2, CX2, NEO-N, OMEGA* ***SpeedBump = ALPHA and NEO-N*

For the interlisted names, we recommend fee caps be harmonized with the US, adjusting for foreign exchange rates. For Canada-only listed names there is greater flexibility to maintain access fees which differ from the US.

Question 10 – Is the transparency of order and trade data is sufficient in Canada due to the availability of odd lot data and the lack of off-exchange trading. Also what are your thoughts on round-lot definition?

In the US, odd-lots have become of a topic of contention due to their increased percentage of total volume. This has been driven by more sophisticated order routers trying to disguise their true size along with the growth in retail trading. The SEC determined 65% of single stock trades are odd-lots and 19% of total volume came from odd-lot sized orders. The desire to increase transparency on such a material portion of market volumes is reasonable in the context of the fragmented US market structure.

In Canada, we do not believe there is a lack of transparency on odd-lots in the current model. Odd-lot trading is mostly represented by retail orders due to CIRO rules limiting participants from slicing larger orders into odd-lots. These order splitting rules are in place to prevent abuse of auto-execution facilities.

We believe that Canada does not warrant any changes to round-lot definition. Our high dollar universe does not have material trading volume that would require such a change. Using our single stock liquid universe, we find that more than 99.8% of names would still fall under the original 100 shares round lot definition when applying the proposed US MDI rules. These names represent 98.7% of total notional traded. Creating more round-lot tiers in Canada would unnecessarily complicate our market structure.

Price Category	Number Of Names	Total Notional % Share	Total Notional
< $250	1030	98.7%	$1,196,920,095,195
$250.01 to $1000	1	0.8%	$9,117,449,735
$1000.01 to $10000	1	0.6%	$6,851,952,204
> $10000.01	0	0.0%	$0
Total	1032	100.0%	$1,212,889,497,134

We believe the SEC equivalent odd-lot changes to Canadian odd-lots is unwarranted and potentially damaging to a healthy market structure model already in place. We recommend no change.

Question 11 - Our preliminary view is that the SEC Proposed Amendments in connection to Regulation Best Execution are not dissimilar to the existing best execution requirements in Canada and therefore, should likely have no implications for the Canadian best execution regime and no impact on Canadian capital markets.

We agree, no change required in Canada on best execution requirements.

Question 12 - Our preliminary view is that, since we do not have equivalent disclosure requirements as SEC Rule 605, the SEC Proposed Amendments with respect to disclosure of order execution information should not affect Canadian markets.

We agree, no change required in Canada for disclosure of order execution rule.

Question 13 -Our preliminary view is that the issues addressed by the SEC Proposed Amendment concerning order competition do not exist in Canada. In Canada, orders are generally not permitted to be executed internally by a trading venue or dealer that restricts order-by-order competition.

We agree, no change required in Canada for order competition rule.

We appreciate the opportunity to comment, and we are available to discuss the above proposals with CSA and CIRO staff.

Best regards,

David Panko
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Head of Global Equity Derivatives and Prime Brokerage
TD Securities