

CIBC CAPITAL MARKETS BEST EXECUTION DISCLOSURE

November 2021

Best execution with CIBC Capital Markets

The primary goal of CIBC World Markets Inc. ("CIBC Capital Markets") as an agency trading broker is to consistently achieve optimal execution for our clients in any market scenario. Some of the essential factors of best execution include price, speed, certainty of execution, size and overall cost. Our best execution policy takes into account each of these factors or any other consideration relevant to the order. Best execution is rigorously applied through a combination of market expertise, industry-leading technology, and data-driven analysis. This commitment and focus has been a key differentiator and a primary contributor to our success in the Canadian equity market, and this document serves to provide our clients an outline of the measures and steps CIBC Capital Markets takes to meet our best execution goal.

Policies and procedures

CIBC Capital Markets maintains detailed internal policies and procedures that are designed to achieve best execution. These policies and procedures are subject to regular internal audit and regulatory review, as well as frequent testing from our compliance and trading supervision teams. While the specifics of these policies and procedures are internal in nature, they can be summarized by the governance structure and supervision processes described below.

Governance structure

At the core of our governance structure is our Best Execution Routing committee which provides oversight of the best execution obligations and strategy for the entire firm (both retail and institutional). This team is bound by a formal committee charter and is comprised of subject matter experts from various groups and product backgrounds that meet regularly to review CIBC Capital Markets' effectiveness in achieving best execution for our clients and making adjustments to optimize our framework where required. The primary responsibilities of the committee are to review and evaluate:

- Any regulatory changes with respect to best execution and best price
- New marketplaces to determine how the firm should connect to or access them
- The performance of existing marketplaces
- The performance of our smart order router
- The results of supervisory reviews of order handling for best execution and best price
- The results of compliance oversight reviews of order handling for best execution and best price
- The firm's current order handling/routing policies and procedures
- The firm's overall achievement of best execution
- Recommendations and overseeing actions to correct any concerns or deficiencies noted in the achievement of best execution

Supervision process

In addition to the Best Execution Routing Committee, CIBC Capital Markets has a robust supervision process that includes multiple levels of defense. This supervision process includes:

- Responsible staff that are fully registered in a trading capacity with training on the rules and regulations regarding best execution. Duties include regular assessments of smart order routing technology, with oversight provided by CIBC's compliance team and internal control groups who continually review policies and procedures which are designed to adhere to all rules and regulations. In addition, these reviews are intended to provide sufficient evidence, confirming all such policies and procedures are being followed
- Conducting internal audit reviews on a regular basis

Exceptions that are detected at any level are subject to CIBC's escalation policy which is intended to address issues in a timely manner and reported to senior management and regulators where applicable.

CIBC Capital Markets smart order routing

Our smart order router (SOR) is designed to work seamlessly with our suite of equity algorithms. CIBC's SOR provides access to multiple marketplaces as follows (please note that the sequence of venues listed below is not intended to indicate the priority of order routing):

Marketplace	Protected market
TSX	Yes
TSX Venture	Yes
TSX Alpha	No
Nasdaq CXC	Yes
Nasdaq CX2	Yes
Nasdaq CXD	No – Dark Pool
CSE	Yes
Omega	Yes
Lynx	No
Aequitas Lit	Yes
Aequitas NEO	Yes
MATCH Now	No – Dark Pool
Instinet ICX	No – Dark Pool

Our SOR has multiple routing strategies which are available to our clients. For example, strategies can focus on seeking only hidden liquidity or seeking only immediate displayed liquidity. Any dark pool or unprotected venue can also be removed entirely from the routing table if desired.

Regarding Canada-US. interlisted stocks, the SOR has the ability to access and route to the best price in both Canadian and US markets. Should the client wish to access both markets, routing logic will send orders to the better-priced destination (FX adjusted), irrespective of country. Note that the SOR will only route US orders to eligible foreign organized regulated marketplaces or "FORMs" according to Investment Industry Regulatory Organization of Canada ("IIROC") rules, which ensures interlisted orders are only routed to US venues that are fully registered and accessible. CIBC Capital Markets also has access to a number of US dark pool destinations which are accessible and configurable upon request. Should a client only wish to participate in Canada, this can be configured accordingly.

Algorithm (“Algo”) certification

Our algo certification process is rigorous and standardized. All key aspects of the process adhere to business best practices around elements such as testing, deployment, monitoring. Evidence that CIBC Capital Markets has adequate procedures in place and adherence to those processes is regularly subject to both internal audit and regulatory review. Our standards ensure that testing is performed on “frozen” and final versions of software. We also place importance on the separation of duties between those who write software and those who release software into the production environment. This separation ensures that a fully qualified transfer of code packages occurs in all scenarios and that the business, development, governance and operations functions all perform their requisite roles in changing the production environment.

Algo testing

All algo testing is conducted in a dedicated UAT (User Acceptance Test) environment and never occurs in production. Testing includes model vetting, demonstrating that the algo strategies are designed to meet their intended objectives. Stress testing is included and intended for algo strategies in a variety of market and boundary conditions. Routine testing applies a large number of integration tests and is performed with every code release. Strategy specific limits are configured that are appropriate for each individual strategy and tested during these routines. Controls and safeguards are specifically tested to confirm they are in place whenever changes are implemented. → Version control and back-out plans are required and the path to production is regimented and controlled with defined stages and approvals required at each step from testing, promotion to UAT and ultimately to production release.

Trade monitoring and metrics

CIBC Capital Markets has Canadian licensed individuals to monitor and analyze (all trade and algo) performance during trading hours for all clients within the our trading ecosystem (both internal and external). They are able to step in on a dynamic and real-time basis to deal with any issues or make any changes or customizations as required. They are equipped with high performance, real-time order management tools, monitoring dashboards and alert systems designed to effectively monitor all types of order flow. Alerts can be in the form of both soft (where trading continues and CIBC Capital Markets contacts the client for notification and verification) and hard (where trading is automatically disabled by the system).

Kill switch control

Should any significant trading issue arise or should our automated hard limit systems fail, CIBC Capital Markets has in place a number of manual kill switch processes which can be executed in real-time. Similar safeguards are also available on the marketplace level as most venues offer cancel-on-disconnect options that can cancel all open order exposure immediately when a trading session is disconnected without the need for human operator intervention. These kill switch features operate in addition to our standard order entry risk filters that check new inbound orders for certain risk filters/limits such as maximum shares per order and maximum notional value per order.

General client disclosures regarding best execution

Disclosures relating to best execution are prepared and reviewed on a periodic basis, providing our clients with the information needed to understand how CIBC Capital Markets routes orders to the marketplace and to highlight our framework for decisions deemed to be in our clients’ best interests. While we apply a rigorous and data-driven approach to best execution, all routing decisions and strategies can be tailored and customized to whatever preference a client may have, provided of course the customizations still meet all regulatory obligations. CIBC Capital Markets provides the following key disclosures in keeping with best practices regarding transparency and also to provide proper awareness designed to meet client expectations:

Best execution for Over the Counter (OTC) securities

CIBC Capital Markets, when executing a transaction in OTC securities for or on behalf of a customer as agent, will make a reasonable effort to obtain a price for the customer that is fair and reasonable in relation to prevailing market conditions such as volatility, general supply, demand and overall risk appetite combined with market context of the security at the time of the transaction.

Marketplace function or feature	CIBC Capital Markets disclosure
Order handling during TSX pre-open (prior to 9:30 am)	In the majority of cases CIBC Capital Markets will route potentially marketable orders to TSX and TSX Venture (for purposes of this document, collectively referred to as "TSX") pre-open session rather than executing immediately on a variety of alternative venues and exchanges that may be open for continuous trading in the early hours. TSX's opening session concentrates liquidity across multiple participants to achieve a single opening price at 9:30am which we believe provides the most effective trading opportunity for our clients in the vast majority of cases.
Displaying orders	Where clients have instructed CIBC Capital Markets to display orders that are not immediately executable and have not provided specific marketplace instructions, CIBC Capital Markets typically displays these orders on TSX. TSX has the largest share of traded volume in Canada. On occasion CIBC Capital Markets may display orders on other market venues where CIBC Capital Markets has assessed and concluded that the factors of best execution warrant a change. Changes may be made for specific securities or certain types of orders or when dictated by market conditions or when there may be concerns relating to technology reliability and connectivity.
Order handling after the TSX close (after 4:00 pm)	CIBC Capital Markets will generally prevent a client from submitting orders to trade in the after-hours once TSX has closed for continuous trading at 4:00 pm. Where there is specific client demand to access the after-hours trading session CIBC Capital Markets may choose to enable customized access.
Client duration instructions: Good-Til- Cancelled (GTC) or Good-Til-Date (GTD)	Commonly referred to as GTC and GTD orders CIBC Capital Markets will accept these client instructions as orders that will be displayed on TSX until cancelled or expired. These orders are automatically re-entered each day by TSX in the pre-open and retain displayed priority on TSX during regular trading hours.
Stop orders	CIBC Capital Markets supports stop orders based on marketplaces' native order functionality and specific stop order features. When the stop price is triggered, the order becomes an active order in the market book.
CIBC Capital Markets' regulatory requirements (including best execution obligations) supersede CIBC Capital Markets' ownership or controlling equity interest in market venues.	<p>CIBC World Markets Inc. or an affiliate thereof ("CIBC Capital Markets") owns or controls an equity interest in TMX Group Limited ("TMX Group") and has a nominee director serving on the TMX Group's board of directors. As such, CIBC Capital Markets may be considered to have an economic interest in the listing and trading of securities on any exchange owned or operated by TMX Group, including the Toronto Stock Exchange, the TSX Venture Exchange and the Alpha Exchange. No person or company is required to obtain products or services from TMX Group or its affiliates as a condition of CIBC Capital Markets supplying or continuing to supply a product or service.</p> <p>In addition, notwithstanding CIBC Capital Markets' ownership interest in TMX Group, CIBC Capital Markets acknowledges that it is subject to a number of regulatory requirements, including requirements relating to the handling and execution of orders that supersede any interest CIBC Capital Markets has in TMX Group.</p>

Marketplace function or feature	CIBC Capital Markets disclosure
TSX Long Life Order	Commonly referred to as LLO orders ¹ . Wherever practical CIBC Capital Markets will display client orders as LLO in TSX's order book to take advantage of the higher priority TSX provides to these orders in return for a minimum posted duration time. CIBC Capital Markets will assess this practice and may make changes to this practice where deemed to be in our client's best interests.
Updates to client disclosures	Certain other client disclosures (including disclosures specifically intended for CIBC's retail clients) are made available on CIBC's website and are updated from time to time.
CIBC Capital Markets access to protected and unprotected market venues	CIBC Capital Markets accesses all protected equity market venues in Canada and also includes unprotected markets where deemed advantageous to our clients. Unprotected markets in Canada currently consist of hidden "dark pool" venues, displayed venues with speedbump technology and de minimis venues that execute less than 2.5% of overall market activity. For more information on the various classes of protected and unprotected venues in Canada please see IIROC notice 16-0145
Market places to which CIBC might route orders for handling or execution	TMX, Nasdaq, MatchNow, OSI, Aequitas, CSE, Instinet CBX for Canadian securities, FORMs for US securities
The identity of each type of intermediary (foreign & domestic) to which the Dealer Member might route the orders for handling or execution	This list changes from time to time and routing tables are updated as needed based on analysis of multiple data points
Circumstances in which CIBC Capital Markets might route the orders to a marketplace or intermediary	US securities route to intermediaries, Canadian securities route to marketplaces
Circumstances, if any, under which CIBC Capital Markets will move an order entered on one marketplace to another marketplace	Under no circumstances will CIBC's SOR move an order entered from one marketplace to another without manual intervention

¹ More information on this order feature can be found in TSX's rulebook section 4-801 (1).

General statements regarding ownership, routing, payment and intermediaries

- The intermediaries listed generate best-ex analysis on a monthly basis
- CIBC Capital Markets is charged a fee per share for order-flow routed to intermediaries
- CIBC Capital Markets does not pass-thru intermediary fees paid to our clients
- In some instances, CIBC Capital Markets may receive payment for order-flow
- CIBC Capital Markets accesses all protected equity market venues in Canada and also includes unprotected markets where deemed advantageous to our clients
- Orders will be subject to the order handling and routing practices of the intermediary
- CIBC Capital Markets has reviewed the order handling and routing practices of the intermediary and is satisfied that they are reasonably designed to achieve best execution
- Routing decisions are not based on fees paid or payments received

For any further information or questions on our best execution policy, please reach out to your CIBC Capital Markets account representative.

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