

FAQs: Equities Electronic Order Handling

As of February 2023

Contents

Electronic Trading Practices	1
1. Confidentiality of client information	1
2. Advertisement of executed volume	2
3. Execution and venue transparency.....	2
4. Payment for order flow/Rebates and fees	3
5. Commissions and fees for electronic trading	3
6. Irregular settlement of securities	3
7. Order handling customizations	3
8. Platform enhancements	3
Algorithms	5
9. Algorithms and routing logic	5
10. Algorithm market data	5
11. Information leakage prevention and anti-gaming protection	5
12. Internal algorithm use	6
13. Conditional orders support	6
14. Capital Commitment Features.....	6
15. Location of Algos	6

Electronic Trading Practices

This document is limited to products and services offered by Barclays that access the US Markets through electronic trading products and does not refer to any products that route to other markets, such as markets in Europe or Asia. Please note, when reviewing this document all references to "LX" or "Barclays LX" are referring to the firm's alternative trading system (ATS) that is registered with the Securities and Exchange Commission and trades NMS securities in the United States. References to 'LX FAQ' numbers are from the 'FAQs: Barclays ATS-LX' document available at barx.com/eqdisclosures.

1. Confidentiality of client information

Barclays has procedures in place to ensure the confidential treatment of clients' electronic trading information.

A. Electronic trading by Clients directly through Barclays Algos and Router

Only designated employees of the Electronic Trading business unit are able to regularly monitor individual client electronic trading flow through Barclays algorithmic trading strategies ("Algos") and smart order router ("Router"). The ability to monitor client electronic trading flow is administered through permission-based systems, with permissions managed by Supervisors. Certain other employees may have visibility in respect of specific orders depending on the nature of those orders as described below.

- Barclays traders managing the risk books of the firm and the sales traders that sit within the trading aggregation unit, do not have the ability to view clients' electronic trading flow, unless a client authorizes visibility, e.g., through the use of a trading product, the election by the client of coverage by a high-touch trader/sales trader or if the trader executes a client's order using Barclays Algos and Router as described in subsection D below.
- Generalist sales personnel do not have the ability to view client electronic trading flow.
- High-touch sales personnel do not have the ability to view client electronic trading flow, unless a client specifically requests to have a single point of contact for both high-touch and electronic coverage, or if a client otherwise authorizes visibility or the high-touch sales personnel executes a client's order using Barclays Algos and Router as described in subsection C below.
- Operations, technology, compliance, audit, risk and legal staff can view order information on a post-execution basis for surveillance and monitoring purposes. They also may request real-time order and revenue information on an as needed basis.
- On a post-execution basis, personnel within the Equities division and senior management are able to view client electronic trading revenue and, where necessary, to address client specific issues and trade details.
- Certain senior management employees may be permitted to view order information in accordance with the firm's internal controls and approval processes.
- Additionally, a client may choose to authorize additional Barclays' personnel to view its own electronic trading flow.
- BARX Book (or "BBOK") is Barclays' Single Dealer Platform and hosted by Nasdaq's OCEAN platform. It is accessible as a venue by the Barclays Algos and Router and also for sending directed orders. Certain authorized OCEAN personnel will have access to the client specific configuration/set-up, orders and executions specific to BARX Book and other BARX Book data for the purposes of servicing the product. This authorized access will be limited to personnel from OCEAN Operations, OCEAN Compliance, OCEAN Core Technology, OCEAN Surrounding Technology and OCEAN Business & Product Management teams.

B. Trading through a direct connection to LX

Please refer to the LX-ATS FAQs available at barx.com/eqdisclosures for further information on LX specific visibility/confidentiality.

C. Trading through a direct connection to BBOOK

Please refer to BARX Book FAQs available at barx.com/eqdisclosures for further information on BARX Book specific visibility/confidentiality.

D. Trading with Barclays Personnel

Barclays' electronic and high-touch sales trading personnel (including personnel who sit within the trading aggregation unit) and Barclays trading desks have the ability to execute a client's order using Barclays Algos and Router, which may place orders in LX as well as other venues. When these personnel place a client's order in the Algos or the Router, the desk that places the order, as well as the client's high-touch sales coverage, have the ability to monitor that individual order and resulting executions.

For additional information on personnel with access to confidential client information in LX, please see Part II, Item 6 of the LX Form ATS-N posted on the SEC's web page available at <https://www.sec.gov/divisions/marketreg/form-ats-n-filings.htm>.

2. Advertisement of executed volume

We advertise our electronic volumes in combination with our high-touch volumes in near real time via Bloomberg IOIA and RANKA screens. Only symbol and aggregated volume are displayed for Bloomberg users utilizing this function. Advertising is generally published in batch intervals for periodic advertising where all trades during that time period are advertised together, however, individual trades can be advertised on a more frequent basis.

Please note, these advertisements do not include the executed volume of clients who have opted out. To opt out of your executions with Barclays being included in aggregated volume reporting or analytics, please contact your Barclays sales representative.

ATS volume data is published by FINRA on a delayed basis at finra.org/ats.

3. Execution and venue transparency

To provide order transparency, Barclays offers its clients the ability to receive a variety of information and reports regarding their own orders. This information varies from time to time and may include, but is not limited to, execution venues, percentage of order flow executed in various venues, and a client's algorithmic and router settings.

For various types of information pertaining to executions in LX, please see LX FAQs #4. The LX-ATS FAQs documents is available at barx.com/eqdisclosures

In addition, Barclays may make available to clients the following tools:

- Near real-time trade monitoring through our Portfolio WebBench[®] analytics toolkit (may not available to all clients; for additional information, please contact your Barclays sales representative)
- Detailed reporting of routing results, including venue execution analysis (through our Portfolio WebBench[®] analytics toolkit)
- Various FIX tags, e.g., trade destination, executing broker, add/take details
- Access to SPECS[™], an online client interface where clients may view, verify, and request changes to their order handling settings with Barclays.

Please contact your Barclays sales representative for any additional information.

4. Payment for order flow/Rebates and fees

When trading US equities, Barclays may execute on exchanges, ATSS and off-exchange trading venues which may have no charge or may provide rebates for execution. Periodically, the amount of credits that Barclays receives from one or more such market centers may exceed the amount that Barclays is charged. None of these trading venues are operated by Barclays' affiliates. Clients may receive information regarding their execution and associated rebates and fees in detailed routing reports.

For information on fees related to trading in Barclays LX, please refer to LX FAQ 9.

5. Commissions and fees for electronic trading

Per-share commissions and fees for electronic trading are negotiated.

For information on fees related to trading in Barclays LX, please refer to LX FAQ 9.

6. Irregular settlement of securities

In certain situations, a shortened or extended settlement may cause you to be a holder of record in respect of a corporate action or distribution on a record date on which you would not have been a holder of record had the relevant securities settled pursuant to the regular settlement cycle. Where Barclays has agreed to settle securities on an irregular settlement basis, Barclays reserves the right to reclaim any economic benefit accruing to you in respect of any corporate action (whether a stock split, merger consideration or otherwise) and any distribution (whether in cash or in kind and whether consisting of shares, rights or other property) that Barclays would have been entitled to receive by virtue of being the holder of record on the relevant record date had the shares settled according to the regular settlement cycle. Barclays reserves the right to bill you for any such economic benefit.

7. Order handling customizations

Barclays provides its clients with the ability to customize certain handling of their electronic orders. For example, as discussed in more detail in other FAQs, Barclays provides its clients with the ability to opt out of the following:

- Including their order flow in electronic volume advertisements (see FAQ 2)
- Participating in conditional order negotiations (see FAQ 13 and LX FAQ 16)

Please refer to LX FAQs # 5 and the ATS-N filing for LX available at <https://www.sec.gov/divisions/marketreg/form-ats-n-filings.htm> for more information.

Clients also may customize other default settings for order flow handled by Barclays algorithms.

Clients may view, verify, and request changes to their order handling settings through the online client interface SPECS™. Note: If after being granted access to SPECS and receiving your settings, you do not notify us that you wish to make changes to your settings, then by continuing to transact with Barclays, you are deemed to have provided consent that those settings are correct.

For additional information regarding your ability to customize the handling of your orders, please contact your Barclays sales representative.

8. Platform enhancements

At any time, Barclays may implement enhancements to its equities electronic trading platform, which includes Barclays algorithms, router, and core infrastructure components. The enhancements may be rolled out across the platform as a whole or in multiple phases. For some enhancements a group made up of internal traders, and in some circumstances clients who have opted in, may be given access to functionality for verification purposes that is not available to all clients and which is not fully described in this document. Internal traders who are given access to this functionality may be trading on behalf of clients. Barclays may run periodic plant-wide experiments to evaluate the effectiveness of select features. Orders that are part of a control group in an experiment may or

may not have select features available, depending on the nature of the experiment. Once the testing of a new feature (or the removal of an existing feature) has been completed, Barclays will harmonize the availability of features across all clients. Please contact your Barclays electronic sales representative for details on enhancements or new features currently being rolled out.

Algorithms

9. Algorithms and routing logic

Barclays' algorithms utilize the Router to route orders for execution. The Router (also available as a stand-alone strategy) is utilized by the algorithms in four Execution Modes: Ping, Sweep, Exchange Post and Dark Post. An order will go through Ping, Sweep and Exchange Post, in that order, depending on marketability. Dark Post must be explicitly elected on a router order. A Dark Post order will not trigger any other Execution Mode. Dark Post is currently used by the order placement logic within Barclays' algorithms by default. For complete details on which algorithms utilize which functionality please contact your Barclays sales representative.

Please note that VWAP, TWAP and With Volume algorithms are currently available within our new algo trading platform with others in progress of migrating. For more information, please see the "Next Generation Algorithms and Equities Electronic Order Handling" FAQs document available at barx.com/eqdisclosures or contact your Barclays sales representative with any questions with regards to your specific order flow.

Barclays is in the process of rolling out Hydra on its new trading platform. As Barclays prepares to roll it out more widely, internal traders and sales traders might use Hydra available on the new platform. Please speak to your sales representative if you have any questions.

10. Algorithm market data

The majority of Barclays' algorithms use SIP market data feeds when making decisions on order placement and pricing. However, two of Barclays' algorithms, Rapid and Spread Trader, utilize a combination of direct and SIP market data feeds. Please contact your Barclays sales representative for further details. Performance evaluation of algorithms

Performance evaluation of our algorithms is a continuous process. The performance of our algorithms is evaluated against several measures, which include but are not limited to, average slippage from the relevant benchmark (e.g., VWAP, arrival price); effective participation rate; and price movement before, during, and after the trade. Performance is also evaluated across various market capitalizations, spreads, durations, and order sizes. Outlier trades may be analyzed to identify potential improvements.

11. Information leakage prevention and anti-gaming protection

Barclays' algorithms employ various techniques to help minimize information leakage and avoid gaming activity. These techniques include, but are not limited to, the following:

A. Symbol-specific analytics

1. Volume profiles
2. Average spreads and quote depth
3. Volatility estimates

B. Dynamic scheduling and volume forecasting

1. Intraday real-time volume adjustments to react to deviations from typical volume profile

C. Chase protection

1. Symbol-specific block exclusion logic for all participation tracking
2. Symbol-specific volatility bands prevent algorithms from immediately chasing new price levels

D. Price impact detection

1. Real-time tracking and prevention of excessive market impact created by our orders

E. Randomization of Time/Size in child order placement

1. Release time of passive and aggressive child orders is randomized
2. Child order sizes are randomized and set to match order book dynamics

F. Dynamic Limit Pricing for Hidden Non-Displayed Orders

1. When routing pegged hidden orders, a local limit is applied to prevent unfavorable executions due to short-term market movements

Please note, not all techniques are used for all algorithms.

12. Internal algorithm use

In general, Barclays Equities sales and trading personnel who execute and facilitate client orders utilize the same suite of algorithms as those made available to clients, except when testing new functionality (see FAQ 8).

13. Conditional orders support

Barclays' algorithms utilize conditional orders and conditional-eligible firm orders with LX. Additionally, Barclays' algorithms support conditional orders to select external venues.

Clients have the ability to opt out of LX or any external conditional-supported venue upon request. Opting out of LX conditional orders will also opt out of conditional-eligible firm orders.

14. Capital Commitment Features

Automated capital commitment ("CapComm") features are available through Barclays' algorithmic and smart order routing strategies. Once the pre-determined execution threshold or criteria is reached and certain order conditions are met, the remainder of the order is facilitated by Barclays. For more information, please refer to the CapComm FAQs document available from your Barclays sales representative.

15. Location of Algos

Barclays Algos are hosted in Barclays' private data centers located at Equinix NY5 in Secaucus, NJ.

DISCLAIMER

This communication has been prepared by Barclays. "Barclays" means any entity within the Barclays Group of companies, where "Barclays Group" means Barclays Bank PLC, Barclays PLC and any of their subsidiaries, affiliates, ultimate holding company, and any subsidiaries or affiliates of such holding company. BARCLAYS IS A FULL SERVICE INVESTMENT BANK. In the normal course of offering investment banking products and services to clients, Barclays may act in several capacities (including issuer, market maker and/or liquidity provider, underwriter, distributor, index sponsor, swap counterparty, and calculation agent) simultaneously with respect to a product, giving rise to potential conflicts of interest which may impact the performance of a product. This document is from a Barclays Trading and/or Distribution desk and is not a product of the Barclays Research department. Any views expressed may differ from those of Barclays Research. Barclays may at any time acquire, hold, or dispose of long or short positions (including hedging and trading positions) and trade or otherwise effect transactions for their own account or the account of their customers in the products referred to herein, which may impact the performance of a product. THIS COMMUNICATION IS PROVIDED FOR INFORMATION PURPOSES ONLY AND IT IS SUBJECT TO CHANGE. IT IS INDICATIVE ONLY AND IS NOT BINDING. Barclays is not offering to sell or seeking offers to buy any product or enter into any transaction. Any offer or entry into any transaction requires Barclays' subsequent formal agreement which will be subject to internal approvals and execution of binding transaction documents. Neither Barclays nor any of its directors, officers, employees, representatives or agents, accepts any liability whatsoever for any direct, indirect or consequential losses (in contract, tort or otherwise) arising from the use of this communication or its contents or reliance on the information contained herein, except to the extent this would be prohibited by law or regulation. Barclays is not acting as a fiduciary. Barclays does not provide, and has not provided, any investment advice or personal recommendation to you in relation to the transaction and/or any related securities described herein and is not responsible for providing or arranging for the provision of any general financial, strategic, or specialist advice, including legal, regulatory, accounting, model auditing, or taxation advice or services, or any other services in relation to the transaction and/or any related securities described herein. Accordingly, Barclays is under no obligation to, and shall not, determine the suitability for you of the transaction described herein. You must determine, on your own behalf or through independent professional advice, the merits, terms, conditions, and risks of the transaction described herein. Barclays is not responsible for information stated to be obtained or derived from third-party sources or statistical services. Any past or simulated past performance, including back-testing, modeling, or scenario analysis contained herein is no indication as to future performance. No representation is made as to the accuracy of the assumptions made within, or completeness of, any modeling, scenario analysis, or back-testing. All opinions and estimates are given as of the date hereof and are subject to change. The value of any investment may also fluctuate as a result of market changes. Barclays is not obliged to inform the recipients of this communication of any change to such opinions or estimates. This document is being directed at persons who are professionals and is not intended for retail customer use.

For important regional disclosures you must read, visit the link relevant to your region. Please contact your Barclays representative if you are unable to access.

EMEA <https://www.home.barclays/disclosures/important-emea-disclosures.html>,

APAC <https://www.home.barclays/disclosures/important-apac-disclosures.html>,

US <https://www.home.barclays/disclosures/important-us-disclosures.html>.

This communication is confidential and is for the benefit and internal use of the recipient for the purpose of considering the securities/transaction described herein, and no part of it may be reproduced, distributed, or transmitted without the prior written permission of Barclays. Barclays offers premier investment banking products and services to its clients through Barclays Bank PLC, Barclays Bank Ireland PLC and certain other subsidiaries and affiliates. The key details of each relevant Barclays entity are set out below and will apply, as relevant, to your legal and/or regulatory relationship with Barclays: **Communications from Barclays Bank PLC:** Barclays Bank PLC is authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority and is a member of the London Stock Exchange. Barclays Bank PLC is registered in England No. 1026167 with its registered office at 1 Churchill Place, London E14 5HP. **Communications from Barclays Bank Ireland PLC:** Barclays Bank Ireland PLC is regulated by the Central Bank of Ireland. Registered in Ireland. Registered Number: 396330. Registered Office: One Molesworth Street, Dublin 2, D02 RF29. A list of names and personal details of every director of the company is available for inspection to the public at the company's registered office for a nominal fee. Calls may be recorded for security and other purposes. **Communications from Barclays Capital Securities Limited:** Barclays Capital Securities Limited is authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority and is a member of the London Stock Exchange. Barclays Capital Securities Limited is registered in England No. 1929333 with its registered office at 1 Churchill Place, London E14 5HP. For clients in Canada, Barclays Bank PLC and Barclays Capital Inc. rely on the International Dealer Exemption in various provinces to engage in securities trading with institutional clients who qualify as Permitted Clients under National Instrument 31-103. Barclays Capital Inc. is a US registered broker/dealer affiliate of Barclays Bank PLC and a member of SIPC, FINRA and NFA. Barclays Capital Inc. operates out of 745 Seventh Avenue, New York, NY 10019. Where required pursuant to applicable US laws, rules and/or regulations, Barclays Capital Inc. accepts responsibility for the distribution of this document in the United States to US Persons. Where a communication is being directed at persons who are professionals, it is directed at institutional investors in the US as defined by FINRA Rule 2210(a)(4).

BARX is a registered trademark of Barclays.