FAQs: Barclays Equities Electronic Order Handling in Asia Pacific

As of March 2018
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Electronic Trading Practices

Barclays Equities Electronic Trading Asia Pacific offers a service to facilitate trading in Asian Equities using Direct Market Access, Barclays’ algorithms, and the Barclays’ Dynamic Router.

1. Electronic Trading Anonymity
   Only designated employees of the Barclays Equities Electronic Trading APAC are able to monitor client electronic trading flow for the purpose of, among other things, conducting execution quality analysis as well as for fulfilling the firm’s execution obligation. IT, Operations, certain senior management, as well as control groups, such as Legal, Compliance, Audit, Market Risk have access to client electronic trading information in accordance with the firm’s internal controls and approval processes. In all cases, high-touch sales traders have no 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. On a post-execution basis, high-touch sales traders and research salespeople are able to view client electronic trading revenue, but not trade details.

2. Accessible Venues
   For Asian securities, the following venues are accessible through Barclays Equities Electronic Trading APAC either via direct exchange membership or via broker access:
   - Australia
     - Australia Stock Exchange (ASX) (Primary Exchange)
     - Chi-X Australia
   - Bursa Malaysia (KLSE)
   - China-Hong Kong Stock Connect
     - Shanghai Stock Exchange (SSE)
     - Shenzhen Stock Exchange (SZSE)
   - Hong Kong Stock Exchange (SEHK)
   - Indonesia Stock Exchange (IDX)
   - Japan
     - Tokyo Stock Exchange (TSE) (Primary Exchange)
     - Chi-X Japan
     - SBI Japannext
   - Korea Exchange (KRX)
   - New Zealand Exchange (NZE)
   - Philippine Stock Exchange (PSE)
   - Singapore Exchange (SGX)
   - Taiwan Stock Exchange (TWSE)
   - Thailand Stock Exchange (SET)

1 List is subject to change and updated periodically.
3. **Execution and Venue Transparency**
   
   To provide order transparency, Barclays offers clients several tools:
   
   - Live trade monitoring (through Portfolio WebBench® analytics toolkit) offers clients the ability to track where their executions are taking place in real-time
   - Detailed reporting of both routing results, including venue execution analysis
   - Various FIX tags, (e.g., trade destination, executing broker, etc.)

   Please contact your Barclays sales representative for any additional information.
Order Routing

4. Dynamic Router Overview
Barclays’ Dynamic Router is the firm’s primary vehicle by which Barclays’ electronic orders are placed in the market for execution. When an order is marketable, the Dynamic Router will sweep and source liquidity across displayed venues with the objective of maximizing fill rates and minimizing information leakage. When an order is not marketable, the Dynamic Router will post the order on primary venue or specific venue to maximize spread capture.

Sweeping venues are optional as further outlined in paragraph 7.

5. Sweep Logic
When intending to cross the spread (“sweeping”), Barclays’ Dynamic Router considers all displayed venues. Price is the primary factor when determining which venues to route to and improve execution performance. Dynamic Router routes sweeping orders to determined venues in parallel to avoid the consequences of sequential routing, execution price on each non-primary venue may not limit to the Primary Best Bid and Offer (PBBO) for the goal of best average execution price.

Both sweeping venues and sweeping price limit are optional as further outlined in paragraph 7.

6. Posting Logic
When attempting to capture the spread (“posting”), Barclays’ Dynamic Router routes orders to venues specified by users or Barclays’ algorithm. For orders that do not have specified venues from Barclays’ algorithm or users, the default routing option is the Primary Exchange. For algorithm originated orders, the Dynamic Router may choose venues other than the primary depending upon where liquidity appears to be available. All non-displayed venue orders would be priced at mid or better.

7. Customisation Options
The same routing logic is applied to both client and internal orders within the Dynamic Router. Additionally, the Dynamic Router has various settings that can be customized to achieve different trading objectives which include, but are not limited to, the following:

A. Sweeping
   1. Disabling interaction with any non-primary venues
   2. Sweep only up to price of PBBO on non-primary venues

B. Posting
   1. Specifying the amount of shares to display when posting to displayed venues
   2. Route orders only to specified venue.

For a full list of customization options, please contact your Barclays Sales representative.

8. Order Types and Features
Currently, Barclays may utilize the following order types when routing to displayed and non-displayed venues:

<table>
<thead>
<tr>
<th>Order Type</th>
<th>Venue Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day/IOC</td>
<td>Displayed, Non-displayed</td>
</tr>
<tr>
<td>Market/Limit</td>
<td>Displayed, Non-displayed</td>
</tr>
</tbody>
</table>

Please contact your Barclays Sales representative for any additional information.
9. **Dynamic Router Market Data**
   Barclays' Dynamic Router uses a combination of direct market data feeds and vendor feeds when making sweeping and posting decisions. Direct feeds are used for Japan and Hong Kong exchanges and vendor feeds are used for all other available APAC exchanges.

10. **No Delegation to Third Parties**
    Barclays maintains full control of order routing decisions and does not delegate routing decisions to third parties.
Algorithms

11. Algorithms and Routing Logic
Barclays’ algorithms utilize the Dynamic Router to route orders for execution. The Dynamic router (also available as a standalone strategy) is used by the algorithms when posting passively on displayed venues or when sweeping from displayed venues.

12. Performance Evaluation of Algorithms
Performance evaluation of algorithms is a continuous process. The performance of our algorithms is evaluated against several benchmarks which include, but are not limited to, average slippage from the relevant benchmark (e.g., VWAP, arrival price). Performance is also evaluated across various market capitalizations, spreads, durations and order sizes.

13. Algorithm Optimisations
Barclays’ algorithms employ various techniques to optimize performance, including:

- For actively trading stocks, stock-specific analytics in the form of volume profiles, average spreads, quote depth and volatility estimates
- Dynamic scheduling and volume forecasting in the form of intraday real-time volume adjustments to react to deviation from typical volume profile
- ‘Chase protection’ in the form of block exclusion logic for all participation tracking and symbol-specific price information which prevent algorithms from immediately chasing new price levels
- Randomization in terms of the release time of passive and aggressive child order placement, and in terms of child order sizes.

14. Internal Algorithm Use
Barclays Equities sales and trading who execute customer orders utilize the same suite of algorithms as those made available to clients.

Please contact your Barclays Sales representative for any additional information.
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