

Morgan Stanley's Asia Equity Order Handling & Routing Practices

Frequently Asked Questions

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This document is part of Morgan Stanley's ongoing efforts to provide transparency to its clients about its business practices. The document is based on questions that Morgan Stanley typically receives from its clients and seeks to provide clients with a detailed understanding of Morgan Stanley's Asia equity order handling and routing systems.

Morgan Stanley's primary objective in handling client orders is to deliver the best execution reasonably available under the circumstances. Morgan Stanley may execute client orders through a variety of means by accessing internal and/or external sources of liquidity.

If after reviewing this document you have additional questions, please contact your Morgan Stanley representative. The contents of this document are also available at www.morganstanley.com/disclosures/ and may be updated from time to time.

I. Equity Order Handling and Routing Practices

1. Please describe Morgan Stanley's general approach to order handling and routing of its clients' orders.

Morgan Stanley's order handling and routing systems seek to minimize signaling and maximize fill rates and execution quality. Morgan Stanley strives to provide transparency to clients about how its order handling and routing systems operate and has advocated publicly for improved regulation obligating meaningful public order handling disclosures.

2. Please provide a list of all sources of liquidity that Morgan Stanley's Asia equities order handling and routing systems may access for client orders.

Morgan Stanley's order handling and routing systems are designed to access internal and/or external sources of liquidity in an attempt to achieve best execution. The liquidity sources that Morgan Stanley may access through such systems are: Asia exchanges (both displayed and non-displayed liquidity); internal dark pools (MS POOL in Japan, Hong Kong, Australia and MS Trajectory Cross in Japan and Hong Kong); external dark pools (Nomura NX in Japan, ASX Centrepoint in Australia); exchange dark order types (Chi-X Hidden in Australia); Japan-only Proprietary Trading Systems ("PTS") (Chi-X Japan, SBI Japannext); and external broker neutral crossing venue (KAI-X operated by Chi-X Japan). Given the variety of means that Morgan Stanley may employ to attempt to achieve best execution, and absent instructions to the contrary, transactions may be executed on an agency, agency cross or principal basis or a combination of these. The configurations for your order flow can vary across various Morgan Stanley desks. If you have questions about the specific configurations for your order flow, please contact your Morgan Stanley representative.

3. Does Morgan Stanley receive payment for routing to external venues?

Certain venues may offer cash credits for orders that provide liquidity to their books and charge explicit fees for orders that extract liquidity from their books (and certain venues

invert this practice). Morgan Stanley may also receive incremental pricing benefits from venues if certain volume thresholds are met.

4. In which of the external Asia equity trading venues/sources of liquidity identified above does Morgan Stanley have a strategic ownership stake?

An affiliate of Morgan Stanley holds a minority ownership stake in National Stock Exchange of India Ltd.

5. Is Morgan Stanley directly connected to all the exchanges or does it use other exchanges or broker-dealers to access certain exchanges?

Morgan Stanley is directly connected to Exchanges in the following countries/markets: Australia, Hong Kong, India, Indonesia, Japan, Korea, Singapore, Taiwan. If we do not have a membership on a particular exchange, we may access that exchange through an intermediary.

6. What market data feeds does Morgan Stanley use to route orders to the displayed markets?

Morgan Stanley uses direct exchange and / or vendor market data feeds (with depth of book visibility when available) from selected displayed venues to which it routes.

Direct feeds are used for the following countries/markets: Australia, China (Shanghai), Shanghai-Hong Kong Stock Connect, Hong Kong, Japan and Singapore

Vendor feeds are used for the following countries/markets: China (Shenzhen), Shenzhen-Hong Kong Stock Connect, India, Indonesia, Korea, Malaysia, New Zealand, Philippines, Taiwan and Thailand

7. How do Morgan Stanley's smart order routers access both displayed and non-displayed venues?

Morgan Stanley's smart order routers ("MS Routers") offer clients routing strategies for access to displayed and non-displayed liquidity. Smart Order Routing Technology ("SORT") provides access to displayed liquidity. NightVision, which is Morgan Stanley's dark router, provides access to non-displayed liquidity. Certain order types and routing strategies access both displayed and non-displayed liquidity. MS Routers may also access certain Morgan Stanley internal sources of liquidity.

8. How do Morgan Stanley's smart order routers operate?

- a. SORT

SORT is designed to route marketable orders in a manner that seeks to maximize fill rates and minimize both quote fading and market signaling. For client orders, SORT is designed to capture a contemporaneous snapshot of markets that generate quotations to which it routes (collectively, external displayed venues) and certain Morgan Stanley internal sources of liquidity (i.e., MS POOL). As part of this process, SORT uses market data feeds from external displayed venues to obtain multiple levels of market data depth (when available) for each security. In Japan, based on its view of liquidity available in MS POOL at prices equal to or better than the then-current best bid and offer ("best bid and offer"), SORT may access such liquidity by sending an immediate or cancel order ("IOC") to the extent it is eligible

based on client configurations and/or instructions. In Australia and Hong Kong, SORT may access such liquidity to the extent it is eligible based on client configurations and/or instructions.

Subject to the above, SORT primarily determines which sources of liquidity to access based upon price. If there is more aggregate liquidity available than is necessary to fill the order, the factors SORT uses when determining which venue(s) to select for marketable orders include, but may not be limited to, some or all of the following: price, health of the market, liquidity size, venue type, fees and rebates, and randomization factors. Certain configurations of SORT rank these factors, as well as the priority for accessing multiple sources of liquidity, differently. For instance, one configuration places a higher weight on fees over other sources of liquidity. If you have questions about the specific configurations for your order flow, please contact your Morgan Stanley representative.

For non-marketable orders, SORT displays all or a portion of orders on exchanges. SORT may post on multiple exchanges based on order size and the prevailing trading environment. The factors SORT uses when determining which exchange(s) to select for non-marketable orders include, but may not be limited to, some or all of the following: queue length, trade frequency, quote volatility, spread, historical market share, exchange fees, rebates and tiers, and randomization factors. Certain configurations of SORT rank these factors, as well as the priority for accessing multiple sources of liquidity, differently. For instance, one configuration places a higher weight on exchange fees. If you have questions about the specific configurations for your order flow, please contact your Morgan Stanley representative.

b. NightVision

NightVision is used to access MS POOL, select external dark pools, and non-displayed liquidity on displayed venues. NightVision will send an order (or portion(s) of an order) to some or all of these venues and may reallocate based on executions received from these venues. Based on its view of liquidity available in MS POOL at prices equal to or better than the best bid and offer, NightVision may access such liquidity by sending an IOC or day order to the extent it is eligible based on client configurations and/or instructions. NightVision seeks non-displayed liquidity in external venues by sending day orders.

If you have questions about Morgan Stanley's other routing strategies, please contact your Morgan Stanley representative.

9. What anti-gaming controls does Morgan Stanley have in place?

Morgan Stanley continues to invest significant capital in its order handling and routing systems. SORT is designed to route marketable orders in a manner intended to maximize fill rates and minimize both quote fading and market signaling.

For MS POOL, Morgan Stanley employs measures such as restricting order types, not accepting IOCs from participants and monitoring median resting periods to minimize simulated IOCs. In addition, MS POOL does not transmit IOIs. MS POOL does not accept "post only" orders. The section below called Morgan Stanley Dark Pools contains additional information about anti-gaming controls for MS POOL and MS Trajectory Cross.

For external dark pools that Morgan Stanley accesses, Morgan Stanley may place certain constraints on orders such as minimum fill quantities (in terms of number of shares and/or notional value). Morgan Stanley also monitors fill rates for such venues, evaluates the dark pools that it accesses to mitigate the risk of signaling or gaming of its client orders in their respective dark pools. The section below called External Dark Pools contains additional information about anti-gaming controls for the external dark pools that Morgan Stanley accesses.

10. Does Morgan Stanley provide access to external liquidity providers?

No.

11. Does Morgan Stanley send outbound IOIs from anywhere within its electronic trading infrastructure (*i.e.*, from its dark pools, smart order routers or algorithms) or messages similar to an IOI?

No.

12. Does Morgan Stanley accept inbound conditional indications?

No.

13. Does Morgan Stanley send outbound conditional indications?

No.

14. Does Morgan Stanley send blind IOCs (*i.e.*, blind ping) to external liquidity providers prior to routing orders to the displayed markets?

No.

15. Does Morgan Stanley allow re-routing of client orders by external venues (*i.e.*, does Morgan Stanley send routable orders)?

No.

16. Can clients opt out of interacting with Morgan Stanley principal liquidity?

Yes.

17. Does Morgan Stanley identify the capacity in which it acted on fills?

Yes available upon request.

18. Does Morgan Stanley provide the actual execution venue on fills?

Yes.

19. Does Morgan Stanley provide MIC codes on fills?

Yes, we use best efforts to pass back actual execution venue on the fill.

20. Can Morgan Stanley provide liquidity tags on fills to indicate whether orders took or provided liquidity?

Yes, where supported by the execution venue.

21. Can Morgan Stanley show a liquidity map for a client's order flow that shows venues and the percentage of liquidity provided versus taken at each venue?

Yes, provided the execution venue supports the indicator.

22. Can Morgan Stanley's algorithmic and routing strategies be customized?

Yes. Morgan Stanley can customize algorithmic and routing strategies upon client request.

23. Who at Morgan Stanley and its affiliates can access open client order information?

Access is limited to account coverage, personnel handling client orders, and supervisors, as well as certain legal, compliance, risk management, senior management and other support personnel in the performance of their responsibilities. Other clients, traders and sales traders do not have access to this information. Depending on respective personnel responsibilities, there are different levels of permissioned access pursuant to our internal policies.

24. Does Morgan Stanley accept market orders? If so, how are market orders handled?

Morgan Stanley accepts market orders. However, to mitigate the risk of adverse market impact, Morgan Stanley may place limit prices on your order when accessing the market, including in circumstances when you direct your market order to a particular destination. Therefore, it is possible that your market order may not get completely filled.

25. Does Morgan Stanley support minimum fill quantity on orders?

With respect to MS Routers, NightVision supports minimum fill quantity instructions designated on orders, while SORT does not.

Orders sent to MS POOL can be designated with a minimum fill quantity instruction. MS POOL does not aggregate multiple contra-side orders to satisfy a minimum fill quantity on a single order.

26. How does Morgan Stanley use client information?

Protecting the confidentiality and security of client order, execution, position and related information is an important part of how Morgan Stanley conducts its business, and Morgan Stanley has implemented controls that are reasonably designed to protect such information. Morgan Stanley may use such information for a variety of purposes including client coverage, supervision, risk management, liquidity provision, and business strategy, and may disclose such information in connection with its global regulatory obligations, pursuant to client instructions and in performing normal course brokerage functions. Morgan Stanley may also use or disclose internally created aggregated and anonymized information for these purposes and in connection with other products and services.

II. Morgan Stanley Dark Pools

27. Please describe Morgan Stanley's internal dark pools.

Morgan Stanley operates two types of dark pools in Asia that can cross both Agency and Principal orders: MS POOL (in Japan, Hong Kong and Australia), and MS Trajectory Cross (in Japan and Hong Kong only).

MS POOL is a real-time continuous crossing dark liquidity pool. It crosses eligible orders at or within the best prevailing bid and offer (in accordance with local market regulations), attempting midpoint execution or as close to midpoint as possible within the user's limit price, subject to local regulatory requirements. MS POOL employs price/category/size/time priority, which encourages size and deemphasizes speed.

MS Trajectory Cross is a dark pool designed to provide internal crosses over pre-determined, scheduled intervals for eligible orders that are traded via certain Morgan Stanley algorithms. Potential crosses are determined based on overlap of the individual order trajectories and executions will receive volume weighted average price ("VWAP") pricing.

28. How can Morgan Stanley's dark pools be accessed?

MS POOL may be accessed directly. MS POOL may also be accessed indirectly via MS Routers and Morgan Stanley algorithms.

MS Trajectory Cross can only be accessed via certain Morgan Stanley algorithms.

29. What market data feeds do Morgan Stanley's dark pools use?

MS POOL uses direct exchange market data feeds to determine the best bid and offer.

MS Trajectory Cross executes orders using a VWAP price calculated based on eligible trades.

30. Describe the types of participants in Morgan Stanley's dark pools.

Clients, traders and sales traders of Morgan Stanley and its affiliates can access MS POOL and MS Trajectory Cross.

31. Does Morgan Stanley allow participants to opt out of interacting with certain flow in its dark pools?

Participants have the ability to opt out of interacting with principal orders in both MS POOL and MS Trajectory Cross.

Morgan Stanley also allows participants who are not classified as "professional traders" to opt out of interacting with participants classified as "professional traders" in MS POOL.

32. How does Morgan Stanley determine which participants will be classified as "professional traders" in MS POOL?

A participant can be classified as a professional trader based on the nature and frequency of that participant's activities (or for a new participant, its anticipated activities) in MS POOL. A factor used to determine whether a participant is a professional trader is average message count.

33. How do Morgan Stanley's dark pools prioritize orders?

MS POOL accepts orders at full or half the standard exchange tick sizes. An order's effective price is used for the purpose of evaluating price priority.

For buy orders, when a user's limit price is:

- at or above the midpoint, the effective price is capped at the midpoint.
- below the midpoint, the effective price is the user's limit price rounded down to the nearest standard exchange tick size.

For sell orders, when a user's limit price is:

- at or below the midpoint, the effective price is capped at the midpoint.
- above the midpoint, the effective price is the user's limit price rounded up to the nearest standard exchange tick size.

MS POOL employs price/category/size/time priority, which encourages size and deemphasizes speed (rather than prioritizing time over size). Orders received at the same effective price will then be prioritized by category, order size, before being matched in the time sequence they were received. Agency orders with the same effective price as or better price than a principal order would have higher priority than the principal order, even if the principal order is larger in size or is received before the Agency orders. Within category, in Japan and Hong Kong, orders are prioritized in the following sequence: Agency, Agency Professional Trader, Principal, and Principal Professional Trader. However, in Australia, within category, MS POOL ranks orders in sequence by Agency and Principal only. Per the Australian Securities and Investments Commission's ("ASIC's") guidelines, no further differentiation between Agency and Agency Professional Trader / Principal and Principal Professional Trader will be considered for matching priority.

MS Trajectory Cross will prioritize Agency orders over Principal orders and will determine matches based on price / time per below.

MS Trajectory Cross is designed to prioritize Agency orders over Principal orders in each crossing round. To ensure that Agency orders retain priority over all Principal orders, MS Trajectory Cross's matching algorithm requires that all open and eligible Agency orders are matched before Principal orders are matched. In other words, a Principal order may be matched, in whole or in part, only if insufficient eligible Agency order size is available for matching the contra-side interest. Given the forward-looking nature of the crossing rounds, certain assumptions are made regarding the forward-looking volume and price when determining eligible order quantity for each crossing round. As a result, orders (or portions thereof) that may otherwise be eligible to cross in MS Trajectory Cross may not get executed in a crossing round. For example, where a limit order is priced close to the then-current market price for that security, MS Trajectory Cross may not consider all or a portion of that order as eligible for a crossing round. This applies irrespective of whether the order is an Agency order or a Principal order. An order, if arriving at a time after a crossing round has

been initiated, will not be eligible to participate in the ongoing round. The order will be eligible for consideration at the next available crossing round.

34. What order types are supported by Morgan Stanley's dark pools?

MS POOL accepts orders with and without limit prices (including buy and long sell orders), which may also be designated with a peg instruction. In Japan, SORT is permitted to send IOCs to MS POOL to seek an immediate match. If liquidity is available in MS POOL at a price that is at or within the best bid and offer, MS Routers, based on their view of liquidity in MS POOL, may access such liquidity by sending an IOC to MS POOL. Participants accessing MS POOL directly are permitted to enter day orders, but not IOCs.

MS Trajectory Cross accepts day orders from certain Morgan Stanley algorithms with and without limit prices that are eligible to be matched in MS Trajectory Cross.

MS POOL and MS Trajectory Cross do not accept "post only" orders.

35. Can clients specify a minimum fill quantity in MS POOL? If so, will MS POOL aggregate orders to satisfy the minimum fill quantity?

Orders sent to MS POOL can be designated with a minimum fill quantity instruction. MS POOL does not aggregate multiple contra-side orders to satisfy a minimum fill quantity on a single order.

36. Does the minimum fill quantity constraint apply to just the first execution or to every execution?

The minimum fill quantity constraint applies to every execution in MS POOL, except when the remainder of the order is less than the minimum fill quantity, in which case MS POOL will execute that quantity.

37. Do Morgan Stanley's dark pools send outbound IOIs (or messages similar to an IOI)?

No.

38. During which hours do Morgan Stanley's dark pools execute?

MS POOL and MS Trajectory Cross generally operate on regular business days during normal trading hours.

Morgan Stanley may suspend crossing in its dark pools during market hours under anomalous conditions.

39. Does Morgan Stanley provide preferential access to its dark pools or to categories of flow in its dark pools for a fee? Do orders in MS POOL from other brokers with which Morgan Stanley has a mutual access agreement receive preferential treatment?

No.

40. Where are Morgan Stanley's dark pool servers located and does Morgan Stanley permit participants to cross-connect?

MS POOL and MS Trajectory Cross are located in leased data centres in Japan, Hong Kong and Australia.

Morgan Stanley allows any participant to cross-connect to the MS POOL trading infrastructure

41. Does Morgan Stanley offer co-location in Morgan Stanley's dark pool cages?

No.

42. How do Morgan Stanley's dark pools handle odd lot and mixed lot orders?

MS POOL does not execute odd lot orders. While MS POOL accepts mixed lot orders, it only executes the round lot portion of mixed lot orders.

MS Trajectory Cross accepts both odd lot and mixed lot orders, but only the round lot portion of mixed lot orders are eligible to be matched in MS Trajectory Cross. Odd lot orders and the odd lot portion of mixed lot orders will continue to be traded outside of MS Trajectory Cross.

43. Does MS POOL execute in a locked or crossed market?

MS POOL does not execute with respect to securities that are the subject of a locked or crossed market.

44. What is the MIC code for MS POOL?

MS POOL's MIC is MSPL.

45. What is the MIC code for MS Trajectory Cross?

MS Trajectory Cross's MIC is MSTX.

46. Do Morgan Stanley's dark pools employ a maker-taker pricing model or provide rebates to solicit order flow?

No.

47. What anti-gaming controls does Morgan Stanley have in place for MS POOL?

MS POOL employs measures such as restricting order types, not accepting IOCs from participants and not transmitting IOIs, among other things. MS POOL employs price/category/size/time priority, which encourages size and deemphasizes speed. MS POOL does not execute odd lot orders. While MS POOL accepts mixed lot orders, it only executes the round lot portion of mixed lot orders. MS POOL does not accept "post only" orders.

In MS POOL, Morgan Stanley also allows participants who are not classified as "professional traders" to opt out of interacting with participants classified as "professional traders", but participants classified as "professional traders" cannot opt out of interacting with each other. Orders sent to MS POOL can be designated with a minimum fill quantity instruction. Within category, orders are prioritized in the following sequence: Agency, Agency

Professional Trader, Principal, and Principal Professional Trader. However, in Australia, within Category, MS POOL ranks orders in sequence by Agency and Principal only. Per ASIC's guidelines, no further differentiation between Agency and Agency Professional Trader / Principal and Principal Professional Trader will be considered for matching priority. In addition, Morgan Stanley reviews activity of MS POOL participants and may take action, which may include denial of access.

48. What anti-gaming controls does Morgan Stanley have in place for MS Trajectory Cross?

MS Trajectory Cross does not raise the type of concerns commonly associated with continuous match dark pools that permit direct access and execute orders based on the best bid and offer. Access to MS Trajectory Cross is only available through certain Morgan Stanley algorithms. Orders are eligible to execute in MS Trajectory Cross when there is an overlapping trajectory of algorithmic orders that would otherwise trade in the market. Executions in MS Trajectory Cross are based on VWAP pricing over a pre-determined time interval.

III. External Dark Pools

49. What external dark pools does Morgan Stanley currently access?

Morgan Stanley currently accesses the following external dark pools:

Australia: ASX Centrepoint

Japan: Nomura NX

50. How does Morgan Stanley evaluate new dark pools for addition to its dark pool router?

Morgan Stanley carefully evaluates potential new dark pool providers to assess their order handling and execution practices and whether they will handle our orders in the manner that Morgan Stanley instructs. As a result of this evaluation process, Morgan Stanley does not access every available dark pool.

51. Do the external dark pools that Morgan Stanley accesses aggregate orders to fulfill minimum quantity, as opposed to fulfilling minimum quantity with a single order?

Morgan Stanley has opted out of this functionality for those third party dark pools that permit us to opt out. A client can also opt its orders out of accessing one or more dark pools that might aggregate in this manner.

52. Do the external dark pools that Morgan Stanley accesses execute at prices other than midpoint?

Yes. External dark pools have different crossing and price improvement logic; however, most support midpoint pegged orders. If clients seek to restrict executions to midpoint only or better, Morgan Stanley has the ability to send midpoint pegged orders on their behalf to those external dark pools that support the order type.

53. Do the external dark pools that Morgan Stanley accesses allow executions to take place prior to a stock's opening print on the primary exchange?

Morgan Stanley routes to external dark pools in a manner designed to receive executions during continuous trading hours.

54. Has Morgan Stanley stopped routing to any external dark pools?

Yes, Morgan Stanley has stopped routing to external dark pools in certain instances.

55. Can clients opt out of any external dark pools?

Yes.

56. What anti-gaming controls does Morgan Stanley have in place for external dark pools?

Morgan Stanley may place certain constraints on orders that it routes to external dark pools such as minimum fill quantities (in terms of number of shares and/or notional value), where available. Morgan Stanley also monitors fill rates for such venues, evaluates the dark pools that it accesses to mitigate the risk of signaling or gaming of Morgan Stanley's client orders in their respective dark pools.

This information is being provided at your request for your exclusive use to aid in your understanding and evaluation of Morgan Stanley's Asia equity order handling and routing systems. This information is proprietary to Morgan Stanley and describes current practices, which may change without notice. Morgan Stanley welcomes a conversation with you about this subject.