

Northern Trust Fund Managers (Ireland) Limited Order Execution Policy

Policy Summary

A. Authority

Central Bank of Ireland

B. Statement of Purpose

The policy sets out the key steps it deems sufficient to comply with the best execution requirements as set out in MiFID II rules and how these steps enable the best possible results for our clients consistently over time.

C. Scope and Applicability

The Order Execution Policy is adopted by Northern Trust Fund Managers (Ireland) Limited (NTFMIL). The policy shall apply to NTFMIL and any affiliated company performing a regulated activity appointed by NTFMIL, or acting on behalf of clients contracting with NTFMIL, whether authorised by the Central Bank of Ireland (CBI) or any successor hereto or not.

D. Effective Date

December 2020



1. Introduction & Application

Introduction

- 1.1 The Order Execution Policy applies to any affiliated company where portfolio management or the execution of client orders is delegated on behalf of clients contracting with Northern Trust Fund Managers (Ireland) Limited (NTFMIL) or any UICTS fund that NTFMIL manages.
- 1.2 NTFMIL does not currently perform portfolio management or execution of client orders and delegates this activity to its affiliates, this policy applies to such delegated activity.
- 1.3 NTFMIL currently delegates the activity of cash collateral reinvestment management to Northern Trust Investments Inc. (it's US domiciled affiliate which is an SEC registered investment advisor) and to Northern Trust Global Investments Limited (NTGIL), it's UK domiciled affiliate which is authorised and regulated by the Financial Conduct Authority. NTFMIL also delegates the activity of portfolio management to NTGIL.
- 1.4 Throughout this document the term “client order” refers to a decision to deal or an order transmitted or received by a delegate of NTFMIL.
- 1.5 This document sets out the strategy for obtaining the best possible result for the execution of NTFMIL client orders, which will be followed by its delegates in their performance of relevant services. The policy sets out all steps deemed sufficient to comply with the best execution requirements as set out in MiFID rules and those of the CBI and how these steps enable the best possible execution results on a consistent, on-going basis.
- 1.6 The NTFMIL Order Execution Policy (“the Policy”) covers:
 - how the execution process is managed;



- how client order execution from the point of order origination to the completion of the execution is handled;
- the execution venues that delegates have selected to achieve the best possible client order execution, and the selection process associated with such execution venues;
- the critical factors affecting client order execution and the methods of such factor selection, and;
- an explanation of why NTFMIL believes that this order execution policy will deliver the best possible result for the execution of client orders.

The best execution rules

- 1.7** As NTFMIL is a firm authorised and subject to CBI rules, delegates must take all sufficient steps to obtain, when executing NTFMIL client orders, the best possible result for its clients taking into account the execution factors. These factors are listed in section 2.
- 1.8** The execution factors are the characteristics of the client, the characteristics of the client order, the characteristics of the financial instruments involved and the execution venues where the order could be placed.
- 1.9** The scope of CBI rules is limited to certain instrument types and dealing activities.

Client instructions; impact on best execution

- 1.10** In cases where a client gives a specific instruction with respect to the conditions for executing an order, this policy will not be applied for those aspects of the execution relating to the specific instructions of the client. For example a client may give an instruction to only execute transactions with a list of brokers they have provided, delegates would not in such an instance trade with a broker not on that list even if they offered a better price or execution quality.
- 1.11** The policies that are described in this Order Execution Policy document are applied through a series of procedures. These are maintained by business professionals within the relevant business area. These procedures are aligned with this execution policy and are monitored to ensure that this policy is implemented as specified in this document.



Relevant codes and policies

1.12 The Policy is aligned to and supported by the following codes and policies:

- Northern Trust Asset Management's (NTAM) Code of Ethics; and
- NT EMEA Conflicts of Interest & Inducements Policy
- Such voluntary industry codes that NTFMIL, either as a legal entity or as part of the NT Corporation,

Responsibilities

1.13 Accountability for the implementation and communication of this policy lies with the NTFMIL's Chief Executive Officer (CEO). Responsibility for the maintenance of NTFMIL Order Execution Policy lies with the CEO.

1.14 Accountability for monitoring and oversight of compliance with this policy lies with Head of Compliance for NTFMIL. Any questions relating to how the NTFMIL Order Execution Policy should be interpreted or applied should in the first instance be addressed to the NTFMIL Head of Compliance.

1.15 The NTFMIL Order Execution Policy will be periodically reviewed (no less than annually) to reflect regulatory changes, material technology or changes in the processes for managing the way client orders are executed, in order to ensure its content continues to be appropriate to the firms' activities.

1.16 The senior management of NTFMIL are responsible for maintaining a conflicts of interest policy and identifying, managing or preventing and disclosing any relevant conflicts related to client order handling, undertaking on-going reviews on the effectiveness and appropriateness of the policy, the areas of potential conflict within NTFMIL and the procedure for management of conflicts that arise.

Delegates must agree on an annual basis that they will perform portfolio management and the execution of client orders in adherence to this policy.

Regular reviews on execution performance are undertaken by NTAM's EMEA compliance team. This is covered in greater detail in section 7.

2. Execution factors

2.1 When executing client orders a range of execution factors must be taken into account.. These factors are considered in the initial selection of execution venues and the ongoing review of performance of those execution venues. These factors and their relative importance will be determined using the experience of the investment professional, depending on the asset class being traded and the product the client order relates to. These factors include:

- price;
- costs;
- speed of execution;
- likelihood of execution;
- speed of settlement;
- likelihood of settlement;
- size of the order;
- nature of the order.

2.2 Ordinarily, price will merit a high relative importance in achieving the best possible result; however, there may be circumstances for certain clients, order types, execution strategies, financial instruments or markets when other factors are weighted with greater importance than price.

2.3 When determining the relative importance of each of the above execution factors the following will be taken into consideration:

- The client's characteristics, including its client classification;
- The characteristics and nature of the order placed on the client's behalf;
- The characteristics of the financial instruments; and
- The execution venues to which the order can be directed.



- 2.4** In order to achieve the best possible execution result delegates or the counterparties to whom delegates hand the order, may adopt one or more trading methods or execution venues to satisfy the order. As a consequence, there may be occasions where client orders will be executed outside of a regulated market, Multilateral Trading Facility (MTF) or Organised Trading Facility (OTF). This includes submitting orders to a Systematic Internaliser (SI), to a non- EEA affiliate or to execute orders over the counter (OTC).

Single order trades

- 2.5** Single order trades are managed via the delegates trading desk for equity, FX and derivative trading and by portfolio managers for fixed income trading. Where appropriate, orders may be transmitted to dealing desks of NTAM entities in London, Chicago or Hong Kong to take advantage of local expertise and timing considerations.
- 2.6** The size and nature of a single order trade is often particularly important. For example, when executing orders for index tracking portfolios, an execution benchmark based upon the end of day closing price will usually be adopted. This approach to achieving the best possible result would differ from an execution for an active portfolio manager or an order traded intraday.

Programme trades

- 2.7** Programme trades are an amalgamation of multiple orders for one client, or orders for multiple clients, to be transmitted to a broker for execution in a single block in order to mitigate execution costs on behalf of the client.
- 2.8** Price quotes from multiple brokers, and/or from multiple execution venues, are generally sought for programme trades where appropriate, particularly at index rebalance effective dates. Once the execution venue (or firm to which the order is transmitted to for execution) with the best overall terms has been selected, the programme trade is submitted for execution. The dealers monitor the performance of the execution until completion of the entire order (following the completion of the entire programme trade the portfolio managers may then conduct transaction cost analysis to assess the execution quality of the trades).



- 2.9 When necessary, the equity trading desk discloses a limited amount of high-level aggregate information in order to select suitable execution venues. This information would include certain aggregated statistics such as overall volume or number of orders.

Over the counter transactions

- 2.10 Financial instruments may in certain circumstances be bought or sold "over-the-counter", directly with the counterparty and not subject to the rules or clearing arrangements of an exchange or Trading Venue (which includes Regulated Markets ("RM"s", Multilateral Trading Facilities ("MTFs") and Organised Trading Facilities ("OTF"s). Such orders will only take place where delegates believe this will result in best execution being achieved and subject to regulatory requirements regarding trading on Trading Venues, unless the instruments being traded are not listed on a Trading Venue.
- 2.11 As the trade does not take place on a venue there is greater potential settlement risk in respect of these over-the-counter transactions as the transaction will not be covered by the settlement rules of the Trading Venue. Settlement risk is the risk that the counterparty to a transaction does not deliver the payment or security in accordance with the agreed terms after the other counterparty has already fulfilled its part of the agreement. There also may be differing exposure to counterparty risk. In order to mitigate this risk only transactions with counterparties who have been approved through NTAM credit risk approval process are entered into. See section 6 for further details.
- 2.12 In addition, in certain cases (primarily for some fixed interest securities such as commercial paper) financial instruments may not be listed, quoted or admitted to trading on any stock exchange or quotation system at the time of purchase or sale, as a result pricing information for Instruments may be more difficult to obtain and the liquidity of the Instruments may be adversely affected. In such instances liquidity is considered as the primary execution factor rather than price.
- 2.13 By consenting to this policy clients authorise NTFMIL and its delegates to execute transactions on an MTF/OTF, and outside of an MTF/OTF or a Regulated Market, this includes submitting orders to a Systematic Internaliser (SI), to a non- EEA affiliate or executing orders over the counter (OTC).



3. Execution Arrangements: Asset Class Specific

3.1 Client assets are managed across multiple asset classes, in both pooled investment vehicles and separately managed accounts (SMAs). Accordingly execution arrangements are managed with due regard to the product categories and asset classes being dealt. The execution policy is therefore aligned with the requirements of the underlying mandates, and agreements.

3.2 Client orders for the following classes of financial instruments may be executed:

- Shares, Exchange Traded Funds (ETFs) and depository receipts
- Bonds & Securitised Assets; such as Asset Backed Securities (ABS) and Residential Mortgage Back Securities (RMBS)
- Money Market Instruments
- Interest rate futures and options (exchange traded)
- Currency swaps, forwards and other currency derivatives
- Equity futures (exchange traded)
- Securitized derivatives – warrants and certificate derivatives
- Units in collective investment schemes

Equities (Shares, ETFs and depository receipts)

3.3 Equity dealing is managed by NTAMs centralised dealing desk (“CDD”) made of the trading desks of NTFMIL’s affiliates : Northern Trust Global Investments Ltd. (NTGIL) (based in London), Northern Trust Inc. (based in Chicago) and The Northern Trust Company Hong Kong (based in Hong Kong) (collectively referred to as the CDD). Orders are passed from the delegate portfolio manager to the trading desk in their region via an order management system. The CDD have responsibility for managing the execution of the order and conduct them in accordance with this policy. Where appropriate the delegates trading desk may receive and transmit orders to affiliates for execution on behalf of the client.

Orders are transmitted to external (non-affiliated) brokers for execution and delegates do not execute orders directly on trading venues.



3.4 Passive management products, such as index portfolios, have very specific dealing benchmarks. Timeliness and likelihood of execution are generally the most important execution factors in so far as, generally, a successful outcome for an index fund is to achieve a specific market on close price to match the valuation of the security within the benchmark index, for any trade or set of trades. Trades are therefore submitted in a manner which will result in the greatest likelihood of achieving such a benchmark.

Generally, two execution strategies are available for execution of orders for passive portfolios:

1. The competing quotes/ request for quotes method;
2. Transmission of aggregated market on close orders to a single broker for execution at a specified time (generally the index closing time)

In deciding which strategy to follow, the dealing desk will consider the importance of certainty of execution at a price close to the benchmark index price, compared to the likely dispersion of executions away from the benchmark price given the size of the trade.

3.5 The order execution arrangements for passive portfolios seek to minimise market impact and maximise liquidity in the execution of client orders, seeking to minimize transaction costs whilst matching the index risk and return characteristics and minimising operational risk throughout the process. Where it is deemed appropriate to trade away from the index implementation point, portfolio managers are expected to use sound judgement and rationale, including consulting the dealing desk where appropriate, to devise appropriate trading strategies, to minimise risk and ensure that mandates are managed within client expectations and guidelines.

3.6 Other equity portfolios may have specific investment objectives, and the portfolios are managed with the aim of meeting these through the use of dealing models and approaches which are seeking to exploit particular market price conditions. Often a successful execution result for the equity portfolios is to prioritise speed and achieve a rapid execution. This is reflected in the fact that an implementation shortfall benchmark is frequently the correct transaction cost analysis benchmark for the equity portfolios.

3.7 An implementation shortfall calculation will consider the actual cost of a trade and



compare it against the predicted cost of a trade using a transaction cost estimation model – which considers markets movement, cost of market impact and speed of execution.

Fixed Income

- 3.8 In recognition of the structure of fixed income markets, fixed income dealing is managed directly by the fixed income portfolio management teams as they are experts in dealing such instruments.

Fixed Income portfolio managers engage in trading a wide variety of instruments through two distinct strategies:

Active strategies encompass management of money market funds, ultra-short duration and high yield bond portfolios. In these strategies a mixture of bonds, asset backed securities and money market securities are acquired. Delegates distinguish between those securities with unique identifiers known pre trade (typically bonds) and those that are newly issued on request for which an identifier may or may not be issued post trade (typically money market instruments; time deposits, asset backed commercial paper, certificates of deposit, commercial paper and reverse repurchase agreements)

Passive strategies are primarily concerned with securities that have a unique identifier (ISIN) known to portfolio managers pre-trade. Securities are selected (sampled) with the objective of matching the risk and return of a target benchmark. Typically benchmark indices contain securities with more than one year to maturity.

Both strategies seek to acquire instruments via primary and secondary markets. For both active and passive portfolios the portfolio manager will look to participate in purchases through primary issuance whenever possible (i.e. where the security fits within the accounts' guidelines, credit and duration profile).

Government and Corporate bonds and other Fixed Income securities

A combination of electronic dealing systems and a conventional voice contact with / telephone calls to brokers.



- 3.9** NTFMIL affiliates use an aggregated electronic price service for the majority of its executions in fixed income instruments. This service enables delegates to achieve the best possible execution result, as multiple prices can be discovered at a single point in time. The best available price is selected from those presented. This electronic price service provides a full audit trail for the execution process. For passive fixed income, trading may also be conducted via telephone and trade files. Executions are monitored against the relevant benchmark, and are also referenced against pre-trade dealer quotes.
- 3.10** The execution factors as set out in section 2 are taken into account when dealing government and corporate bonds. In the event the portfolio manager has identified a price target for a specified security, while placing more importance on the price sought than the speed in executing the order, it remains incumbent on the portfolio manager to obtain the best possible price available at the time of trade.
- 3.11** When trading certain instruments, particularly illiquid securities, or when dealing in a large volume, greater importance may be placed on sourcing liquidity and likelihood of execution, in which case the order may be executed as a limit trade placed with an individual broker at a specified price. The desks conduct post trade analysis to monitor the results of such trading to confirm that best execution is achieved on a continuous basis.
- 3.12** Internal electronic accounting systems are used to ensure that client mandate limits are monitored and observed.

Money Market Instruments

- 3.13** Cash is invested into various short term fixed income instruments and money market securities. Money Market Funds are managed by NTFMIL delegates fixed income portfolio managers who are experts in dealing in such instruments.
- 3.14** Money Market Instruments are primarily traded for cash funds and cash collateral reinvestment (securities lending), managed by NTFMIL delegate's Fixed Income portfolio managers. The instruments are typically bespoke and a large percentage of money market instruments are purchased through primary issuance, either directly from the issuer or through a broker.



3.15 Due to the nature of the over the counter (OTC) short duration fixed income markets, liquidity and price will ordinarily merit a high relative importance in achieving the best possible execution result.

3.16 Time deposits and reverse repurchase transactions are overnight in nature, heavily supply constrained (on both an absolute basis and as a result of the organisation's stated credit and CCAR preferences). As they are not MiFID instruments they are not subject to NTFMIL's Order Execution Policy, but are subject to NTFMIL affiliates internal policies. Counterparties/ delegates enter into transactions with for such instruments must be approved under NTAM's established credit risk assessment process.

Securities lending – Cash Collateral Reinvestment

3.17 When cash is provided as collateral, the majority of cash received as collateral is then invested into various short term fixed income instruments and money market funds. Cash received as collateral is managed by fixed income portfolio managers who are experts in dealing in such instruments. Due to the nature of the over the counter (OTC) short duration fixed income markets, liquidity and price will ordinarily merit a high relative importance in achieving the best possible execution result.

Foreign Exchange

3.18 Foreign exchange transactions are usually a consequence of other execution activity. If a trade is envisaged which is known to require conversion to a different currency, a foreign exchange transaction is created. The delegate trading desks execute foreign exchange transactions via an independent electronic platform or directly with authorized foreign exchange counterparties.

3.19 The delegate trading desk engage in spot FX trading, which is not covered under this policy as these are not financial instruments as defined under MiFID rules, however our counterparty approval processes are still applied.

Currency Forwards and Non-deliverable forwards (NDFs)

3.20 Forward currency contracts may be used to hedge against currency risk that has resulted



from assets held by a portfolio that are not in the Base Currency. NTFMIL delegates, may, for example, trade forward currency contracts by selling forward a foreign currency against the Base Currency to protect the portfolio from foreign exchange rate risk that has risen from holding assets in that currency.

- 3.21** Transactions in currency derivatives are executed through electronic trading platforms, either FXall (operated by Thompson Reuters) or FX Connect (operated by State Street), executions occur bilaterally with banks acting as NTFMIL delegates/counterparties, either offering the best price achieved through requesting competing quotes or transmitted for execution at the relevant market's 4PM Fix rate.
- 3.22** Executed trades are recorded at the point of execution. Most trades will be executed at the target WM/Reuters 4pm closing rate. For these trades the business verifies that the actual 4pm rate is given by the counterparty with which the delegates execute. In limited circumstances delegates will not actively seek rates from brokers, but will take the rates given by the client's custodian (which may be a Northern Trust affiliate). Circumstances which may give rise to such instances, include but are not limited to, where a transaction involves a restricted currency, or a trade is small in size that it would cost more to execute through a broker.
- 3.23** Transactions to trade at market price are mostly executed by NTFMIL delegates trading desk, while transactions for the same instruments to be traded to obtain that day's relevant benchmark price are aggregated and transmitted between NTFMIL delegates and its affiliates, Northern Trust Global Investments Limited (NTGIL), Northern Trust Investments Inc. (NTI) and The Northern Trust Company Hong Kong (TNTCHK) Limited, for a trader in one of the firms to manage executions with banks that act as counterparty.
- 3.24** NTFMIL delegates maintains a list of which banks are offering the most competitive terms and will look to arrange transactions for all accounts where clients permit the counterparty to be traded with. On a periodic basis this list will be updated if the terms offered by banks become more or less competitive for particular instruments.
- 3.25** Where a client restricts NTFMIL from trading with certain counterparties, the trades will be arranged with the bank offering the most competitive terms with which NTFMIL delegates are permitted to enter into transactions, in accordance with the client's



instructions. While clients may restrict using some banks, NTFMIL delegates retain discretion over which banks to enter into transactions with subject to these restrictions and such orders are not therefore considered client directed.

Equity Derivatives- Index Futures

- 3.26** Exchange traded index futures are used primarily for efficient portfolio management purposes, mainly to “equitise” cash contributions/redemptions into or out of a portfolio, hedge index exposure for limited periods when immediate purchase/sale of the underlying is not feasible or in the best interests of the client and gain short-term exposure to securities, where appropriate, to enhance value.
- 3.27** Exchange-traded index futures positions can also be unwound simultaneously with the purchase or sale of the underlying equity position.
- 3.28** The objective when trading index futures is to achieve execution at the relevant exchange close, at a price as close as possible to the exchange close price minus a commission which is standard across banks. NTFMIL delegates transmit orders to the clearing bank for the client account the trade relates to, as this arrangement does not require give up agreements to be put in place and is therefore most efficient operationally.
- 3.29** The delegates trading desk monitor executed trades to ensure close prices are achieved consistently and query any outliers/ issues with the relevant broker.

Collective investment schemes

- 3.30** For certain portfolios managed which are designed as ‘Feeder Funds’, which invest solely into the units a relevant UCITS fund, the delegates portfolio managers will invest into units of the collective investment scheme in accordance with the Feeder Fund’s investment objective and prospectus.
- 3.31** NTFMIL delegates generally conclude transactions in such funds at the official price since they do not consider that sufficient liquidity is available elsewhere to enable us to obtain the best possible result on a consistent basis.



IPOs, primary and secondary issues.

- 3.32** NTFMIL delegates manages primary issues such as IPO's and secondary offerings fairly between clients. These forms of execution differ from secondary markets dealing. Usually information around such dealing situations is known in advance. Information around this type of dealing is collected centrally and distributed to all interested parties. Where there is an expression of dealing interest this will be collected and aggregated. The client orders are submitted as a single instruction to the executing venue by client type.

Secondary Offerings

- 3.33** Occasionally NTFMIL delegates may participate in secondary offerings, client orders are aggregated and submitted in the manner as for initial offerings, the precise approach to trading will be determined by the traders, having regard to the nature and terms of the offer.

4 Execution management arrangements

- 4.1** NTFMIL delegates maintains an effective dealing structure and process appropriate to contributing to competitive performance and achieving the best possible result for client executions on a consistent basis. The execution management process adopts a structured approach from decision to settlement, and clear information is captured at all stages of the execution process.

- 4.2** NTFMIL delegates maintains all necessary records and audit trails relating to the execution process.

NTFMIL delegates operational structure for execution management

- 4.3** Where NTFMIL delegates transmit client orders to its affiliates, desk procedures are in place to ensure that the execution of these orders is managed in accordance with this execution policy.



Client Order Handling and Aggregation

- 4.4** NTFMIL delegates must handle client orders promptly, fairly and in due turn. Prior to execution, where appropriate, client orders are aggregated together to achieve a better overall execution. Although NTFMIL delegates will not enter into aggregated orders that it believes will materially disadvantage a client, there is the possibility that the effect of aggregation may work to the disadvantage of a client order. Order aggregation does not occur when the execution objectives of the client orders are different.
- 4.5** Client orders are transmitted electronically, using facilities provided to us by third party, non-affiliated entities (i.e. Bloomberg, Tradeweb, Triton) or the brokers themselves, but these are merely conduits to the end counterparties. Orders may also be transmitted directly to a MTF or OTF.
- 4.6** The execution venues available will vary according to product and asset class. Particularly in equities where there are often numerous competing exchanges and venues, it should be noted that the brokers NTFMIL delegate affiliates instruct would not typically be directed to prefer one particular venue over another, but to adhere to their commitment to comply with best execution.

Client Order Allocation

- 4.7** NTFMIL delegates manage order allocations for client orders appropriately. Once executed, market executions are allocated to clients fairly and proportionately on a pro-rata basis. However, in situations where particular allocations for a single portfolio would result in the holding being too small to be tradeable would be regarded as uneconomic to the client; delegates will adopt an alternative allocation process.
- 4.8** The alternative process involves NTFMIL delegate traders or portfolio managers (for Fixed Income instruments) having the discretion to assign a small allocation entirely to one of or a number of accounts, or to exclude one or more accounts from receiving the allocation. However every time this occurs, the delegates Compliance team must be made aware so that they can monitor and provide independent oversight of fair allocation, conducting investigations and applying changes to processes where necessary.



Residual / uncompleted client orders

- 4.9** Residual client orders will be managed appropriately. Where a trade cannot be completed over a single dealing session, the residual order will be retained in the form of an electronic record. This series of electronic records is maintained on the NTFMIL delegates order management systems and both the traders and portfolio managers will monitor such trades on an ongoing basis until completion, amendment or cancellation of the order.

Limit orders

- 4.10** Where NTFMIL delegates place an order for shares admitted to trading on a regulated market or traded on a regulated market, MTF or OTF may, the broker executing the order may be instructed that if the order is not immediately executed under prevailing market conditions, a limit order should be placed and the order may not be made immediately public so as to be accessible to other market participants.

Management of conflicts of interest

- 4.11** NTFMIL delegates have policies and controls in place to identify, prevent, manage and where necessary disclose conflicts of interest. Where a staff member identifies a possible conflict of interest in the course of order execution or handling, this will be managed in accordance with the Northern Trust EMEA Conflict of Interest and Inducements Policy.

Methods of Order management

- 4.12** NTFMIL delegates will use electronic systems that support and enhance the execution process. NTFMIL delegates use electronic order management systems for the purposes of client order execution management.
- 4.13** All systems associated with the post-trade execution management process maintain appropriate record-keeping and fully auditable information flows.

Methods of order placement

- 4.14** When placing client orders, electronic communication mechanisms, such as FiX



protocol links, and Bloomberg messaging are used wherever possible. When manual processes are necessary then the trader or portfolio manager is required to confirm the manual instruction with an electronic communication.

- 4.15** Verbal orders are confirmed in an electronic format. For example, in the case of money-market instruments an electronic messaging system is employed to confirm the order.

Use of electronic dealing or order management systems

- 4.16** For Fixed income and FX trading, a range of electronic trading venues are employed, such as Multi-Lateral Trading Facilities (“MTF”) or Organised Trading Facilities (“OTF”) to add value to the client order execution process. The use of the systems is determined on a case-by-case basis in terms of the ability to achieve the best overall result for the client order.

- 4.17** NTFMIL delegates have the ability to use electronic dealing tools provided by certain brokers and execution venues, accessing these through approved counterparties. This includes the ability to execute trades using algorithmic strategies as well as using direct market access technology. The use of these tools entirely depends upon whether they could assist in achieving the best possible result for the client order.

Trade matching

- 4.18** In a limited number of circumstances, NTFMIL delegates may identify a security in which it is transacting a client order and also handling a client order engaging in the opposite side of a transaction in the same security with the same trading characteristics. In such instances the delegate will only seek to match a trade where both clients will benefit, from improved price/ lower market impact, lower commission or both. No internal crossing takes place; trades are always matched and executed through an external counterparty. This enables the delegate to independently verify the market prices and furthermore allow for normal matching and settlement. For fixed income securities multiple quotes are received and the quote that is most competitive for each client is selected.

Best possible result monitoring

- 4.19** NTFMIL delegates monitor execution quality and the extent to which the best possible



execution result for client orders has been achieved. The delegate employs analytical techniques to contribute to monitoring execution results when executing transactions on behalf of the client. This includes technologies such as transaction cost analysis systems for equities, FX and fixed income.

- 4.20** These analytical tools are used at all stages of the execution process and give the ability to assess expected costs, analyse the cost of execution during the performance of a trade, and then to assess an execution after the event.

Record keeping

- 4.21** NTFMIL delegates maintain records of the execution management process in accordance with regulatory requirements. These include records of client orders and all aspects of execution of a client's order, including execution prices, times, original intentions and post-event allocations.

- 4.22** The records are maintained electronically. All systems are backed up and disaster recovery processes are in place.



5. Managing execution commission rates & Research

- 5.1 NTFMIL delegates actively manage the payment and level of execution commission rates. This management is formally monitored on a quarterly basis by the NTAM International Commissions and Trading Committee (See section 7). The monitoring of execution commission rates is considered in relation to an execution venue's ability to deliver the best overall execution result for client orders.

Separation of commission payments – Commission Unbundling

- 5.2 The majority of execution commission is related to dealing equity instruments. Under MiFID II rules it is necessary to separate commission payments made for execution and other services received. This is referred to as commission unbundling.

The following paragraphs describe the policy for managing the purchase of research and services with client dealing commissions.

Purchase of research & soft commissions

- 5.3 Where NTFMIL delegates execute orders on clients' behalf, clients will pay an execution-only rate and will not use dealing commissions to pay for research or other "softed" items. Where the delegate values data or information, it will pay for this from its own resources.

Use of external research

- 5.4 Under MiFID II rules unsolicited "free" third party research is prohibited therefore delegates must not accept such research in relation to NTFMIL portfolio management or execution of NTFMIL client orders e.g. from brokers or specialist research firms. Where the delegate values research or it is deemed necessary to use research in order to carry out its portfolio management activities, the delegate will pay for research from its own resources. NTFMIL and its delegates have no active commission sharing agreements.

6. Selection of execution venues

6.1 In this document, the generic term “execution venue” is used to describe execution counterparties, systems and marketplaces including:

- Executing brokers/ counterparties;
- Systematic internalisers (Principal traders and market makers);
- Multilateral Trading Facilities (MTFs), e.g. Tradeweb and ITG Posit
- Organised Trading Facilities (OTFs), e.g. TP Europe Ltd;
- Regulated Markets; Non-EEA entities performing a similar function to any of the above;
- Direct Market Access Systems (including use of trading algorithms);
- Electronic communication networks, e.g. FX All; and
- Crossing networks.

6.2 For each financial instrument in which NTFMIL delegates either decides to deal or executes orders on behalf of NTFMIL clients, execution venues have been selected in accordance with this policy and applicable underlying procedures.

6.3 In Appendix I, ‘execution venue’ is limited to counterparties to whom delegates transmit client orders (in respect of equities), as transactions are executed via these counterparties, directly or via their trading facilities. In other asset classes, MTFs and other types of execution venues which bring market participants together are included, as this is the route through which delegates execute transactions with respect to those asset classes for certain transactions.

6.4 NTFMIL delegates may select new execution venues (subject to broker approval processes) where it will serve in the best interest of clients.

6.5 All execution venues are subject to a review process prior to inclusion on the approved execution venue list. NTFMIL delegates maintain a list of execution venues, which

dealers and portfolio managers may choose for each individual trade. A two stage process exists for oversight:

- The first is a review process to select brokers that have the financial and operational capabilities to execute orders in accordance with this policy without incurring unacceptable counterparty risk on any particular transaction.
- The second is an ongoing monitoring of execution venues in terms of their overall execution performance and their ability to deliver best execution. This analysis is undertaken both via statistical measurement techniques, and subjective assessments based upon the knowledge and expertise of NTFMIL delegate dealers and/or portfolio managers. A review must be undertaken no less than annually.

6.6 Fixed Income

The appropriate trading venue will largely be a function of the venues which the portfolio manager believes display the better liquidity characteristics for the securities in question.

Broadly speaking transactions for fixed income instruments are executed through TradeWeb for government issued securities/rates markets, MarketAxess for corporate bonds/credit with Bloomberg as a back-up venue or to enable access to quotes from brokers who do not provide coverage through the other platforms.

Beyond the use of MTFs to route client orders, other execution venues may include direct 'Over-the-counter' bilateral negotiation, voice trading and transmission of orders to brokers to be executed off venue on market close.

6.7 Currency Derivatives

FXAll is generally used by NTFMIL delegates for competitive quote transactions at the current market price, while FX Connect is generally for trading with the objective of achieving a price as close as possible to the relevant benchmark price e.g. WM Company/ Reuters 4PM benchmark rates '4PM fix'². Due to purposes for which forwards are utilized and the passive management strategy of the majority of portfolios,

significantly more volume is executed as aggregated trades using the latter method and benchmark,

Both platforms offer the ability to trade by both means and could be used as a backup should the other be unavailable, the factors for choosing one platform over the other are based on the efficiency and ease of use for the different trading strategies, as well as FXAll's competing quotes facility, which is utilized for at market price transactions- experience and analysis of executions does not demonstrate material differences in the competitiveness of execution terms such as price between the platforms.

Ongoing controls and monitoring

6.8 In general, NTFMIL delegates will always endeavor to transact on delivery versus payment (d.v.p.) terms and on the very limited occasions this is not possible will not:

- deliver securities in a sale transaction until the delegate has received payment for such securities, or;
- make payments for securities purchased until the delegate has received such securities.

7. Supervision, monitoring and oversight

7.1 Supervision and monitoring occurs at multiple stages of the execution process. NTFMIL delegates internal order management system facilitates numerous checks and reviews with the aim that all trades are valid and can be executed.

7.2 As trade executions are received back electronically, the internal order management system will validate such executions and highlight any discrepancies which might require investigation, for example large deviations in price that differ from the expected price.

7.3 Periodic reviews are undertaken by delegates Compliance Department to monitor execution performance.

Delegates Compliance team conduct a quarterly review of foreign exchange counterparties performance for competitive trades. The review includes, but is not limited to key performance criteria like a counterparty's response rate to request-for-

quotes, their propensity to win RFQs and provide competitive rates, and the number of quotes received for each trade. The Delegates order execution governance structures may then decide on any number of actions considering Compliance recommendations, including putting a counterparty on watch, restricting or terminating order flow and removing or adding counterparties.

- 7.4 Periodically, the delegates Risk and Compliance team shall compare the approved broker list to the list of brokers set up in the various trading systems to determine that transactions can only be executed through approved brokers. Any exceptions on systems and or actual transactions are investigated.

8. Oversight and reporting

- 8.1 Oversight of trading to confirm client orders are being handled and executed in accordance with this policy is the responsibility of the delegates order execution governance structures, which meets on a periodic basis.

- 8.2 Such delegate governance structures will undertake an assessment at least annually of this policy and NTFMIL delegate execution arrangements to assess the quality of executions obtained and assess whether all sufficient steps have been taken to obtain the best possible result for execution of client orders, or to identify any improvements or changes required to arrangements. This may include, without limitation, requiring the addition or removal of a broker or execution venue to/from the approved counterparty list.

- 8.4 Additionally, delegate governance structures will undertake a review of NTFMIL delegates order execution arrangements in the event of a material change occurring that may affect the firm's ability to continue to operate in accordance with the policy.

- 8.5 Reports shall be presented to each meeting of the delegate governance structures summarising the results of monitoring of execution quality, with findings and if relevant any necessary recommendations.

- 8.6 NTFMIL will periodically monitor delegates adherence to this Policy by way of

onsite and desk top due diligence, delegate attestations and the periodic receipt of management information.

9. Effectiveness of NTFMIL Order Execution Policy

9.1 NTFMIL believes that this execution policy consistently provides the best possible result for the execution of client orders.

9.2 The NTFMIL Order Execution Policy is to clearly set out the execution approach which delegates must adhere to with regards to when: (i) carrying out portfolio management in adherence to the funds prospectus and (ii) arranging or executing clients order in adherence to the client mandate.



APPENDIX 1

Execution Venues

In this Appendix, the term ‘execution venue’ is limited to to execution counterparties with whom delegates may deal orders with.

In respect of equities orders are transmitted to and executed via these counterparties, directly or via their trading facilities. In other asset classes delegates have included MTFs, OTFs and other types of execution venues which bring market participants together, as this is the route through which delegates execute transactions with respect to those asset classes for certain transactions.

When dealing client orders NTFMIL delegates will only use execution counterparties that form part of the “approved execution venue list” and where the delegate believes they have the ability to deliver the best possible execution result. An up to date comprehensive list of approved entities is available to clients on request. Orders for NTFMIL clients may be transmitted to delegate affiliated entities Northern Trust Investments Inc. or the Northern Trust Company Hong Kong Limited, who also act as agent and adhere to the approved execution venue list.

The following section lists the approved execution venues where client orders will be executed. Please note that this list is subject to change.

For FX, in limited circumstance, e.g. restricted currencies where the delegate are unable to obtain a price, or a trade is small in size and would cost more to execute via a broker; it will execute using a client’s custodian.

Note also that access to certain regulated markets is achieved through Direct Electronic Access facilities provided by counterparties or via brokers/counterparties that determine whether or not a transaction is conducted under the rules of a regulated market.


Equities/Fixed Income (including cash collateral management)

280 SECURITIES LLC	ABBEEY NATIONAL TREASURY SERVICES PLC	ACADEMY SECURITIES INC
ALLIANCEBERNSTEIN INVESTMENTS INC	AMERIPRISE FINANCIAL SERVICES INC	AMERITAS INVESTMENT CORP
AMHERST PIERPONT SECURITIES LLC	ANDES CAPITAL GROUP LLC	ANZ SECURITIES INC.
APEX CLEARING CORP	ARBOR RESEARCH & TRADING LLC	AUERBACH GRAYSON & COMPANY LLC
B C ZIEGLER AND CO	B RILEY FBR INC	B. RILEY FINANCIAL INC
BANCO BILBAO VIZCAYA ARGENTARIA SA	BANCO SANTANDER SA (NEW YORK BRANCH)	BANK OF AMERICA MERRILL LYNCH INTERNATIONAL DAC
BANK OF AMERICA NA	BANK OF MONTREAL	BANK OF NOVA SCOTIA
BANK OF NOVA SCOTIA (LONDON BRANCH)	BARCLAYS BANK PLC	BARCLAYS CAPITAL INC
BARCLAYS CAPITAL SECURITIES LTD	BARCLAYS SECURITIES JAPAN LTD	BB&T CAPITAL MARKETS INC
BBVA SECURITIES INC	BCP SECURITIES LLC	BCS PRIME BROKERAGE LTD



BGC BROKERS LP	BGC FINANCIAL LP	BLACKROCK INVESTMENTS LLC
BLAYLOCK VAN LLC	BLOOMBERG TRADEBOOK LLC	BMO CAPITAL MARKETS CORP
BNP PARIBAS (LONDON BRANCH)	BNP PARIBAS SA	BNP PARIBAS SA (PARIS BRANCH)
BNP PARIBAS SECURITIES (ASIA) LIMITED	BNP PARIBAS SECURITIES CORP	BNY MELLON CAPITAL MARKETS LLC
BOFA SECURITIES EUROPE SA	BOFA SECURITIES INC	BOK FINANCIAL SECURITIES INC
BREAN CAPITAL LLC	BRED BANQUE POPULAIRE	BROWNSTONE INVESTMENT GROUP LLC
BTIG LIMITED	CABRERA CAPITAL MARKETS LLC	CANACCORD GENUITY LLC
CANADIAN IMPERIAL BANK OF COMMERCE	CANADIAN IMPERIAL BANK OF COMMERCE (LONDON BRANCH)	CANTOR FITZGERALD & CO
CASTLEOAK SECURITIES LP	CHARLES SCHWAB & CO INC	CIBC WORLD MARKETS CORP.
CIBC WORLD MARKETS PLC	CITADEL SECURITIES LLC	CITIBANK INTERNATIONAL LTD
CITIC SECURITIES CO LTD	CITIGROUP GLOBAL MARKETS INC	CITIGROUP GLOBAL MARKETS LIMITED
CITIZENS CAPITAL MARKETS INC	CL KING & ASSOCIATES INC	CLARKSONS PLATOU SECURITIES INC
CLSA GLOBAL MARKETS	CLSA LTD	COKER & PALMER INC



PTE LTD		
COMERICA SECURITIES INC	COMMERZBANK AG	COMMONWEALTH AUSTRALIA SECURITIES LLC
COMMONWEALTH BANK OF AUSTRALIA	COOPERATIEVE RABOBANK UA (LONDON BRANCH)	COWEN AND CO LLC
CREDIT AGRICOLE CIB (GRAND CAYMAN)	CREDIT AGRICOLE CORPORATE AND INVESTMENT BANK (LONDON BRANCH)	CREDIT AGRICOLE CORPORATE AND INVESTMENT BANK SA
CREDIT AGRICOLE INDOSUEZ CHEUVREUX NORDIC AB	CREDIT AGRICOLE SA (LONDON BRANCH)	CREDIT AGRICOLE SECURITIES (USA) INC
CREDIT SUISSE (HONG KONG) LTD	CREDIT SUISSE AG	CREDIT SUISSE AG (NEW YORK BRANCH)
CREDIT SUISSE SECURITIES (EUROPE) LTD	CREDIT SUISSE SECURITIES (USA) LLC	CREWS & ASSOCIATES INC
CROSS POINT CAPITAL LLC	DA DAVIDSON & CO	DAIWA CAPITAL MARKETS AMERICA INC
DAIWA CAPITAL MARKETS EUROPE LTD	DANSKE BANK A/S	DANSKE BANK A/S (LONDON BRANCH)
DAVENPORT & COMPANY LLC	DEUTSCHE BANK AG	DEUTSCHE BANK SECURITIES INC
DIRECT	DNB MARKETS	DOUGHERTY & COMPANY LLC
DREXEL HAMILTON LLC	E TRADE SECURITIES	EXANE BNP PARIBAS



	LLC	
FEDERAL FARM CREDIT BANKS FUNDING CORP	FEDERAL HOME LOAN MORTGAGE CORPORATION	FELTL & COMPANY
FIFTH THIRD SECURITIES INC	FIRST TRYON SECURITIES LLC	FIS BROKERAGE & SECURITIES SERVICES LLC
FLOW TRADERS US LLC	FMSBONDS INC	FOR PROCREATE - DO NOT USE
FTN FINANCIAL SECURITIES CORP	GE CAPITAL MARKETS INC	GENESIS GLOBAL TRADING INC
GEORGE K BAUM & CO	GOLDMAN SACHS & CO LLC	GOLDMAN SACHS INTERNATIONAL
GUGGENHEIM SECURITIES LLC	GUZMAN & COMPANY	HAITONG INTERNATIONAL (UK) LTD
HEADLANDS TECH GLOBAL MARKETS LLC	HERBERT J SIMS & CO INC	HILLTOP SECURITIES INC
HSBC BANK PLC	HSBC SECURITIES (USA) INC	HUNTINGTON NATIONAL BANK (THE)
HUTCHINSON SHOCKEY ERLEY & CO	ICAP CORPORATES LLC	ICAP SECURITIES LIMITED
IMPERIAL CAPITAL LLC	INCAPITAL LLC	ING BANK NV
ING BANK NV (AMSTERDAM BRANCH)	ING FINANCIAL MARKETS LLC	INSTINET EUROPE LIMITED
INSTINET LLC	INTERACTIVE BROKERS LLC	INTL FCSTONE FINANCIAL INC
IPREO HOLDINGS LLC	ITAU CORPBANCA	JANE STREET CAPITAL



	COLOMBIA S.A.	LLC
JANE STREET EXECUTION SERVICES LLC	JANNEY MONTGOMERY SCOTT LLC	JEFFERIES INTERNATIONAL LTD
JEFFERIES LLC	JJB HILLIARD WL LYONS LLC	JP MORGAN CAZENOVE LIMITED
JP MORGAN SECURITIES LLC	JP MORGAN SECURITIES PLC	JPMORGAN CHASE BANK NA
JVB FINANCIAL GROUP LLC	KBC BANK (LONDON BRANCH)	KEEFE BRUYETTE & WOODS INC
KEYBANC CAPITAL MARKETS INC	LIQUIDNET EUROPE LIMITED	LIQUIDNET INC
LLOYDS BANK PLC	LLOYDS SECURITIES INC	LOOP CAPITAL MARKETS LLC
LPL FINANCIAL LLC	M&T SECURITIES INC	MACQUARIE BANK LTD
MACQUARIE CAPITAL (EUROPE) LIMITED	MACQUARIE CAPITAL (USA) INC	MACQUARIE CAPITAL SECURITIES (SINGAPORE) PTE LTD
MACQUARIE CAPITAL SECURITIES LIMITED - HONG KONG	MARKETAXESS CAPITAL LTD	MARKETAXESS CORPORATION
MARKETAXESS EUROPE LTD	MAXIM GROUP LLC	MERRILL LYNCH INTERNATIONAL
MERRILL LYNCH PIERCE FENNER & SMITH INC	MESIROW FINANCIAL INC	MILLENNIUM ADVISORS LLC
MISCHLER FINANCIAL GROUP INC	MIZUHO BANK LTD	MIZUHO INTERNATIONAL PLC
MIZUHO SECURITIES	MORGAN STANLEY & CO	MORGAN STANLEY & CO



USA LLC	INTERNATIONAL PLC	LLC
MORGAN STANLEY SECURITIES LTD	MUFG BANK LTD (LONDON BRANCH)	MUFG SECURITIES AMERICAS INC
MURIEL SIEBERT & CO INC	MUTUAL FUND TRADE	NATIONAL ALLIANCE SECURITIES CORPORATION
NATIONAL AUSTRALIA BANK LIMITED (SYDNEY BRANCH)	NATIONAL AUSTRALIA BANK LTD (NEW YORK BRANCH)	NATIONAL BANK FINANCIAL INC (UK BRANCH)
NATIONAL BANK OF CANADA FINANCIAL INC	NATIONAL FINANCIAL SERVICES LLC	NATIXIS SECURITIES AMERICAS LLC
NATWEST MARKETS PLC	NATWEST MARKETS SECURITIES INC	NOMURA INTERNATIONAL PLC
NOMURA SECURITIES INTERNATIONAL INC	NORDEA BANK ABP	NORTHERN TRUST SECURITIES INC
NUVEEN SECURITIES LLC	ODEON CAPITAL GROUP LLC	OPPENHEIMER & CO INC
OPS BROKER - TENDER AGENT	OREC SECURITIES LLC	PEEL HUNT LLP
PENSERRA SECURITIES LLC	PERFORMANCE TRUST CAPITAL PARTNERS LLC	PERSHING LLC
PIPER JAFFRAY & CO	PNC CAPITAL MARKETS LLC	PRUDENTIAL FUNDING LLC
RABO SECURITIES USA INC	RAYMOND JAMES & ASSOCIATES INC	RAYMOND JAMES FINANCIAL INC.
RBC CAPITAL MARKETS LLC	RBC DOMINION SECURITIES INC	RBC EUROPE LTD
ROBERT W BAIRD & CO	ROOSEVELT & CROSS	ROYAL BANK OF



INCORPORATED	INCORPORATED	CANADA (NEW YORK BRANCH)
RUSSELL IMPLEMENTATION SERVICES INC	RW PRESSPRICH & CO	SAMUEL A RAMIREZ & COMPANY INC
SANFORD C BERNSTEIN & CO LLC	SANTANDER INVESTMENT SECURITIES INC	SCOTIA CAPITAL USA INC
SEAPORT GLOBAL SECURITIES LLC	SG AMERICAS SECURITIES LLC	SG SECURITIES (HK) LIMITED
SIEBERT CISNEROS SHANK & CO LLC	SKANDINAVISKA ENSKILDA BANKEN AB	SKANDINAVISKA ENSKILDA BANKEN AB (LONDON BRANCH)
SMBC NIKKO CAPITAL MARKETS LIMITED	SMBC NIKKO SECURITIES AMERICA INC	SOCIETE GENERALE (NEW YORK BRANCH)
SOCIETE GENERALE SA	SOCIETE GENERALE SA (LONDON)	STATE STREET GLOBAL MARKETS LLC
STERN BROTHERS & CO	STERNE AGEE & LEACH INC.	STIFEL NICOLAUS & CO INC
SUMRIDGE PARTNERS LLC	SUNTRUST ROBINSON HUMPHREY INC	SUSQUEHANNA FINANCIAL GROUP LLLP
SUSQUEHANNA INTERNATIONAL SECURITIES LIMITED	SVB LEERINK LLC	SVENSKA HANDELSBANKEN AB
TD AMERITRADE INC	TD SECURITIES (USA) LLC	THE TORONTO-DOMINION BANK (LONDON BRANCH)



THORNTON FARISH INC	TOKYO TANSHI CO LTD	TOYOTA MOTOR CREDIT CORP
TRADEWEB DIRECT LLC	TRADITION LONDON CLEARING LIMITED	TRADITION SECURITIES AND DERIVATIVES INC
TRIBAL CAPITAL MARKETS LLC	TRUMID FINANCIAL LLC	TULLETT PREBON (SECURITIES) LIMITED
TULLETT PREBON EUROPE LTD	TULLETT PREBON FINANCIAL SERVICES LLC	UBS AG
UBS AG (LONDON BRANCH)	UBS FINANCIAL SERVICES INC	UBS SECURITIES CO LTD
UBS SECURITIES LLC	UEDA YAGI TANSHI CO LTD	UNICREDIT BANK AG
UNITED OVERSEAS BANK LTD (LONDON BRANCH)	US BANCORP	US BANCORP INVESTMENTS INC
US BANK MUNICIPAL SECURITIES GROUP	VINING-SPARKS IBG LP	VIRTU AMERICAS LLC
VIRTU ITG EUROPE LIMITED	VIRTU ITG LLC	WALL STREET ACCESS LLC
WEDBUSH SECURITIES INC	WEEDEN & CO LP	WELLS FARGO CLEARING SERVICES LLC
WELLS FARGO SECURITIES INTERNATIONAL LTD	WELLS FARGO SECURITIES LLC	WESTPAC CAPITAL MARKETS LLC
WILLIAM BLAIR & COMPANY LLC	WILLIAMS CAPITAL GROUP LP (THE)	ZIONS BANCORPORATION



		NATIONAL ASSOCIATION
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Futures brokers

CITIGROUP GLOBAL MARKETS INC	GOLDMAN SACHS INTERNATIONAL	MERRILL LYNCH INTERNATIONAL
CITIGROUP GLOBAL MARKETS LIMITED	GOLDMAN SACHS JAPAN CO LTD	MERRILL LYNCH PIERCE FENNER & SMITH INC
CREDIT SUISSE SECURITIES (EUROPE) LTD	INVESTMENT TECHNOLOGY GROUP INC	NEWEDGE USA LLC
CREDIT SUISSE SECURITIES (USA) LLC	JP MORGAN SECURITIES LLC	UBS AG (LONDON BRANCH)
GOLDMAN SACHS & CO LLC	JP MORGAN SECURITIES PLC	UBS LTD
		UBS SECURITIES LLC

Foreign-exchange counterparties (including FX forwards)

BANK OF AMERICA NA	DEUTSCHE BANK AG	MORGAN STANLEY & CO INTERNATIONAL PLC
BANK OF MONTREAL	DEUTSCHE BANK AG (LONDON BRANCH)	MORGAN STANLEY CAPITAL SERVICES LLC
BANK OF NEW YORK MELLON (LONDON BRANCH)	DEUTSCHE BANK SECURITIES INC	MORGAN STANLEY MUFG SECURITIES CO LTD
BANK OF NEW YORK MELLON CORP/THE	DEUTSCHE BANK TRUST COMPANY AMERICAS	NATWEST MARKETS PLC
BARCLAYS BANK PLC	FIRST REPUBLIC BANK	NORDEA BANK ABP
BARCLAYS CAPITAL INC	GOLDMAN SACHS & CO LLC	NORDEA BANK DANMARK A/S
BNP PARIBAS (LONDON)	GOLDMAN SACHS BANK USA	NORTHERN TRUST COMPANY (THE)



BRANCH)		
BNP PARIBAS SA	GOLDMAN SACHS INTERNATIONAL	SOCIETE GENERALE SA
CITIBANK JAPAN LTD	GOLDMAN SACHS JAPAN CO LTD	STANDARD CHARTERED BANK
CITIBANK NA	HONGKONG AND SHANGHAI BANKING CORPORATION LTD	STATE STREET BANK AND TRUST COMPANY
CITIBANK NA (BANGKOK BRANCH)	HSBC BANK PLC	THE TORONTO-DOMINION BANK (LONDON BRANCH)
CITIBANK NA (INDIA BRANCH)	HSBC BANK USA NA	TORONTO-DOMINION BANK/THE
CITIBANK NA (LONDON BRANCH)	JP MORGAN CHASE BANK NA (LONDON BRANCH)	UBS AG
CREDIT SUISSE (HONG KONG) LTD	JPMORGAN CHASE BANK NA	UBS AG (HONG KONG BRANCH)
CREDIT SUISSE AG	JPMORGAN CHASE BANK NA (LONDON BRANCH)	UBS AG (LONDON BRANCH)
CREDIT SUISSE AG (LONDON BRANCH)	MERRILL LYNCH PIERCE FENNER & SMITH INC	UBS AG (STAMFORD BRANCH)
CREDIT SUISSE INTERNATIONAL	MITSUBISHI UFJ TRUST AND BANKING CORPORATION	UBS AG (TOKYO BRANCH)

Multilateral Trading Facilities for Foreign-exchange (including FX forwards)

FX All

FX Connect

Multilateral Trading Facilities for Fixed Income



OneBook



Tradeweb

MarketAxess

Bloomberg MTF