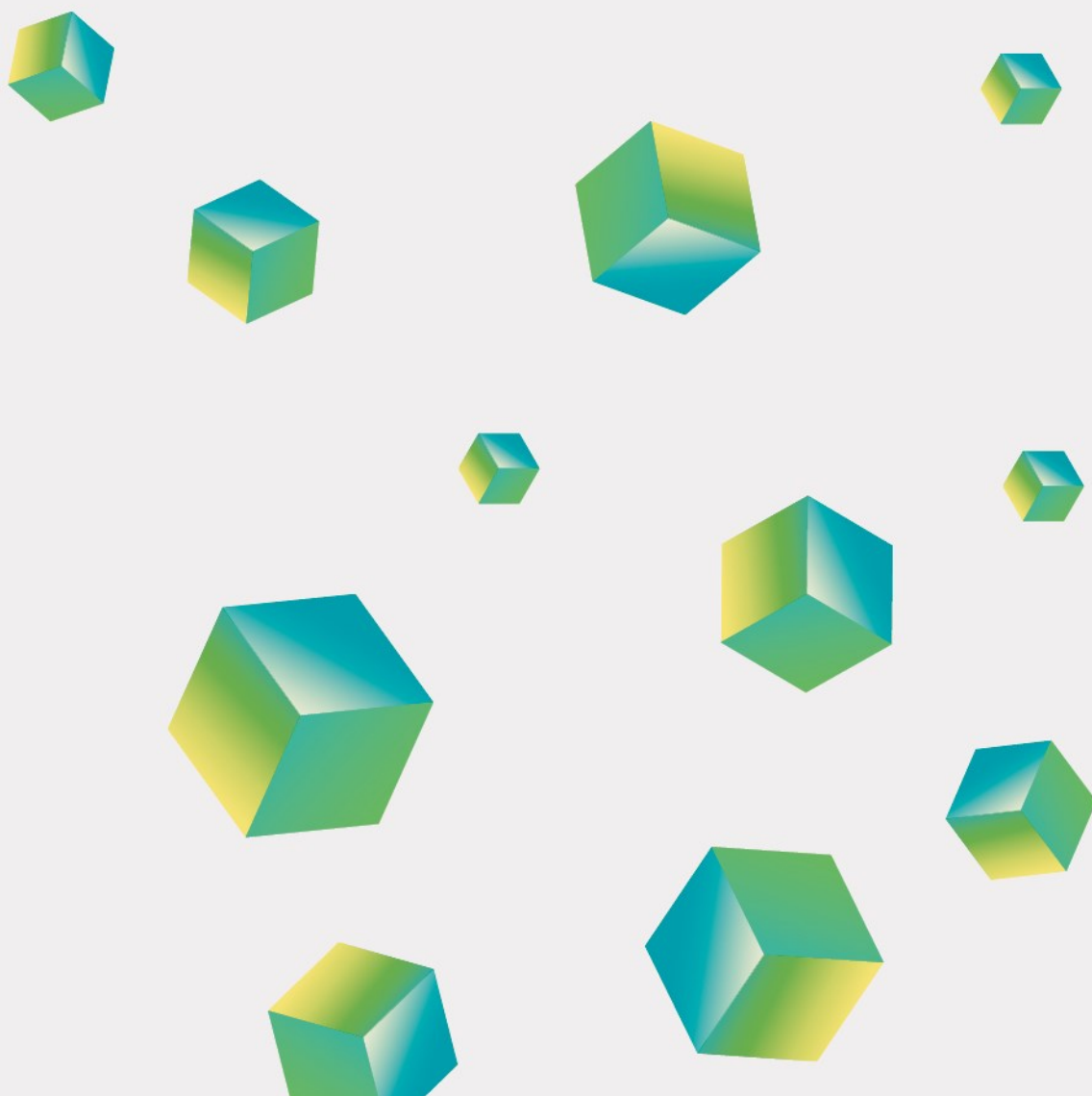


# BNP PARIBAS ASSET MANAGEMENT Holding SA Selection and Execution Policy



Selection and Execution Policy  
Novembre 2017



**BNP PARIBAS**  
**ASSET MANAGEMENT**

The asset manager  
for a changing  
world

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## 1. INTRODUCTION

### 1.1. PURPOSE OF THIS POLICY

This Selection and Execution Policy (“Policy”) describes the measures implemented by [BNP PARIBAS ASSET MANAGEMENT Belgium and affiliated<sup>1</sup> companies of BNP Paribas Asset Management Holding (“BNPP AM”) to ensure the best selection of intermediaries and the best execution of the transactions on behalf of the portfolios and mandates they manage.

### 1.2. REGULATORY AND INSTRUMENTS SCOPE

This Policy is drafted in accordance with the requirements of the European Directive 2014/65/UE (“MIFID II”) and covers all financial instruments described in the Annex I, Section C of MIFID II. In cases where local legislation or regulatory requirements are more stringent than MIFID II requirements, those local requirements shall prevail.

The Policy are owed to all our clients worldwide, professionals and non-professionals as defined by MIFID II, whether they are holders of an individual mandate or investors in a fund such as Units of Collective Investments in Transferable Securities (“UCITS”) Alternative Investment Funds (“AIF”) or any other legal structure. When BNPP AM has delegated investment management to an external regulated entity, the selection and execution policy of the delegate applies. In such circumstances, BNPP AM takes all sufficient steps to ensure that the service provided to its client is performed in accordance with the best interests of the client.

A three-step process has been defined accordingly:

- ▶ A process for selecting intermediaries (referred to as the “best selection Policy”),
- ▶ A process relating to transactions execution (referred to as the “best execution Policy”),
- ▶ A control framework monitoring the efficiency of this Policy either directly implemented or based on services provided by third parties.

## 2. INTERMEDIARIES SELECTION POLICY

### 2.1. GOVERNANCE TO SELECT EXECUTION INTERMEDIARIES

BNPP AM applies a formalised process for selecting execution intermediaries based on their ability to trade, from front to back, the various types of instruments. To avoid any misunderstanding, the term “broker” used herein applies to intermediaries executing delivery versus payment transactions whereas the term “counterparty” is only used for intermediaries executing OTC derivatives transactions, the reference to “intermediaries” being construed as encompassing both brokers and counterparties.

BNPP AM has defined a strict procedure whereby portfolio management teams, Compliance, Risks, Legal, Operations departments and BNP Paribas Dealing Services (“BNPP Dealing Services”), a subsidiary of BNPP AM negotiating for BNPP AM account the execution conditions of a large part of the transactions, participate to specific governance bodies:

- ▶ **Regional Broker Committees (RBC)** (EMEA, US, Asia) are held on a quarterly basis and recommend brokers to be included or removed from the approved list. Regional Broker Committees ensure the initial selection of brokers and the ongoing assessment of their performance.
- ▶ **A Global Counterparty Committee (GCC)** covering all regions. This committee gives the final arbitrage if no consensus is reached to select a broker during a RBC. The GCC also ensures the initial selection and ongoing monitoring of counterparties and reviews all elements of the risk/reward matrix to determine the appropriateness of each counterparty for inclusion in the approved list. Particular focus is given to the creditworthiness, operational efficiency, best execution capabilities and relationship value of the counterparty.

At any time Risk and Compliance departments have the authority to suspend any individual broker or counterparty with or without the Global Counterparty Committee approval.

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<sup>1</sup> Affiliated companies means any entity controlled, directly or indirectly, by BNP PARIBAS ASSET MANAGEMENT Holding; the control has the meaning ascribed in the article L 233-3 of the French Commercial code

## 2.2. CRITERIA TO ASSESS EXECUTION INTERMEDIARIES

The specific qualitative criteria to add an execution intermediary to the approved intermediaries list vary based on the asset class to be traded with or through the intermediary, but the overall approval process is applied in the same manner across all asset classes. Several criteria are taken into account to perform a global assessment of execution intermediaries' performance:

- ▶ A vote is organized at least once a year among portfolio managers who carry out a dealing activity to assess and rank execution intermediaries they work with.
- ▶ The dealing activity is also partly carried out by BNPP Dealing Services for the account of BNPP AM. In this context, a monitoring of execution quality is performed by BNPP Dealing Services through, inter alia, a specific vote from dealers based on quality criteria agreed with BNPP AM.
- ▶ An oversight of the quality of transactions processing, including settlement, by brokers and counterparties is ensured by BNPP AM
- ▶ In addition, a regular control of execution intermediaries' reliability is also performed on indicators relating to their good standing and reputation (registration, financial situation, sanctions from regulators, scan against international sanctions lists...).

## 2.3. ADDITIONAL CRITERIA TO ASSESS EXECUTION COUNTERPARTIES

Regarding counterparties approved to execute OTC derivatives, additional criteria are scrutinized by the Legal and Risk teams:

- ▶ The Legal team ensures that the contractual relationship between the counterparty and BNPP AM is documented under a relevant market agreement, which in most cases is an ISDA and Collateral Support Annex (CSA) but maybe another national standard market agreement if conditions are met.
- ▶ The Credit risk team monitors funds regulatory ratios (e.g. concentration and diversification) and counterparty exposures at fund, mandate and global levels. The Risk team is supported by Compliance who controls more specifically the proper use of authorised counterparties on a transaction per transaction basis.

## 2.4. INDEPENDENCE OF RESEARCH SERVICES AND EXECUTION SERVICES PROVIDED BY INTERMEDIARIES

BNPP AM applies a specific process for selecting providers of research services and investment support. The application of criteria of selection of research providers which are distinct from those applied for selecting execution intermediaries does not however preclude BNPP AM to select certain intermediaries both for execution and research services.

As a key principle of this Policy, the cost of external research is distinguished and independent from the cost of executing a trade. These costs can be either:

- ▶ Collected from the portfolio by the execution intermediary at the moment of settlement of a transaction pursuant to a commission sharing agreement, it being understood that the research commission will be distinct from the execution commission. The amounts so collected will be used by BNPP AM to pay research material relevant to the considered portfolio to the various research providers according to the pre-defined budget of research.
- ▶ Paid directly by BNPP AM on its own resources

### 3. EXECUTION POLICY

#### 3.1. ORGANISATION OF THE EXECUTION FUNCTION WITHIN BNPP AM

BNPP AM applies whenever possible the principle of segregation of functions between the order instruction and the order execution. As a consequence, BNPP AM uses its best effort to ensure that transactions are handled through a dealing desk separate from the investment management team.

BNPP AM has therefore implemented three execution setups:

- ▶ For most transactions, BNPP AM has entered into a service provision agreement covering the dealing function with BNPP Dealing Services pursuant to which the services of reception and transmission of orders and execution of orders for third parties are provided under BNPP Dealing Services' selection and execution policy, which is fully consistent with BNPP AM Policy. BNPP Dealing Services, a full subsidiary of BNP Paribas Asset Management holding, is an investment firm whose head office is located in France, duly authorised by the French Financial Authorities (AMF and ACPR) and the other relevant regulators in the countries where it is established (currently the FCA in the United Kingdom and the SFC in Hong Kong). When dealing with clients under an advice and execution contract, orders are transmitted through BNPP Fortis rather than BNPP Dealing Services. Orders for clients under a "non-discretionary management" contract are transmitted through BNPP Dealing Services.
- ▶ If it is not possible to transmit the order to BNPP Dealing Services for execution (because of the type of underlying financial instrument, specific regulatory or client constraints...), BNPP AM shall directly ensure the negotiation of the conditions of execution of such order. In those cases, BNPP AM shall use its best effort to ensure that transactions are handled through a dealing desk separate from the investment management team.
- ▶ If none of the two above organisational structures can be implemented for specific and exceptional reasons and subject to validation by BNPP AM management and Compliance officer, the negotiation of the conditions of execution with approved intermediaries may be directly handled by the portfolio investment manager for a number of transactions.

#### 3.2. EXECUTION VENUES

BNPP AM is not a market member and therefore does not execute orders on any trading venues defined by MIFID II (encompassing Regulated Markets, Multilateral Trading Facilities, Organised Trading Facilities). As a consequence, to achieve best execution, BNPP AM may only transmit orders for execution; directly or through BNPP Dealing Services, to an intermediary previously approved according to Section 2 of this Policy. BNPP AM allows its execution intermediaries as well as BNPP Dealing Services to operate on different execution venues, based in the European Economic Area or not, which include:

- ▶ Trading venues: Regulated Markets (RM), Multilateral Trading Facilities (MTF), Organised Trading Facilities (OTF);
- ▶ Systematic Internalisers (principal traders and market makers);
- ▶ Over-the-counter (OTC) markets;
- ▶ Other counterparties acting as liquidity providers.

The complete list of execution venues is available in Appendix 2.

### 3.3. SELECTION OF AN EXECUTION INTERMEDIARY WITHIN THE APPROVED LIST

BNPP AM shall seek the most favourable conditions of execution and the best possible outcome for the client in accordance with this Policy. To do so, BNPP AM, and BNPP Dealing Services when relevant, can access to a variety of execution intermediaries and methods. This allows efficient dealing arrangements for a wide variety of trading circumstances that may reduce transaction costs, mitigate operational risk resulting in a lower chance of error or execution issues as well as accelerate trades execution to take advantage of short lived market opportunities.

BNPP Dealing Service or BNPP AM, as the case may be, selects the execution intermediary by applying the following criteria, hierarchically ranked:

- ▶ Selection among the approved list of execution intermediaries established by BNPP AM as described in Section 2.
- ▶ Ability of the execution intermediary to execute the order in accordance with the BNPP AM execution Policy.
- ▶ Application of client's specific requirements as follows:
  - A client giving a discretionary mandate to BNPP AM is entitled to communicate specific instructions (like using a specific intermediary) even if such instructions differ from the provisions of BNPP AM Policy. BNPP AM will comply with those instructions but will not be responsible for applying the principles of best execution for the criteria impacted by these instructions.
  - A client giving a discretionary mandate to BNPP AM is entitled to communicate a ranked list of approved execution intermediaries with objectives in terms of allocations of volumes or participation to requests for quotes: the selection of the execution intermediary will occur depending on the distance from the targets as a subsidiary criterion that will apply to differentiate execution intermediaries offering the similar execution conditions

### 3.4. DESCRIPTION OF THE BEST EXECUTION CRITERIA

For each order type, BNPP AM ranks the 7 factors outlined in MIFID II Delegated Acts C(2016) 2398 (Recitals 101, 107 and Article 66):

- ▶ Price
- ▶ Cost
- ▶ Speed
- ▶ Likelihood of execution and settlement
- ▶ Size
- ▶ Nature
- ▶ Other criteria
- ▶ Other qualitative criteria

While price, speed and size are generally the most important execution factors to be taken into account, the relative importance of each criterion depends on the financial instrument and the order type. BNPP AM has chosen to rank the execution factors to allow a more accurate assessment.

According to the BNPP AM Policy, the price is the overall dominant best execution factor. In appendix 1 are the details of Best Execution criteria for each asset class, depending on the order type relevant for the considered asset class:

- ▶ For Equities, the speed of execution is also an important criterion as some orders need to be filled in the shortest possible time to avoid a possible adverse impact on the price due to volatile market conditions (market order for instance). For example a portfolio manager may want to buy a share following good earnings announcement. In this situation, the portfolio manager would aim at executing its order quickly in order to capture as much as possible of the anticipated upside move.
- ▶ In Fixed Income the likelihood of execution plays an important role as in some cases the order represents a significant portion of the market size. In the case where all portfolios have to be rebalanced simultaneously, it is paramount to execute the full quantity to ensure all portfolios have the same market exposure following the rebalancing exercise.

- ▶ Regarding OTC derivatives, other criteria such as counterparty risk, liquidity, ability to structure complex product are also taken into account. With respect to the price criterion, the request for quotes is likely to identify the best available price. It is however worth noting that in some parts of the OTC market, it is not unlikely or unadapted to ask and/or obtain a single quote, in particular in case of illiquid, customised or complex products. A record of the quotes obtained through the request for quotes is kept.

As highlighted in Article 27 of MIFID II and irrespective of the criteria described above, the dominant best execution criterion for non-professional BNPP AM clients is the total cost of acquisition or disposal.

The above criteria are applicable to any execution, whether performed by an intermediary or by BNPP Dealing Services or BNPP Fortis.

### 3.5. SPECIFIC SITUATIONS

#### SIZE OF THE ORDER

Where the size of the order is above normal market size, the dealer or the portfolio Manager in charge of negotiating the conditions of execution shall have the following approach:

- ▶ The optimal way to achieve best execution may be to request a price from a single counterparty and manage execution accordingly, even if such execution price is inferior to the price referred to in other market indications of interest.
- ▶ Alternatively, quotes may be asked without specifying the trade's size for price discovery. Based on the results, negotiations with counterparties offering the best prices can then be opened. The records of the counterparties, quotes and trade sizes are kept.

The dealer seeks to trade with counterparties that have historically offered the best terms for these types of transactions. In some cases, the dealer can base the choice on the ability of the counterparty to manage the impact of the order on the market, as a higher priority with respect to the costs of the transaction.

#### LESS LIQUID PRODUCTS

For financial instrument with limited market and/or limited liquidity and/or limited price transparency, the execution criteria ranking may change, speed or likelihood of execution becoming the dominant criterion.

#### ABNORMAL MARKET CONDITIONS AND FORCE MAJEURE

In the case of severe market turbulence, the ability to execute the order on a timely basis, or simply to execute it, will become the primary factor.

In case of major difficulty in the order execution such as a case of internal or external system failure assimilated to a force majeure event, BNPP AM might not be able to execute the order in accordance with this Policy. In these particular cases, each time it is reasonably possible, BNPP AM would activate its back-up solutions in accordance with its internal procedures.

#### AGGREGATION OF ORDERS

Except in cases where client restrictions which prevent aggregation of orders are in force, BNPP AM will be entitled to aggregate orders where it is unlikely that aggregation will trigger an overall disadvantage for any client whose orders is to be aggregated. However the effect of aggregation may be detrimental to a client if a particular order is considered.

#### INTERNAL CROSSING

Where clients use the same custodian and where appropriate, BNPP AM may take advantage of crossing opportunities, where permitted by the client and/or local regulation. Care is taken to ensure that both sides of the trade benefit from lower than standard or no commission and a fair price to all parties. Internal crossing is subject to local Compliance approval and oversight.

#### PRIMARY AND SECONDARY PLACEMENT

Allocation of primary and secondary placement must be fair according to regulatory rules and principles, and the BNPP AM allocation Policy. Compliance is actively involved in the oversight and monitoring of the primary and secondary placement allocation process

Indeed, pursuit of primary and secondary placement allocations may trigger potential conflicts of interests, such as placing business with particular brokers in the expectation that BNPP AM will receive favourable allocations in future issues. Therefore, BNPP AM has used its best efforts to prevent such considerations from influencing its trading strategy:

- ▶ For US clients and for clients with any delegation of dealing to a US entity, trading primary and secondary placement through affiliate companies is not possible.
- ▶ Fund managers are required to obtain and complete the offering document ensuring that the allocation for the clients is determined in advance.
- ▶ Fund managers are not allowed to place speculative primary and secondary placement orders that would breach the investment guidelines if the whole application were granted.

### TRADING LIMITS MANAGEMENT FOR OTC DERIVATIVES

The dealer or the portfolio manager may not be authorized to select the counterpart offering the best price or value for a given order should the trading limits for a given fund or mandate be insufficient to validate the transaction.

### SECURITIES LENDING

Regarding securities lending, BNPP AM may use a limited number of counterparties including BNP Paribas Securities Services acting either as principal or as agent in front of approved counterparties to benefit from a size effect on the market.

### 3.6. CONFLICTS OF INTERESTS MITIGATION

The portfolio management systems of BNPP AM require that transactions created by portfolio managers are allocated on a pre-trade basis. The tools used by BNPP AM record the time of creation, transmission and execution of orders.

BNPP AM trade allocation policy requires executed transactions to be allocated fairly among portfolios. Where orders are partially filled, allocations are made on a pro-rata basis, unless there are valid reasons not to, for example if the application of a pro-rata basis results in an uneconomic allocation. In these cases, the final methodology of allocation and the rationale for it must be recorded, and these allocations are subject to Compliance review (if not subject to agreed automated methodology).

Where authorised by regulations, BNPP AM and BNPP Dealing Services may deal with affiliates of BNP Paribas or through an exchange where an affiliate has a membership. BNPP AM will ensure it reports transactions with affiliate companies upon client's request and if necessary under the rules regarding potential conflicts of interest.

The employees of BNPP AM are not allowed to give or accept any gift or entertainment exceeding €250 without receiving the prior approval of the Compliance department. This process is strictly controlled.



## 4. CONTROL FRAMEWORK OF THE POLICY APPLICATION

### 4.1. OBJECTIVES OF THE EXECUTION CONTROL FRAMEWORK

BNPP AM implements an ongoing monitoring of the effective application of this Policy and makes sure it gives the necessary guidelines to act in the clients' best interests. Execution control covers all transactions initiated by BNPP AM whether execution is negotiated by BNPP Dealing Services, a BNPP AM dealing desk or directly by a BNPP AM portfolio manager.

The objectives of the execution control framework are the following:

- ▶ Making sure that this selection and execution Policy is applied,
- ▶ Promptly correcting observed failure,
- ▶ Facilitating the annual review of the Policy, and anticipating a review of this Policy if there is a significant change likely to have an impact on the ability to obtain the best possible result for the client.

### 4.2. SCOPE OF RESPONSIBILITIES

MiFID II requires that BNPP AM controls on a regular basis the effective application of the Policy. Each transaction is not required to be checked but some controls have to be conducted on transactions on a sampling basis. Compliance department is responsible for:

- ▶ Making sure the execution Policy scope and content are correctly defined and cover all aspects of the various order types. Consequently, Compliance department analyses the application of execution criteria, and when relevant, liaises with portfolio management teams, before eventually referring to the senior management.
- ▶ Implementing its own best execution controls to measure the quality of the results and compare them to the guidelines defined by the Policy. To do so, a range of data is used to monitor execution quality including transaction costs analysis benchmarks and other market data. Qualitative monitoring is also carried out such as controls regarding timely execution or fairness of allocation.

Although Compliance is in charge of best execution oversight, portfolio management teams have to carry out day to day monitoring on the quality of execution (first level set of controls). They are aware of execution criteria, and are expected to send any comment that they find appropriate on a regular basis to their management and to Compliance department. Their comments are part of the elements used for the annual review of BNPP AM execution Policy.

In compliance with regulation, BNPP AM keeps evidences of the Policy application, including controls, relating to each executed order and can communicate them to the clients on request.

## 5. POLICY REVIEW

### 5.1. FREQUENCY OF REVIEW

In the absence of any internal or external major event requiring an earlier update, the Policy is reviewed at least annually.

### 5.2. RESPONSIBILITY AND TERMS OF REVIEW

The definition of the selection and execution principles included in this Policy is primarily the portfolio management company's responsibility. The Compliance department is in charge of issuing and updating the procedure. During the review, the Policy principles or its detailed terms (execution criteria, control framework) should be confirmed or modified.

Hereunder are some non-limitative examples of situations which would trigger an anticipated review of the Policy:

- ▶ Reporting of major gaps compared to initial objectives, during controls made by portfolio management teams or Compliance department or highlighted in the yearly report from the Global Head of Compliance or Compliance Head of Market Integrity.
- ▶ Occurrence of the following events:
  - New principles or processes for selecting execution intermediaries,
  - New investments process among BNPP AM,
  - New financial instruments among the investment universe.

The review is conducted during a formal meeting gathering at least, under the chairmanship of the Chief Investment Officer or representative, senior portfolio managers, the Head of Compliance, and BNPP Dealing Services representative.

### 5.3. COMMUNICATION OF UPDATES

In case of significant changes in the Policy, clients must be informed.

Each time the Policy is modified, a new version is published on the website of BNPP AM entities covered by the Policy and is therefore considered as applicable.

Regarding discretionary portfolio management services provided to institutional clients, this Policy deems to be an integral part of the contractual framework with BNPP AM. So, BNPP AM should get client's consent on the possibility to execute orders outside of a trading venue. Any specific instruction linked to the execution of the transactions that would diverge from or complement this Policy should be recorded.

## Appendix 1 – Detailed Execution criteria

Asset Class*	Instrument	Order Type	# 1 Price	# 2 Cost	# 3 Speed	# 4 Likely.	# 5 Size	# 6 Nature	# 7 Other	
Equity Shares & Depository Receipt	Cash Equity	Market	2	2	1	N/A	N/A	N/A	Expression of Interest (CAMGestion)	
		Care	1	N/A	N/A	4	2	3		
		VWAP Like	1	N/A	N/A	3	N/A	2		
		Close/Open Guaranteed	2	5	N/A	3	1	3		
Debt Instruments	Govies	Primary/Secondary Placement	1	N/A	N/A	3	2	N/A		
		Market	2	N/A	1	3	4	N/A		
		Care	1	N/A	3	2	4	N/A		
		Close/Open Guaranteed	N/A	N/A	N/A	1	3	2		
		Target Open/Close	1	2	N/A	N/A	4	2		
	Convertible	Care	1	N/A	N/A	N/A	2	N/A		
		Market	2	N/A	1	3	4	N/A		
	Corporate Bonds	Care	1	N/A	3	2	4	N/A		
		Close/Open Guaranteed	N/A	N/A	N/A	1	3	2		
		Primary/Secondary Placement	3	N/A	3	2	1	5		
		Target Open/Close	1	2	N/A	N/A	4	2		
	Money Market	Placement	3	N/A	2	N/A	1	N/A		
	Repo	To be assessed								To be assessed
	IRS	Clearable	Care	1	N/A	N/A	N/A	N/A		N/A
Non Clearable		Care	1	N/A	N/A	N/A	N/A	N/A	RFQ	
CDS	Clearable	Care	1	N/A	N/A	N/A	N/A	N/A	RFQ	
	Non Clearable	Care	1	N/A	N/A	N/A	N/A	N/A	RFQ	
Currency Derivatives	Cash FX derivatives FX Swap	Limit Orders, Fixing, Market, Care, Target Close/Open, VWAP Like	1	N/A	2	4	3	N/A		
Structured Finance Instruments	Complex Swaps	Care (THEAM)	1	N/A	N/A	N/A	N/A	N/A	2 - Innovation 3 - Exposition 4 - Maturity	
		Care (Instit. BL)	4	N/A	N/A	N/A	N/A	N/A	1 - Outstanding exposure 2 - Cpty positionned for trading 3 - Internal rating	
Equity Derivatives	Futures	Market	1	N/A	N/A	4	2	3		
	Listed Options	Market	1	N/A	N/A	4	2	3		
	OTC	Care	1	N/A	N/A	N/A	N/A	N/A	RFQ	
Securitized Derivatives	CDO/CLO	N/A					N/A			
Commodities	Derivatives	N/A					N/A			
CFD	CFD	N/A					N/A			
Emission allowances	CO2 certificates	N/A					N/A			
Other instruments	SLAB	N/A					N/A			

\* Classification as defined in ESMA Final Report (Sept. 2015)

<b>Appendix 2 – List of execution venues</b>
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ABU DHABI SECURITIES MARKET	CHI-X AUSTRALIA
AEQUITAS NEO EXCHANGE	CHI-X AUSTRALIA MID-POINT VENUE
ALPHA EXCHANGE	CHI-X CANADA ATS
ALPHA Y	CHI-X EUROPE
ALTERNATIVE EXCHANGE	CHI-X JAPAN
AMERICAN STOCK EXCHANGE	CINNOBER BOAT
AQUIS EXCHANGE	CITADEL DARK
ARCA DARK	CITADEL SECURITIES ATS
ASX - CENTER POINT	CITI CROSS
ASX OPERATIONS PTY LIMITED	CITI DARK
ATHENS STOCK EXCHANGE	CITI LIQUIFI
AUTOBAHN FX	CITI MATCH
AUTOMATED TRADING DESK FINANCIAL SERVICES, LLC	CITI MATCH
BARCLAYS ATS	CITI MATCH
BARCLAYS LIQUID MARKETS	CITI MATCH
BATS CHI-X EUROPE - CXE DARK ORDER BOOK	CITIGROUP GLOBAL MARKETS
BATS CHI-X EUROPE ¿ BATS OFF-BOOK	COPENHAGEN STOCK EXCHANGE
BATS CHI-X EUROPE -BXE DARK ORDER BOOK	CREDIT SUISSE (EUROPE)
BATS EXCHANGE	CREDIT SUISSE (US)
BATS TRADING EUROPE	CREDIT SUISSE AES CROSSFINDER
BATS Y-EXCHANGE, INC.	CREDIT SUISSE AES CROSSFINDER EUROPE
BATS Z-EXCHANGE DARK	CREDIT SUISSE LIGHT POOL
BERNSTEIN CROSS (BERN-X)	CX2
BIDS TRADING L.P.	DAIWA DRECT
BLINK MTF	DEUTSCHE BANK - CENTRAL RISK BOOK
BLOCKCROSS ATS	DEUTSCHE BANK - CLOSE CROSS
BLOCKMATCH	DEUTSCHE BANK - SUPERX EU
BLOOMBERG TRADEBOOK LLC	DEUTSCHE BANK DARK POOL
BOERSE BERLIN EQUIDUCT TRADING	DEUTSCHE BANK INTERNALISATION
BOERSE BERLIN EQUIDUCT TRADING - BERLIN SECOND REGULATED MARKET	DEUTSCHE BOERSE AG
BOERSE BERLIN EQUIDUCT TRADING - FREIVERKEHR	DIRECT EDGE A DARK
BOERSE BERLIN EQUIDUCT TRADING - REGULIERTER MARKT	DIRECT EDGE X DARK
BOERSE MUENCHEN	DUBAI FINANCIAL MARKET
BOERSE ZU STUTTGART	EDGA EXCHANGE
BOLSA DE MADRID	EDGX EXCHANGE
BOLSA DE VALORES DE COLOMBIA	ESSEX RADEZ, LLC
BOLSA DE VALORES DE LIMA	EUREX DEUTSCHLAND
BOLSA DE VALORES DE SAO PAULO	EURONEXT AMSTERDAM
BOLSA MEXICANA DE VALORES	EURONEXT BRUSSELS
BOMBAY	EURONEXT LIFFE
BORSA ITALIANA S.P.A.	EURONEXT LISBOA
BOSTON STOCK EXCHANGE	EURONEXT PARIS MONEP
BOURSE DE MONTREAL (OPTIONS)	EURONEXT PARIS S.A.
BUDAPEST STOCK EXCHANGE	EXANE / CROSS AGAINST EXANE ENGINE
BURGUNDY NORDIC MTF	EXANE / CROSS AGAINST EXANE SOR ENGINE
BURSA MALAYSIA	EXANE / CROSS AGAINST EXANE VWAP ENGINE
CAIRO ET ALEXANDRIA STOCK EXCH	FIDELITY CROSSSTREAM
CHICAGO BOARD OF TRADE	FIDELITY CROSSSTREAM - ATS
CHICAGO MERCANTILE EXCHANGE	FINRA/NASDAQ TRF(TRADE REPORTING FACILITY)
CHICAGO STOCK EXCHANGE, INC	FIRST NORTH STOCKHOLM
	GOLDMAN SACH MTF
	GRETAI SECURITIES MARKET

GRUPPE DEUTSCHE BOERSE	NAIROBI STOCK EXCHANGE
HANSEATISCHE WERTPAPIERBOERSE HAMBURG	NAMIBIAN STOCK EXCHANGE
HSBC-X UNITED KINGDOM	NASDAQ
ICE Futures Europe Financial Products	NASDAQ CAPITAL MARKET
IEX MARKET	NASDAQ DUBAI
INDONESIA STOCK EXCHANGE	NASDAQ OMX BX
INSTINET	NASDAQ OMX BX DARK
INSTINET BLX	NASDAQ OMX PSX
INSTINET CANADA CROSS	NASDAQ Sm-Cp
INSTINET CBX (US)	NASDAQ/NGS (GLOBAL SELECT MARKET)
INSTINET IDX	NATIONAL FINANCIAL SERVICES, LLC
INSTINET PACIFIC LTD	NATIONAL STOCK EXCH OF INDIA
INSTINET VWAP CROSS	NATIONAL STOCK EXCHANGE
INTERCONTINENTAL EXCHANGE	NEW YORK STOCK EXCHANGE, INC.
IRISH STOCK EXCHANGE	NEW ZEALAND STOCK EXCHANGE
ISTANBUL STOCK EXCHANGE	NSDQ DARK
ITG - POSIT	NX JAPAN
JAKARTA NEGOTIATED BOARD	NYSE ARCA
JAKARTA STOCK EXCHANGE	NYSE DARK
JANE STREET EXECUTION SERVICES LLC	NYSE EURONEXT - ALTERNEXT PARIS
JASDAQ SECURITIES EXCHANGE	NYSE EURONEXT - MARCHE LIBRE PARIS
JPMX	OFF MARKET
JSE SECURITIES EXCHANGE	OM STOCKHOLM EXCHANGE
KCG AMERICAS LLC	OMEGA ATS
KNIGHT	OSAKA SECURITIES EXCHANGE
KNIGHT CAPITAL MARKETS LLC	OSLO AXESS
KNIGHT EQUITY MARKETS LP	OSLO BORS
KNIGHT LINK	OTC US OTHER MARKETS
KNIGHT MATCH ATS	OTC PINK CURRENT
KOREA STOCK EXCHANGE	OTHER OTC
KOSDAQ	PDQ ATS
LAVAFLOW ECN	PDQ ATS DARK
LEVEL ATS	PHILADELPHIA STOCK EXCHANGE
LIQUIDNET H20	PHILIPPINE STOCK EXCHANGE
LIQUIDNET SYSTEMS	POSIT
LIQUIDNET, INC.	POSIT - ASIA PACIFIC
LIQUIDNET, INC. H20 ATS	POTAMUS TRADING LLC
LONDON STOCK EXCHANGE, THE	PRAGUE SPAD
LUXEMBOURG STOCK EXCHANGE	PURE TRADING
LYNX ATS	QATAR EXCHANGE
MACQUARIE INTERNAL MARKETS	RBC EUROPE LIMITED
MARCHE CONTINU ITALIEN	RIVERCROSS DARK
MATCH NOW	SANTIAGO STOCK EXCHANGE
MERCATO CONTINUO ESPANOL	SBI JAPANNEXT-J-MARKET
MILLENNIUM	SE OF THAILAND FOREIGN BOARD
MIZUHO INTERNAL CROSSING	SEB - LIQUIDITY POOL
MOC CROSS	SHANGHAI STOCK EXCHANGE
MORGAN STANLEY AND CO. LLC	SHANGHAI STOCK EXCHANGE - SHANGHAI -
MOSCOW EXCHANGE	HONG KONG STOCK CONNECT
MOSCOW EXCHANGE-DERIVATIVES AND	SHENZHEN NORTHBOUND
CLASSICA MARKET	SHENZHEN STOCK EXCHANGE
MS ATS-6	SIGMA X AUSTRALIA
MS POOL ATS	SIGMA X JAPAN
MS TRAJECTORY CROSSING (ATS-1)	SIGMA X MTF
MS TRAJECTORY CROSSING ATS	SINGAPORE EXCHANGE
NAGOYA STOCK EXCHANGE	SINGAPORE EXCHANGE DERIVATIVES TRADING

SMARTPOOL  
STOCK EXCHANGE OF HONG KONG  
STOCK EXCHANGE OF THAILAND  
SWISS EXCHANGE  
TAIWAN STOCK EXCHANGE  
TEL AVIV STOCK EXCHANGE  
THE HELSINKI STOCK EXCHANGE  
THIRD MARKET CORPORATION  
TMX SELECT  
TOKYO STOCK EXCHANGE  
TOKYO STOCK EXCHANGE - TOSTNET-1  
TORONTO STOCK EXCHANGE  
TSX VENTURE EXCHANGE  
TURQUOISE  
TURQUOISE DARK

TWO SIGMA SECURITIES, LLC  
UBS ATS  
UBS CROSS  
UBS MTF  
UBS PIN (UBS PRICE IMPROVEMENT NETWORK)  
VIETNAM STOCK EXCHANGE  
VIRT-X  
VORTEX  
WARSAW STOCK EXCHANGE  
WIENER BOERSE AG  
WIENER BOERSE AG AMTLICHER HANDEL  
(OFFICIAL MARKET)  
WIENER BOERSE AG, WERTPAPIERBOERSE  
(SECURITIES EXCHANGE)  
XETRA - REGULIERTER MARKT



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