J.P. MORGAN EMEA FIXED INCOME, CURRENCY, COMMODITIES AND OTC EQUITY DERIVATIVES: EXECUTION POLICY

APPENDIX 5

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1. Introduction

This document sets out the J.P. Morgan EMEA entities wholesale markets businesses' approach to Best Execution when handling transactions in Fixed Income, Currency, Commodities and OTC Equity Derivatives (together **Quote Driven Market Instruments**), unless expressly indicated otherwise. Quote Driven Market Instruments do not include (i) cash equities, exchange traded funds or similar securities or (ii) listed derivatives traded on an agency basis.

This document is an Appendix to the J.P. Morgan Execution Policy (the **Overarching Execution Policy**), which is available here. This Appendix should be read together with the Overarching Execution Policy.

All definitions used in this Appendix shall have the meaning given in the Overarching Execution Policy unless expressly indicated otherwise. We use certain industry terms marked in italics. Where we do not immediately explain them, please refer to the glossary at Annex A to this Appendix.

Further Information

In producing the Overarching Execution Policy and this Appendix, we have provided information we believe to be appropriate to facilitate you making an informed decision regarding our execution practices. For clients or prospective clients who would like to understand in further detail the way in which we will usually handle a range of typical orders, please contact your usual J.P. Morgan sales representative.

We would also draw your attention to the disclosure made to wholesale fixed income, currency, commodities and equities products clients at the following website: https://www.jpmorgan.com/global/disclosures/ficcequities (the **Disclosure**).

The Disclosure supplements this Appendix; to the extent that there is any conflict between the terms of this Appendix and the Disclosure, this Appendix shall prevail.

In addition to any obligations it may have as regards provision of Best Execution, J.P. Morgan must pay due regard to the interests of its clients and treat them fairly.

2. Scope

Nature of the client interaction

As outlined in the Overarching Execution Policy, Best Execution applies where a client places legitimate reliance on J.P. Morgan. J.P. Morgan's wholesale markets businesses predominantly act in a principal capacity and operate on a Request for Quote (**RFQ**) basis i.e. the client ultimately decides whether to proceed with a transaction on the basis of a firm risk price provided by J.P. Morgan, which the client may accept or reject.

Application of the Four Fold Test

By applying the European Commission's Four Fold Test, J.P. Morgan has concluded that generally in relation to Quote Driven Market Instruments, clients do not place legitimate reliance on the firm, and the firm is not acting 'on behalf of the client' when transacting, therefore the Best Execution obligation is not applicable. Nevertheless, J.P. Morgan recognises that the scope of applicability of Best Execution has the potential to change, and the firm will periodically reassess that its conclusion remains valid.

For the avoidance of doubt, J.P. Morgan has determined that clients do not place legitimate reliance in circumstances including but not limited to:

- (i) where the client accepts a firm risk price provided by J.P. Morgan further to an RFQ or other expression or indication of interest that may lead to the execution of a transaction; or
- (ii) where the client approaches J.P. Morgan with a request or indication of interest to trade (providing details as to direction, size, level and/or any other relevant instruction), and when J.P. Morgan is willing and able to trade within those parameters, the client is contacted to confirm agreement to the transaction, and only at that time will a transaction be executed between J.P. Morgan the firm and the client (call-backs); or
- (iii) where the client requests to trade on a streamed price (including Requests for Stream or **RFS**) or accepts a firm risk price displayed on our electronic platforms

Whilst Best Execution does not generally apply when dealing in Quote Driven Market Instruments with you, J.P. Morgan has identified limited types of transactions where the Four Fold Test cannot be definitively deemed to be satisfied. In these circumstances, we will construe the Four Fold Test in view of the client's sophistication to determine whether clients are legitimately placing reliance on J.P. Morgan to achieve Best Execution. The types of transactions where this may be the case include:

- (i) Sale, re-structures or unwinds of certain structured products where J.P. Morgan is not able to determine whether a client has the ability to obtain alternative quotes from other dealers and/or which do not reference observable external prices or benchmarks (together Relevant Structured Products); and
- (ii) Debt securities where J.P. Morgan is not able to observe external prices and is not able to determine whether a client has the ability to obtain alternative quotes from other dealers (together **Relevant Debt Securities**). Relevant Debt Securities include (but are not limited to) debt securities issued by certain smaller sized corporate issuers or denominated in certain emerging market local currencies.

We have also identified circumstances when Best Execution is applicable to some Quote Driven Market Instruments relating to derivatives that are traded over the counter (**OTC**). These circumstances include:

- (iii) OTC Equity Derivatives where we consider you may place legitimate reliance upon J.P. Morgan in respect of the determination of the price.
- (iv) OTC FX Derivatives and Commodity Derivative leave orders that are electronically executed (i.e. E-Commerce transactions) and where we consider you may place legitimate reliance upon J.P. Morgan to achieve Best Execution.

(v) OTC FX derivative orders which are being executed through the FX Services Desk where the client is not active at the point of execution and FX Services determine certain aspects of the order execution.

Please refer to Sections 3, 4, 5, 6 and 7 for additional information on J.P. Morgan's approach to Best Execution in respect of Relevant Structured Products, Relevant Debt Securities, OTC Equity Derivatives, E-Commerce transactions in FX & Commodities and FX Services.

Limited scope or applicability

As outlined in the Overarching Execution Policy, the scope of Best Execution applies to dealings in Financial Instruments. Furthermore, where we execute an order in accordance with your specific instructions, J.P. Morgan will satisfy its obligation of Best Execution in respect of the part or aspect of the order to which the instruction relates. As such, J.P. Morgan's Best Execution obligation is either (i) satisfied or (ii) does not apply or has limited scope in the following specific circumstances:

- (i) Spot transactions in Foreign Exchange (FX) and commodities: are not regarded as Financial Instruments and therefore Best Execution does not apply to such transactions.
- (ii) Reference price or benchmark transactions: where we accept an instruction to provide you with a price using an external reference or benchmark price, depending on the context of the transaction we may either (i) conclude that we have satisfied our Best Execution obligation or (ii) conclude that clients do not place legitimate reliance on J.P. Morgan and J.P. Morgan is not acting 'on behalf of the client'. In fixed income markets these are handled in line with the FICC Markets Standards Board Reference Price Transaction standard.

However, whilst spot FX is not a Financial Instrument, so far as is reasonably possible, J.P. Morgan will seek to apply similar Best Execution standards to certain electronically executed transactions (**E-Commerce transactions**) in respect of spot FX algorithmic orders which allow access to internal and external sources of liquidity¹.

Please refer to Section 6 for additional information on J.P. Morgan's approach to Best Execution in respect of E-Commerce transactions in FX & Commodities.

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Spot FX algorithmic order types which allow electronic execution against internal and external sources of liqudity include but are not limited to TWAP+, Panther, Sliceberg, Aggregator and Float.

3. Relevant Structured Products

Structured products are largely customised in order to meet client specific requirements. Pricing for structured products is therefore generally derived as a result of bilateral negotiations between J.P. Morgan and the client. It is expected that Best Execution will only apply in limited circumstances to structured products.

Where J.P. Morgan is willing and able to enter into negotiations with a client seeking to sell, restructure or unwind a Relevant Structured Product, this will typically be with clients whom the firm considers do not place reliance on the firm to provide Best Execution.

In order to help determine whether a client is legitimately relying on J.P. Morgan to provide Best Execution, we construe the Four Fold Test in view of the client's level of sophistication by considering, amongst other things, the client's ability to negotiate competitive prices bilaterally based on factors including their product knowledge, experience and level of market access.

Should you have any questions on how the firm has assessed your level sophistication for the purposes of Best Execution, please contact your usual J.P. Morgan representative.

For transactions in Relevant Structured Products where J.P. Morgan determines Best Execution is applicable, the firm will take into consideration a variety of factors and determine their relative importance depending on prevailing market conditions at the time of execution. These factors will include price, speed, likelihood of execution, size and costs related to the execution and may further include but are not limited to liquidity in the specific product and the general market, hedging costs, warehousing costs, your execution requirements as our client, internal risk capacity and historical data analysis. Depending on the execution situation and the instructions that you as our client may provide to J.P Morgan, certain factors will be deemed to have more relative importance accordingly.

Key Execution Factors

Price: This refers to the resulting price of the transaction excluding J.P. Morgan's execution charges. Generally this is deemed as one of the most important considerations and will be determined from general market conditions including liquidity and hedging costs.

Speed: We define speed as the rate at which your transaction is progressed in the execution situation.

Likelihood of Execution and Size: We interpret this as the likelihood that J.P. Morgan is able, as your principal counterparty, to execute your transaction in its entirety, or at least a substantial part of it. These factors are most relevant when access to liquidity in relevant instruments is constrained in some way.

Costs: These relate to bid-offer spreads, commissions and other fees, as applicable.

Likelihood of Settlement: We expect transactions that we execute for you to settle in a timely fashion in line with market standards or as otherwise agreed.

If you are in doubt about any of these factors and for information specific to the relevant execution situation please contact your usual J.P. Morgan representative.

Execution monitoring and review

J.P. Morgan monitors Best Execution in Relevant Structured Products on a regular basis, through post-trade controls. The purpose of the monitoring is to identify execution situations which are potentially subject to Best Execution and to monitor the correct application of internal decision processes. Further, in cases where Best Execution is applicable, J.P. Morgan monitors whether the respective executions fulfil respective requirements.

The results of the Best Execution monitoring are reviewed by the control-related functions within LPMorgan J.P. Morgan on an ongoing basis and are discussed by J.P. Morgan management and control functions within a committee that has been established for the purpose of governing Best Execution. This committee will review the results of execution monitoring on a regular basis or at such other appropriate time interval determined by J.P. Morgan management in order to evaluate the effectiveness of the firm's execution arrangements for Relevant Structured Products.

Where appropriate any corrective action that may be required will be taken by J.P. Morgan management. Considering that J.P. Morgan is acting as your principal counterparty in Relevant Structured Products executions, corrective action will be limited to the procedures according to which J.P. Morgan executes transactions as other execution venues are not integrated in the execution process.

4. Relevant Debt Securities

Where J.P. Morgan is willing and able to negotiate a price in respect of Relevant Debt Securities, this will typically be with clients whom the firm considers do not place reliance on the firm to provide Best Execution.

In order to help determine whether a client is legitimately relying on J.P. Morgan to provide Best Execution, we construe the Four Fold Test in view of the client's level of sophistication by considering, amongst other things, the client's ability to negotiate competitive prices bilaterally based on factors including their product knowledge, experience and level of market access.

For transactions in Relevant Debt Securities where J.P. Morgan determines Best Execution is applicable, the firm will take into consideration a variety of factors and determine their relative importance depending on prevailing market conditions at the time of execution. These factors will include price, speed, likelihood of execution, size and costs related to the execution and may further include but are not limited to liquidity in the specific product and the general market, hedging costs, warehousing costs, your execution requirements as our client, internal risk capacity and historical data analysis. Depending on the execution situation and the instructions that you as our client may provide to J.P Morgan, certain factors will be deemed to have more relative importance accordingly.

Key Execution Factors

Price: This refers to the resulting price of the transaction excluding J.P. Morgan's execution charges. Generally this is deemed as one of the most important considerations and will be determined from general market conditions including liquidity and hedging costs.

Likelihood of Execution and Size: We interpret this as the likelihood that J.P. Morgan is able, as your principal counterparty, to execute your transaction in its entirety, or at least a part of it. These factors are most relevant when access to liquidity in relevant instruments is constrained in some way.

Speed: We define speed as the rate at which your transaction is progressed in the execution situation.

Costs: These relate to bid-offer spreads, commissions and other fees, as applicable.

Likelihood of Settlement: We expect transactions that we execute for you to settle in a timely fashion in line with market standards or as otherwise agreed.

If you are in doubt about any of these factors and for information specific to the relevant execution situation please contact your usual J.P. Morgan representative.

Execution monitoring and review

J.P. Morgan monitors Best Execution in Relevant Debt Securities on a regular basis, through post-trade controls. The purpose of the monitoring is to identify execution situations which are potentially subject to Best Execution and to monitor the correct application of internal decision processes. Further, in case Best Execution is applicable, J.P. Morgan monitors whether the respective executions fulfil respective requirements.

The results of the Best Execution monitoring are reviewed by the control-related functions within J.P. Morgan on an ongoing basis and are being discussed by J.P. Morgan management and control functions within a committee that has been established for the purpose of governing Best Execution. This committee will review the results of execution monitoring on a regular basis or at such time interval determined by J.P. Morgan management in order to evaluate the effectiveness of the firm's execution arrangements for Relevant Debt Securities.

Where appropriate any corrective action that may be required will be taken by J.P. Morgan management. Considering that J.P. Morgan is acting as your principal counterparty in Relevant

Debt Securities executions, corrective action will be limited to the procedures according to which J.P. Morgan executes transactions.

5. OTC Equity Derivatives

Except as provided below, OTC equity derivatives (being swaps, options or forwards) are Quote Driven Market Instruments and typically meet the Four Fold test; therefore, clients do not place legitimate reliance on the firm and, as a result, Best Execution will not apply to these Financial Instruments (as described in Section 2).

In respect of an OTC equity derivative where a component of the price is determined in accordance with instructions you give for the determination of the reference asset price, we acknowledge you are placing legitimate reliance on us to follow such instructions and therefore Best Execution will be applied for that component of the price, as set out in the **Overarching Execution Policy** which is available here. If we provide Best Execution for the price component of an OTC equity derivative, J.P. Morgan will monitor Best Execution in the course of the monitoring procedures which have been established for the Cash Equities business and which are described in the J.P. Morgan EMEA Cash Equities Execution Policy which is available here.

For Structured Products, please refer to Section 3.

6. E-Commerce transactions in FX & Commodities

OTC FX derivative and commodity derivative leave orders

Except as provided below, OTC FX derivatives and commodity derivatives (being swaps, options or forwards) are Quote Driven Market Instruments and typically meet the Four Fold test; therefore, clients do not place legitimate reliance on the firm and, as a result, Best Execution will not apply to these Financial Instruments (as described in Section 2).

Best Execution is applicable when we electronically execute OTC FX derivative and commodity derivative leave orders² that you directly place on an electronic trading platform, to the extent that J.P. Morgan determines certain aspects of the order execution (e.g. price, speed or any other aspect of your order where you have not provided us with a specific instruction). It is expected that Best Execution will only apply in limited circumstances.

Key execution factors

We consider the execution factors listed below to be the most important when Best Execution is applicable:

Price: this refers to the resulting price of the transaction excluding our own execution charges or other transaction costs. It will usually be our most important consideration. After price, likelihood of execution / size is usually our most important consideration.

Likelihood of execution / size: we interpret this as the likelihood that we are able to fill your order in its entirety or at least a substantial part of it. This factor increases in importance in situations where access to liquidity in the relevant instrument is constrained in some way. For example, if the currencies of the transaction are illiquid, or if you provide a limit price which is not marketable.

Other execution factors:

Speed: we interpret speed as the rate at which we are able to execute your order, subject to your specific instructions. The rate of execution may be affected by prevailing market conditions.

Costs: these relate to execution costs or fees that are charged for executing your order. If you deal with us on a fee basis, the fee is agreed with you upfront.

Execution monitoring and review

In the context of the e-Commerce business, J.P. Morgan executes orders which are in scope for Best Execution with internally sourced liquidity, thus J.P. Morgan is the execution venue. The underlying price and offered amounts for this service is based on available sources of market data which are combined to reflect the principal risk price. The strategies in scope for this execution is all automated execution of the in-scope products

Execution monitoring will largely depend on the state of electronification relating to the relevant OTC FX or commodity derivative. For high electronification products, publicly available market data will be used to benchmark against execution pricing relating to transactions that fall outside pre-defined parameters established by J.P. Morgan. In contrast, for medium or low electronification products where there may be limited or no reliable publicly available market data, J.P. Morgan may use internal data as reference data to benchmark against execution pricing of transactions selected for sample based monitoring.

To properly assess the quality of execution for in scope orders which are medium or low electronification, J.P. Morgan benchmarks the client spread costs in comparison to client

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² Leave order types include but are not limited to Stop Loss, Stop Limit and Take Profit.

streamed/visible rates, with automated thresholds set to identify cases where Best Execution may not be demonstrated.

The results of the Best Execution monitoring are reviewed by the control-related functions within J.P. Morgan on an ongoing basis and are being discussed by J.P. Morgan management and control functions within a committee that has been established for the purpose of governing Best Execution. This committee will review the results of execution monitoring on a regular basis or at such other appropriate time interval determined by J.P. Morgan management in order to evaluate the effectiveness of the firm's execution arrangements, and where appropriate take any corrective action that may be required.

Spot FX algorithmic orders

As noted previously, whilst spot FX is not a Financial Instrument, so far as is reasonably possible, J.P. Morgan will seek to apply similar Best Execution standards in respect of spot FX algorithmic orders which can execute against internal and external sources of liquidity³.

Unless you provide us with a specific instruction to execute your spot FX algorithmic order against J.P. Morgan internal liquidity only, J.P. Morgan will seek to choose the liquidity venue (i.e. including both internal and external sources) it considers most appropriate for the transaction, taking into account relevant execution factors for the particular market (i.e. price, market liquidity, prevailing market conditions, speed and cost of execution).

If you would like further information on the external sources of liquidity used by J.P. Morgan, please contact your usual J.P. Morgan representative.

³ Spot FX algorithmic order types which allow electronic execution against internal and external sources of liqudity include

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7. FX Services

J.P. Morgan FX Services ("FX Services") price and execute incoming FX instructions from direct clients and internal J.P. Morgan partner businesses for the underlying clients of these business.

Best Execution is applicable when FX Services execute OTC FX derivative orders and the client is not active at the point of execution to the extent that FX Services determine certain aspects of the order execution (e.g. price, speed or any other aspect of your order where you have not provided us with a specific instruction).

Whilst spot FX is not a Financial Instrument, so far as is reasonably possible, FX Services will seek to apply similar Best Execution standards in respect of spot FX orders which can execute against internal and external sources of liquidity.

Key execution factors

We consider the execution factors listed below to be the most important when Best Execution is applicable:

Price: this refers to the resulting price of the transaction excluding our own execution charges or other transaction costs. FX Services prices FX transactions using one or a combination of three sources: external FX benchmark rates, internal FX rates or third party FX rates. Where pricing is sourced from third parties, typically in restricted markets and only applicable to spot FX, costs and charges may be applied to these prices by the third party.

Likelihood of execution / size: we interpret this as the likelihood that we are able to fill your order in its entirety or at least a substantial part of it. This factor increases in importance in situations where access to liquidity in the relevant instrument is constrained in some way. For example, if the currencies of the transaction are illiquid.

Other execution factors:

Speed: we interpret speed as the rate at which we are able to execute your order, subject to your specific instructions. The speed of execution may be affected by prevailing market conditions.

Costs: these relate to execution costs or fees that are charged by J.P. Morgan for executing your order. If you deal with us on a fee or spread basis, the fee or spread is agreed with you upfront.

Please note, in certain markets, consideration is given to local market regulations and operational requirements that could determine the execution method of your order.

Execution monitoring and review

FX Services executes orders which are in scope for Best Execution with internally sourced liquidity, thus J.P. Morgan is the execution venue.

For all FX transactions, publicly available market data will be used to benchmark against execution pricing.

The results of the Best Execution monitoring are reviewed by the control -related functions within J.P. Morgan on an ongoing basis and are being discussed by J.P. Morgan management and control functions within a committee that has been established for the purpose of governing Best Execution. This committee will review the results of execution monitoring on a regular basis or at such other appropriate time interval determined by J.P. Morgan management in order to evaluate the effectiveness of the firm's execution arrangements, and where appropriate take any corrective action that may be required.

8. Choice of execution venue

Except as otherwise stated, J.P. Morgan, including entities within the J.P. Morgan group (being J.P. Morgan Chase & Co. and its subsidiaries and affiliates worldwide), is the execution venue for transactions in Quote Driven Market Instruments which clients enter into with J.P. Morgan.

When dealing directly with J.P. Morgan, the use of affiliated entities allows J.P. Morgan to provide access to markets where it otherwise may not be able to execute the transaction i.e. there is no choice of execution venue.

9. Pricing of quotes provided outside of the scope of Best Execution

Where a price is quoted by J.P. Morgan, it is an "all-in" price, unless otherwise agreed between us, which may take into account a number of factors including, but not limited to:

- the price of the Financial Instrument;
- market liquidity and the prevailing market conditions;
- valuation models;
- the credit risk associated with entering into a transaction with you;
- the costs resulting from entering into a transaction, including capital costs, hedging costs or fees paid to third parties (e.g. exchanges, clearing houses, settlement agencies);
- any spread or sales mark-up above the price at which J.P. Morgan may be able to transact or has transacted with other counterparties;
- the time, effort, risk appetite of, and potential risk to the firm in executing the transaction;
- the nature of the client relationship with J.P. Morgan; and
- the volume of trading activity J.P. Morgan has with the client.

Accordingly, the "all-in" price may vary depending on the client and the specific transaction.

Annex A – glossary of terms

Best Execution	The obligation to take all sufficient steps to obtain, when executing orders, the best possible result for our clients taking into account the relevant execution
	factors.
Execution	Execution venues include Regulated Markets, Multilateral Trading Facilities,
Venues	Organised Trading Facilities (not applicable to equity instruments) Systematic Internalisers, Market Makers and Liquidity Providers
Fill Rate	For aggressive / marketable orders: the average ratio of the volume executed on our orders over the liquidity available at the time of sending the order according to the prevailing market data.
Financial	As defined by by the Markets in Financial Instruments Directive 2014/65/EU in
Instruments	Annex I Section C.
MiFID	The Markets in Financial Instruments Directive 2014/65/EU.
MiFIR	Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012.
MiFID II	Collective name for MiFID/MiFIR.
Systematic Internaliser	An investment firm which, on an organised, frequent, systematic and substantial basis, deals on own account when executing client orders outside a regulated market or MTF.