

ANNEX I

Classes of financial instruments

- (a) Equities — Shares & Depositary Receipts
 - (i) Tick size liquidity bands 5 and 6 (from 2 000 trades per day)
 - (ii) Tick size liquidity bands 3 and 4 (from 80 to 1 999 trades per day)
 - (iii) Tick size liquidity band 1 and 2 (from 0 to 79 trades per day)
 - (b) Debt instruments
 - (i) Bonds
 - (ii) Money markets instruments
 - (c) Interest rates derivatives
 - (i) Futures and options admitted to trading on a trading venue
 - (ii) Swaps, forwards, and other interest rates derivatives
 - (d) credit derivatives
 - (i) Futures and options admitted to trading on a trading venue
 - (ii) Other credit derivatives
 - (e) currency derivatives
 - (i) Futures and options admitted to trading on a trading venue
 - (ii) Swaps, forwards, and other currency derivatives
 - (f) Structured finance instruments
 - (g) Equity Derivatives
 - (i) Options and Futures admitted to trading on a trading venue
 - (ii) Swaps and other equity derivatives
 - (h) Securitized Derivatives
 - (i) Warrants and Certificate Derivatives
 - (ii) Other securitized derivatives
 - (i) Commodities derivatives and emission allowances Derivatives
 - (i) Options and Futures admitted to trading on a trading venue
 - (ii) Other commodities derivatives and emission allowances derivatives
 - (j) Contracts for difference
 - (k) Exchange traded products (Exchange traded funds, exchange traded notes and exchange traded commodities)
 - (l) Emission allowances
 - (m) Other instruments
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Qualitative Best Execution Measures

Equities and Equity-like Instruments

Equity transactions are placed by Allianz Global Investors with brokers who have access to the relevant exchanges and venues for execution, and have the expertise and the required understanding of Allianz Global Investors' trading objectives. Equity transactions are either placed with a sales trader or through electronic channels provided by the intermediary, such as through direct market access, algorithms and direct capital access.

Additionally, Allianz Global Investors can use buy-side to buy-side as well as all-to-all block trading tools to search for natural liquidity that matches our trades.

Unless stated otherwise, across all equity products, including equity-like instruments, such as exchange traded funds (ETFs), the ranking of the execution factors is typically as follows:

- Investment objective of the underlying strategy
- Price
- Likelihood of full execution
- Speed

The remaining Execution Factors – cost (including implicit cost such as impact on the market), order size, current liquidity conditions and any other consideration relevant to the efficient execution of a Client order – are generally given equal ranking unless the investment strategy requires a different weighting.

In instances where orders exceed the volumes typically available on regulated markets, large orders (or “block trades”) may be traded in over-the-counter markets, through private bilateral negotiation.

Orders sent by portfolio managers and received by the trading desk of Allianz Global Investors in a defined order window may be aggregated and communicated to the executing broker counterparty as a single order in accordance with formalized internal aggregation and allocation procedures, designed to ensure that all portfolios be treated fairly and equitably over time.

Fixed Income

For liquid bonds, electronic (MTF) platforms such as Bloomberg, MarketAxess or TradeWeb are generally available and provide the opportunity for simultaneous, competitive bid /offer quotes as well as request for quote (RFQ) type price discovery. Such platforms typically are the preferred venues on which to effectively execute certain types of fixed income transactions.

In general, they help to perform the price discovery function and seek best price by initiating competition among multiple independent third parties.

However, such platforms are not necessarily appropriate for transactions above a certain size or in less liquid instruments because the leakage of trade interests to the market can adversely affect the relevant pricing and inadvertently compromise the ability to obtain the best result available for the transaction.

Unless stated otherwise, across all fixed income trades the ranking of the execution factors is typically as follows:

- Investment objective of the portfolio's strategy
- Price
- Likelihood of full execution
- Speed

For transactions which are not executed using an order book or RFQ based trading venue, Allianz Global Investors will use reasonably available and relevant sources of price discovery, including, but not limited to, market transaction prices (TRACE, etc.) on historical or comparable financial instruments; quotes for, or yields on, historical or a comparable financial instrument; price runs and dealer quotes. Quotes generally should be obtained from more than one counterparty as part of the price discovery process; however that is not always possible nor necessarily helpful in the process. Alternatively, there may be only one potential counterparty and therefore, obtaining multiple quotes is not possible.

Allianz Global Investors will consider on a trade by trade basis whether obtaining multiple quotes can be or should be attempted based on the security type, liquidity, size of the transaction and prevailing market conditions. For those less liquid or larger in size transactions the trading desk will use broker contacts as well as electronic platforms to search for natural, matching liquidity or alternatively ask for capital commitment.

Exchange-traded Derivatives (ETDs)

ETDs are traded similarly to equities; orders are placed in the exchange order book either directly by using a counterparty's electronic channel or by sending the orders to the counterparty who then places the order in the order book.

Depending on the size, complexity, liquidity and prevailing market conditions Allianz Global Investors will consider on a trade by trade basis whether obtaining multiple quotes can be or should be attempted as an alternative to trading on the exchange CLOB. For those less liquid or larger in size transactions the trading desk will use broker contacts as well as electronic tools such as RFQ platforms to search for matching liquidity or alternatively ask for capital commitment.

Unless stated otherwise, across all ETDs the ranking of the execution factors is typically as follows:

- Investment objective of the underlying strategy
- Price
- Likelihood of full execution
- Speed

The remaining Execution Factors – cost (including implicit cost such as impact on the market), order size, current liquidity conditions, available counterparties and any other consideration relevant to the efficient execution of the order – are generally given equal ranking unless the investment strategy requires a different weighting.

Over-the-Counter (OTC) Derivatives, excluding FX

All OTC derivatives must be traded under industry legal documentation. This means our choice of counterparty for trading certain instruments such as interest rate swaps, credit default swaps, swaptions, inflation swaps, asset swaps, currency options and other more bespoke instruments can be limited to those banks where the required documentation is in place.

Similar to fixed income trading electronic (MTF) platforms such as Bloomberg or TradeWeb are generally available for several derivatives instruments, providing the opportunity for simultaneous, competitive bid /offer quotes as well as request for quotes (RFQ) type price discovery.

For instruments where those platforms are not liquid enough or the trade specifics require a different approach the trading desk will follow a similar path as described for illiquid fixed income instruments, using a sufficient number of quotes to achieve price discovery without risking information leakage to the market which could adversely impact pricing.

Foreign Exchange (FX)

Foreign Exchange transactions are either actively conducted through the appointed custodian bank or third party brokers. All OTC FX derivatives must be traded under industry legal documentation with the required collateral agreements in place. Where possible a settlement using CLS is put in place.

The nature of the trade and its underlying investment strategy are significant factors in the choice of the appropriate execution strategy.

In such cases that the financial instrument to be traded and/or the relevant Client arrangements allow this, the trader will undertake an active negotiation process for FX Client transactions, by selecting the brokers or counterparties and execution strategy most suitable to achieve the best possible results for the relevant Client.

FX Execution will typically and preferably take place via electronic multibank platforms or ECN liquidity, using streaming quotes. Transactions are passed to those platforms or an execution desk through electronic channels where possible. Voice execution or order placement will be kept to a minimum for exceptional cases. Depending on the size, complexity, liquidity and prevailing market conditions Allianz Global Investors will consider on a trade by trade basis obtaining multiple quotes via electronic price streaming platforms or manually priced RFQs.

For less liquid or larger in size transactions the trading desk will use broker contacts as well as electronic tools such as RFQ platforms to search for matching liquidity or alternatively ask for capital commitment.

Unless stated otherwise, across all FX Trading the ranking of the execution factors is typically as follows:

- Investment objective of the underlying strategy
- Price
- Likelihood of full execution
- Speed
- Settlement considerations.

The remaining Execution Factors – cost (including implicit cost such as impact on the market), order size, current liquidity conditions, available counterparties and any other consideration relevant to the efficient execution of the order – are generally given equal ranking unless the investment strategy requires a different weighting.

Information on the top five brokers

Class of Instrument	Equities - Shares & Depositary Receipts - Tick size liquidity band 5 and 6				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Morgan Stanley & Co. Int. (4PQUHN3JPF GFNF3BB653)	23.03%	18.40%	n/a	n/a	0.00%
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	17.87%	22.38%	n/a	n/a	0.00%
Citigroup Global Markets Ltd. (XKZZ2JZF41MRHTR1V493)	10.43%	6.05%	n/a	n/a	0.00%
UBS AG (BFM8T61CT2L1QCEMIK50)	9.71%	7.83%	n/a	n/a	0.00%
Goldman Sachs International (W22LROWP2IHZNBB6K528)	7.82%	8.72%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Equities - Shares & Depositary Receipts - Tick size liquidity band 3 and 4				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Morgan Stanley & Co. Int. (4PQUHN3JPFGFNF3BB653)	21.22%	14.34%	n/a	n/a	0.00%
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	17.55%	19.28%	n/a	n/a	0.00%
Credit Suisse Intl. (E58DKGMJYYYJLN8C3868)	6.95%	9.57%	n/a	n/a	0.00%
UBS AG (BFM8T61CT2L1QCEMIK50)	6.48%	9.10%	n/a	n/a	0.00%
Citigroup Global Markets Ltd. (XKZZ2JZF41MRHTR1V493)	6.13%	5.02%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Equities - Shares & Depositary Receipts - Tick size liquidity band 1 and 2				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Morgan Stanley & Co. Int. (4PQUHN3JPFGFNF3BB653)	32.99%	25.90%	n/a	n/a	0.00%
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	32.62%	33.67%	n/a	n/a	0.00%
Citigroup Global Markets Ltd. (XKZZ2JZF41MRHTR1V493)	8.26%	3.75%	n/a	n/a	0.00%
Goldman Sachs International (W22LROWP2IHZNBB6K528)	6.96%	9.85%	n/a	n/a	0.00%
Merrill Lynch Int. (GGDZP1UYGU9STUHRDP48)	5.95%	10.37%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Debt Instruments - Bonds				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Citigroup Global Markets Ltd. (XKZZ2JZF41MRHTR1V493)	24.91%	6.93%	n/a	n/a	0.00%
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	6.15%	5.10%	n/a	n/a	0.00%
Morgan Stanley & Co. Int. (4PQUHN3JPFGFNF3BB653)	5.80%	6.41%	n/a	n/a	0.00%
HSBC Bank PLC (MP6I5ZYZBEU3UXPYFY54)	5.31%	5.94%	n/a	n/a	0.00%
Natwest Markets PLC (RR3QWICWWIPCS8A4S074)	5.07%	2.76%	n/a	n/a	0.00%

Information on the top five execution venues

Class of Instrument	Debt Instruments - Bonds				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Bloomberg Trading Facility (BMTF)	60.47%	55.94%	n/a	n/a	0.00%
Tradeweb Europe Limited (TREU)	32.98%	24.64%	n/a	n/a	0.00%
Marketaxess Europe Limited (MAEL)	6.55%	19.42%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Debt instruments - Money markets instruments				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
ING Bank N.V. (3TK20IVIUJ8J3ZU0QE75)	35.63%	25.00%	n/a	n/a	0.00%
DZ Bank AG (529900HNOAA1KXQJUQ27)	32.18%	46.88%	n/a	n/a	0.00%
Crédit Agricole Bank (1VUV7VQFKUOQSJ21A208)	23.30%	15.63%	n/a	n/a	0.00%
Commerzbank AG (851WYGNLUQLFZBSYGB56)	3.42%	6.25%	n/a	n/a	0.00%
DekaBank (0W2PZJM8XOY22M4GG883)	2.74%	3.13%	n/a	n/a	0.00%

Information on the top five execution venues

Class of Instrument	Debt instruments - Money markets instruments				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Interest rates derivatives - Futures and options admitted to trading on a trading venue				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	31.99%	37.27%	n/a	n/a	0.00%
Mako Financial Markets LLP (213800TPPAPTYLS8Z364)	16.57%	3.45%	n/a	n/a	0.00%
Morgan Stanley & Co. Int. (4PQUHN3JPFGFNF3BB653)	16.08%	7.00%	n/a	n/a	0.00%
Citigroup Global Markets Ltd. (XKZZ2JZF41MRHTR1V493)	11.26%	4.66%	n/a	n/a	0.00%
Deutsche Bank AG (7LTWFZYICNSX8D621K86)	10.05%	20.18%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Interest rates derivatives - Swaps, forwards, and other interest rates derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	29.04%	11.01%	n/a	n/a	0.00%
HSBC Bank PLC (MP6I5ZYBUEU3UXPYFY54)	27.89%	21.14%	n/a	n/a	0.00%
Barclays Bank PLC (G5GSEF7VJP5I7OUK5573)	17.31%	6.75%	n/a	n/a	0.00%
Morgan Stanley & Co. Int. (4PQUHN3JPFGFNF3BB653)	14.25%	11.19%	n/a	n/a	0.00%
Goldman Sachs International (W22LROWP2IHZNBB6K528)	3.26%	10.48%	n/a	n/a	0.00%

Information on the top five execution venues

Class of Instrument	Interest rates derivatives - Swaps, forwards, and other interest rates derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Bloomberg Trading Facility (BMTF)	100.00%	100.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Credit derivatives - Futures and options admitted to trading on a trading venue				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Credit Suisse Intl. (E58DKGMJYYYYJLN8C3868)	57.71%	45.32%	n/a	n/a	0.00%
Morgan Stanley & Co. Int. (4PQUHN3JPFGFNF3BB653)	26.27%	19.37%	n/a	n/a	0.00%
J.P. Morgan Chase (7H6GLXDRUGQFU57RNE97)	8.68%	9.43%	n/a	n/a	0.00%
Credit Suisse Sec. USA (1V8Y6QCX6YMJ2OELII46)	5.28%	13.10%	n/a	n/a	0.00%
Citigroup Global Markets Ltd. (XKZZ2JZF41MRHTR1V493)	1.33%	3.88%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Credit derivatives - Other credit derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Barclays Bank PLC (G5GSEF7VJP5I7OUK5573)	27.44%	18.05%	n/a	n/a	0.00%
Citigroup Global Markets Ltd. (XKZZ2JZF41MRHTR1V493)	24.25%	21.14%	n/a	n/a	0.00%
Credit Suisse Intl. (E58DKGMJYYYJLN8C3868)	17.50%	11.05%	n/a	n/a	0.00%
Goldman Sachs Int. (W22LROWP2IHZNBB6K528)	10.60%	11.16%	n/a	n/a	0.00%
Deutsche Bank AG (7LTWFZYICNSX8D621K86)	9.65%	14.85%	n/a	n/a	0.00%

Information on the top five execution venues

Class of Instrument	Credit derivatives - Other credit derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Bloomberg Trading Facility (BMTF)	100.00%	100.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Currency derivatives - Futures and options admitted to trading on a trading venue				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Mako Financial Markets LLP (213800TPPAPTYLS8Z364)	96.64%	26.91%	n/a	n/a	0.00%
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	2.86%	46.46%	n/a	n/a	0.00%
Deutsche Bank AG (7LTWFZYICNSX8D621K86)	0.17%	13.88%	n/a	n/a	0.00%
UBS AG (BFM8T61CT2L1QCEMIK50)	0.12%	1.42%	n/a	n/a	0.00%
Citigroup Global Markets Ltd. (XKZZ2JZF41MRHTR1V493)	0.08%	1.70%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Currency derivatives - Swaps, forwards, and other currency derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Merrill Lynch Int. (GGDZP1UYGU9STUHRDP48)	21.16%	3.08%	n/a	n/a	0.00%
BNP Paribas (R0MUWSFPU8MPRO8K5P83)	14.54%	1.43%	n/a	n/a	0.00%
Barclays Bank PLC (G5GSEF7VJP5I7OUK5573)	13.28%	10.33%	n/a	n/a	0.00%
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	9.42%	14.69%	n/a	n/a	0.00%
Goldman Sachs International (W22LROWP2IHZNBB6K528)	5.32%	6.20%	n/a	n/a	0.00%

Information on the top five execution venues

Class of Instrument	Currency derivatives - Swaps, forwards, and other currency derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Bloomberg Trading Facility (BMTF)	84.05%	40.43%	n/a	n/a	0.00%
FXConnect Europe (MFXR)	15.95%	59.57%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Structured finance instruments				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Citigroup Global Markets Inc. (MBNUM2BPBDO7JBLYG310)	70.41%	56.66%	n/a	n/a	0.00%
J.P. Morgan Chase (7H6GLXDRUGQFU57RNE97)	7.90%	10.52%	n/a	n/a	0.00%
HSBC Bank PLC (MP6I5ZYBZEU3UXPYFY54)	3.96%	2.52%	n/a	n/a	0.00%
Deutsche Bank AG (7LTWFZYICNSX8D621K86)	3.48%	7.71%	n/a	n/a	0.00%
Goldman Sachs International (W22LROWP2IHZNBB6K528)	2.03%	2.52%	n/a	n/a	0.00%

Information on the top five execution venues

Class of Instrument	Structured finance instruments				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Tradeweb Europe Limited (TREU)	99.99%	99.76%	n/a	n/a	0.00%
Bloomberg Trading Facility (BMTF)	0.01%	0.24%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Equity Derivatives - Options and futures admitted to trading on a trading venue				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	37.7%	39.9%	n/a	n/a	0.00%
Deutsche Bank AG (7LTWFZYICNSX8D621K86)	18.5%	21.3%	n/a	n/a	0.00%
Morgan Stanley & Co. Int. (4PQUHN3JPFGFNF3BB653)	14.3%	4.9%	n/a	n/a	0.00%
Merrill Lynch Int. (GGDZP1UYGU9STUHRDP48)	8.6%	12.9%	n/a	n/a	0.00%
UBS AG (BFM8T61CT2L1QCEMIK50)	8.2%	5.5%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Equity Derivatives - Swaps and other equity derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
BNP Paribas (R0MUWSFPU8MPRO8K5P83)	53.45%	45.45%	n/a	n/a	0.00%
Société Générale SA (O2RNE8IBXP4R0TD8PU41)	46.08%	45.45%	n/a	n/a	0.00%
UBS AG (BFM8T61CT2L1QCEMIK50)	0.47%	9.09%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five execution venues

Class of Instrument	Equity Derivatives - Swaps and other equity derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Scuritized Derivatives - Warrants and certificate derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Scuritized Derivatives - Other securitized derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five execution venues

Class of Instrument	Scuritized Derivatives - Other securitized derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Commodities derivatives and emission allowances Derivatives - Options and futures admitted to trading on a trading venue				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	48.09%	53.85%	n/a	n/a	0.00%
Citigroup Global Markets Ltd. (XKZZ2JZF41MRHTR1V493)	37.32%	30.77%	n/a	n/a	0.00%
Morgan Stanley & Co. Int. (4PQUHN3JPFGFNF3BB653)	14.59%	15.38%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Commodities derivatives and emission allowances Derivatives - Other commodities derivatives and emission allowances derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five execution venues

Class of Instrument	Commodities derivatives and emission allowances Derivatives - Other commodities derivatives and emission allowances derivatives				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Contracts for difference				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Exchange traded products (Exchange traded funds, exchange traded notes and exchange traded commodities)				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
Jane Street Group (5493002N1IVX6KHGYO08)	25.37%	15.18%	n/a	n/a	0.00%
Flow Traders B.V. (549300CLJI9XDH12XV51)	16.33%	15.72%	n/a	n/a	0.00%
Société Générale SA (O2RNE8IBXP4R0TD8PU41)	14.24%	6.50%	n/a	n/a	0.00%
Commerzbank AG (851WYG NLUQLFZBSYGB56)	10.71%	16.26%	n/a	n/a	0.00%
Deutsche Bank AG (7LTWFZYICNSX8D621K86)	7.44%	7.72%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Emission allowances				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%
n/a	0.00%	0.00%	n/a	n/a	0.00%

Information on the top five brokers

Class of Instrument	Other instruments				
Notification if <1 average trade per business day in the previous year	N				
Top five execution venues ranked in terms of volume (descending order)	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class	Percentage of passive orders	Percentage of aggressive orders	Percentage of directed orders
HSBC Bank PLC (MP6I5ZYBUEU3UXPYFY54)	75.78%	21.55%	n/a	n/a	0.00%
Barclays Bank PLC (G5GSEF7VJP5I7OUK5573)	22.58%	6.08%	n/a	n/a	0.00%
Morgan Stanley & Co. Int. (4PQUHN3JPF GFNF3BB653)	0.47%	20.44%	n/a	n/a	0.00%
J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32)	0.33%	2.21%	n/a	n/a	0.00%
UBS AG (BFM8T61CT2L1QCEMIK50)	0.30%	19.89%	n/a	n/a	0.00%