Quoniam
QUANTITATIVE INVESTMENT ENGINEERING

# EXECUTION QUALITY REPORT

From January 1 to December 31, 2018

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A meber of Union Investment Group

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The Execution Quality Report covers transactions in financial instruments that Quoniam Asset Management GmbH (hereinafter "Quoniam") executed in the period from 1 January until 31 December 2018 as part of the financial portfolio management for its customers. The Execution Principles published in this period form the basis for this report.

In accordance with Section 82, paragraph 9 of the Securities Trading Act in conjunction with Article 3 paragraph 1 and 3 of the Delegated Regulation (EU) 2017/576, the necessary information was shown for all respective categories of financial instruments and supplemented by an overview of the most important trading venues/intermediaries in each case (cf. in this regard Appendix 1 and 2).

## 1. Equities–shares and depositary receipts

Orders for shares and depositary receipts (applies to all rick sizes / liquidity bands) are forwarded via an electronic trading system to intermediaries for execution on organised markets, multilateral trading facilities, systematic internalisers or, if applicable, other providers of liquidity.

The weighting of the execution criteria in the selection of the intermediaries is not static but depends on the respective circumstances of the individual case, in particular on the market environment at the time of trading.

For orders in shares and depositary receipts, the execution criteria are weighted according to the following priority:

- Market access
- Price

The further execution criteria – *costs, speed, probability, processing and scope and nature of the order* – have no significant influence on the decision to execute the orders based on their weighting.

No orders were forwarded to affiliated companies for execution.

No special agreements were reached with intermediaries regarding monetary benefits granted or received, including rebates or discounts. Other non-monetary benefits in the form of research or specialist events were received by Quoniam in compliance with the internal principles.

New intermediaries are assessed with regard to their aptitude and approved during an acceptance process. Intermediaries approved for trading are subject to ongoing monitoring. This incorporates, among others, their credit worthiness and financial stability as well as fulfilment of organisational and statutory requirements and those under supervisory law. In the respective period, there were no changes with regard to the intermediaries used.

Our Execution Principles do not include any deviating regulations depending on the customer category. We did not carry out any customer orders for retail clients.

A review of the quality of execution was carried out on a quarterly basis. For this purpose, an independent transaction costs analysis (TCA) from an external provider was used. Furthermore, a qualitative evaluation of the algorithms operated by the intermediary and provided for trading and the associated access to sources of liquidity was performed and included in the assessment. In addition, the integrity of the price was reviewed independently for each transaction on each day of trading.

The reports from consolidated data providers within the meaning of Article 65 have not been used.

**2. Debt instruments–bonds**

The trade itself is predominantly done on the basis of price requests (Request for Quote – RFQ) that are communicated electronically or by telephone.

The weighting of the execution criteria in the selection of the intermediaries is not static but depends on the respective circumstances of the individual case, in particular on the market environment at the time of trading.

Unless otherwise stated, the execution criteria for orders in debt instruments are weighted according to the following priority:

1. Market access
2. Probability
3. Price

The further execution criteria – *speed, processing and type and scope of the order* – have no significant influence based on their weighting. The execution criterion – *costs* – is not relevant in the absence of any explicit transaction costs.

The financial instrument as a weighting factor has an influence on the *probability* of the execution. For government bonds, there is generally the following prioritisation in the weighting of the execution criteria:

1. Market access
2. Price

Orders were executed with DZ Bank AG as an affiliated company. Trading with affiliated companies is subject to our Execution Principles. With requests for quote, DZ BANK AG was exposed to competition, taking into account the execution criteria. Any conflicts of interest were thus avoided.

No special agreements were reached with intermediaries regarding monetary benefits granted or received, including rebates or discounts. Other non-monetary benefits in the form of research or specialist events were received by Quoniam in compliance with the internal principles.

New intermediaries are assessed with regard to their aptitude and approved during an acceptance process. Intermediaries approved for trading are subject to ongoing monitoring. This incorporates, among others, their credit worthiness and financial stability as well as fulfilment of organisational and statutory requirements and those under supervisory law. In the respective period of time the following intermediaries were approved in order to expand market access: ABN AMRO Bank N.V. (BFXS5XCH7N0Y05NIXW11) was approved as an intermediary:

Banca IMI S.P.A.
(LEI: QV4Q8OGJ7OA6PA8SCM14)

Jane Street Financial Limited
(LEI: 549300ZHEHX8M31RP142);

Lloyds Bank Corporate Markets plc
(LEI: 213800MBWEIJDM5CU638)

Norddeutsche Landesbank – Girozentrale –
(DSNHHQ2B9X5N6OUJ1236

Nordea Bank Abp
(LEI: 529900ODI3047E2LIV03)
Our Execution Principles do not include any deviating regulations depending on the customer category. We did not carry out any customer orders for retail clients.

A review of the quality of execution was carried out on a quarterly basis. For this purpose, an independent transaction costs analysis (TCA) from an external provider was used. The integrity of the price was reviewed independently for each transaction on each day of trading and the quality of execution of the intermediaries assessed on this basis.

The reports from consolidated data providers within the meaning of Article 65 of the Directive 2014/65/EU have not been used.

## 3. Interest rates derivatives

The futures and options (admitted to trading on a trading venue) orders are forwarded to intermediaries for execution via an electronic trading system. These are liquid financial instruments that are executed on an organised market. The choice of the intermediary to whom orders are forwarded depends on the customer's contractual specifications. Orders must therefore always be forwarded to the Clearing Broker. The use of another intermediary (Executing Broker) requires the conclusion of a Give-Up Agreement between the parties.

The weighting of the execution criteria in the selection of the intermediaries is not static but depends on the respective circumstances of the individual case, in particular on the market environment at the time of trading.

For all orders where execution is not restricted to the Clearing Broker, the execution criteria are weighted according to the following priority:

1. Market access
2. Costs
3. Price

The further execution criteria – *speed, probability, processing and extent and nature of the order* – have no significant influence on the decision to execute the orders based on their weighting.

Orders were forwarded to DZ Bank AG as an affiliated company for execution. Trading with affiliated companies is subject to the Execution Principles of Quoniam. DZ BANK AG was selected as an intermediary, taking into account the execution criteria. Any conflicts of interest were thus avoided.

No special agreements were reached with intermediaries regarding monetary benefits granted or received, including rebates or discounts. Other non-monetary benefits in the form of research or specialist events were purchased by Quoniam in compliance with the internal principles.

New intermediaries are assessed with regard to their aptitude and approved during an acceptance process. Intermediaries approved for trading are subject to ongoing monitoring. This incorporates, among others, their credit worthiness and financial stability as well as fulfilment of organisational and statutory requirements and those under supervisory law. In the respective period, there were no changes with regard to the intermediaries used.

Our Execution Principles do not include any deviating regulations depending on the customer category. We did not carry out any customer orders for retail clients.

A review of the quality of execution was carried out. For this purpose, an independent transaction costs analysis (TCA) from an external provider was used. The integrity of the price was reviewed independently for each transaction on each day of trading and the quality of execution of the intermediaries assessed on this basis.

The reports from consolidated data providers within the meaning of Article 65 of the Directive 2014/65/EU have not been used.

**4. Currency derivatives**

1. Futures (admitted to trading on a trading venue)

2. At this point, we refer to the description under 3. Interest rates derivatives.

3. Swaps, forwards and other currency derivatives

The trading itself was predominantly based on price requests (Request for Quote – RFQ) to all approved intermediaries. The price quotes of the intermediaries and their acceptance are usually done in electronic form. The intermediaries approved for trading may be specified based on the contractual arrangements with the customers.

The weighting of the execution criteria in the selection of the intermediaries is not static but depends on the respective circumstances of the individual case, in particular on the market environment at the time of trading.

The subsequent weighting of the execution criteria is therefore based on the premise that more than one intermediary is authorised to execute:

1. Market access
2. Price

The further execution criteria – *costs*, *speed, probability, processing and extent and nature of the order* – have no significant influence on the decision to execute the orders based on their weighting.

DZ Bank AG and DZ Privatbank S.A. as affiliated companies are approved as intermediaries. Trading with affiliated companies is subject to our Execution Principles. With price requests, the affiliated companies were exposed to competition, taking into account the execution criteria. Any conflicts of interest were thus avoided.

No special agreements were reached with intermediaries regarding monetary benefits granted or received, including rebates or discounts. Other non-monetary benefits in the form of research or specialist events were received by Quoniam in compliance with the internal principles.

New intermediaries are assessed with regard to their aptitude and approved during an acceptance process. Intermediaries approved for trading are subject to ongoing monitoring. This incorporates, among others, their credit worthiness and financial stability as well as fulfilment of organisational and statutory requirements and those under supervisory law. In the respective period, there were no changes with regard to the intermediaries used.

Our Execution Principles do not include any deviating regulations depending on the customer category. We did not carry out any customer orders for retail clients.

The integrity of the price was reviewed independently on each day of trading and the quality of execution of the intermediaries assessed. In addition, an independent transaction costs analysis (TCA) from an external provider was used for the review.

The reports from consolidated data providers within the meaning of Article 65 of the Directive 2014/65/EU have not been used.

**5. Equity derivatives**

i. Futures and options (admitted to trading on a trading venue)

At this point, we refer in general to the description under 3. Interest rates derivatives.

ii. Swaps and other equity derivatives

Only swaps in the form of a non-standard OTC derivative are used, the terms of which, including costs, were agreed bilaterally with an intermediary. The choice of the intermediary is regularly dependent on the contractual specifications of the customer. For the aforementioned reasons, the criteria for execution do not apply to this financial instrument.

No orders were forwarded to affiliated companies for execution.

No special agreements were reached with intermediaries regarding monetary benefits granted or received, including rebates or discounts. Other non-monetary benefits in the form of research or specialist events were received by Quoniam in compliance with the internal principles.

Our Execution Principles do not include any deviating regulations depending on the customer category. We did not carry out any customer orders for retail clients.

The reports from consolidated data providers within the meaning of Article 65 of the Directive 2014/65/EU have not been used.

## 6. Exchange traded products– exchange traded funds

At this point, we refer to the description under 1. Equity – shares and depositary receipts.

## 7. Other financial instruments

The investment funds taken into account within the financial portfolio management are not admitted to trading on a trading venue. The orders are therefore purchased or sold through the investment company / transfer agent on the terms and conditions set for share certificate transactions. In individual cases, the order is issued pursuant to the customer specifications via the custodian bank / depository to the transfer agent. The execution criteria therefore have no effect on the execution of these orders.

The orders are normally issued to Union Investment Financial Services S.A. as an affiliated company. Conflicts of interests are avoided through processing in compliance with defined conditions for share certificate transactions. The integrity of the price was reviewed independently.

No special agreements were reached with intermediaries regarding monetary benefits granted or received, including rebates or discounts. Other non-monetary benefits were not received by Quoniam.

Our Execution Principles do not include any deviating regulations depending on the customer category. We did not carry out any customer orders for retail clients.

The reports from consolidated data providers within the meaning of Article 65 of the Directive 2014/65/EU have not been used.

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## APPENDIX 1

# Information on the top five intermediaries in accordance with Article 3 paragraph 1 of the Delegated Regulation (EU) 2017/576

## A. Equities — shares and depositary receipts

| Class of Instrument | Equities–shares and depositary receipts<br>i) Tick size liquidity band 5 and 6 (from 2,000 trades per day) | | | | |
|---|---|---|---|---|---|
| Notification if < 1 average trade per business day in the previous year | N | | | | |
| Top five execution venues ranked in terms of trading volumes (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 |
| Investment Technology Group ltd. (213800EEC95PRUCEUP63) | 42% | 45% | 0% | 0% | 0% |
| Credit Suisse Securities (Europe) Limited (DL6FFRRLF74S01HE2M14) | 13% | 9% | 0% | 0% | 0% |
| Sanford C. Bernstein Limited (54930049G8WQ5OOUSD19) | 11% | 12% | 0% | 0% | 0% |
| Kepler Cheuvreux S.A. (9695005EOZG9X8IRJD84) | 11% | 24% | 0% | 0% | 0% |
| UBS Limited (REYPIEJN7XZHSUI0N355) | 10% | 14% | 0% | 0% | 0% |

| Class of Instrument | Equities–shares and depositary receipts<br>ii) Tick size liquidity band 3 and 4 (from 80 to 1,999 trades per day) | | | | |
|---|---|---|---|---|---|
| Notification if < 1 average trade per business day in the previous year | N | | | | |
| Top five execution venues ranked in terms of trading volumes (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 |
| Investment Technology Group ltd. (213800EEC95PRUCEUP63) | 42% | 52% | 0% | 0% | 0% |
| UBS Limited (REYPIEJN7XZHSUI0N355) | 12% | 17% | 0% | 0% | 0% |
| Credit Suisse Securities (Europe) Limited (DL6FFRRLF74S01HE2M14) | 9% | 12% | 0% | 0% | 0% |
| Sanford C. Bernstein Limited (54930049G8WQ5OOUSD19) | 9% | 14% | 0% | 0% | 0% |
| Kepler Cheuvreux S.A. (9695005EOZG9X8IRJD84) | 9% | 19% | 0% | 0% | 0% |

| Class of Instrument | Equities–shares and depositary receipts<br>iii) Tick size liquidity band 3 and 4 (from 0 to 79 trades per day) | | | | |
|---|---|---|---|---|---|
| Notification if < 1 average trade per business day in the previous year | N | | | | |
| Top five execution venues ranked in terms of trading volumes (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 Capital Securities Limited (K6Q0W1PS1L1O4IQL9C32) | 43% | 42% | 0% | 0% | 0% |
| J.P. Morgan Securities PLC (549300GX4FPMFF91RJ37) | 20% | 16% | 0% | 0% | 0% |
| Investment Technology Group ltd. (213800EEC95PRUCEUP63) | 13% | 16% | 0% | 0% | 0% |
| Macquarie Capital (Europe) Limited (549300GX4FPMFF91RJ37) | 12% | 15% | 0% | 0% | 0% |
| UBS Limited (REYPIEJN7XZHSUI0N355) | 10% | 10% | 0% | 0% | 0% |

## B. Debt instruments

| Class of Instrument | Debt instruments<br>i) Bonds | | | | |
|---|---|---|---|---|---|
| Notification if < 1 average trade per business day in the previous year | N | | | | |
| Top five execution venues ranked in terms of trading volumes (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) | 8% | 7% | 0% | 0% | 0% |
| Barclays Capital Securities Limited (K9WDOH4D2PYBSLSOB484) | 7% | 7% | 0% | 0% | 0% |
| HSBC Trinkaus & Burkhardt AG (JUNT405OW8OY5GN4DX16) | 6% | 5% | 0% | 0% | 0% |
| Mizuho International PLC (213800HZ54TG54H2KV03) | 5% | 6% | 0% | 0% | 0% |
| Goldman Sachs International (W22LROWP2IHZNBB6K528) | 5% | 6% | 0% | 0% | 0% |

## C. Interest rates derivatives

| Class of Instrument | Interest rates derivaties<br>i) 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 trading volumes (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) | 47% | 33% | 0% | 0% | 0% |
| DZ Bank AG Deutsche Zentral-Genossenschaftsbank AG (529900HNOAA1KXQJUQ27) | 28% | 38% | 0% | 0% | 0% |
| DZ Privatbank S.A. (SVY0KHTJZBP60K295346) | 24% | 25% | 0% | 0% | 0% |
| BNP Paribas S.A., London Branch (R0MUWSFPU8MPRO8K5P83) | 1% | 4% | 0% | 0% | 0% |

## D. Currency derivatives

| Class of Instrument | Currency derivatives<br>i) 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 trading volumes (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 order | Percentage of directed orders |
| BNP Paribas S.A., London Branch (R0MUWSFPU8MPRO8K5P83) | 54% | 53% | 0% | 0% | 0% |
| DZ Bank AG Deutsche Zentral-Genossenschaftsbank AG (529900HNOAA1KXQJUQ27) | 46% | 47% | 0% | 0% | 0% |

| Class of Instrument | Currency derivatives<br>ii) 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 trading volumes (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) | 27% | 33% | 0% | 0% | 0% |
| Deutsche Bank AG, London Branch (7LTWFZYICNSX8D621K86) | 20% | 9% | 0% | 0% | 0% |
| UBS AG (BFM8T61CT2L1QCEMIK50) | 16% | 14% | 0% | 0% | 0% |
| Barclays Bank Plc (G5GSEF7VJP5I7OUK5573) | 8% | 14% | 0% | 0% | 0% |
| Merrill Lynch International (GGDZP1UYGU9STUHRDP48) | 5% | 4% | 0% | 0% | 0% |

## E. Equity derivatives

| Class of Instrument | Equity derivatives<br>i) 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 trading volumes (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 |
| DZ Privatbank S.A. (SVY0KHTJZBP60K295346) | 46% | 46% | 0% | 0% | 0% |
| J.P. Morgan Securities PLC (K6Q0W1PS1L1O4IQL9C32) | 33% | 38% | 0% | 0% | 0% |
| DZ Bank AG Deutsche Zentral-Genossenschaftsbank AG (529900HNOAA1KXQJUQ27) | 21% | 16% | 0% | 0% | 0% |

| Class of Instrument | Equity derivatives<br>ii) 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 trading volumes (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. International PLC (4PQUHN3JPFGFNF3BB653) | 100% | 100% | 0% | 0% | 0% |

## F. Exchange traded products

| Class of Instrument | Exchange traded products (Exchange traded funds) | | | | |
|---|---|---|---|---|---|
| Notification if < 1 average trade per business day in the previous year | N | | | | |
| Top five execution venues ranked in terms of trading volumes (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 |
| UBS Limited (REYPIEJN7XZHSUI0N355) | 34% | 19% | 0% | 0% | 0% |
| Macquarie Capital (Europe) Limited (549300GX4FPMFF91RJ37) | 29% | 33% | 0% | 0% | 0% |
| Investment Technology Group ltd. (213800EEC95PRUCEUP63) | 28% | 45% | 0% | 0% | 0% |
| Barclays Capital Securities Limited (K6Q0W1PS1L1O4IQL9C32) | 6% | 3% | 0% | 0% | 0% |
| J.P. Morgan Securities PLC (549300GX4FPMFF91RJ37) | 3% | 2% | 0% | 0% | 0% |

## G. Other instruments

| Class of Instrument | Other instruments | | | | |
|---|---|---|---|---|---|
| Notification if < 1 average trade per business day in the previous year | Y | | | | |
| Top five execution venues ranked in terms of trading volumes (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 order | Percentage of directed orders |
| Union Investment Financial Services S.A. (5299002AXR7W9QR7WO85) | 99% | 96% | 0% | 0% | 0% |
| UBS Europe SE, Luxembourg Branch (5299007QVIQ7IO64NX37) | 1% | 4% | 0% | 0% | 0% |

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## APPENDIX 2

## Information on the top five execution venues in accordance with Article 3 paragraph 1 of the Delegated Regulation (EU) 2017/576

### A. Debt instruments

| Class of Instrument | Debt instruments<br>i) Bonds | | | | |
|---|---|---|---|---|---|
| Notification if < 1 average trade per business day in the previous year | N | | | | |
| Top five execution venues ranked in terms of trading volumes (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 order | Percentage of directed orders |
| Bloomberg Trading Facility Limited (549300ROEJDDAXM6LU05) | 88% | 86% | 0% | 0% | 0% |
| MarketAxess Europe Limited (549300TTHIODYMGND828) | 12% | 14% | 0% | 0% | 0% |

### B. Currency Derivatives

| Class of Instrument | Currency Derivatives<br>ii) 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 trading volumes (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 order | Percentage of directed orders |
| Reuters Transaction Services Limited (549300SDDJE84DDJNB30) | 100% | 100% | 0% | 0% | 0% |