



2018

**MIFID II EXECUTION
QUALITY REPORT**



1. Scope and Background

T. Rowe Price International Ltd (“TRPIL”) is an investment firm subject to the Markets in Financial Instruments Directive II (“MiFID II”). This document is intended to satisfy the requirements of Article 65(6) Commission Delegated Regulation (EU) 2017/565 and the Commission Delegated Regulation (EU) 2017/576 (referred to herein as the Regulatory Technical Standard 28 (RTS 28): Investment firms shall publish for each class of financial instruments, a summary of the analysis and conclusions they draw from their detailed monitoring of the quality of execution obtained on the execution venues where they executed all client orders in the previous year.

T. Rowe Price International Ltd (“TRPIL”) provides portfolio management services to various funds and portfolios. TRPIL executes trades for these funds and portfolios through the trading desks of T. Rowe Price Associates, Inc. (“TRPA”), T. Rowe Price Hong Kong Limited (“TRPHK”), T. Rowe Price Australia Limited (“TRPAU”) and/or T. Rowe Price International Ltd. (“TRPIL”), and the execution practices of these desks are governed by T. Rowe Price Group’s (“TRP”) global execution policy. The global execution policy documents the internal procedures regarding trade execution decisions, consistent with the principles of best execution, which may be defined as taking all sufficient steps to obtain, when executing orders, the best possible result for our clients, taking into account price, costs, speed, likelihood of execution and settlement, size, nature or any other consideration relevant to order execution. The policy and arrangements are reviewed on at least an annual basis or whenever a material change occurs that could impact our ability to provide best execution.

The scope of the transactions for this report include all orders raised for client accounts managed by TRPIL and all orders executed by TRPIL authorised traders from 1 January–31 December 2018.

Where orders have been delegated for execution to the TRPA, TRPAU or TRPHK execution desks, the execution tables reflect this delegation.

For the relevant instruments, over-the-counter and venue transactions have been separated out into separate tables to provide transparency into both bilateral execution relationships as well as venue usage.

2.1 Equity, Equity Derivatives and Securitised Derivatives

(a) an explanation of the relative importance the firm gave to the execution factors of price, costs, speed, likelihood of execution or any other consideration including qualitative factors when assessing the quality of execution;

The decision as to which underlying execution venue equity orders are routed and executed on is typically the responsibility of the broker to which the orders are sent. Monitoring the performance of these underlying execution venues also forms part of the best execution framework. Additionally, TRP monitors the quality of each execution as part of the firm’s internal transaction cost analysis (“TCA”) effort as more fully described herein.

Brokers were selected for equities based on the evaluation of a number of criteria by the traders, including but not limited to:

- Indications of interest: A message from a broker reflecting an indication to either buy or sell securities on behalf of a client or entering/exiting a position to principally facilitate a trade. Brokers may also advertise trading volume to indicate the presence of sizable trading activity
- Capital commitment or availability of principal risk: The ability to trade principally gives traders optionality for achieving best execution
- Trade history (minimisation of information leakage): We may wish to trade with the same broker for multiday orders to minimise information leakage to the market
- Trader votes on execution quality, market colour, sector insights and sales trader service received from the broker
- Price improvement/reduction of market impact: We examine transaction cost data to evidence reduced execution costs
- Access to electronic trading platform: Some trading protocols (i.e., alternative trading systems (ATSs) and block crossing networks) may lead to better execution performance by reducing market impact for larger trades
- Unique liquidity: Access to retail or principal liquidity that may otherwise not be accessible through another broker



The relative importance of the execution factors for equities are primarily a function of the order type—i.e., whether it is a low touch order, program order, or a high touch order. To the extent that these types of orders may involve any of the MiFID II classes of instruments for equities (shares and depositary receipts).

Low touch orders

All eligible low touch order flow is executed electronically using a variety of algorithmic strategies across a number of brokers. Broker selection criteria focuses on trade cost analysis, connectivity and a wider assessment of the overall quality of execution coverage (the flexibility and responsiveness of the algorithm platform, the ability to provide bespoke customisation, underlying execution venue selection, analysis to improve execution quality and a solid understanding of the nature of the flow).

While low touch orders can be executed across a number of instrument classes, from very liquid (2000+ trades per day) to low liquidity (0–79 trades per day), a typical ranking of execution factors would be:

1. Price
2. Order size
3. Nature of the order
4. Cost
5. Speed
6. Likelihood of execution
7. Likelihood of settlement

Program orders

These are baskets of individual orders that are grouped together. Program trades typically have a benchmark associated with them. For example, a program trade with a close of day benchmark may be required to be executed as close to the close of day prices as possible. Special settlement instructions—for example, a program order may be tied to a specific date to invest cash flow received—are considered, alongside existing duplicate or contra orders already on the desk. These trades may be executed via any combination of broker’s algorithms, program trading desks, and utilising high touch orders.

Broker selection criteria are important to achieving the best possible outcome. For benchmarked program trades, the considerations include pre- and post-trade cost analysis, execution venue functionality, and connectivity.

However, a program trade with a market benchmark whereby each individual order is to be executed in accordance with prevailing market conditions typically has similar factor rankings to low touch orders. If appropriate, program trade components may be broken up and handled separately in accordance with the nature of the component parts. For example a very large program may include some particularly large instrument orders and those may be separated out and traded separately as high touch orders—see below.

As with low touch orders, program orders can occur across a number of instrument classes, from very liquid (2000+ trades per day) to low liquidity (0–79 trades per day). However, for program trades with a specific benchmark (3pm, close etc.), a typical ranking of execution factors would be:

1. Likelihood of execution
2. Order size
3. Price
4. Nature of the order
5. Cost
6. Speed
7. Likelihood of settlement

High touch orders

The variety of order flow means there is no absolute execution factor ranking for orders that are executed through this channel. Price and size tend to feature highly in the consideration, although this will depend on the context of the order, alongside a wider appreciation of relative liquidity. Likelihood of settlement is relevant, but given the delivery vs. payment nature of equity markets, it does not normally warrant a high ranking. The other execution factors of speed, cost, and likelihood of execution can vary a great deal, and are generally a function of a wider appreciation of the nature of the order.

Broker selection remains absolutely key in seeking the best possible outcome. For high touch orders, the inputs into the decision-making process are more complex than they would be for a benchmarked program trade, for example. Some important inputs here that are less relevant for the other execution channels are indications of interest, the availability of principle risk, liquidity distribution potential of the platform, quality of market intelligence, and confidentiality. Low touch or algorithmic strategies also play an important role in sourcing liquidity and minimising impact.

Equity options and futures admitted to trading on a trading venue

For index futures and index options liquidity is typically very high and because of the single venue model, market impact tends to be low. These trades can have benchmarks such as the close, or be limit orders or be market orders. A typical ranking of the relative importance of the execution factors for options and futures is:

1. Price
2. Size
3. Nature of the order
4. Cost
5. Speed
6. Likelihood of execution
7. Likelihood of settlement

Swaps and other equity derivatives

A typical ranking of the relative importance of the execution factors for swaps and other equity derivatives (which are not options or futures) is:

1. Price
2. Size
3. Nature of the order
4. Cost
5. Speed
6. Likelihood of execution
7. Likelihood of settlement

(b) a description of any close links, conflicts of interests, and common ownerships with respect to any execution venues used to execute orders;

TRPH Corporation, an affiliate of TRPIL, owns 4.9% of Luminex Trading & Analytics (Luminex). The Luminex trading platform is designed as an alternative trading system with specific minimum trading thresholds to allow institutional investors to trade large blocks of shares. We may transact with Luminex subject to identical criteria as we would with any other broker-dealer, including best execution obligations. Such trading is actively monitored by the T. Rowe Price Fund Board and T. Rowe Price's Global Trading Committee. A senior T. Rowe Price employee is a member of Luminex's Board of Directors.

During 2018 some TRPIL affiliates used their clients' brokerage commissions to acquire third party research through commission sharing agreements ("CSAs"). For these client accounts, TRPIL may have executed a particular equity trade for which a broker had a CSA in place with the TRPIL affiliate. Under these arrangements, broker-dealers retain the execution component of the brokerage commission as compensation for execution services and segregate a portion of the commission



for research services. The TRPIL affiliate then requests research services to be paid for using the CSA assets. For the avoidance of doubt, TRPIL does not have CSAs in place and pays for any external research it acquires directly out of its own resources.

TRP operate a global trading desk model and can choose to delegate executions via the MiFID II regulated TRPIL desk or via either of the affiliated trading desk entities TRPA, TRPAU or TRPHK.

(c) a description of any specific arrangements with any execution venues regarding payments made or received, discounts, rebates or non-monetary benefits received;

There are no specific arrangements with any execution venues.

TRP maintains a Code of Ethics and Conduct (Code) applicable to all T. Rowe Price affiliates. The Code places restrictions on the receipt of gifts, travel and entertainment opportunities by our personnel. Our personnel occasionally participate in entertainment opportunities that are for legitimate business purposes, subject to limitations set forth in the Code.

(d) an explanation of the factors that led to a change in the list of execution venues listed in the firm's execution policy, if such a change occurred;

There were no material changes to the list of counterparties or execution venues during the period.

(e) an explanation of how order execution differs according to client categorization, where the firm treats categories of clients differently and where it may affect the order execution arrangements;

All clients of TRPIL are categorized as professional and are treated the same.

(f) an explanation of whether other criteria were given precedence over immediate price and cost when executing retail client orders and how these other criteria were instrumental in delivering the best possible result in terms of the total consideration to the client;

TRPIL do not currently provide trading services to retail clients. All TRPIL clients are categorized as professional clients.

(g) an explanation of how the investment firm has used any data or tools relating to the quality of execution, including any data published under Delegated Regulation (EU) 2017/575 [RTS 27];

A third party product is utilised to evaluate the quality of the firm's trade executions via a trade tracking system. This product traces equity investments from order entry by the portfolio manager to execution. The product compares the total and net transaction cost of the firms' equity trade against an industry standard pre-trade estimate, as well as a peer universe of transactions from the third party provider's subscriber base. Trade executions are analysed on a quarterly basis by TRP and consultations with the third party provider focus on practical recommendations for improving trade execution performance. These may include a review of average order size or speed of execution, i.e., are we trading too slow or too fast. A summary of the third party provider's findings are reviewed by equity trading analysts with representatives from the third party provider on a quarterly basis.

TRP also has dedicated resources assigned to transaction costs analysis ("TCA") and assesses all equity trades using both the third party product described above, along with in-house TCA analytics. T. Rowe Price measures implicit costs using a number of different benchmarks. These include comparing execution prices against the "arrival" price (the implementation shortfall approach) and the volume weighted average price (VWAP) while the order is active in the market. TRP's internal analysis also evaluates trade executions throughout the trading lifecycle from the portfolio management group's entry into the relevant system through to broker selection and performance. Each trader receives a TCA report on a daily, weekly, and monthly basis. Trading management also receives summary reports on a daily basis. Comprehensive monthly reports are distributed to trading management. Quarterly reviews of trading costs are also provided to the Equity Best Execution Subcommittee. An equity trading analyst also meets with portfolio managers on a regular basis to review transaction costs incurred by strategy.

From April 2018 brokers began publishing data required by the Delegated Regulation (EU) 2017/575 [RTS 27]. TRP have periodically reviewed a sample of these reports throughout the trading year and have found that no actionable insights can be made from the data. Many reports followed inconsistent approaches in both collection and presentation of the data making them of little use in comparing broker quality. TRP also consulted with numerous marketplace vendors who have been unable to produce commercial products to help buy-side firms compare brokers data due to these inconsistencies.

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The trading team will continue to monitor a sample of the broker reports in the coming trading year to assess whether there is an improvement in the consistency and usefulness of these reports, but the reports did not form part of the trading teams best execution analysis during 2018.

(h) where applicable, an explanation of how the investment firm has used output of a consolidated tape provider

There is currently no consolidated tape provider within Europe but the TRPIL trading team utilised multiple data sources during their price discovery process.

2.2 Equity, Equity Derivatives and Securitized Derivatives – Article 65(6) Tables

In accordance with ESMA guidance (Q7. ESMA Q&A On MiFID II and MiFIR investor protection and intermediaries topics, Part 1), equity instruments are reported in the Delegated Regulation Article 65(6) format, as the orders were placed with brokers for execution.

2.2.1 (a) Equities Shares & Depositary Receipts

Class of Instrument	(a) Equities—Shares & depositary receipts Tick Size Liquidity Bands 1 & 2	
	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) trade per business day in the previous year	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class
TRPAU LEI: 5493003T9X7RJNNM2N04	40%	22%
TRPA LEI: 7HTL8AEQSEDX602FBU63	29%	32%
TRPHK LEI: 549300J2AF74HTUGWG28	18%	35%
MORGAN STANLEY & CO. INTERNATIONAL PLC LEI: 4PQUHN3JPPGFNF3BB653	3%	1%
GOLDMAN SACHS & CO. LLC LEI: FOR8UP27PHTHYVLBNG30	2%	0%

Class of Instrument	(a) Equities—Shares & depositary receipts Tick Size Liquidity Bands 3 & 4	
	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) trade per business day in the previous year	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class
TRPA LEI: 7HTL8AEQSEDX602FBU63	27%	17%
UBS LIMITED LEI: REYPIEJN7XZHSUI0N355	11%	19%
TRPHK LEI: 549300J2AF74HTUGWG28	10%	5%
BANK OF AMERICA MERRILL LYNCH LEI: GGDZP1UYGU9STUHRDP48	6%	6%
MORGAN STANLEY & CO. INTERNATIONAL PLC LEI: 4PQUHN3JPPGFNF3BB653	4%	4%



Class of Instrument	(a) Equities—Shares & depositary receipts Tick Size Liquidity Bands 5 & 6	
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) trade per business day in the previous year	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class
UBS LIMITED LEI: REYPIEJN7XZHSUI0N355	14%	16%
MORGAN STANLEY & CO. INTERNATIONAL PLC LEI: 4PQUHN3JPFQFN3BB653	11%	9%
JEFFERIES INTERNATIONAL LIMITED LEI: S5THZMDUJCTQZBTRVI98	9%	11%
GOLDMAN SACHS & COMPANY LEI: W22LROWP2IHZNBB6K528	8%	8%
J.P. MORGAN SECURITIES PLC LEI: K6QOW1PS1L1O4IQL9C32	7%	9%

2.2.2 (g) Equities Derivatives

Class of Instrument	(g) Equity derivatives (i) Options and Futures admitted to trading on a trading venue	
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) trade per business day in the previous year	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class
J.P. MORGAN SECURITIES LLC LEI: ZBUT11V806EZRVWT807	57%	19%
TRPA LEI: 7HTL8AEQSEDX602FBU63	22%	40%
MORGAN STANLEY & CO. LLC LEI: 9R7GPTSO7KV3UQJZQ078	19%	12%
GOLDMAN SACHS INTERNATIONAL LEI: W22LROWP2IHZNBB6K528	2%	21%
MORGAN STANLEY & CO. INTERNATIONAL PLC LEI: 4PQUHN3JPFQFN3BB653	0%	4%

2.2.2 (g) Equities Derivatives

Class of Instrument	(g) Equity derivatives (ii) Swaps & Other Equity derivatives	
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) trade per business day in the previous year	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class
MORGAN STANLEY & CO. LLC LEI: 9R7GPTSO7KV3UQJZQ078	60%	37%
CITIGROUP GLOBAL MARKETS LEI: XKZZ2JZF41MRHTR1V493	16%	29%
UBS LIMITED LEI: REYPIEJN7XZHSUI0N355	15%	16%
MORGAN STANLEY & CO. INTERNATIONAL PLC LEI: 4PQUHN3JPPGFNF3BB653	7%	7%
GOLDMAN SACHS INTERNATIONAL LEI: W22LROWP2IHZNBB6K528	2%	7%

Additional Trader Commentary for Equities, Equity Derivatives and Securitized Derivatives:

- The highest volume brokers during the period had significant volumes primarily due to:
 - Industry leading brokers that provide a wide range of access to liquidity
 - Ability to deal with large ticket sizes and complex execution scenarios
 - Provide specialty liquidity coverage
- Low touch trading represents a significant portion of the TRPIL desks trading and the broker pool that provides services in for this execution strategy is limited. Certain brokers listed provide industry leading low touch services, which partially explains the reason they are in the top 5 tables
- The equity derivatives table is distorted due to low volumes, and the blending of futures and options together in one table has had an impact on the figures (for example the options tickets were low principle amount but high ticket count relative to futures)
- As expected, the top 5 is primarily populated by a number of bulge bracket institutions, given their ability to provide liquidity across the asset class range and support large ticket sizes. However, the TRPIL trading team has access to a wide range of brokers that provide a variety of generalist and specialist liquidity across a number of instrument types
- In line with expectations, TRPA, TRPAU and TRPHK appear as top volume venues given TRP's global trading desk model. Executions allocated to these affiliated trading desks are subject to the same global execution policy and oversight governance framework as the MiFID II regulated entity



3.1 Fixed Income & FX:

(a) an explanation of the relative importance the firm gave to the execution factors of price, costs, speed, likelihood of execution or any other consideration including qualitative factors when assessing the quality of execution;

Execution Factors

Price, cost, and likelihood of execution are usually of high importance, whereas the relative importance of speed and size as execution factors varies depending on the underlying sector and specifics of the trade.

Order size is a greater consideration when trades involve less liquid securities. A number of factors impact bond liquidity including issuer frequency, security complexity, issue size and age. Bonds issued by companies that come to market infrequently or in small size typically have lower liquidity. Further, when a bond has a complex structure (such as trading restrictions or specific covenants) or is issued in limited size the market for buyers and sellers may be more limited. Finally, as bonds increase in age since issue, there is a less actively quoted market for trading.

Speed of execution may be of greater importance depending on market conditions. During a period where the market is significantly volatile or moving against the order a trader may favour a method of execution that will result in a trade more quickly.

Likelihood of settlement is evaluated at the enterprise level and tends to be a lesser focus on a trade-by-trade basis as a result. Likelihood of settlement is typically of lower concern than other factors with the exception of instruments with longer settlement periods such as bank loans and some derivatives due to their non-“DVP” nature and the risk that the counterparty’s financial strength could erode between trade and settlement date. In these cases, adverse market conditions may contribute to heightened concerns about counterparty risk.

Execution venue selection

Trading platforms and other execution venues are selected for each sector based on a number of characteristics including but not limited to:

- Market share: Platforms are initially considered based on their ability to supplement existing sources of liquidity. If a platform captures significant market share, indicating a robust group of market participants, it would be subject to review. For newly/recently established platforms, we not only consider overall market share (which may be small in the initial stages) but evidence of consistent market share growth over time as evidence of increasing adoption
- Price improvement: In reviewing a new platform, we examine the likelihood that use of the platform will lead to price improvement over existing platforms. Price improvement may be achieved through new trading protocols or access to new sources of liquidity. Where possible, we examine execution data to evidence reduced trading costs
- Trading fees: As part of our consideration of overall trading costs, we examine the fee schedule for each platform and view trade prices net of any embedded fees
- Reduction of market impact (minimisation of information leakage): Related to our consideration of price improvement, some trading protocols (i.e., dark crossing networks) may reduce market impact for large trades by reducing information leakage and thereby leading to price improvement
- Platform metrics: Where available, we request information on broker performance and “hit rates” for trades on the venue. Hit rates quantify for each inquiry, the number of prices received back and the number of trades executed vs. the number of orders entered on the system. This helps measure the quality of the liquidity provided on the platform
- Unique liquidity or market expertise: When considering adding a new systematic internaliser, we may consider whether the broker has an expertise in a particular fixed income sector

The relative importance of the above characteristics will vary based on market conditions and the specific facts and circumstances. Within the over-the-counter markets, a trade may be executed with a broker, via a voice protocol (typically a request for quote or “RFQ”), or using an electronic trading platform. The decision about whether or not to use an electronic trading venue is dependent on the availability of electronic trading platforms for that market sector and the potential for market impact.

(b) a description of any close links, conflicts of interests, and common ownerships with respect to any execution venues used to execute orders;

There are no specific arrangements, close links, conflicts of interests or common ownership to note for Fixed Income and FX venues.

TRP operate a global trading desk model and can choose to delegate executions via the MiFID II regulated TRPIL desk or via either of the affiliated trading desk entities TRPA, TRPAU or TRPHK.

(c) a description of any specific arrangements with any execution venues regarding payments made or received, discounts, rebates or non-monetary benefits received;

There are no specific arrangements with any execution venue. TRP maintains a Code of Ethics and Conduct (Code) applicable to all T. Rowe Price affiliates. The Code places restrictions on the receipt of gifts, travel and entertainment opportunities by our personnel. Our personnel occasionally participate in entertainment opportunities that are for legitimate business purposes, subject to limitations set forth in the Code.

(d) an explanation of the factors that led to a change in the list of execution venues listed in the firm’s execution policy, if such a change occurred;

There were no material changes to the list of counterparties during the period.

(e) an explanation of how order execution differs according to client categorisation, where the firm treats categories of clients differently and where it may affect the order execution arrangements;

All clients of TRPIL are categorized as professional and are treated the same.

(f) an explanation of whether other criteria were given precedence over immediate price and cost when executing retail client orders and how these other criteria were instrumental in delivering the best possible result in terms of the total consideration to the client;

TRPIL do not currently provide trading services to retail clients. All TRPIL clients are categorized as professional clients.

(g) an explanation of how the investment firm has used any data or tools relating to the quality of execution, including any data published under Delegated Regulation (EU) 2017/575 [RTS 27];

TRPIL use independent analytics and data providers, to evaluate foreign exchange and fixed income trades based on various sources of pre- and post-trade market data that are available given the fragmented nature of the market. TRPIL consistently monitor execution venues and brokers quality and operate a robust governance framework to ensure

From April 2018 execution venues began publishing data required by the Delegated Regulation (EU) 2017/575 [RTS 27]. TRP have periodically reviewed a sample of these reports throughout the trading year and have found that no actionable insights can be made from the data. Many reports followed inconsistent approaches in both collection and presentation of the data making them of little use in comparing broker quality. TRP also consulted with numerous marketplace vendors who have been unable to produce commercial products to help buy-side firms compare brokers data due to these inconsistencies.

The trading team will continue to monitor a sample of the execution venue reports in the coming trading year to assess whether there is an improvement in the consistency and usefulness of these reports, but the reports did not form part of the trading teams best execution analysis during the year.

(h) where applicable, an explanation of how the investment firm has used output of a consolidated tape provider

There is currently no consolidated tape provider within Europe but the TRPIL trading team utilises multiple data sources during their price discovery process.



3.2 Fixed Income & FX:

In accordance with ESMA guidance (Q7. ESMA Q&A On MiFID II and MiFIR investor protection and intermediaries topics, Part 1), fixed income and FX instruments are reported in the RTS 28 format as the orders were executed via a venue. However, '(d) Credit Derivatives (i) Futures and Options traded on a trading venue' were placed with brokers to execute, therefore these instruments are reported in the Delegated Regulation Article 65(6) format.

For the relevant instruments, over-the-counter and venue transactions have been separated out into separate tables to provide transparency into both bilateral execution relationships as well as venue usage.

3.2.1 (b) Debt Instruments

Class of Instrument		(b) Debt instruments (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) trade per business day in the previous year	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 LEI: 549300ROEJDDAXM6LU05	50%	56%	N/A	N/A	N/A
TRPA LEI: 7HTL8AEQSEDX602FBU63	35%	10%	N/A	N/A	N/A
TRADEWEB LEI: 2138001WXZQOPMPA3D50	10%	22%	N/A	N/A	N/A
TRPHK LEI: 549300J2AF74HTUGWG28	5%	10%	N/A	N/A	N/A
MARKETAXESS LEI: 549300TTHIODYMGND828	0%	2%	N/A	N/A	N/A

Class of Instrument		(b) Debt instruments (ii) Money market instruments			
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) trade per business day in the previous year	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
TRPA LEI: 7HTL8AEQSEDX602FBU63	74%	43%	N/A	N/A	N/A
BLOOMBERG LEI: 549300ROEJDDAXM6LU05	13%	19%	N/A	N/A	N/A
TRPHK LEI: 549300J2AF74HTUGWG28	7%	14%	N/A	N/A	N/A
TRADEWEB LEI: 2138001WXZQOPMPA3D50	6%	23%	N/A	N/A	N/A

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Class of Instrument		(b) Debt instruments—Bonds—OTC table			
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) trade per business day in the previous year	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
TRPA LEI: 7HTL8AEQSEDX602FBU63	35%	21%	N/A	N/A	N/A
TRPHK LEI: 549300J2AF74HTUGWG28	13%	10%	N/A	N/A	N/A
CITIBANK NA LEI: E57ODZWZ7FF32TWEFA76	7%	10%	N/A	N/A	N/A
HSBC BANK PLC LEI: MP6I5ZYZBEU3UXPYFY54	6%	6%	N/A	N/A	N/A
MERRILL LYNCH INTERNATIONAL LEI: GGDZP1UYGU9STUHRDP48	5%	5%	N/A	N/A	N/A

Class of Instrument		(b) Debt instruments—Money markets—OTC table			
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) trade per business day in the previous year	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
TRPA LEI: 7HTL8AEQSEDX602FBU63	72%	48%	N/A	N/A	N/A
STANDARD CHARTERED BANK LEI: RILFO74KP1CM8P6PCT96	12%	19%	N/A	N/A	N/A
HSBC BANK PLC LEI: MP6I5ZYZBEU3UXPYFY54	9%	9%	N/A	N/A	N/A
TRPHK LEI: 549300J2AF74HTUGWG28	3%	10%	N/A	N/A	N/A
J.P. MORGAN SECURITIES LLC LEI: ZBUT11V806EZRVTWT807	1%	6%	N/A	N/A	N/A

Debt instruments additional Trader Commentary:

- The highest volume OTC brokers during the period had significant volumes primarily due to:
 - Strong coverage across a number of instrument class
 - Solid liquidity in more specialist markets (e.g. Emerging Markets)
 - Ability to deal with large ticket sizes



- As expected, the top 5 is primarily populated by a number of bulge bracket institutions, given their ability to provide liquidity across the asset class range and support large ticket sizes. However, the TRPIL trading team also has access to a wide range of brokers that provide a variety of generalist and specialist liquidity across a number of instrument types.
- In line with expectations, TRPA and TRPHK appear as top volume venues given TRP's global trading desk model. Executions allocated to these affiliated trading desks are subject to the same global execution policy and oversight governance framework as the MiFID II regulated entity

3.2.2 (c) Interest Rate Derivatives

Class of Instrument	(c) Interest Rate Derivatives (ii) Swaps, forwards, and other interest rate 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) trade per business day in the previous year	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 SEF LEI: 5493003IUYOH354SNS58	53%	70%	N/A	N/A	N/A
TRPA LEI: 7HTL8AEQSEDX602FBU63	47%	30%	N/A	N/A	N/A

Class of Instrument	(c) Interest Rate Derivatives—Swaps, forwards, and other interest rate derivatives—OTC table				
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) trade per business day in the previous year	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
TRPHK LEI: 549300J2AF74HTUGWG28	65%	44%	N/A	N/A	N/A
MERRILL LYNCH INTERNATIONAL LEI: GGDZP1UYGU9STUHRDP48	18%	17%	N/A	N/A	N/A
CITIBANK NA LEI: E57ODZWZ7FF32TWEFA76	12%	18%	N/A	N/A	N/A
HSBC BANK PLC LEI: MP6I5ZYZBEU3UXPYFY54	3%	7%	N/A	N/A	N/A
BNP PARIBAS SECURITIES LEI: R0MUWSFPU8MPRO8K5P83	2%	1%	N/A	N/A	N/A

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Additional Trader Commentary:

- The highest volume OTC brokers during the period had significant volumes primarily due to:
 - Strong coverage across a number of asset classes
 - Solid liquidity in more specialist markets (e.g. Emerging Markets)
 - Ability to deal with large ticket sizes
 - Providing strong liquidity for instruments that the trading team were not mandated to execute via a Swap Execution Facility (SEF)
- As expected, the top 5 is primarily populated by a number of bulge bracket institutions, given their ability to provide liquidity across the asset class range and support large ticket sizes. However, the TRPIL trading team has access to a wide range of brokers, beyond those listed in the above tables, which provide a variety of generalist and specialist liquidity across multiple instrument types
- In line with expectations, TRPA and TRPHK appear as top volume venues given TRP's global trading desk model. Executions allocated to these affiliated trading desks are subject to the same global execution policy and oversight governance framework as the MIFID II regulated entity

3.2.3 (d) Credit Derivatives

Class of Instrument	(d) Credit derivatives—Futures & 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) trade per business day in the previous year	Proportion of volume traded as a percentage of total in that class	Proportion of orders executed as percentage of total in that class
GOLDMAN SACHS INTERNATIONAL LEI: W22LROWP2IHZNBB6K528	54%	51%
TRPA LEI: 7HTL8AEQSEDX602FBU63	30%	26%
MORGAN STANLEY & CO. INTERNATIONAL PLC LEI: 4PQUHN3JPFQFNF3BB653	12%	11%
J.P. MORGAN SECURITIES LLC LEI: ZBUT11V806EZRVTWT807	3%	8%
TRPHK LEI: 549300J2AF74HTUGWG28	1%	2%



Class of Instrument	(d) Credit derivatives (ii) Other credit derivatives				
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) trade per business day in the previous year	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
TRPA LEI: 7HTL8AEQSEDX602FBU63	64%	37%	N/A	N/A	N/A
BLOOMBERG SEF LEI: 5493003IUYOH354SNS58	36%	63%	N/A	N/A	N/A

Class of Instrument	(d) Credit derivatives—Other credit derivatives—OTC table				
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) trade per business day in the previous year	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
TRPA LEI: 7HTL8AEQSEDX602FBU63	59%	37%	N/A	N/A	N/A
CITIBANK NA LEI: E57ODZWZ7FF32TWEFA76	18%	12%	N/A	N/A	N/A
J.P. MORGAN SECURITIES LLC LEI: ZBUT11V806EZRVTWT807	8%	17%	N/A	N/A	N/A
BARCLAYS CAPITAL SECURITIES LIMITED LEI: K9WDOH4D2PYBSLSOB484	6%	9%	N/A	N/A	N/A
MERRILL LYNCH INTERNATIONAL LEI: GGDZP1UYGU9STUHRDP48	6%	8%	N/A	N/A	N/A

Credit derivatives additional trader commentary:

- The highest volume OTC brokers during the period had significant volumes primarily due to:
 - Strong coverage across a number of asset classes
 - Solid liquidity in more specialist markets (e.g. Emerging Markets)
 - Ability to deal with large ticket sizes
 - Providing strong liquidity for instruments that the trading team were not mandated to execute via a Swap Execution Facility (SEF)

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- As expected, the top 5 is primarily populated by a number of bulge bracket institutions, given their ability to provide liquidity across the asset class range and support large ticket sizes. However, the TRPIL trading team has access to a wide range of brokers, beyond those listed in the above tables, which provide a variety of generalist and specialist liquidity across multiple instrument types
- In line with expectations, TRPA and TRPHK appear as top volume venues given TRP's global trading desk model. Executions allocated to these affiliated trading desks are subject to the same global execution policy and oversight governance framework as the MiFID II regulated entity

3.2.4 (e) Currency Derivatives

Class of Instrument	(e) Currency derivatives (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) trade per business day in the previous year	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
FX CONNECT MIC: MFXC	38%	39%	N/A	N/A	N/A
TRPA LEI: 7HTL8AEQSEDX602FBU63	35%	37%	N/A	N/A	N/A
TRPHK LEI: 549300J2AF74HTUGWG28	24%	18%	N/A	N/A	N/A
FX ALL MIC: TRAL	4%	6%	N/A	N/A	N/A

Class of Instrument	(e) Currency derivatives—Futures & options—OTC table				
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) trade per business day in the previous year	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
STANDARD CHARTERED BANK LEI: RILFO74KP1CM8P6PCT96	27%	8%	N/A	N/A	N/A
CITIBANK NA LEI: E57ODZWZ7FF32TWEFA76	21%	23%	N/A	N/A	N/A
TRPHK LEI: 549300J2AF74HTUGWG28	21%	23%	N/A	N/A	N/A
TRPA LEI: 7HTL8AEQSEDX602FBU63	11%	20%	N/A	N/A	N/A
BANK OF AMERICA NA LEI: B4TYDEB6GKMZO031MB27	6%	5%	N/A	N/A	N/A



Class of Instrument		(e) Currency derivatives—Swaps, forwards, and other currency derivatives—OTC table			
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) trade per business day in the previous year	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
TRPHK LEI: 549300J2AF74HTUGWG28	45%	17%	N/A	N/A	N/A
TRPA LEI: 7HTL8AEQSEDX602FBU63	23%	79%	N/A	N/A	N/A
HAMBURGER SPARKASSE AG LEI: 529900F5KTT6ZUPA8N40	21%	1%	N/A	N/A	N/A
CITIBANK NA LEI: E57ODZWZ7FF32TWEFA76	2%	0%	N/A	N/A	N/A
STANDARD CHARTERED BANK LEI: RILFO74KP1CM8P6PCT96	2%	0%	N/A	N/A	N/A

Additional Trader Commentary:

- The highest volume OTC brokers during the period had significant volumes primarily due to:
 - Strong historical record and are industry leaders within the space
 - Solid liquidity in particular regional markets (e.g. APAC)
 - For swap positions, certain liquidity providers can collateralize trades which leads to them offering more aggressive pricing
- As expected, the top 5 is primarily populated by a number of bulge bracket institutions, given their ability to provide liquidity across the asset class range and support large ticket sizes. However, the TRPIL trading team has access to a wide range of brokers, beyond those listed in the above tables, which provide a variety of generalist and specialist liquidity across multiple instrument types
- In line with expectations, TRPA and TRPHK appear as top volume venues given TRP's global trading desk model. Executions allocated to these affiliate trading desks are subject to the same global execution policy and oversight governance framework as the MiFID II regulated entity
- Although FX spot positions are out of scope for MiFID II, in line with regulatory guidance the spot leg of the in-scope currency swap positions have been included in the formulation of the relevant tables



NOTES

The scope of the transactions for this report include all orders raised for client accounts managed by TRPIL and all orders executed by TRPIL authorised traders from 1 January–31 December 2018.

Where orders have been delegated for execution to the TRPA, TRPAU or TRPHK execution desks, the execution tables reflect this delegation.

For the relevant instruments, over-the-counter and venue transactions have been separated out into separate tables to provide transparency into both bilateral execution relationships as well as venue usage.

Tables have not been included where TRPIL have not raised an order, nor executed an order, in the relevant instrument class during the period.

RTS 28 requires firms to provide a view of how an entity has accessed liquidity via an order book, either passively (order provided liquidity) or aggressively (order took liquidity). The tables do not contain a breakdown of passive or aggressive since the nature of our order flow is such that in placing an equity order with a broker, TRPIL neither provides nor takes liquidity, nor does it instruct the broker to trade aggressively or passively. The broker with whom the order is placed has discretion as to which venue to execute the order. In executing fixed income or FX orders, we do not utilise the order book protocol that requires a firm to provide a breakdown of passive or aggressive indicators.

The tables do not contain a breakdown of directed orders as TRPIL do not accept directed orders from clients and have full discretion over order flow.

TRPIL neither raises nor executes orders directly for securities financing transactions (“SFTs”), rather its affiliate, TRPA, operates some liquidity funds that TRPIL funds may utilise to manage cash. Therefore, there are no tables for SFT transactions.

All values have been converted into US Dollar (\$) before calculating the percentages for the tables.

Although FX spot positions are out of scope for MiFID II, in line with regulatory guidance the spot leg of the in-scope currency swap positions have been included in the formulation of the relevant tables.

A machine readable version of the data from this document can be accessed in the same location as this file. The file format is .CSV and contains the required tables to comply with the regulation followed by the additional OTC tables that TRPIL has added for transparency.

Tick size bands were sourced from the official ESMA file “FULECR_20190406_E_1of1” as at 6 April 2019 covering the relevant tick sizes for the date range 1 January–31 December 2018. The tick size bands were derived from the field “Average Daily Number of Transactions” within this file. [source: <https://registers.esma.europa.eu/publication/>]-Financial Instruments Transparency System.