



ALLIANCEBERNSTEIN

(RTS28) BEST EXECUTION TOP 5 VENUE DISCLOSURE

AllianceBernstein Limited (“ABL”) will summarize and make public on an annual basis, for each class of financial instruments, the top five execution venues in terms of trading volumes where we executed professional client orders in the preceding year and information on the quality of execution obtained.

ABL invests in financial instruments on behalf of our clients, as part of the investment management services which we provide. In carrying out this activity we execute orders on behalf of clients and transmit or place orders for clients with other entities for execution.

ORDER TRANSMISSION

ABL will take “all sufficient steps” to achieve the best possible results for our clients.

Where we owe a duty of best execution, we will take all sufficient steps to obtain the best possible result (‘best execution’)

for our clients considering all relevant factors, including:

- + price;
- + costs (including both implicit costs such as market impact and opportunity cost and explicit costs such as commissions);
- + size;
- + speed;
- + likelihood of execution;
- + likelihood of settlement; and
- + the nature of the order.

In addition to the factors listed above, we will also consider the following factors as being relevant to the execution of the order:

- + the ability to retain anonymity in the market; and
- + the prevention of information leakage.

The relative importance of each of these factors within our trading process will vary depending upon a number of criteria, including:

- + the investment intent of the investment manager who created the order at ABL;
- + the characteristics of financial instruments that are the subject of that order; and
- + the characteristics of the execution venues to which that order can be directed.

Each client order that is transacted by our traders is inherently unique in its characteristics and market conditions are never constant.

In some circumstances, price volatility may mean that the timeliness of execution is a priority, whereas, in other markets that have low liquidity, the availability of securities may itself constitute best execution. In other cases, our choice of execution venue may be limited by the nature of the investments within the strategy selected by the client.

Regulatory requirements provide that ‘best execution’ be sought in all circumstances however does not prescribe that best price must be achieved on all occasions. Our obligations require us to take all sufficient steps to obtain the best possible result on all our trading on a consistent basis.

It is our policy, therefore, to have a process which ensures that every client order is treated in a way that aims to maximize the chance of achieving the best set of results when trading.

BEST EXECUTION

The purpose of our monitoring program is twofold. Firstly, to test the effectiveness of our overall execution arrangements and, secondly, to meet our regulatory obligations on best execution.

The Best Execution Committees (the “Committee”) are responsible for the supervision of compliance with applicable regulations related to best execution. The Committees are comprised of the following departments: Compliance, Trading and Portfolio Management.

The Trading teams provides information to the Committees on a periodic and ad hoc basis regarding the criteria utilized in selecting counterparties (e.g., experience, execution capabilities, reputation, capitalization), and other information that may be requested by the Committees.

At the forefront of our monitoring are the Trading teams who are responsible for monitoring and evaluating the performance and execution capabilities of our trading venues and counterparties.

The most significant check Fixed Income employs is the contemporaneous review by the trader of the price achieved on each trade, given the precise circumstances of each trade. Our traders are required to monitor and continually evaluate the quality of a trading venue / counterparties performance and question those that do not appear to represent good participation in the market.

We also use systems to monitor trading and execution levels. For example, all ABL traders are required to record systematically for each trade, information which gives insight into their evaluation of the market at the point of execution. This typically results in either the recording of multiple quotes for the trade (execution levels) or a reason as to why the trader did not seek multiple execution levels on that occasion. These reasons must be selected from a pre-determined list to ensure consistency in the monitoring process. Compliance with that requirement is checked daily and the information recorded may be used to monitor the performance of the counterparties used by our trading desks.

Equity trading activity is analyzed as part of our best execution process. Our external transaction cost analysis (“TCA”) provider, Investment Technology Group (“ITG”), reviews all our equity trades and performs a rigorous analysis against a variety of different benchmarks. In addition to the external TCA performed on all our trading activity, our quantitative team does a thorough analysis of all systematically routed orders. We routinely alter our trading behavior as a result of this analysis and, in certain cases, discontinue the routing of orders to a particular strategy or venue. This analysis is reviewed by the Committee.

When executing orders, or taking decisions to deal in OTC products, ABL checks the fairness of the price proposed to the client, by gathering market data used in the estimation of the price of such product and, where possible, by comparing with similar or comparable products.

We also have a requirement to monitor and review the execution quality of the trading venues and counterparties used to ensure continued compliance with our order execution arrangements and policy. We are therefore responsible for monitoring and reviewing our own internal processes for ensuring the selection of appropriate Trading venues and counterparties to enable the achievement of “best execution” for the trading we actively undertake. We also evaluate the order execution arrangements of the intermediaries through whom we actively trade on behalf of clients (for example, by receipt and review of their execution policies where governed by MiFID II) as well as the execution quality of these entities.

Global Equity Trading regularly evaluates the execution, performance and risk profile of the counterparties it uses. The Trading Desk actively shifts trades from underperforming counterparties, electronic trading venues or algorithmic trading strategies to those that are outperforming using internal execution metrics data. In other instances, the Trading Desk may also limit or discontinue trading activity when there is an increase in the risk profile of a counterparty.

Our Trading Team is supported by our Compliance Department which undertake compliance monitoring of all our trading.

TRADING VENUES AND COUNTERPARTIES

Our policy is to maintain a choice of trading venues and counterparties that offer the greatest potential for ABL to obtain the best possible result for the execution of client orders on a consistent basis.

When executing transactions or when placing orders with (or transmitting your orders to) other counterparties (including affiliates) to execute, ABL will take all sufficient steps to obtain on a consistent basis the best possible result when executing transactions and will act in accordance with the best interests of the client when transmitting client orders to other counterparties for execution.

When executing orders, ABL may choose to utilize either affiliated or non-affiliated counterparties to assist in the execution of client trades. On an annual basis ABL undertakes reviews to determine whether any affiliated or non-affiliated counterparties used can provide the appropriate level of experience and expertise when executing in that market. Furthermore, on a periodic basis ABL also ensures that, whilst considering all relevant execution factors, affiliated and non-affiliated counterparty executions are monitored so that ABL may satisfy itself that best execution is being met on a consistent basis and any conflict of interests are managed appropriately.

MiFIR requires that Counterparties conclude transactions in specified classes of derivatives only on Trading Venues or third-country venues deemed equivalent under MiFID II (the “Derivatives Trading Obligation”). When ABL concludes transactions in derivatives subject to the Derivatives Trading Obligation, the choice of execution venues for the transaction will be restricted. In such circumstances, ABL will seek to satisfy its best execution obligations in accordance with the Derivatives Trading Obligation when determining the execution venue for the transaction.

RTS 28 REPORTING

The following RTS reporting is for the period of 1 January 2018 and 31 December 2019 and is available in a machine-readable electronic format.

EQUITY FUTURES & OPTIONS

| Notification if <1 Average trade per day in the previous year | N | | | | |
|--|--|--|------------------------------|---------------------------------|-------------------------------|
| Top five execution venues ranked in terms of trading volume (Descending Order) | Proportion of volume traded as a percentage of total in that class | Proportion of orders executed as a percentage of total in that class | Percentage of Passive Orders | Percentage of Aggressive Orders | Percentage of Directed Orders |
| GOLDMAN SACHS INTERNATIONAL - W22LROWP2IHZNBB6K528 | 46.78% | 13.89% | n/a | n/a | n/a |
| MORGAN STANLEY & CO. INTERNATIONAL PLC - 4PQUHN3JPFNG3BB653 | 41.33% | 53.80% | n/a | n/a | n/a |
| MORGAN STANLEY & CO. LLC - 9R7GPTS07KV3UQJZQ078 | 4.53% | 10.82% | n/a | n/a | n/a |
| ALLIANCEBERNSTEIN L.P. - 0JK55UGWSWNF3X7KLQ85 | 3.80% | 13.70% | n/a | n/a | n/a |
| GOLDMAN SACHS & COMPANY - FOR8UP27PHYHYVLBN30 | 3.56% | 7.94% | n/a | n/a | n/a |

EQUITIES

| Notification if <1 Average trade per day in the previous year | N | | | | |
|--|--|--|------------------------------|---------------------------------|-------------------------------|
| Top five execution venues ranked in terms of trading volume (Descending Order) | Proportion of volume traded as a percentage of total in that class | Proportion of orders executed as a percentage of total in that class | Percentage of Passive Orders | Percentage of Aggressive Orders | Percentage of Directed Orders |
| ALLIANCEBERNSTEIN L.P. - 0JK55UGWSWNF3X7KLQ85 | 37.63% | 37.03% | n/a | n/a | n/a |
| ALLIANCEBERNSTEIN HONG KONG LIMITED - | 18.46% | 17.48% | n/a | n/a | n/a |
| GOLDMAN SACHS & COMPANY - FOR8UP27PHYHYVLBN30 | 15.76% | 17.49% | n/a | n/a | n/a |
| MERRILL LYNCH INTERNATIONAL - GGDZP1UYGU9STUHRDP48 | 15.75% | 17.47% | n/a | n/a | n/a |
| MORGAN STANLEY & CO. INTERNATIONAL PLC - 4PQUHN3JPFNG3BB653 | 12.41% | 12.04% | n/a | n/a | n/a |

EQUITY SWAPS

| Notification if <1 Average trade per day in the previous year | N | | | | |
|--|--|--|------------------------------|---------------------------------|-------------------------------|
| Top five execution venues ranked in terms of trading volume (Descending Order) | Proportion of volume traded as a percentage of total in that class | Proportion of orders executed as a percentage of total in that class | Percentage of Passive Orders | Percentage of Aggressive Orders | Percentage of Directed Orders |
| MORGAN STANLEY & CO. INTERNATIONAL PLC - 4PQUHN3JPFNG3BB653 | 59.98% | 56.57% | n/a | n/a | n/a |
| MERRILL LYNCH INTERNATIONAL - GGDZP1UYGU9STUHRDP48 | 14.79% | 16.95% | n/a | n/a | n/a |
| ALLIANCEBERNSTEIN HONG KONG LIMITED - | 11.69% | 12.83% | n/a | n/a | n/a |
| GOLDMAN SACHS EXECUTION & CLEARING L.P. - | 9.23% | 10.56% | n/a | n/a | n/a |
| J.P. MORGAN SECURITIES LLC - ZBUT11V806EZRVTWT807 | 4.31% | 3.94% | n/a | n/a | n/a |

SECURITIZED: RIGHTS / WARRANTS / PNOTES

| Notification if <1 Average trade per day in the previous year | N | | | | |
|--|--|--|------------------------------|---------------------------------|-------------------------------|
| Top five execution venues ranked in terms of trading volume (Descending Order) | Proportion of volume traded as a percentage of total in that class | Proportion of orders executed as a percentage of total in that class | Percentage of Passive Orders | Percentage of Aggressive Orders | Percentage of Directed Orders |
| MERRILL LYNCH INTERNATIONAL - GGDZP1UYGU9STUHRDP48 | 35.39% | 26.7% | n/a | n/a | n/a |
| ALLIANCEBERNSTEIN AUSTRALIA LIMITED - 549300VKU8UL42U4G590 | 23.33% | 23.33% | n/a | n/a | n/a |
| ALLIANCEBERNSTEIN HONG KONG LIMITED - | 20.34% | 15.00% | n/a | n/a | n/a |
| HSBC BANK PLC - MP615ZYZBEU3UXPYF54 | 15.69% | 26.67% | n/a | n/a | n/a |
| J.P. MORGAN SECURITIES LLC - ZBUT11V806EZRVTWT807 | 5.24% | 8.33% | n/a | n/a | n/a |

EQUITY ETF'S

| Notification if <1 Average trade per day in the previous year | N | | | | |
|--|--|--|------------------------------|---------------------------------|-------------------------------|
| Top five execution venues ranked in terms of trading volume (Descending Order) | Proportion of volume traded as a percentage of total in that class | Proportion of orders executed as a percentage of total in that class | Percentage of Passive Orders | Percentage of Aggressive Orders | Percentage of Directed Orders |
| CITIGROUP GLOBAL MARKETS LIMITED - XKZZ2JZF41MRHTR1V493 | 67.80% | 70.29% | n/a | n/a | n/a |
| ALLIANCEBERNSTEIN L.P. - OJK55UGWSWNF3X7KLQ85 | 27.78% | 24.60% | n/a | n/a | n/a |
| MORGAN STANLEY & CO. LLC - 9R7GPTSO7KV3UQJZQ078 | 3.19% | 3.04% | n/a | n/a | n/a |
| J.P. MORGAN SECURITIES LLC - ZBUT11V806EZRVWT807 | 0.86% | 0.80% | n/a | n/a | n/a |
| ALLIANCEBERNSTEIN HONG KONG LIMITED - 549300GNB8SC2JEHDW74 | 0.37% | 1.28% | n/a | n/a | n/a |

DEBT INSTRUMENTS

| Notification if <1 Average trade per day in the previous year | N | | | | |
|--|--|--|------------------------------|---------------------------------|-------------------------------|
| Top five execution venues ranked in terms of trading volume (Descending Order) | Proportion of volume traded as a percentage of total in that class | Proportion of orders executed as a percentage of total in that class | Percentage of Passive Orders | Percentage of Aggressive Orders | Percentage of Directed Orders |
| ALLIANCEBERNSTEIN L.P. - OJK55UGWSWNF3X7KLQ85 | 47.0% | 67.1% | n/a | n/a | n/a |
| ROYAL BANK OF SCOTLAND PLC - RR3QWICWWIPCS8A4S074 | 10.3% | 1.0% | n/a | n/a | n/a |
| ALLIANCEBERNSTEIN HONG KONG LIMITED - 549300GNB8SC2JEHDW74 | 8.8% | 11.3% | n/a | n/a | n/a |
| CITIGROUP GLOBAL MARKETS LIMITED - XKZZ2JZF41MRHTR1V493 | 7.1% | 2.9% | n/a | n/a | n/a |
| BARCLAYS BANK PLC - G5GSEF7VJP5I7OUK5573 | 5.6% | 1.8% | n/a | n/a | n/a |

DEBT INSTRUMENTS VENUES

| Notification if <1 Average trade per day in the previous year | N | | | | |
|--|--|--|------------------------------|---------------------------------|-------------------------------|
| Top five execution venues ranked in terms of trading volume (Descending Order) | Proportion of volume traded as a percentage of total in that class | Proportion of orders executed as a percentage of total in that class | Percentage of Passive Orders | Percentage of Aggressive Orders | Percentage of Directed Orders |
| TRADEWEB - TREU | 77.1% | 63.8% | n/a | n/a | n/a |
| BLOOMBERG MTF - BMTF | 11.8% | 8.8% | n/a | n/a | n/a |
| MARKETACCESS - MAEL | 10.8% | 26.8% | n/a | n/a | n/a |
| LIQUIDNET - LIQF | 0.3% | 0.3% | n/a | n/a | n/a |
| MA | 0.3% | 0.2% | n/a | n/a | n/a |

INTEREST RATE DERIVATIVES

| Notification if <1 Average trade per day in the previous year | N | | | | |
|--|--|--|------------------------------|---------------------------------|-------------------------------|
| Top five execution venues ranked in terms of trading volume (Descending Order) | Proportion of volume traded as a percentage of total in that class | Proportion of orders executed as a percentage of total in that class | Percentage of Passive Orders | Percentage of Aggressive Orders | Percentage of Directed Orders |
| ALLIANCEBERNSTEIN L.P. - OJK55UGWSWNF3X7KLQ85 | 92.4% | 81.6% | n/a | n/a | n/a |
| GOLDMAN SACHS INTERNATIONAL - W22LROWP2IHZNBB6K528 | 3.1% | 7.1% | n/a | n/a | n/a |
| ALLIANCEBERNSTEIN HONG KONG LIMITED - | 2.9% | 3.5% | n/a | n/a | n/a |
| CITIGROUP GLOBAL MARKETS INC. - MBNUM2BPBDO7JBLYG310 | 1.2% | 6.3% | n/a | n/a | n/a |
| MORGAN STANLEY & CO. INTERNATIONAL PLC - | 0.3% | 0.8% | n/a | n/a | n/a |

CREDIT DERIVATIVES

| Notification if <1 Average trade per day in the previous year | Y | | | | |
|--|--|--|------------------------------|---------------------------------|-------------------------------|
| Top five execution venues ranked in terms of trading volume (Descending Order) | Proportion of volume traded as a percentage of total in that class | Proportion of orders executed as a percentage of total in that class | Percentage of Passive Orders | Percentage of Aggressive Orders | Percentage of Directed Orders |
| J.P. MORGAN SECURITIES, LLC - ZBUT11V806EZRVTWT807 | 43.8% | 16.0% | n/a | n/a | n/a |
| BNP PARIBAS - RCNB6OTYUAMMP879YW96 | 33.4% | 18.4% | n/a | n/a | n/a |
| GOLDMAN SACHS INTERNATIONAL - W22LROWP2IHZNBB6K528 | 14.1% | 33.6% | n/a | n/a | n/a |
| ALLIANCEBERNSTEIN L.P. - 0JK55UGWSWNF3X7KLQ85 | 5.4% | 11.2% | n/a | n/a | n/a |
| BARCLAYS BANK PLC - G5GSEF7VJP5I7OUK5573 | 1.7% | 9.6% | n/a | n/a | n/a |

CREDIT DERIVATIVES VENUE

| Notification if <1 Average trade per day in the previous year | Y | | | | |
|--|--|--|------------------------------|---------------------------------|-------------------------------|
| Top five execution venues ranked in terms of trading volume (Descending Order) | Proportion of volume traded as a percentage of total in that class | Proportion of orders executed as a percentage of total in that class | Percentage of Passive Orders | Percentage of Aggressive Orders | Percentage of Directed Orders |
| Tradeweb - TREU | 100.0% | 100.0% | n/a | n/a | n/a |

STRUCTURED FINANCE INSTRUMENTS

| Notification if <1 Average trade per day in the previous year | Y | | | | |
|--|--|--|------------------------------|---------------------------------|-------------------------------|
| Top five execution venues ranked in terms of trading volume (Descending Order) | Proportion of volume traded as a percentage of total in that class | Proportion of orders executed as a percentage of total in that class | Percentage of Passive Orders | Percentage of Aggressive Orders | Percentage of Directed Orders |
| ALLIANCEBERNSTEIN L.P. - 0JK55UGWSWNF3X7KLQ85 | 58.0% | 59.2% | n/a | n/a | n/a |
| SWEDBANK AB - M312WZV08Y7LYUC71685 | 9.6% | 2.0% | n/a | n/a | n/a |
| SKANDINAVISKA ENSKILDA BANKEN AB - F3JS33DEI6XQ4ZBPTN86 | 4.0% | 0.7% | n/a | n/a | n/a |
| HSBC BANK PLC - MP6ISZYZBEU3UXPYFY54 | 3.2% | 2.6% | n/a | n/a | n/a |
| BARCLAYS BANK PLC - G5GSEF7VJP5I7OUK5573 | 2.6% | 5.3% | n/a | n/a | n/a |

STRUCTURED FINANCE INSTRUMENTS VENUE

| Notification if <1 Average trade per day in the previous year | Y | | | | |
|--|--|--|------------------------------|---------------------------------|-------------------------------|
| Top five execution venues ranked in terms of trading volume (Descending Order) | Proportion of volume traded as a percentage of total in that class | Proportion of orders executed as a percentage of total in that class | Percentage of Passive Orders | Percentage of Aggressive Orders | Percentage of Directed Orders |
| MARKETACCESS - MAEL | 52.5% | 61.7% | n/a | n/a | n/a |
| BLOOMBERG MTF - BMTF | 39.3% | 27.2% | n/a | n/a | n/a |
| TRADEWEB - TREU | 8.2% | 11.1% | n/a | n/a | n/a |

SECURITIZED DERIVATIVES

| Notification if <1 Average trade per day in the previous year | Y | | | | |
|--|--|--|------------------------------|---------------------------------|-------------------------------|
| Top five execution venues ranked in terms of trading volume (Descending Order) | Proportion of volume traded as a percentage of total in that class | Proportion of orders executed as a percentage of total in that class | Percentage of Passive Orders | Percentage of Aggressive Orders | Percentage of Directed Orders |
| ALLIANCEBERNSTEIN L.P. - OJK55UGWSWNF3X7KLQ85 | 100.0% | 100.0% | n/a | n/a | n/a |

CURRENCY DERIVATIVES

| Notification if <1 Average trade per day in the previous year | N | | | | |
|--|--|--|------------------------------|---------------------------------|-------------------------------|
| Top five execution venues ranked in terms of trading volume (Descending Order) | Proportion of volume traded as a percentage of total in that class | Proportion of orders executed as a percentage of total in that class | Percentage of Passive Orders | Percentage of Aggressive Orders | Percentage of Directed Orders |
| ALLIANCEBERNSTEIN L.P. - OJK55UGWSWNF3X7KLQ85 | 100.0% | 100.0% | n/a | n/a | n/a |

ADDITIONAL RTS 28 REPORTING

During the calendar year, ABL has placed orders with our affiliates AllianceBernstein L.P., AllianceBernstein Australia Limited and AllianceBernstein Hong Kong Limited for execution with venues/broker's. We believe our affiliates are best placed to transmit these orders when the characteristics of the financial instrument, venues and counterparties requires local knowledge. Further information regarding the venues and counterparties used by our affiliates is available via Additional RTS 28 reporting which can be requested from your account manager.

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