

Vanguard Asset Management – Top Five Venue Report

Equities – Shares & Depositary Receipts – Tick size liquidity bands 5 and 6 (from 2000 trades per day)

1 Introduction

To enable the public and investors to evaluate the quality of Vanguard Asset Management (“VAM”) execution practices, top five execution venues by asset class for all client orders, will be disclosed on an annual basis. VAM will also include a summary of the analysis and conclusions drawn from best execution monitoring.

2 Scope

This document covers client trading activity for VAM for the period of 1st January 2017 to 31st December 2017.

3 Considerations

a. Explanation of the relative importance the firm gave to the execution factors of price, costs, speed,

Vanguard takes into consideration a range of different execution factors when selecting the different venues on which to execute client orders. These include:

- Price.
- Liquidity of the market.
- Explicit costs (e.g., commissions, fees) and implicit costs (e.g., market impact) of the transaction.
- The reliability and accuracy of the venue’s communications and settlement processing.
- Execution capabilities, expertise, reputation, and perceived soundness of the venue for the transaction.
- The venue’s access to underwritten offerings and secondary markets.
- The need, ability, and willingness of the venue to commit capital to facilitate the transaction (in particular for initial creations on new ETF products and principal transactions).

- The need for timely execution (e.g., responsiveness of the venue) and/or confidentiality of the transaction.
- Size and nature of the transaction.
- Other matters relevant to the selection of a venue for portfolio transactions for any client. Although price will ordinarily merit high importance, the weighting given to these factors can be expected to vary according to, among other things: (1) the purpose of the trade, (2) the type of instrument, and (3) market conditions involved. These factors may vary throughout the day, even on the same type of trades, and require flexibility for effective implementation.

b. Description of any close links, conflicts of interest, and common ownerships with respect to any trading venues used.

VAM has no direct common ownership with any trading venues that it utilises. VAM in its capacity as investment adviser and agent to certain funds may from time to time instruct the transaction in financial instruments of the trading venues it utilizes. Any transactions undertaken will be subject at all times to compliance with the COLL Sourcebook, any COBS requirements and listing requirements, the investment objectives of relevant fund and VAM’s internal conflicts of interest policy.

c. Explanation of any specific arrangements with any execution venues regarding payments made or received, discounts, rebates, or non-monetary benefits received.

VAM as an FCA regulated MiFID Investment Firm, employs strict oversight of its execution venue relationships to ensure that all payments made, and benefits received, are in full compliance with inducement rules within MiFID II. VAM has a designated list of research providers for whom it pays for research (which is ring-fenced from Vanguard’s global investment operations) under separately agreed contractual arrangements that are reviewed on an annual basis. Any payment made by VAM is debited from its own P&L. In addition VAM has entered into separate contractual arrangements with execution venue providers in respect of the provision of certain execution management systems. VAM has various internal policies in relation to gifts and entertainment, research as well

as minor non-monetary benefits and the consumption and recording thereof, which is fully compliant with COBS. Finally, VAM undertakes periodic reviews of all its execution venues and its payment for the services provided them in accordance with its internal inducement policies to ensure continuing compliance with legislation.

d. Explanation of factors that led to a change in the list of execution venues listed in the firm's execution policy.

VAM has not changed any of its execution factors as described in Best Execution Policy for the period in question. The firm will monitor all of the factor as prescribed in section 3(a) of the attached report and any one or more changes to these factors could lead to a change in the firm's execution venues.

e. Explanation of how order execution differs according to client categorization.

Whilst retail clients invest directly in the Vanguard funds, VAM's clients are the Funds themselves, not the underlying beneficiaries. All funds are classified as professional clients for the purpose of the regulation and therefore they do not benefit from the higher of level of customer protection afforded to retail clients.

f. Explanation of whether other criteria were given precedence over immediate price and cost when executing retail client orders.

VAM does not execute retail client orders.

g. Explanation of how the investment firm has used any data or tools relating to the quality of execution.

Best execution monitoring is conducted by the VAM dealers, the VAM risk team and VAM compliance. This includes pre and post-trade monitoring. Prior to any client execution VAM assesses where liquidity is in the market and fair market value. This information feeds into the dealer selection process. On a post-trade basis, a range of tools are used (including Bloomberg TCA ("BTCA")) to monitor trades executed and highlight any instances which may warrant further investigation. Additionally, broker reviews are done periodically. This supplements the data / tools used on a pre-trade basis across VAM's front office.

h. Explanation of how the investment firm has used output of a consolidated tape provider.

There is currently no consolidated tape under MiFID II. When available, VAM will seek to use this to enhance existing best execution monitoring.

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