



Putnam Investments Limited

Best Execution and Order Handling Policy

As of January 2023

Summary of best execution and order handling policy

Introduction

The recast Markets in Financial Instruments Directive (“MiFID”) requires that an investment firm put in place a Best Execution and Order Execution Policy (the “Policy”) which sets out its arrangements to ensure that it takes all sufficient steps to obtain the best possible result for its clients, taking into account the execution factors, when executing or placing an order (the “Best Execution Obligation”). The Execution Factors that firms are required to consider in this regard are price, costs, speed, likelihood of execution and settlement, size, nature of the order, and any other consideration relevant to the execution of the order.

This policy describes how Putnam Investments Limited (“PIL”) and its affiliates (collectively “Putnam”) seek to achieve best execution when placing orders as agent on behalf of PIL’s clients and reflects Putnam’s obligations in taking sufficient steps to obtain the best possible result for its clients. The process by which we seek to achieve best execution varies by asset class and this Policy describes what those execution factors are in each of the asset classes in which we execute trades for PIL’s clients.

This document also describes the best execution policy and approach in respect of financial instruments covered by MiFID and purchased and sold by PIL and its affiliates in managing the investment portfolios of PIL’s clients. These instruments include equity securities, units in exchange traded funds, fixed income products including corporate bonds, government bonds and shorter-term cash-like instruments, foreign exchange instruments and derivatives on some of these instruments.

Under MiFID, firms are required to provide clients with appropriate information regarding the Policy and to obtain their clients’ consent to the Policy.

Execution Factors and other Best Execution Criteria

In seeking the best execution reasonably available under the circumstances, Putnam, having in mind its clients’ best interests, selects broker-dealers to execute trades considering all factors it believes to be relevant. These can include Execution Factors such as:

- ◆ transaction price
- ◆ the size and type of the transaction
- ◆ the nature of the market for the security or other investment
- ◆ the amount of the commission
- ◆ the timing of the transaction (taking into account market prices and trends, the reputation, experience and financial stability of the broker-dealer involved)
- ◆ the benefit of any capital committed by a broker or dealer to facilitate the efficient execution of the transaction, and

- ◆ the quality of service rendered by the broker-dealer in other transactions.

Where Putnam owes the Best Execution Obligation, in taking all sufficient steps to achieve the best result for PIL's clients, Putnam will take into account the Execution Factors that are relevant to the execution of the order as well as the following criteria:

- The type of client (all PIL's clients are categorized as Professional Clients under MiFID II)
- The type of order
- The type of financial instruments considered
- The execution venues on which the order can be executed
- The execution entities with which the order can be executed

It is generally expected that price will have a high relative importance to the other factors in obtaining the best possible result. In certain circumstances, however, we may determine that other execution factors are more important than price in obtaining the best possible result for you based on the above criteria.

Putnam currently does not execute portfolio transactions for client accounts with any "affiliated" broker-dealers (as defined under relevant securities laws).

As required under MiFID II, Putnam does not use brokerage commissions generated by PIL clients to obtain brokerage and research products and services.

Dealing venues and methods

Putnam places orders for the purchase and sale of portfolio investments for PIL's clients through a substantial number of brokers and dealers. PIL generally places trades for European fixed income investments itself, and its affiliate, The Putnam Advisory Company, LLC ("PAC"), generally places trades for equities, currencies, and other transactions. In both cases, outside brokers and dealers execute the trades.

In our effort to obtain the best possible result for our clients when executing orders on their behalf, Putnam may utilise one or more of the following types of venues or entities:

- Regulated markets
- Electronic crossing networks
- Multilateral trading facilities
- Systematic internalisers
- Organised trading facilities
- Market makers and other liquidity providers
- Managers of collective investment schemes
- An entity or venue that performs a similar function to the above in a non-EU country

PIL may also utilise the services of its Putnam affiliates' trading desks in executing trades (though such affiliates do not execute PIL client trades themselves as broker-dealers), as discussed above. Specific use of affiliates' trading desks may change from time to time.

Within this list, we will determine the venues or entities to use, dependent upon the type of instrument being traded, which are, in our view, most likely to provide the best possible result for our clients. For certain financial instruments, it may be that only one execution venue or entity is available.

In respect of those financial instruments that can be traded on a regulated market, multilateral trading facility or organised trading facility, there may be occasions where we believe that the best possible result will be obtained by executing your order outside the regulated market, multilateral trading facility or organised trading facility. By investing with PIL, you give your consent to us so to trade.

Broker selection

Putnam evaluates a variety of factors when determining whether to approve a broker or counterparty to execute transactions on behalf of its clients. The factors may include a broker's trading expertise, capital reserves, infrastructure, the ability to minimise total trading costs, the ability to provide multiple execution platforms, the ability to effectively source liquidity, and the ability to provide services to accommodate special transaction needs. Unless approved in advance by a senior team leader, traders may only trade with brokers on Putnam's approved broker list.

Specific instructions

If we receive a specific instruction from you, for example, to execute certain types of transactions on a particular venue or with a specified counterparty, we will comply with such instruction. You should be aware that the Best Execution Obligation will not apply to that part or aspect of the order execution covered by your specific instruction.

Order handling and allocation

Orders that we place for your account may be aggregated with other client orders. Allocations of orders must be fair and equitable among participating clients' accounts without unfair discrimination for or against a client or group of client accounts. This includes allocating less liquid securities or securities with a limited supply to all eligible accounts on a fair basis, allocating securities with a practical unlimited supply to all eligible accounts on a fair basis, and ensuring that accounts trading in a security at the same time receive the same timing of allocation and price. Client account trades may also be aggregated with trades for Putnam affiliated accounts on terms no less advantageous than those of the affiliated accounts or other Putnam clients.

Although orders will only be aggregated where Putnam reasonably believes that such aggregation will be to the overall advantage of a client portfolio (“Portfolio”), the procedure may, on some occasions, operate to a Portfolio’s disadvantage and on others to a Portfolio’s advantage.

Best Execution Monitoring and review

Putnam has in place procedures to monitor compliance with the Policy and execution arrangements. We carry out regular reviews of our execution arrangements, at a minimum on an annual basis, or in the event of a material change occurring that affects our ability to obtain the best possible result for our clients on a consistent basis. This review evaluates the effectiveness of the Policy and execution arrangements so that we identify and correct any deficiencies that may exist and make improvements as may be required. We also review whether the execution venues and entities we use in executing orders continue to provide the best possible results on a consistent basis. We will notify you of any material changes to the Policy or to our execution arrangements.

- A transaction cost analysis (“TCA”) is regularly carried out for equities and enables Putnam to measure explicit costs such as market impact. TCA reports are produced by a third party vendor and reviewed by the Head of Equity Trading.
- Management information is in place to analyse fixed income transactions. Putnam has engaged a third party vendor to evaluate fixed income trading activity. This evaluation is somewhat constrained by a current lack of market transparency into certain classes of fixed income securities. The Global Heads of Fixed Income Investments along with investment specialists and traders evaluate brokers versus certain Execution Factors on a periodic basis.
- Currency trades are currently benchmarked against the WM Reuters Closing Spot Rate as of 11:00 a.m. US time. Broker quality is assessed generally three times per year and results in a broker ranking that is useful in the broker selection process.
- Putnam’s Compliance Department has various practices in place to provide oversight of best execution efforts in the various asset classes.
- Putnam has in place a Trade Management Oversight Committee comprised of senior investment, compliance, risk and technology employees who review management information related to best execution for equity, fixed income and currency asset classes at least annually.

Policy Review and Maintenance

PIL will review this Best Execution and Order Handling Policy at least annually and whenever a material change occurs that affects PIL’s ability to continue to obtain the best possible result for the execution of its client orders on a consistent basis using the venues included in this policy. If the review results in a material change to this Policy, PIL will provide you with an updated Best Execution and Order Handling Policy.

Description of Approach, Execution Factors, Counterparties and Trading Venues for Various Asset Classes

Equities (including common stock, ordinary shares, depository receipts and exchange traded funds)

Approach

- Equity orders will normally be executed by approved brokers through regulated markets, multilateral or other trading facilities and systematic internalisers. In seeking to achieve best execution, Putnam’s investment professionals will consider the reason for the order, where the security is available to trade, the size and relative liquidity of the order and any specific instructions provided by the portfolio manager responsible for the trade.
- Putnam has in place a centralized trading desk for equities located in Boston, Massachusetts. Portfolio managers may communicate a trading strategy to the trading desk when placing the order. The centralized trading desk selects the execution process most appropriate under the circumstances and sources liquidity through various methods which could include, among others, agency trades, program trades, use of broker capital, internal cross trades, use of electronic crossing networks and algorithmic trading.

Execution Factors

- For Liquid Equity securities (80 to 1999 trades per day (tick bands 3 and 4) and 2,000 or more trades per day (tick bands 5 and 6)
 - Price and cost are normally the determining factors but other reasons could be more important depending on the circumstance.
- For Illiquid Equity securities (0 to 79 trades per day (tick bands 1 and 2)
 - In addition to price and cost, the size of the order is normally a determining factor but other reasons could be more important depending on the circumstance.

Counterparties on whom significant reliance is placed:

BANK OF AMERICA	JONES TRADING
BARCLAYS CAPITAL, INC.	MACQUARIE CAPITAL (USA) INC
BMO CAPITAL MARKETS CORP	MIZUHO SECURITIES USA INC
CITIGROUP CAPITAL MARKETS INC	MORGAN STANLEY & CO
CLSA LIMITED	PIPER JAFFREY & CO
COWEN & COMPANY, LLC	RAYMOND JAMES & ASSOC.
CREDIT SUISSE INTERNATIONAL	RBC CAPITAL MARKETS
CREDIT SUISSE (USA) LLC	ROBERT W BAIRD
DAIWA CAPITAL MARKETS AMERICA	STIFEL, NICHOLAS & CO
EVERCORE ISI	UBS SECURITIES LLC
GOLDMAN, SACHS & CO	WILLIAM BLAIR & CO
JP MORGAN SECURITIES, LLC	VIRTU AMERICAS, LLC
JEFFERIES & CO. INC.	

Corporate Bonds and Government Bonds

Approach

- Fixed Income orders will normally be directed to our approved brokers or executed through an electronic trading platform or via telephone depending on the size and complexity of the order.
- In trading corporate and government bonds, investment specialists and traders surveil the market via morning calls and individual trader updates, monitoring volumes and seek bids and offers in competition bids through trading screens, Bloomberg messages, MarketAxess alerts, via phone and review of TRACE trade history to ensure we are seeking the best price under the circumstances.

Execution Factors

- Size of order and price are normally the most significant factors, however for larger trades commitment of capital on the part of the broker may also be a factor.

Counterparties on whom significant reliance is placed:

Bank of America	Jefferies & Co., Inc.
Barclays Capital, Inc.	JP Morgan Securities LLC
BMO Capital Markets Corp	Morgan Stanley & Co
BNP Paribas	RBC Capital Markets
Citigroup Global Markets Inc.	Santander
Credit Suisse Securities (USA) LLC	Standard Chartered
Deutsche Bank Securities Inc.	Toronto Dominion
Goldman, Sachs & Co.	Wells Fargo
HSBC Bank PLC	

Trading Venues on which significant reliance is placed:

- MarketAxess
- TradeWeb
- Bloomberg

Money Market and Other Short-term Instruments

Approach

- Money Market desk trades are governed by an approved list of corporate and bank issuers and commercial paper programs. The Money Market desk also trades repurchase agreements subject to a list of approved repo counterparties.
- Bloomberg and Trade Web market platforms are used for price discovery while Bloomberg messaging and email are used for general market communication and dealer runs.
- The majority of commercial paper, treasury and government agency transactions are generally traded electronically while CDs, Notes and repurchase agreements are negotiated by voice, instant message or Bloomberg mail.
- Price discovery is also maintained by looking at TRACE history and live broker runs.

Execution Factors

- Price, size of the transaction and cost are normally the most significant factors, while availability subject to issuer and counterparty limits can also be a factor and may limit price discovery under certain circumstances.

Counterparties on whom significant reliance is placed:

Bank of America
Bank of Nova Scotia
Barclays Capital Inc
BNP Paribas Securities Corp
BMO Capital Markets
Citigroup Global Markets Inc
Goldman Sachs & Co
JP Morgan Securities LLC
Mizuho
Nomura
RBC Capital Markets LLC
Royal Bank of Canada
Toronto Dominion
UBS
Wells Fargo

Foreign Exchange, primarily currency forwards and spots

Approach

- Currency spots and forwards are transacted primarily to express and investment view on the currency or to hedge exposure to different currencies based on the base currency of the portfolio being managed or to allow transactions between currencies to take place. In some cases, currency trades are executed to express an investment view on the currency.
- Bloomberg is used to identify indicative pricing for estimation of spot and forward points.
- The majority of trades are executed by putting approved banking counterparties in competition.
- Voice trades used primarily for currency trades exceeding \$10 million.

Execution Factors

- Price, size of the transaction and cost are generally the most important factors. Position management is also an important factor in trading currencies

Counterparties on whom significant reliance is placed:

Bank of America, N.A.
Barclays Capital, Inc.
Brown Brothers Harriman & Co.
Citibank, N.A.
Credit Suisse International
Goldman, Sachs & Co
HSBC Bank PLC
JP Morgan Chase Bank
Morgan Stanley
NatWest
State Street Bank and Trust Co.
Toronto Dominion
UBS Securities LLC
Westpac Banking Corp.

Trading Venues on which significant reliance is placed:

- Fx Connect
- EBSi International

