



NCFX Benchmark Statement: NCFX Mid-Rate Indices (NCFX-MI Family of Benchmarks)

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STATUS:	Approved
DATE CREATED:	February 2018
VERSION:	2.0
LAST UPDATED:	February 2021

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Introduction

This benchmark statement is provided by New Change Currency Consultants Ltd (“New Change FX” or “NCFX” or the “Company”) as the administrator of the NCFX-MI Family of Benchmarks and in accordance with Article 27 of Regulation (EU) 2016/1011 of the European Parliament and the Council of 8 June 2016 (the “Benchmark Regulation” or “BMR”). This statement is intended to meet the requirements of the BMR regulation on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds.

On 27 February 2018, HM Treasury in the UK passed into legislation the Financial Services and Markets Act 2000 (Benchmarks) Regulations 2018, thereby fully adopting the BMR Regulation (EU) 2016/2011. On that date the Financial Conduct Authority (FCA) in the UK granted NCFX permission under Part 4A of the Financial Services and Markets Act 2000 to carry on the regulated activity of administering a benchmark.

The Benchmark Statement below makes reference to Article 27 and 28 of the BMR as well as the technical standards (RTS) accompanying the BMR, published in September 2016, and where applicable makes reference to the specific clause or sub-clause within Articles 27 and 28 of the BMR, or specific Articles and clauses within the RTS relating to disclosure requirements for Benchmark Statements in Section 9.4 of the RTS.

NCFX can be found on the FCA financial services register (<https://www.fca.org.uk/firms/financial-services-register>) with firm reference number 793983. The FCA is the sole regulatory supervisor for NCFX although the company can also be found on the European Securities and Markets Authority (ESMA) Register of Benchmark Administrators (<https://www.esma.europa.eu/databases-library/registers-and-data>).

Benchmark Statement

1. General Information:
<i>RTS Section 9.4 Article 7 – Type of Benchmark</i>
<ul style="list-style-type: none"> The NCFX-MI family of benchmarks qualifies as a Non-significant Benchmark in that it does not satisfy the criteria as either a Critical Benchmark or a Significant Benchmark.
<i>BMR Article 27,1,(a) and RTS Section 9.4 Article 1,1 – Rationale and Economic Reality Measured</i>
<ul style="list-style-type: none"> NCFX-MI benchmarks are a family of ex-ante price-based mid-rate benchmarks, both Spot and Forward, in the global FX market. The NCFX-MI benchmarks reflect the calculated mid-rate reality of the live FX markets, aggregated across many hundreds of contributions, thereby providing clients with an independent assessment of the live FX rate without bias or skew based on their own activity. The NCFX-MI benchmarks are priced in different currencies, depending on what is being measured. Primary currencies include USD, GBP and EUR. All input data feeds received are from the top of the contributors' books for one million units (1m) of the base currency and are available to other market participants to transact business.
<i>BMR Article 27,1,(b) and RTS Section 9.4 Article 1,3 – Discretion Used in Calculation</i>
<ul style="list-style-type: none"> Contributions must be relevant, timely and fully automated, there is no data submitted from any manual systems. Discretion is neither permitted nor possible in creation of the NCFX-MI benchmarks. One of the key characteristics of the NCFX-MI family of benchmarks is the absence of human intervention in determining the mid-rate as it is wholly automated.
2. Methodology and Input Data
<i>BMR Article 27,2,(a),(b) – Definitions and Methodology</i>
<ul style="list-style-type: none"> Please see Graphic Illustration of the Production of the NCFX-MI Benchmark below. The mid-price is calculated at between 20 and 50 times per second (depending on the specific currency pair) from the Best Bid and Best Offer price available from the feeds at each update period. As each newly received price is received from any of the feeds (whether a Bid or Offer) NCFX compares this to all the other prices received at the same time for the given currency pair and the best bid and offer prices are calculated as follows: <ul style="list-style-type: none"> For Bid prices the highest last received price from the different feeds is taken For Offer prices the lowest last received price from the different feeds is taken The mid-rate is generated from unobtrusive observations of aggregated prices from multiple feeds that are themselves aggregated which makes it very difficult for market participants to manipulate the rate, as they are not able to know whether the prices they are quoting will be included in the formation of the NCFX benchmark mid-rate. The methodology has been adopted in order to deliver a correct, calculated mid-rate for the global FX markets without any manual intervention, or the presence of ex-post trade information in the benchmark. The reason for delivering an independent FX mid-rate is to

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provide clients, who do not have access to the required technology to calculate such a rate, reasonable access to a measure that has not been and cannot be affected by their own transactions. Requirements such as those under PRIIPs Annex IV, Point 17, require such a rate for calculation of cost, and clients now require such a rate for the settlement of financial contracts where there is no requirement to use the FX markets, such as in fixing the rate for an option expiry.

BMR Article 27,2,(c) – Input Data

- Data is currently received from ECNs (marketplace digital platforms) that are capable of providing the data via the FIX market protocol at the required frequency on an automated basis, with no manual input and where skewed data can be stripped out.
- The currency pair, transaction type (Bid or Offer), price and time stamp is extracted out of the FIX messages
- Rates are delivered many thousands of times a second and the NCFX technology automatically extracts the best bid and offer in a given time window to produce the NCFX mid-rate for that window.
- Input data is contributed at a rate of up to 1,000 per second depending on the currency (highest frequency for primary currencies).
- Liquidity concerns for less commonly traded currency pairs are crucial and surveillance through the monitoring of the contributor feeds is an integral part of the process.

3. Limitations and Errors

BMR Article 27,2,(e),(f),(g) and RTS Section 9.4 Article 1,2 – Limitations and Unreliable Data

- Each member of the NCFX-MI family of benchmarks requires a minimum of two independent contributing marketplaces in order to be supplied to clients.
- New Change FX does not offer NCFX-MI benchmarks in pairs that exhibit limitations in terms of contributing feeds and in the event of circumstances changing adversely for a given member of the family of benchmarks on what appears to be a long-term basis, then clients would be notified in advance, and the benchmark withdrawn.
- The methodology stands up well during periods of market stress, where typically bid-offer spreads widen considerably but the market mid-rate can still be measured reliably on data based on live economic interests across the various marketplaces.
- Given the fully automated nature of the rate and its calculation, errors are extremely rare. In the event that an error is identified, then the inputs that created the error would be checked to identify the nature of the error. If it is indeed deemed to be a technical error, for example, a rate being quoted to the wrong decimal place, then it would be identified and corrected.

4. Changes and Cessation

BMR Article 27,1,(c),(d), BMR Article 28 and RTS Section 9.4 Article 1,4 – Benchmark Changes or Cessation

- Although considered extremely unlikely, there may be circumstances in or beyond the control of the administrator that would lead to either a change in the methodology or the cessation of the production of the NCFX-MI family of benchmarks.
- Changes to the methodology in calculating the NCFX-MI benchmarks may lead to changes in the financial contracts and financial instruments that are referenced to them.
- Where it is a change of methodology benchmark users would be given three months' advanced warning ahead of a change in methodology.

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- Where the administrator is obliged to stop providing a benchmark for whatever reason, benchmark users would be given three months' notice and the administrator would suggest any credible alternative benchmarks if possible.

Graphic Illustration of the Production of the NCFX-MI Benchmark

