CME Group Volatility Index

UK BMR Benchmark Statement

CME Group Benchmark Administration Limited

Publication Date: July 17th, 2023

Introduction

This Benchmark Statement “CME Group Volatility Index”, classified as a “family of benchmarks” under Article 3(1)(4) BMR.

The Benchmark family consists of, single product indices, broad-based indices and derivative indicators. The components of the CME Group Volatility Index family include:

- Volatility Index value
- Up Variance (Up Var) – Implied volatility of call options
- Down Variance (Down Var) – Implied volatility of put options
- Skew – Difference of Up Var and Down Var
- At the Money Vol (ATM Vol) - Premium of the theoretical at-the-money (ATM) volatility
- Convexity – The degree of curvature of the volatility curve as indicated by the ratio of the Volatility Index value and the ATM Vol.

These Benchmarks are administered and calculated by CME Group Benchmark Administration Limited, authorized and supervised as a Benchmark Administrator by the UK Financial Conduct Authority.

BMR / RTS	BMR Benchmark Statement requirement	Administrator's statement
Article 27 (1) BMR	Within two weeks of the inclusion of an administrator in the register referred to in Article 36, the administrator shall publish, by means that ensure fair and easy access, a benchmark statement for each benchmark or, where applicable, for each family of benchmarks, that may be used in the Union in accordance with Article 29. Where that administrator begins providing a new benchmark or family of benchmarks that may be used in the Union in accordance with Article 29, the administrator shall publish, within two weeks and by means that ensure a fair and easy access, a benchmark statement for each new benchmark or, where applicable, family of benchmarks. The administrator shall review and, where necessary, update the benchmark statement for each benchmark or family of benchmarks in the event of any changes to the information to be provided under this Article and at least every two years.	In order to facilitate fair and easy access, this Benchmark Statement appears on the Administrator's website. The Administrator shall ensure that this Benchmark Statement is updated in the event of any material changes and no later than every two years.
The Benchmark Statement shall:		
(a)	clearly and unambiguously define the market or economic reality measured by the benchmark and the circumstances in which such measurement may become unreliable;	CME Group Volatility Index (CVOL) measures the implied volatility of an underlying futures based on the information derived from the prices of options on that underlying future. The underlying methodology can be used to create single product indices, that can also be combined to create broad-based indices. In addition to the single product indices, related derivative indicators are calculated and published as part of the index family: • Up Var • Down Var • Skew • At the money vol • Convexity Variants of the basic calculation methodology are introduced to calculate CME Group Volatility Index in interest rate yield numeraire, when the underlying options are struck against the price of debt instruments, such as US Treasury Futures. The CME Group Volatility Index may become unreliable as a result of insufficient input data or severe market disruption.

BMR / RTS	BMR Benchmark Statement requirement	Administrator's statement
		Details of the most traded options contracts are available on the CME page: CME Group Options. The entirety of options contracts traded on CME DCMs are available on: CME Group All Products – Codes and Slate.
(b)	lay down technical specifications that clearly and unambiguously identify the elements of the calculation of the benchmark in relation to which discretion may be exercised, the criteria applicable to the exercise of such discretion and the position of the persons that can exercise discretion, and how such discretion may be subsequently evaluated;	No expert judgement is applied in the daily determination of the CME Group Volatility Index.
(c)	provide notice of the possibility that factors, including external factors beyond the control of the administrator, may necessitate changes to, or the cessation of, the benchmark; and	There is the possibility that factors, including external factors beyond the control of the Administrator, may necessitate changes to, or the cessation of, the Benchmarks. Where material changes to or the cessation of the Benchmarks become necessary, the Administrator will engage stakeholders and users by way of a public consultation. All changes are reviewed and approved by the Oversight Committee.
(d)	advise users that changes to, or the cessation of, the benchmark may have an impact upon the financial contracts and financial instruments that reference the benchmark or the measurement of the performance of investment funds.	Changes to, or the cessation of, the Benchmarks may have an impact upon the financial contracts and financial instruments that reference the benchmark or the measurement of the performance of investment funds. The Administrator advises users of the Benchmarks to regularly assess whether it remains appropriate, suitable and fit for purpose. Users should develop contingency provisions and fall-back plans in the event of the benchmark becoming unavailable.
Article 27(2) BMR	A benchmark statement shall contain at least:	
(a)	the definitions for all key terms relating to the benchmark;	See the Appendix for definitions used in this Benchmark Statement.
(b)	the rationale for adopting the benchmark methodology and procedures for the review and approval of the methodology;	The aim of the Benchmarks is to provide a benchmark for the volatility of un underlying future. The Administrator regularly reviews the methodology to ensure that the Benchmarks remain representative of the economic reality. Amendments to the

BMR / RTS	BMR Benchmark Statement requirement	Administrator's statement
		methodology are proposed by the Administrator, after wide consultation with the relevant stakeholders, and approved by the Oversight Committee.
(c)	The criteria and procedures used to determine the benchmark, including a description of the input data, the priority given to different types of input data, the minimum data needed to determine a benchmark, the use of any models or methods of extrapolation and any procedure for rebalancing the constituents of a benchmark's index;	The calculation is based on a waterfall methodology including publicly available settlement data from the Designated Contract Market (DCMs) operated by CME Inc. Details of the CME Option contracts and their executed volumes are available at CME Group Options page. The published benchmark methodology provides details the hierarchy of data inputs and how they are used in the calculation.
(d)	the controls and rules that govern any exercise of judgement or discretion by the administrator or any contributors, to ensure consistency in the use of such judgement or discretion;	No expert judgement is applied in the daily determination of the CME Group Volatility Index.
(e)	the procedures which govern the determination of the benchmark in periods of stress or periods where transaction data sources may be insufficient, inaccurate or unreliable and the potential limitations of the benchmark in such periods;	The methodology includes contingency measures to deal with determination of the Benchmarks in periods of stress or periods where settlement data sources may be insufficient, inaccurate or unreliable. In a circumstance where there is a complete lack of trading activity, the Benchmarks will not be published.
(f)	the procedures for dealing with errors in input data or in the determination of the benchmark, including when a redetermination of the benchmark is required; and	The Administrator has in place operating procedures to ensure the integrity of input data and prompt correction of calculation errors, including re-publication of the Benchmark. These are facilitated through Chicago Mercantile Exchange Inc., who acts as calculation agent to the Administrator for the Benchmarks.
(g)	the identification of potential limitations of the benchmark, including its operation in illiquid or fragmented markets and the possible concentration of inputs.	The methodology relies on settlement prices of options on CME DCMs. The Administrator continuously monitors liquidity of the underlying market and reports back to the Oversight Committee to assess whether the input data is sufficient.
RTS 1(1)	The benchmark statement shall state:	
(a)	the date of publication of the statement and, where applicable, the date of its last update;	Please see the beginning of this document for the date of publication and last update.
(b)	where available, the international securities identification number (ISIN) of the benchmark or benchmarks; alternatively, for a family of benchmarks, the statement may provide details of	Not applicable to these Benchmarks

BMR / RTS	BMR Benchmark Statement requirement	Administrator's statement
	where the ISINs are publicly accessible free of charge;	
(c)	whether the benchmark, or any benchmark in the family of benchmarks, is determined using contributions of input data;	The Benchmarks are not determined using contributions of input data.
(d)	whether the benchmark or any benchmark in the family of benchmarks qualifies as one of the types of benchmarks listed under Title III BMR, including the specific provision by virtue of which the benchmark qualifies as that type.	The CME Group Volatility Index are not an interest rate benchmark in accordance with Article 18 of the BMR (Title III, Chapter 2).
RTS 1(2)	In defining the market or economic reality, the benchmark statement shall include at least the following information:	
(a)	a general description of the market or economic reality;	CME Group Volatility Index (CVOL) measures the implied volatility of an underlying futures based on the information derived from the prices of options on that underlying future.
(b)	the geographical boundaries, if any, of the market or economic reality;	The CME Group Volatility Index reflects the implied volatility of the underlying futures, derived from option process, traded on CME DCMs. The markets represented by the benchmark family are global in nature.
(c)	any other information that the administrator reasonably considers to be relevant or useful to help users or potential users of the benchmark to understand the relevant features of the market or economic reality, including at least the following elements insofar as reliable data on these elements is available: (i) information on actual or potential participants in the market; (ii) an indication of the size of the market or economic reality.	CME Group DCMs are open to a large number of market participants, ensuring an elevated level of liquidity and market depth. All customer segments are represented including proprietary trading groups, banks, hedge funds and asset managers. The options of the selected instruments that make up the CME Group Volatility Index Benchmark Family have a combined average daily volume of more than 3.1 million contracts.
RTS 1(3)	In defining the potential limitations of the benchmark and the circumstances in which the measurement of the market or economic reality may become unreliable, the benchmark statement shall include at least:	
(a)	a description of the circumstances in which the administrator would lack sufficient input data to determine the benchmark in accordance with the methodology.	Input data would be unavailable if the CME DCMs are unable to provide a settlement price as per their rulebook. This might occur if dealers were unwilling to post executable quotes on the DCM platforms as might occur in times of economic uncertainty, or alternatively if the

BMR / RTS	BMR Benchmark Statement requirement	Administrator's statement
		DCM platforms were to suffer an unexpected closure or outage.
(b)	where relevant, a description of instances when the accuracy and reliability of the methodology used for determining the benchmark can no longer be ensured, such as when the administrator deems the liquidity in the underlying market as insufficient;	The accuracy and reliability of the Benchmarks could no longer be ensured in the event of continued insufficient liquidity in the underlying CME Options contracts. To that extent, the Administrator regularly reviews options volumes and will report any concern regarding the liquidity of the underlying markets to the Oversight Committee.
(c)	any other information that the administrator reasonably considers to be relevant or useful to help users and potential users to understand the circumstances in which the measurement of the market or economic reality may become unreliable, including a description of what might constitute an exceptional market event.	The Benchmarks rely on the regular functioning of the underlying CME Options contracts; reliable representation of underlying markets could be severely affected if CME Options contracts markets were not operating due to severe disruptions or regulatory limitations to their normal functioning.
RTS 1(4)	In specifying the controls and rules that govern any exercise of judgement or discretion by the administrator or any contributors in calculating the benchmark or benchmarks, the benchmark statement shall include an outline of each step of the process for any ex post evaluation of the use of discretion, together with a clear indication of the position of any person(s) responsible for carrying out the evaluations.	No expert judgement is applied in the daily determination of the CME Group Volatility Index.
RTS 1(5)	In specifying the procedures for review of the methodology, the benchmark statement shall at least outline the procedures for public consultation on any material changes to the methodology.	The methodology provides that the Administrator will consult with stakeholders on material changes to the methodology. Consultation will ordinarily consist of publishing of proposals, providing stakeholders with a reasonable time to respond and publishing actions as a result of the consultation. In addition, the Oversight Committee can request the Administrator to consult on any change as appropriate.
RTS 2	In addition to the information to be included pursuant to Article 1, for a regulated-data benchmark or, where applicable, family of regulated-data benchmarks, the benchmark statement shall state at least the following in its description of the input data:	
(a)	the sources of the input data used;	N/A – Not a regulated data benchmark
(b)	for each source, the relevant type, as listed in Article 3(1)(24) of Regulation (EU) 2016/1011.	N/A – Not a regulated data benchmark
RTS 3	In addition to the information to be included pursuant to Article 1, for an interest rate benchmark or, where applicable, family of interest rate benchmarks, the benchmark statement shall include at least the following information:	

BMR / RTS	BMR Benchmark Statement requirement	Administrator’s statement
(a)	a reference alerting users to the additional regulatory regime applicable to interest rate benchmarks under Annex I to Regulation (EU) 2016/1011;	N/A - The CME Group Volatility Index are not interest rate benchmarks.
(b)	a description of the arrangements that have been put in place to comply with that Annex.	N/A - The CME Group Volatility Index are not interest rate benchmarks.
RTS 4	In addition to the information to be included pursuant to Article 1, for a commodity benchmark or, where applicable, family of commodity benchmarks, the benchmark statement shall at least:	
(a)	indicate whether the requirements of Title II of, or Annex II to, Regulation (EU) 2016/1011 apply to the benchmark, or family of benchmarks as prescribed by Article 19 of that Regulation;	N/A – Not a commodity benchmark
(b)	include an explanation as to why Title II of or, as the case may be, Annex II to that Regulation applies;	N/A – Not a commodity benchmark
(c)	include in the definitions of key terms a concise description of the criteria that define the relevant underlying physical commodity;	N/A – Not a commodity benchmark
(d)	where applicable, indicate where the explanations are published that the administrator is required to publish under paragraph 7 of Annex II to that Regulation.	N/A – Not a commodity benchmark
RTS 5	In addition to the information to be included pursuant to Article 1, for a critical benchmark, or, where applicable, a family of benchmarks that contains at least one critical benchmark, the benchmark statement shall include at least the following information:	
(a)	a reference alerting users to the enhanced regulatory regime applicable to critical benchmarks under Regulation (EU) 2016/1011;	N/A – Not a critical benchmark
(b)	a statement indicating how users will be informed of any delay in the publication of the benchmark or of any re-de-termination of the benchmark and indicating the (expected) duration of measures.	N/A – Not a critical benchmark
RTS 6	In addition to the cases referred to in the third subparagraph of Article 27(1) of Regulation (EU) 2016/1011, an update of the benchmark statement shall be required whenever the information contained in the statement ceases to be correct or sufficiently precise, and including in any event in the following cases:	
(a)	whenever there is a change in the type of the benchmark;	This Benchmark Statement shall be updated where information contained within it ceases to be correct or sufficiently precise, including where there is a change to the type of input data.
(b)	whenever there is a material change in the methodology used for determining the benchmark or, if the benchmark statement is for a family of benchmarks, in the methodology used for determining any benchmark within the family of benchmarks.	This Benchmark Statement shall be updated where there is a material change in the methodology used for determining the Benchmarks.

1. Appendix I – Key Terms & Definitions

Capitalised terms used in this Benchmark Statement that are not otherwise defined have the meaning set out below:

TERM	DESCRIPTION
Administrator	CME Group Benchmark Administration Limited
ATM	At the money
At the money vol	Premium of the theoretical ATM volatility
BMR	UK Benchmark Regulation (Regulation (EU) 2016/2011, as retained in UK law under the EUWA)
CBA	CME Group Benchmark Administration Limited
CME Options	Options traded on CME DCMs
Convexity	The degree of curvature of the volatility curve relative to the at-the-money (ATM) implied volatility (IV)
DCM	Designated Contract Market
Down Var	Implied volatility of put options
EUWA	European Union (Withdrawal) Act 2018, as amended from time to time
FCA UK	Financial Conduct Authority (UK)
OC	Oversight Committee
RTS	Regulatory Technical Standard, which in the context of the BMR means Regulation (EU) 2018/1643 (as retained in UK law under the EUWA)
Skew	Ratio of Up Var to Down Var
SLA	Service Level Agreement
Up Var	Implied volatility of call options

2. Appendix II – ESG Disclosures

Explanation of how ESG Factors are Reflected in the Key Elements of the Benchmark Methodology		
Item 1	Name of the benchmark administrator.	CME Benchmark Administration Limited
Item 2	Type of benchmark or family of benchmarks.	Other
Item 3	Name of the benchmark or family of benchmarks.	CME Group Volatility Index
Item 4	Are there in the portfolio of the benchmark administrator any Climate Transition Benchmarks, Paris-aligned Benchmarks, benchmarks that pursue ESG objectives or benchmarks that take into account ESG factors?	No
Item 5	Does the benchmark or family of pursue ESG objectives?	No
Item 10	Does the benchmark align with the target of reducing carbon emissions or the attainment of the objectives of the Paris Agreement	No
	The temperature scenario, in accordance with international standards, used for the alignment with the target of reducing GHG emissions or attaining of the objectives of the Paris Agreement	N/A
	The name of the provider of the temperature scenario used for the alignment with the target of reducing GHG emissions or the attainment of the objectives of the Paris Agreement	N/A
	The methodology used for the measurement of the alignment with the temperature scenario	N/A
	The hyperlink to the website of the temperature scenario used	N/A