

# REFINITIV CONVERTIBLE INDICES

## METHODOLOGY

Revision 9 – Provisional

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# 1. Introduction

Refinitiv Convertible Indices are a family of Indices that aim to represent the performance of the Global market of Convertible Bonds available to institutional investors.

The index family was previously known as the UBS Global Convertible Indices. It was acquired by Refinitiv in June 2014, a brief history of the arrangements prior to the acquisition and the transitional arrangements during the acquisition are set out in Section 9.

The Index family is comprised of the Global ('broad') Index and a number of Sub-Index families that are derived from the Global ('broad') Index based on a set of specific criteria defined for each Sub-Index family. Each Sub-Index family is constructed to represent the market composition of a given segment of the Convertible Bond Market.

The composition of the Global ('broad') Index is determined on a continuous basis. Additions to and deletions from the Index can happen at any time.

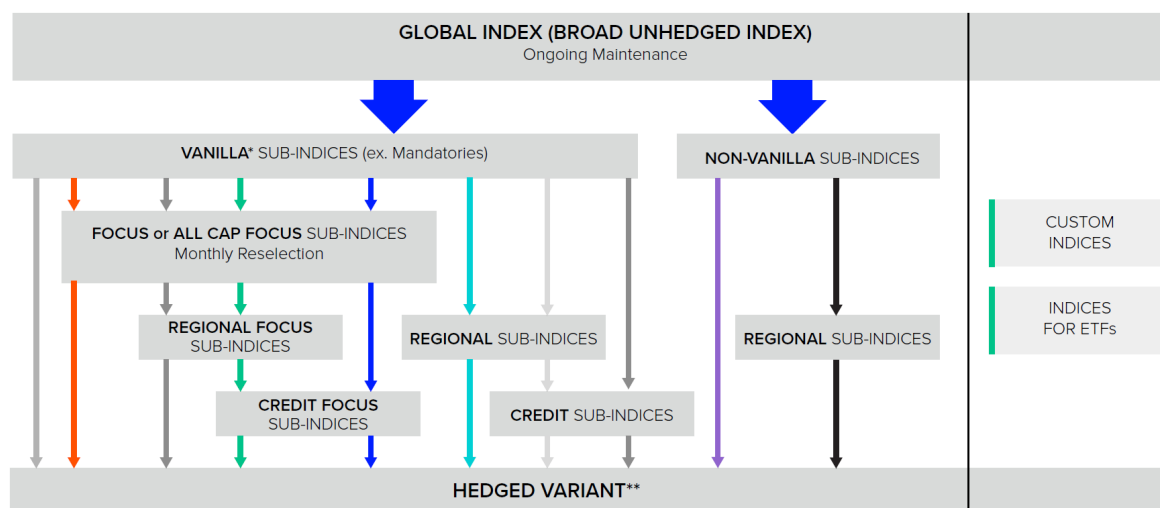
There are no periodic reselections for the Global and Static Sub-Indices (Section 3.2). Dynamic Sub-Indices such as Global Focus (Section 3.3 ) follow a monthly reselection cycle.

Concentration factors are recalculated monthly for any indices where capping is applied and / or at specific events (Section 5.3).

The Global Index, as well as most Sub-Indices, are produced in both regular and hedged variants with CHF, EUR, GBP, JPY and USD being the prevalent currencies across the family.

Geographically Sub-Indices are available for Europe, US, Japan, Asia ex Japan among other regions. Full list of published indices is available [here](#).

The basic index calculation method is a Market Capitalisation weighted chain-linked index calculation with income reinvestment (Total Return). The unit of measurement is Index Points.



\*Those Sub-Indices that were not Vanilla from the start became Vanilla at different times, see a full list of available sub-indices and the relevant Vanilla dates [here](#). \*\*Some indices do not have a hedged variant.

A number of Sub-Indices such as Qualified, Qualified Monthly Hedged and Monthly Europe Focus have been constructed to support the ETF funds.

The Global Index was launched on 30 September 1998 with the Global Index and most sub-indices calculated back to 31 December 1993.

The **Base Date** for the Global Index is 30 September 1998 and **Base Value** is a 100.

This document is intended (non-exhaustively) to explain the guidelines used to select and calculate the Refinitiv Convertible Indices, covering;

- Additions to and removals from the Global Index
- Selection of Static Sub-indices (Country, Region, Vanilla, Investment Grade) (Section 3.2).
- Selection of Dynamic Sub-indices (Focus and All Cap Focus Sub-indices) (Section 3.3 )
- Description of calculation methodologies (Regular and FX hedged) (Section 5)
- Concentration Factors calculation (Section 5.3)
- Communication of Index events (Section 7)
- Definition of terms used and basis for prices used in the Global Index (Section 6)

Over the counter (OTC) market for Convertible Bonds is considered sufficiently active for the purpose of determining the Indices when the daily activity in the market allows the Refinitiv's Evaluated Pricing Service ('EPS') to establish a representative market level for convertible bonds in general and the Index constituents in particular.

## 1.1. Index Governance

Refinitiv Benchmark Services Limited ('RBSL') is an authorised benchmark administrator under the EU BMR and regulated by the Financial Conduct Authority in the United Kingdom.

The Refinitiv Convertible Indices are administered by Refinitiv Benchmark Services Limited ('RBSL') a Refinitiv company based on the published Methodology. As the administrator RBSL is responsible for collecting input data, determining the benchmark and publishing it, together with all aspects of governance, oversight, compliance and integrity of the benchmark.

Refinitiv Benchmark Services (UK) Limited ('RBSL') is incorporated in England and Wales with company number 08541574 and is a wholly owned subsidiary of Refinitiv Limited ('RL'), itself a wholly owned subsidiary within the Refinitiv Group.

RBSL is authorized and regulated in the UK by the Financial Conduct Authority ('FCA'), FCA Reference Number 610678.

RBSL is an Authorized Benchmark Administrator as listed on the European Securities and Markets Authority ('ESMA') Register, pursuant to Article 34 of the Benchmarks Regulation (Regulation (EU) 2016/1011).

An independent Oversight Committee is responsible for oversight of all aspects of the provision of the Refinitiv Convertible Indices, including reviewing the indices definition and the Methodology at least annually, overseeing any changes to the Methodology, cessation of the indices and overseeing the administrator's control framework, management and operation of the Indices.

An Index Manager is appointed from time to time by the administrator who will be a subject matter expert responsible for interpreting the methodology.

### Index Operations Team

The Index Operations Team is responsible for the maintenance, calculation and distribution of the Index as set out in this Methodology on behalf of the Index Manager.

### Index Technical Support Team

The Index Technical Support team is responsible for providing technical support to the Index Operations Team for the sourcing of input and other necessary data as well as calculation and distribution of the Index.

## **Index Manager**

The Index Manager is responsible for the integrity and quality of the index and has specific responsibilities as set out below:

- To oversee day to day operations of the Index Operations Team
- To interpret the index rules
- To review feedback received from the User Base
- Develop and implement changes to the Index Methodology

## **1.2. Market Feedback**

### **1.2.1. User Base**

'The User Base' is not a formal group but consists of any user or recipient of index information largely made up of the recipients of the Index Status Report (Section 7.2).

### **1.2.2. Market Feedback**

The governance of the Refinitiv Convertibles Index differs from the general Refinitiv Index Governance Frameworks as it includes the ability of the 'User Base' to provide feedback to the Index Manager.

The Index Manager may request feedback as needed.

Maintenance and calculation of the index requires timely, accurate and complete information on the issues that are constituents of the index or are potential constituents of the index.

It is recognised that on occasions market participants will have information that is relevant to index operations that may not have been considered and the methodology includes several processes to allow this information to be utilised whilst maintaining the integrity of the index.

It is anticipated that feedback will be received from recipients of the Index Status Report (Section 7), although any feedback received will be considered. The Index Status Report includes details of proposed Adds, Drops and other relevant events.

When considering feedback from the User Base the Index Manager will seek to independently validate any information provided in the feedback, where required. The Index Manager will use feedback in conjunction with all other available information to decide the appropriate action.

### **1.2.3. Management of Feedback and the Complaints Procedure**

Feedback should be directed to the following inbox [CB\\_Index\\_Feedback@refinitiv.com](mailto:CB_Index_Feedback@refinitiv.com).

Any operational queries or price challenges should be directed to the [CB\\_Index\\_Feedback@refinitiv.com](mailto:CB_Index_Feedback@refinitiv.com).

## **1.3. Methodology – Purpose, Readership, Maintenance**

Any expression of formal dissatisfaction related to a proposed change to the Indices determination process, on an application of the Methodology in relation to a specific Index determination, and on other decisions in relation to the Index determination process should be directed to [FRCompliance@refinitiv.com](mailto:FRCompliance@refinitiv.com) Full details of the RBSL Complaints, Operational Enquiries & Price Challenges Handling Policy can be found here.

### **1.3.1. Purpose of the Document**

This document, issued by Refinitiv Benchmark Services (UK) Limited in its capacity as Administrator for the Refinitiv Convertible Indices, specifies the Methodology for the Refinitiv Convertible Indices.

### **1.3.2. Intended Readership**

The intended readership of this Methodology are the stakeholders of the benchmark.

### **1.3.3. Methodology Review and Change Procedure**

This Methodology is subject to the RBSL Internal Review Procedure. The Methodology is reviewed at least annually or as required. Any changes to the Methodology will be carried out in line with the RBSL Benchmark Methodology Change and Cessation Policy. The policy can be viewed [here](#).

The review could be triggered by any change (known or foreseen) in the underlying market, sources of the input or other necessary data, or based on the external feedback from the User Base.

The review shall include input from at least one representative of the Index Operations group, Compliance department and the Index Manager.

### **1.4. Potential Limitations of the Benchmark**

The Refinitiv Convertible Indices are calculated using readily available input data delivered by Refinitiv's Evaluated Pricing Service ('EPS') with other necessary data delivered by Refinitiv data feeds (the 'Data Sources'). Further details are available in Sections 6.3 and 7.1.

Determination of Refinitiv Convertible Indices depends on the timely availability of the input and other necessary data from said Data Sources on a Weekday basis.

Any partial inadequacies in input data are mitigated via succession of Pricing Sources as detailed in Section 6.3.3.1.

Severe technical problems, extreme market events or a widespread loss of liquidity may lead to a complete loss of one or more of the Data Sources which will affect the delivery of the data to RBSL.

In such circumstances the Index Manager will exercise expert judgement to determine the viable data and / or Data Source(s) necessary to calculate the Indices. The Refinitiv Convertible Indices would not necessarily be representative of the market segments they aim to represent under such conditions.

### **1.5. Access to the Methodology**

Methodologies for all public Indices such as Global, Qualified, Qualified Monthly Hedged and Monthly Europe Focus are made available on the dedicated Convertible Indices web-site [here](#).



## 2. Refinitiv Global Convertible Index Maintenance

### 2.1. Overview of the Global Index Maintenance Process

The maintenance process for the Global Convertible Index is driven by and reflects the market dynamics such as new issuance, corporate and market events related to the constituents or potential constituents of the Global Index.

- General eligibility criteria are detailed in Section 2.2
- Country allocation for the purposes of determining the Region are detailed in Section 2.3
- Additions to the index including the monitoring period details are in Section 2.5
- Deletions are detailed in Section 2.6
- Handling of the changes to the outstanding issue size are in Section 2.7
- Other changes detailed in Sections 2.8

All Sub-Indices are derived from the Global Index. The maintenance processes for the Sub-Indices is described in the following sections.

- The overall summary including the derivation ‘map’ of sub-indices is in Section 3.1.
- Regional Sub-Indices are in Section 3.2.1
- Vanilla Sub-Indices are in Section 3.2.2
- Credit (IG) Sub-Indices are in Section 3.2.3
- Focus and All Cap Focus Sub-Indices details are in Section 3.3.1

The Index Manager, may, from time to time, ask the User Base for feedback on any aspect of the index maintenance process.

The Index Manager, may, from time to time, need to override the timings and / or the basis stated in the guidelines for any of the actions related to the maintenance process, for example, extend the monitoring period for an issue or bring forward a Drop Effective Date. Any changes to the stated guidelines will be communicated to the User Base via the Index Status Report (Section 7.2) and / or via the announcement section of the Index Status Report.

### 2.2. Eligibility Criteria for the Global (“broad”) Index

This section details the criteria for eligibility for consideration the Global Index. All Sub-Indices are derived from the Global Index. The eligibility criteria for each family of Sub-Indices are detailed in the sections listed above.

To be eligible for consideration for the Global Index an issue will need to meet ALL of the conditions detailed in Section 2.2.1, 2.2.2 and 2.2.3:

#### 2.2.1. General Criteria

To be eligible, an issue:

- (i) Must be an Equity-Linked Convertible Security as generally recognised in the market. Examples of such issues would include convertibles, exchangeables, and Mandatory issues.
- (ii) Must not be a contingent convertible structure with only downside e.g. contingent conversion features which are dependent on capital ratio triggers.
- (iii) The Exchange Property must be a listed share. On this basis various pre-IPO convertibles are excluded from the Global Index. Should the issue become convertible into a listed share post issuance it will be reviewed for eligibility at that time.
- (iv) Must not be a Chinese domestic issue or a Taiwanese domestic issue.
- (v) Must have an ISIN code.

(vi) Must have terms fixed.

(vii) Can be a security issued in exchange for other securities ('Exchanged Issue').

(vii)(viii) **Must have at least 12 months of maturity remaining on the proposed Add date.**

The Index Operations Team will refer any issue where there is uncertainty regarding any of the eligibility criteria to the Index Manager. The Index Manager will determine the eligibility of such issues.

## 2.2.2. Size Eligibility Criteria

To be eligible for consideration for the Global Index an issue will need to meet ALL of the conditions detailed in Section 2.2.1, 2.2.2 and 2.2.3.

To be eligible an issue must meet or exceed the regional threshold Outstanding Issue Proceeds requirements below when rounded to the nearest 1m in the relevant currency before calculating the USD equivalent. For the regions where multiple currencies are stated, the currency matching the issue's prevails e.g. a European issue denominated in GBP would be assessed against the GBP threshold.

Region	Thresholds by Relevant Currency*			Countries included in the Region
US	USD 300m			US
Europe	USD 200m	EUR 175m	GBP 150m	Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Liechtenstein, Luxembourg, Netherlands, Norway, Poland, Portugal, Russia, Spain, Sweden, Switzerland, UK
Other	USD 200m			Any country not listed under US, Europe, Asia ex-Japan or Japan regions.
Asia ex-Japan	USD 100m			China, India, Indonesia, Malaysia, Pakistan, Philippines, Singapore, South Korea, Taiwan, Thailand, Vietnam
Japan	USD 100m	JPY 11,000m		Japan

\*For issues not denominated in USD the Outstanding Issue Proceeds will be translated to USD at the FX rates used for Global Index calculations at the end of the Weekday preceding the Issue Date. This will also apply for issues added at any time.

### 2.2.2.1. Over-allotment Option

An issue with a known over-allotment option at issuance which is below the regional threshold prior to the 'option to increase' being exercised in part or in whole will not be considered as eligible on size criteria until the 'option to increase' is exercised in part or in whole. Once the 'option to increase' is exercised and providing that the regional threshold for the issue is met, this will trigger a review of its eligibility for addition to the Index. For timings, see Section 2.5.

### 2.2.2.2. Upsizing / Re-Opening / 'Tap' Issues

An increase in Outstanding Issue Proceeds via Upsizing/ Re-Opening / 'Tap' issuance from below to above the threshold at any time during the life of an issue will trigger a review of its eligibility for addition to the Index. For timings, see Section 2.5.

In the case of Upsizing/ Re-Opening / 'Tap' issuance, the Outstanding Issue Proceeds are not updated until the 'Tap Issue' becomes fully fungible with the original issue. The review of eligibility for addition will not commence until the date the Outstanding Issue Proceeds are updated.

### 2.2.2.3. Market Capitalisation Criteria for Mature Issues

An issue being considered for addition to the Global Index at a time other than at issue must satisfy the Market Capitalisation thresholds as detailed in Section 2.6.3.1.2 numeral (ii).

#### 2.2.2.4. Issues Hard Dropped due to Price, Size or Proactively Deselected

Any issue removed under sections 2.6.3.1.2, 2.6.3.1.3 or 2.6.3.2.3, Drop Due to Size, Price or Proactive Deselection respectively may become eligible for addition as a mature issue under Section 2.2 to the Global Index from the Workday immediately following 6 calendar months since the Drop Effective Date providing that its Percentage Price (See section 6.1.7 for definition), is equal to or greater than 70% for the prior 15 Weekdays.

#### 2.2.3. Liquidity Eligibility Criteria

To be eligible for consideration for the Global Index an issue will need to meet ALL of the conditions detailed in Section 2.2.1, 2.2.2 and 2.2.3.

To be eligible an issue will have satisfied the minimum liquidity guideline if it has satisfied either of the conditions set out below.

Threshold type	Regional Applicability	Condition to be met.
Qualifying Prices	Does not apply to issues with region: US	2 Qualifying Prices are available. See Section 6.2.2 for the definition of a Qualifying Price.
Traded Value	All Regions	The total Traded Value measured during the period the issue is set as Monitor for Add, excluding the first day the Traded Volume is available on the recognised trading venue is greater than or equal to 7% of the Outstanding Issue Proceeds. (See Section 6.1.12 for Traded Value definition). The maximum period for which the Traded Value is measured can't be more than 30 Weekdays.

#### 2.3. Country Allocation

The Region of an issue is assigned to the issue prior to its addition to the Global Index and is based directly on the Country allocated to that issue.

The allocation of Country to Region is set out in Section 6.4.1.

The general principal of the allocation is 'to look through to the underlying asset'.

The Country of an issue will be determined as follows stated in order of precedence; if an underlying asset exists at any level in order of precedence no further checking is done.

- (i) Issues with an equity as the underlying asset will be allocated to the country of the Primary Exchange of the underlying asset.
- (ii) Issues with an ADR or GDR as the underlying asset will be allocated to the country of the Primary Exchange of the underlying asset of the ADR / GDR.
- (iii) Issues with an ADR or GDR as the underlying asset where the ADR/GDR does not have a listed equity as the underlying asset will be allocated to the country of the Primary Exchange of the ADR / GDR.
- (iv) Issues with a basket of equities as the underlying asset will be allocated to the country of the Primary Exchange of the underlying asset which predominates.

The Primary Exchange of a particular equity will be determined using the Primary Issue RIC allocated by Refinitiv.

The Index Manager may determine the Country of an issue to be set differently to the Country that would be selected by the above guidelines at any point.

## 2.4. Special Circumstances

### 2.4.1. Nominating an Issue as 'Eligible for Consideration'

There may be unusual situations when it may be appropriate for an issue to be proactively considered for the addition to the Global Index in a manner not explicitly detailed in this Methodology.

Should the Index Manager become aware of such an issue the Index Manager may set an issue as 'Monitor for Add'. Such action will be notified to the User Base.

For example, an issue which was initially launched as a fully private deal evolves into a public issue of a size sufficient to be eligible for consideration for addition to the Global Index.

### 2.4.2. Declining or Ending the Add Process

The Index Manager may decline or end the Add process for an issue in special circumstances if the Index Operations Team notifies the Index Manager that:

- (i) The Market Capitalisation or Outstanding Issue Proceeds are below the size thresholds stated in Section 2.6.3.1.2.
- (ii) The issue has been called while under consideration for addition.
- (iii) The issue or its underlying become subject to an Offer that materially affects the issue.
- (iv) Quantitative data or market information indicates that the liquidity of the issue has substantially altered since the day the issue has been announced as a candidate for addition to the Index.
- (v) The price has declined substantially, and the Qualifying Prices test is no longer satisfied. By way of guidance a substantial price movement would be around 15% more than general market movement for similar issues.

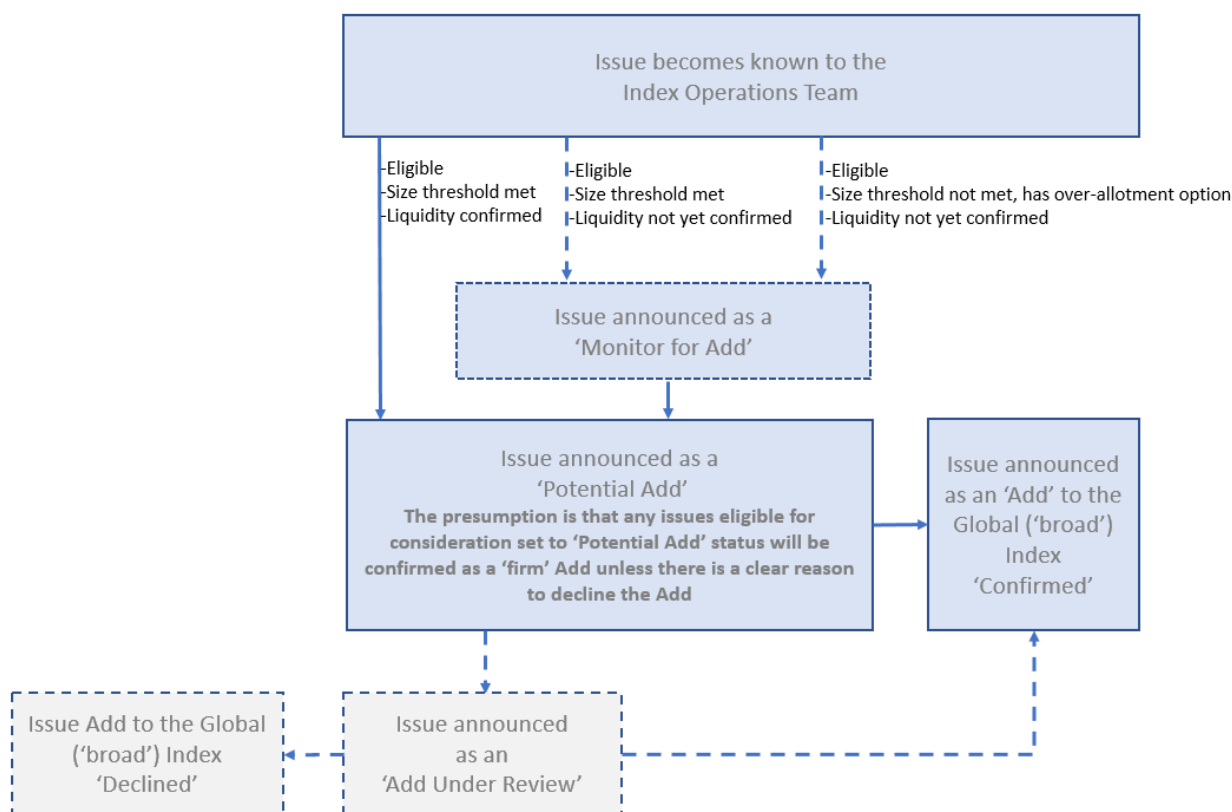
## 2.5. Addition to the Global ('broad') Indices

### 2.5.1. Overview

This section details the process for adding issues to the Global ('broad') index. **No issue can be added to any of the Sub-Indices without first becoming a constituent of the Global Index.** Section 3.1 covers any additional Sub-Index specific eligibility criteria and add process for each family of Sub-Indices. An issue may or may not become a constituent of a Sub-Index on the same day as it is added to the Global Index.

An issue eligible for consideration (Section 2.2.1) and of sufficient size (Section 2.2.2) is first set to 'Monitor for Add' while awaiting the liquidity confirmation (Section 2.2.3), however, any issue whose liquidity is confirmed at the same time as it is determined by the Index Operations Team to be eligible for consideration and of sufficient size, will be set directly to 'Potential Add'. See full details of the process below.

The Index Manger may amend the guideline dates to accommodate local bank holidays or other market events.



### 2.5.2. Monitoring, Size and Liquidity Confirmation

The overall approach is that the relevant issues are assessed for eligibility on a continuous basis by the Index Operations Team.

The Index Operations Team will review all issues that they become aware of and add to the Index Status Report any new issue that meets all General Eligibility (Section 2.2.1) and meets or could, in the near future, meet the Size eligibility criteria (Section 2.2.2) with the status of 'Monitor for Add'. For issues other than new issues, the Index Operations Team will notify the Index Manager of such issues for the Index Manager to confirm or decline the addition to the Index Status Report.

- (i) A new issue that could, in the near future, meet the Size criteria via the exercise of an over-allotment option that is known at the time of the announcement will carry an additional note 'Size threshold has not yet been achieved but ~~will~~ may be achieved if the over-allotment option is exercised'.

- (ii) Exchanged Issues (see Section 2.2.1 numeral (vii)) will carry an additional note identifying them as such.
- (iii) Mature issues that became eligible for consideration due to becoming convertible into a listed share will carry an additional note identifying them as such.
- (iv) Mature issues that became eligible for consideration due to Over-allotment / Upsizing / Re-Opening / 'Tap' Issue will carry an additional note identifying them as such.

All issues included in the Index Status Report will be monitored daily for liquidity until the 10<sup>th</sup> Weekday after the date on which the issue is announced as 'Monitor for Add'. The Index Manager may extend the monitoring period if there is good reason to believe that the eligibility criteria will be met in the future.

If all eligibility criteria are met, the issue is announced as a Potential Add.

Issues approaching the end of the monitoring period will be notified to the users via the Index Status Report.

The Index Manager may decide, based on feedback, to identify as a Potential Add any issue that does not meet the liquidity criteria set out in Section 2.2.3.

### **2.5.3. Review of Issues with 'Potential Add' Status.**

The Index Manager will review all feedback received for each Potential Add at 12:00 London time on the review date which is 3<sup>rd</sup> Workday following the announcement of the Potential Add to the User Base unless announced otherwise in the Index Status Report. **The presumption is that the issue will be confirmed as an Add unless there is a clear reason to decline the Add.**

The Index Manager will take one of the following actions:

- (i) Confirm the issue as an Add; the Add Announcement Date will be the same day as the decision. The Add Effective Date is the Workday following the Add Announcement Date unless amended by the Index Manager. The issue will be added to the index at EOD on the Add Effective Date and will contribute to index performance at the first index calculation following the Add Effective Date.
- (ii) Change the status to 'Add Under Review'. The Index Manager may simultaneously ask for feedback from the User Base. This will result in the decision being delayed and the status of the issue in the Index Status Report will be amended to reflect the status of the issue.
- (iii) Decline an Add previously announced as 'Add Under Review'.

If an issue is declined as an Add the issue will remain on the Index Status Report until the end of the monitoring period with a status of 'Declined'. The Index Manager may review the 'Declined' decision at any time during the monitoring period if new information becomes available and if appropriate reset the status to 'Potential Add' and trigger a new review process.

## 2.6. Issues Removal from Global Index

### 2.6.1. Overview

The circumstances under which an issue may be removed from the Global Index are listed below and are driven by market and corporate events as they become known to the Index Operations Team. The Index Manager may amend the guideline dates to accommodate local bank holidays or other market events.

In most cases an issue is removed from the Global Index permanently via a ‘Hard Drop’, however, under certain circumstances issues could be removed temporarily and later reinstated (see Section 2.6.2.1 for the details of the ‘Soft Drop’ and reinstatement process).

Any issue removed from the Global Index is simultaneously removed from All Sub-Indices at the same time using the same Price Basis (6.3.2). An issue may or may not be reinstated following a ‘Soft Drop’. If an issue is reinstated to the Global Index, it will be Added to any Sub-Indices it remains eligible for and for which it satisfies the relevant addition criteria (see Section 3 for details on Sub-Index maintenance). The timing of the reinstatement may vary by Sub-Index.

There is no provision to remove issues from the Global Index solely based on remaining life.

If more than one guideline is triggered, then the Index Manager will determine the guideline appropriate for the particular issue.

Events with an outcome of ‘Hard Drop’	Events with an outcome of ‘Soft Drop’ or ‘Retain’
<ul style="list-style-type: none"> <li>• Drop Due to Issue Approaching Final Conversion Date (Section 2.6.3.1.1 )</li> <li>• Drop Due to Size (Section 2.6.3.1.2)</li> <li>• Drop Due to Price (Section 2.6.3.1.3 )</li> <li>• Drop Due Exchange Property Delisting (Section 2.6.3.1.4)</li> <li>• Drop Due to Being Impractical to Price (Section 2.6.3.1.5 )</li> </ul>	<ul style="list-style-type: none"> <li>• Drop Due to Issue Approaching a Put (Section 2.6.3.2.1 )</li> <li>• Drop Due to an Offer (Section 2.6.3.2.2)</li> </ul>
Events with an outcome of ‘Hard’ or ‘Soft’ Drop	
<ul style="list-style-type: none"> <li>• Proactive Deselection (Section 2.6.3.2.3 )</li> </ul>	

### 2.6.2. Removal (Drop) Process

This section details the mechanics of the ‘Hard Drop’, ‘Soft Drop’ and Reinstatement processes as well as the overall flow of the removal process.

#### 2.6.2.1. ‘Hard Drop’, ‘Soft Drop’ and Reinstatement Process Details

‘Hard Drop’ is a drop that removes an issue from the Global Index without an immediate reinstatement option.

A ‘Soft Drop’ is a drop that removes an issue from the Global Index with the option of automatic reinstatement if, after the impact of the trigger event is **known determined**, the issue meets the reinstatement criteria.

All issues considered for a drop under Sections 2.6.3.2.1- 2.6.3.2.3 will be reviewed against ‘Soft Drop’ threshold. The **expectation default action** is that if the issue meets the ‘Soft Drop’ threshold guideline it will be announced as such in the Index Status Report (Section 7.2) **unless the issue has a maturity date that is less than 6 months from the day of the anticipated ‘Soft Drop’ Effective Date, in which case the issue will be ‘Hard’ dropped using the Removal Basis stated in the section applicable**. See relevant sections for details of each threshold guideline and the announcement process. The Index Manager

may, from time to time and as appropriate, override the default action detailed in the guideline for a given issue. Any such actions will be advised to the User Base via the Index Status Report.

Any issue 'Soft' dropped from the Index will be monitored until the final results of the event that initiated the 'Soft Drop' are available to the Index Operations Team. When the outcome is known the issue will be considered for reinstatement to the Global Index. If no results that are explicitly stated as the outcome of the event that triggered the 'Soft Drop' are available to the Index Operations Team on the 1st Workday immediately following the 2 calendar months from the event's final Settlement Date or Exercise / Closing Date if no Settlement Date is known ('no result' monitoring period), the issue will be tested for reinstatement based on the information available on that day.

The Index Manager may extend the 'no result' monitoring period and after an exceptionally long period elapsing since the final Settlement Date or Exercise / Closing Date, if no Settlement Date is known, of the event that triggered the 'Soft Drop' ~~the initial 'Soft Drop' Effective Date~~ designate the issue as 'No Longer Eligible for Reinstatement'.

An issue considered for reinstatement is tested using the Outstanding Issues Proceeds effective EoD on the day the outcome of the event that caused the 'Soft Drop' is known based on the procedure detailed in Section 2.6.3.1.2 (Size) and 2.6.3.1.3 (Price). The issue must satisfy BOTH Size and Price tests during the same period to be reinstated as well as have a maturity date that is more than 6 months from the Workday immediately after the anticipated Reinstatement Date. In addition to the Size and the Price tests, for issues tested following 'no result' monitoring period, the issue will need to meet the Qualifying Price Conditions (Section 6.2.2) regardless of its Region; for clarity, minimum 2 qualifying prices must be available to carry out Qualified Price Testing.

Reinstatement to Sub-Indices is done in accordance with eligibility criteria applicable for each of the Sub-Indices. Reinstatement of eligible issues is treated in the same way as any other Add. See Section 3 for full details.

The Reinstatement Effective Date for the Global and Static Sub-Indices is determined by the Index Manager and may vary by the index family. Unless amended by the Index Manager, it will be the 3<sup>rd</sup> Workday following the Reinstatement Announcement Date.

All stages of the 'Soft Drop' and Reinstatement process will be reflected in the Index Status Report. Any issue 'Soft' dropped will remain on the Index Status Report until it is reinstated or confirmed as 'No Longer Eligible for Reinstatement'.

#### **2.6.2.2. Overall Flow of the Drop Process**

The Index Operations Team monitors all constituents of the Global Index against the removal guidelines. If any of the issues meet a removal guideline the Index Operations Team will notify the Index Manager indicating the default guideline applicable. The Index Manager will review the default action and may, if appropriate, override the default action stated in the guideline (see individual guidelines for further details).

All issues notified to the Index Manager will appear on the Index Status Report indicating the outcome of the review.

All stages of the process are reflected in the Index Status Report (Section 7.2). Key dates in the process are listed below. The notification timeframes are defined in section 2.6.3.

- (i) **Drop Notification Date** – The date the Index Manager is notified of the event.
- (ii) **'Soft' or 'Hard' Drop Announcement Date** – The first day the action (which may include a review period) is announced.
- (iii) **Possible drop due to Size or Price Announcement Date** – The date a constituent failed EITHER the Size or the Price thresholds for 2 consecutive Weekdays.
- (iv) **'Soft Drop' Effective Date** – The date on which the issue is removed from the Global Index and all Sub-Indices.



- (v) **Reinstatement or 'No Longer Eligible for Reinstatement' Announcement Date** – The date the outcome of the review of the results of the event that caused the 'Soft Drop' is announced.
- (vi) **Reinstatement Effective Date** – The date on which the issue is added back to the Global Index.
- (vii) **'Hard Drop' Effective Date** - The date on which the issue is removed from the Global Index and all Sub-Indices.

Issues 'Soft' dropped will remain on the Index Status Report until confirmed as Reinstated or as 'No Longer Eligible for Reinstatement'.

Issues announced as 'No Longer Eligible for Reinstatement' will remain on the Index Status Report for 3 consecutive Weekdays following such announcement.

### **2.6.2.3. Index Manager Role in the Removal (Drop) Process**

The role of the Index Manager in the removal process is to review the proposed treatment basis and confirm or amend the proposed treatment.

If the feedback is requested, the Index Manager will review all feedback received by 12:00 London time on the 3<sup>rd</sup> Workday following the announcement of the drop, unless specified otherwise in the Index Status Report. **The presumption is that the proposed action is confirmed unless there is a clear reason to amend the proposed action.**

The Index Manager will take one of the following actions:

- (i) Confirm the issue as a Drop and the Type of the Drop on the terms stated in the Drop Announcement.
- (ii) Confirm the issue as a Drop on amended terms, the amendment may relate to the date and/or the price to be used for the Drop.
- (iii) Determine the issue is to be retained in the index. In this case the Index Status Report will be updated to reflect the decision. The record will remain on the Index Status Report for 3 consecutive Weekdays following such announcement.
- (iv) Ask User Base for further feedback. This will result in the decision being delayed and the status of the issue in the Index Status Report will be amended to reflect the status of the issue.

In all cases the Index Manager decision will be communicated to the User Base by means of the Index Status Report.

### **2.6.3. Guidelines for removal**

The following sections set out the guidelines used to identify issues to be advised by the Index Operations Team to the Index Manager as candidates for consideration for removal.

#### **2.6.3.1. Events with an Outcome of 'Hard Drop'**

##### **2.6.3.1.1. Drop Due to Issue Approaching a Final Conversion Date**

The Drop Notification Date will be the 15<sup>th</sup> Workday before the earlier of the last day to elect to convert or the last day on which action needs to be taken to allow the issue to be converted.

This guideline applies both to **issues which have been called** and **issues that are approaching maturity**.

Drop Due to Issue Approaching a Final Conversion Date	
Removal Basis	<ul style="list-style-type: none"> <li>• EoD Market Price on Drop Effective Date</li> <li>• Price Basis (Section 6.3.2), Price Sources (Section 6.3.3)</li> </ul>
Timing Guidelines	<ul style="list-style-type: none"> <li>• Drop Notification Date: see above</li> <li>• Drop Announcement Date: 1<sup>st</sup> Workday following Drop Notification Date</li> <li>• Drop Effective Date: 6<sup>th</sup> Workday from Drop Notification Date</li> </ul>

### 2.6.3.1.2. Drop Due to Size

All constituents of the Global Index are checked daily against the size thresholds stated below or upon any change to the Outstanding Issue Size (see Section 2.7).

An issue will be dropped from the Index if the issue fails (i.e. does not meet) ANY of the thresholds listed below on 5 consecutive Weekdays **except where the issue's Market price, as determined by EPS, is equal to or greater than 75% of the Accreted Issue Price, in which case the testing period would be 10 consecutive Weekdays**. For issues where there has been a change to the Outstanding Issue Size, the issue is re-tested on the 5 Weekdays preceding the Change Notification Date (see Section 2.7) using the new Outstanding Issue Size.

**The Index Manager may also extend the duration of the testing periods, for up to a maximum of 6 weeks at a time, for all issues during any market wide events adversely affecting pricing. Any such change will be announced in the Index Status Report.**

(i) Outstanding Issue Proceeds:

Must be greater than or equal to 75% of the Outstanding Issue Proceeds thresholds used for addition (Section 2.2.2).

Region	Cash equivalent of 75% of Outstanding Issue Proceeds*			Countries included in the Region
US	USD 225m			US
Europe**	USD 150m	EUR 131.25m	GBP 112.5m	Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Liechtenstein, Luxembourg, Netherlands, Norway, Poland, Portugal, Russia, Spain, Sweden, Switzerland, UK
Other	USD 150m			Any country not listed under US, Europe, Asia ex-Japan or Japan regions.
Asia ex-Japan	USD 75m			China, India, Indonesia, Malaysia, Pakistan, Philippines, Singapore, South Korea, Taiwan, Thailand, Vietnam.
Japan**	USD 75m	JPY 8,250m		Japan

\*For issues not denominated in USD the Outstanding Issue Proceeds will be translated to USD at the FX rates used for Global Index calculations.

\*\* For issues denominated in a currency specified as a threshold, the local currency threshold will apply, for other issues the Outstanding Issue Proceeds will be translated to USD at the FX rates used for Global Index calculations.

(ii) Market Capitalisation:

Must be greater than or equal to USD 75m, and greater than or equal to the lesser of USD 400m and 30% of the Accreted Issue Proceeds.

Any issue failing a threshold on 2 consecutive Weekdays, excluding issues being tested due to the change in the Outstanding Issue Size, will be included in the Index Status Report issued on the following Workday as a 'Potential Drop Due to Size'. Once announced as such, the issue will either remain on the Index Status Report until it is announced as a Drop or will be removed from the report the Workday after it no longer fails the threshold that triggered the announcement.

Drop Due to Size	
Removal Basis	<ul style="list-style-type: none"><li>• EoD Market Price on Drop Effective Date</li><li>• Price Basis (Section 6.3.2), Price Sources (Section 6.3.3)</li></ul>
Timing Guidelines	<ul style="list-style-type: none"><li>• Drop Notification Date: 1<sup>st</sup> Workday following the 5<sup>th</sup> consecutive day of the issue failing the Size threshold</li><li>• Drop Announcement Date: The same as Drop Notification Date</li><li>• Drop Effective Date: 2<sup>nd</sup> Workday following the Drop Notification Date</li></ul>

Removal guidelines, where applicable, for issues re-tested after the change in Outstanding Issue Size are detailed in Section 2.7.3.

#### 2.6.3.1.3. Drop Due to Price

All constituents of the Global Index are checked daily against both price spread thresholds stated below. An issue will be dropped from the Index if the issue fails EITHER of the thresholds on 5 consecutive Weekdays except where the issue's Market price, as determined by EPS, is equal to or greater than 75% of the issue's Accreted Issue Price, in which case the testing period would be 10 consecutive Weekdays.

The Index Manager may also extend the duration of the testing periods, for up to a maximum of 6 weeks at a time, for all issues during any market wide events adversely affecting pricing. Any such change will be announced in the Index Status Report.

Price Spread Threshold type	Threshold
Face value	> 4%
Bid price	> 6%

Any issue failing a threshold on 2 consecutive Weekdays will be included in the Index Status Report issued on the following Workday as a 'Potential Drop Due to Price'. Once announced as such, the issue will either remain on the Index Status Report until it is announced as a Drop or will be removed from the report the Workday after it no longer fails the threshold that triggered the announcement.

Drop Due to Price	
Removal Basis	<ul style="list-style-type: none"><li>• EoD Market Price on Drop Effective Date</li><li>• Price Basis (Section 6.3.2), Price Sources (Section 6.3.3)</li></ul>
Timing Guidelines	<ul style="list-style-type: none"><li>• Drop Notification Date: 1<sup>st</sup> Workday following the 5<sup>th</sup> consecutive day of the issue failing the Price threshold</li><li>• Drop Announcement Date: The same as Drop Notification Date</li><li>• Drop Effective Date: 2<sup>nd</sup> Workday following the Drop Notification Date</li></ul>

#### 2.6.3.1.4. Drop due to Exchange Property Delisting

As soon as the Index Operations Team becomes aware of the de-listing, the following will apply:

Drop due to Exchange Property Delisting	
Removal Basis	<ul style="list-style-type: none"> <li>• EoD Market Price on Drop Effective Date</li> <li>• Price Basis (Section 6.3.2), Price Sources (Section 6.3.3)</li> </ul>
Timing Guidelines	<ul style="list-style-type: none"> <li>• Drop Notification Date: The same day the Index Operations Team becomes aware of the de-listing</li> <li>• Drop Announcement Date: The same as Drop Notification Date</li> <li>• Drop Effective Date: 2<sup>nd</sup> Workday following the Drop Notification Date</li> </ul>

#### 2.6.3.1.5. Drop Due to Being Impractical to Price

For an issue to become impractical to price BOTH of the following conditions must be satisfied.

- (i) An acceptable price is not available from any Recognised Convertible Exchange
- (ii) An EPS Closing Price is not available, or EPS have notified that pricing of the issue will be terminated

Once the Index Manager is notified by the Index Operations Team and / or by EPS (section 6.3.7), the Index Manager will determine if a price is an acceptable price in the context of condition (i). The Index Manager may determine that a further review of the circumstances is required prior to announcing the drop.

Drop Due to Being Impractical to Price	
Removal Basis	<ul style="list-style-type: none"> <li>• Price as determined by the Index Manger</li> </ul>
Timing Guidelines	<ul style="list-style-type: none"> <li>• Drop Notification Date: The day the Index Manager is notified</li> <li>• Drop Announcement Date: As determined by the Index Manager</li> <li>• Drop Effective Date: 2<sup>nd</sup> Workday following the Drop Notification Date</li> </ul>

#### 2.6.3.2. Events with an Outcome of ‘Soft Drop’ or ‘Retain’

##### 2.6.3.2.1. Drop Due to Issue Approaching a Put

For an issue approaching a Put, the Drop Notification Date is normally the 11<sup>th</sup> Workday prior to the last date on which a holder may elect to ‘Put’ rather than retain the issue. For issues with terms that allow the holder to submit and then withdraw their notice the last day on which the notice may be withdrawn is the relevant date.

The Index Operations Team will advise the Index Manger if an issue is less than or equal to the ‘Soft Drop’ threshold for the Put. An issue that meets the removal guideline will be ‘Soft’ dropped from the Global Index. The Index Manager may, taking into account market conditions and other relevant factors, determine that the issue will not be treated as set out in the tables below.

‘Soft Drop’ Put Threshold Determination Ratio
$\frac{\text{Market Price}}{\text{Put Price}}$

Index Action	Announcement of the Action is more than 15 Workdays before the Put Date	Announcement of the Action 15 Workdays or less before the Put Date
Issues is retained in the index.	Ratio > 105%	Ratio > 102%
Issue is 'Soft' dropped from the index	Ratio ≤ 105%	Ratio ≤ 102%

'Soft' dropped issues will be monitored for reinstatement until the result of the Put is known see Section 2.6.2.1 for the full detail of the process following a 'Soft Drop' action.

'Soft Drop' and Reinstatement (where applicable)	
Removal Basis	<ul style="list-style-type: none"> <li>• EoD Market Price On 'Soft Drop' Effective Date</li> <li>• Price Basis (Section 6.3.2), Price Sources (Section 6.3.3)</li> </ul>
'Soft Drop' timing guidelines	<ul style="list-style-type: none"> <li>• Drop Notification Date: (see above)</li> <li>• Drop Announcement Date: Workday following the Drop Notification Date</li> <li>• 'Soft Drop' Effective Date: 6th Workday following the Drop Notification Date</li> </ul>
Reinstatement Timing Guidelines	<ul style="list-style-type: none"> <li>• See Section 2.6.2.1</li> </ul>

If the issue is not 'Soft' dropped, and some or all holders elect for early redemption, then the index will take the following actions:

Amount Outstanding After Put	Index Action
≤20% of Original Issue Size	<p>The Outstanding Issue Size will be amended to reflect the change. The change will be applied at the Put Price.</p> <p>In most circumstances an issue will no longer be eligible for retention in the Index due to the size test and therefore the action will be to Drop the issue at the Put Price.</p>
>20% of Original Issue Size	<p>The change will be treated as a regular change in Outstanding Issue Size with the change applied using the Bid price on the Effective Date.</p> <p>In some circumstances an issue will no longer be eligible for retention in the Index due to the size test and therefore the action will be to Drop the issue at the Bid Price.</p>

#### 2.6.3.2.2. Drop Due to an Offer

This guideline deals with situations where the issue becomes the subject of an Offer, examples of such events are:

- Offer to purchase the convertible by the issuer or another entity
- Offer to pay holders a cash amount in consideration of a terms change
- Offer to pay holders a cash amount in consideration of the holder not exercising a Put option
- Offer to exchange the issue for a new or existing issue

The Index Operations Team will advise the Index Manger of the Offer details and suggest the classification of the Offer as soon as the Offer details are known to the Index Operations Team.

Possible Offer classifications along with the default treatments are detailed below. For the Offer confirmed as 'Long' the day the Index Manager is advised of such Offer will be treated as Drop Notification Date.

In the case of an Offer with terms that allow the holder to submit and then withdraw their acceptance the last day on which the acceptance may be withdrawn will be used to determine the classification of the Offer.

The Index Manager will review the proposed basis and may amend the classification of the Offer and / or the details of the default action for the proposed classification.

Any default action described in the following table which includes a change in Outstanding Issue Size is subject to the Outstanding Issue Size Change process detailed in Section 2.7.

(i) Partial Offer

Description	Default Action
Offers where the offer does not apply to the entire Amount Outstanding of the issue and the maximum amount that could be accepted is such that more than 20% of the original issue size would remain outstanding in all circumstances.	Will remain in the Index and the result of the Offer is reflected in a change in Outstanding Issue Size for the Index constituent.

(ii) Exchange Offer

Description	Default Action
Offers where the offer is to exchange the issue for another issue which would be eligible for addition to the Index should the size be sufficient.	<p>Will remain in the Index and the result of the offer is reflected in a change in Outstanding Issue Size for the Index constituent.</p> <p>The issue offered in exchange if eligible for addition (Section 2.2.1) and is above the thresholds in Section 2.6.3.1.2, the issue will be automatically added to the Index.</p> <p>The change in Outstanding Issue Size and the addition, where appropriate, of the offered issue will occur on the same day and at the same value.</p>

(iii) Short Offer

Description	Default Action
-------------	----------------

Offers where the last day on which the offer can be accepted is less than 5 Weekdays after the date on which the offer becomes known to the Index Manager.	Will remain in the Index and the result of the offer is reflected in a change in Outstanding Issue Size for the Index constituent.	
	Amount Out. After Offer	Index Action
	≤20% of Original Issue Size	<p>The Outstanding Issue Size will be amended to reflect the change. The change will be applied at the <b>Offer Price</b>.</p> <p>In most circumstances an issue will no longer be eligible for retention in the Index due to the size test and therefore the action will be to Drop the issue at the <b>Offer Price</b>.</p>
>20% of Original Issue Size	<p>The change, if any, will be treated as a regular change in Outstanding Issue Size with the change applied using the Market Price (<b>Bid</b>) on the Effective Date.</p> <p>In some circumstances an issue will no longer be eligible for retention in the Index due to the size test and therefore the action will be to Drop the issue at the Market Price (<b>Bid</b>).</p>	

Short Offer	
Removal Basis (where applicable)	<ul style="list-style-type: none"> <li>• <b>Offer Price on Drop Effective Date (≤20% of Original Issue Size)</b></li> <li>• <b>OR</b></li> <li>• <b>EoD Market Price on Drop Effective Date (&gt;20% of Original Issue Size)</b></li> </ul>
Timing Guidelines	<ul style="list-style-type: none"> <li>• Drop Announcement Date: the same day as when the Amount Outstanding after the Offer is completed becomes known to the Index Manager</li> <li>• Drop Effective Date: as determined by the Index Manager</li> </ul>

(iv) Long Offer

Description	Default Action
Offers where the last day on which the offer can be accepted is 5 Weekdays days or more after the offer becomes known to the Index Manager.	<p>Will be 'Soft' dropped.</p> <p>'Soft' dropped issues will be monitored for reinstatement in line with the reinstatement monitoring process detailed in Section 2.6.2.1.</p>

Basis and Timing Guidelines	
Removal Basis	<ul style="list-style-type: none"> <li>• <b>EoD Market Price on 'Soft Drop' Effective Date</b></li> </ul>

Timing Guidelines	<ul style="list-style-type: none"> <li>• Drop Announcement Date: the same day as Drop Notification Date</li> <li>• 'Soft Drop' Effective Date: 1<sup>st</sup> Workday following the Drop Notification Date</li> </ul>
'Long Offer' Reinstatement	<ul style="list-style-type: none"> <li>• See Section 2.6.2.1</li> </ul>

### 2.6.3.2.3. Proactive Deselection

There are circumstances where a judgment is required to establish the most appropriate action to take in respect of the possible removal of an issue from the Global Index.

As and when the Index Operations Team become aware of such circumstances the Index Operations Team will advise the Index Manager of the details of the circumstances and the Index Manager will decide if the issue is to be removed from the Global Index, and, if the issue is to be removed from the Global Index, then the Index Manager will decide on the date and price of the removal.

The process may or may not include the 'Soft Drop' event (Section 2.6.2.1). If the 'Soft Drop' option is used, the Reinstatement basis will be included in the announcement.

It is not possible to anticipate all circumstances that might require proactive deselection, however, examples of such circumstances are:

- An issue with time limited enhanced conversion terms
- An issue associated with a complex merger or takeover
- An issue where a corporate event associated with the Exchange Property might trigger a holder to convert
- An issue where an event could, on a long-term basis, materially affect the liquidity of either the issue or its underlying

In addition to these specific circumstances the Index Manager may, as described above, decide that it is appropriate for an issue to be removed from the Global Index. In such circumstances the Index Manager will decide on the date and price of the removal.

Actions taken under this guideline will be included in the Index Status Report in the same format as other Drops, however the basis of the Drop will be highlighted in the notes section of the report.



## 2.7. Outstanding Issue Size Changes

The Outstanding Issue Size of each issue in the Global Index is monitored daily by the Index Operations Team. When the Index Operations Team becomes aware of a change in the Outstanding Issue Size for a constituent of the Global Index then the Index Operations Team will inform the Index Manager of the classification of the change and the proposed basis for handling it.

A change in the Outstanding Issue Size can be either classified as a ‘Small Adjustment’ or as ‘Substantial Change’. All changes of Outstanding Issue Size whether classified as ‘Small’ or ‘Substantial’ are checked using the guidelines for the Drop due to Size in Section 2.6.3.1.2 based the new Outstanding Issue Size effective EoD on Change Notification Date. An issue where the change in the Outstanding Issue Size causes it to fail the conditions in Section 2.6.3.1.2 will be classified as ‘Substantially All Retired’.

The Index Manager will review the proposed basis and may amend the classification assigned to the change and / or the details of the default treatment for the proposed classification. The default treatment for each of the classifications is detailed below.

### 2.7.1. Small adjustments

Where the Outstanding Issue Size change represents a change in Market Capitalisation that is less than USD100m then the guidelines are:

Small Adjustment	
Change Basis	<ul style="list-style-type: none"> <li>• EoD Market Price on Change Effective Date</li> <li>• Price Basis (Section 6.3.2), Price Sources (Section 6.3.3)</li> </ul>
Timing Guidelines	<ul style="list-style-type: none"> <li>• Change Notification Date: the day Index Operations Team informs the Index Manager of the change (see above)</li> <li>• Change Announcement Date: The same as Change Notification Date</li> <li>• Change Effective Date: 1<sup>st</sup> Workday following Change Notification Date</li> </ul>

### 2.7.2. Substantial Changes

Where the Outstanding Issue Size change represents a change in Market Capitalisation that is USD100m or greater the guidelines are.

Substantial Changes	
Change Basis	<ul style="list-style-type: none"> <li>• EoD Market Price on Change Effective Date</li> <li>• Price Basis (Section 6.3.2), Price Sources (Section 6.3.3)</li> </ul>
Timing Guidelines	<ul style="list-style-type: none"> <li>• Change Notification Date: the day Index Operations Team informs the Index Manager of the change (see above)</li> <li>• Change Announcement Date: The same as Change Notification Date</li> <li>• Change Effective Date: 5<sup>th</sup> Workday following Change Notification Date</li> </ul>

### 2.7.3. Substantially All Retired

Where the change in the Outstanding Issue Size causes the issue to fail the Size test in Section 2.6.3.1.2 when re-tested on the 5 Weekdays preceding the Drop Notification Date using the new Outstanding Issue Size.

Drop Due to Size	
Removal Basis	<ul style="list-style-type: none"> <li>• EoD Market Price on Drop Effective Date</li> <li>• Price Basis (Section 6.3.2), Price Sources (Section 6.3.3)</li> </ul>
Timing Guidelines	<ul style="list-style-type: none"> <li>• Drop Notification Date: the day Index Operations Team informs the Index Manager of the change (see above)</li> <li>• Drop Announcement Date: The same as Drop Notification Date</li> <li>• Drop Effective Date: 2<sup>nd</sup> Workday following the Drop Notification Date</li> </ul>

## **2.8. Other Changes**

### **2.8.1. Technical Changes**

Issues in the Global Index are subject to Technical Add and Technical Drop when certain features of the issue change. The most common event that may require a technical change is a merger or takeover that results in a change to the Exchange Property of the issue. This may be reflected in the Global Index by the replacement of one MACE ID by a new MACE ID, the physical issue represented by these references remains unchanged.

Any issue subject to a Technical Add / Technical Drop will be included in the Index Status Report.

### **2.8.2. Proactive Change**

Circumstances may occur such that, it may be appropriate for an issue to be replaced in the Global Index with one or more other issues. If such circumstances become apparent to the Index Operations Team, then the Team will advise the Index Manager of the circumstances.

In these circumstances the Index Manager will advise the Index Operations Team of which issues, if any, to add and / or remove from the Global Index and relevant Sub-Indices as well as the effective dates and prices to apply to these changes.

Any issue subject to proactive change will be included in the Announcement Section of the Index Status Report.

## 3. Sub-Index Maintenance

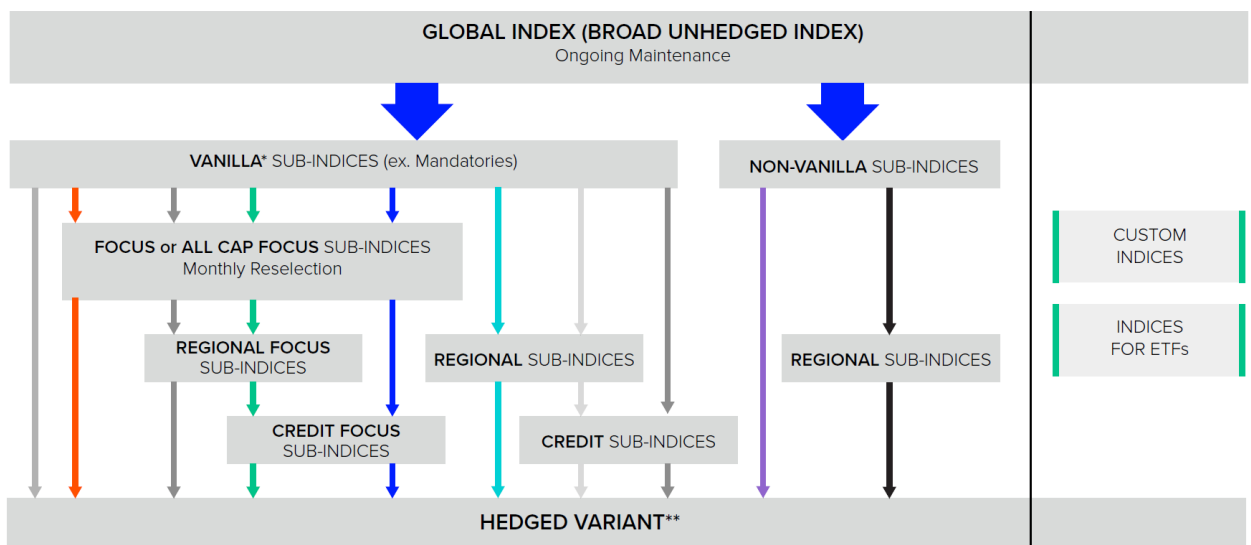
### 3.1. Overview of sub-indices

**All sub-indices are selected from the issues that form the Global Index.** As such any issue which is removed from the Global Index via ‘Hard’ or ‘Soft’ drop is simultaneously removed from all sub-indices. Issues which are added or reinstated to the Global Index may, or may not, become eligible for addition to a particular sub-index, the guidelines for each sub-index set out the basis for such additions.

Sub-indices can be broadly divided into two categories:

Static Sub-indices – sub-indices where selection is based on constant or rarely changing parameters such as Regional or credit rating.

Dynamic Sub-indices – sub-indices where selection is based on a periodic assessment of parameters.



\*Those Sub-Indices that were not Vanilla from the start became Vanilla at different times, see a full list of available sub-indices and the relevant Vanilla dates [here](#).

\*\*Some indices do not have a hedged variant.

### 3.2. Static Sub-indices

Issues qualify for addition to Static Sub-indices at the same time the issue is added to the Global Index, However, the actual date that an issue is added to a Static Sub-index may not be the same as the date used for addition to the Global Index; the sections below indicate the circumstances under which a different date is used.

The Index Manager will determine the appropriate allocation of all parameters used for selection of constituents for the Static Sub-Indices based on the guidelines.

#### 3.2.1. Regional Sub-Indices (Eligibility and Maintenance Process)

The Global Index is divided into 5 key Regions, in addition there are 4 other Regions for which indices are calculated (see table below).

Eligibility is determined based on the country of underlying. See Section 2.3 for the details of the allocation.

Key Regions	Other Regions
<ul style="list-style-type: none"> <li>• US</li> <li>• Europe</li> <li>• Asia ex-Japan</li> <li>• Japan</li> <li>• Other Markets</li> </ul>	<ul style="list-style-type: none"> <li>• Global ex-US</li> <li>• Eurozone</li> <li>• Asia</li> <li>• Growth Markets</li> </ul>

The allocation of an issue may change with time and the Index Manager may reallocate an issue to a different Country or Region at any time.

In the event that an issue is to be reallocated the Index Manager will determine the effective date for the change – the effective date may be different for different indices or index groups, for example the Focus Sub-Index drops may be selected to align to a Focus Monthly Review Effective Date.

If an issue is reallocated the change will be included in the Index Status Report.

A full list of Countries and the Country – Region allocations is given in the Appendix section 6.4.

### 3.2.2. Vanilla Sub-indices (Eligibility and Maintenance Process)

Vanilla Sub-Indices are Indices which exclude issues identified as Mandatory.

Issues are identified as Mandatory at the time they are added to the Global Index.

The Index Operations Team will advise the Index Manager about all new Mandatory issues. The Index Manager will then determine, if the issue is to be regarded as Mandatory for the purposes of sub-index selection and other index features where the Mandatory feature is significant to selection or computation such as, for example, Focus Sub-Indices (Section 3.3.1.1) or Concentration Factor calculation (Section 5.3.3).

The nature of an issue may change with time and the Index Manager may reclassify an issue as Mandatory or Vanilla at any time. In the event that an issue is to be reallocated the Index Manager will determine the effective date for the change – the effective date may be different for different indices or index groups, for example the Focus Sub-Index drops may be selected to align to a Focus Monthly Review Effective Date.

If an issue is reallocated the change will be included in the Index Status Report.

Major Groups of Vanilla Sub-Indices	
<ul style="list-style-type: none"> <li>• All Credit Sub-Indices</li> <li>• Europe</li> <li>• Eurozone</li> <li>• Asia ex-Japan</li> <li>• Japan</li> </ul>	<ul style="list-style-type: none"> <li>• Asia</li> <li>• Focus</li> <li>• All Cap Focus</li> <li>• Growth Markets</li> <li>• Other Markets</li> </ul>

### 3.2.3. Credit Sub-Indices

#### 3.2.3.1. Eligibility

To be eligible for addition to the **Investment Grade Indices** an issue:

- (i) Must be a Vanilla issue (see Section 3.2.2 for full details)
- (ii) Have an Issue level, Guarantor’s Issuer level or an Issuer level rating of BBB- and above, in the order of precedence stated. If a rating is found at any of the levels, no further ratings are considered.
- (iii) Have maturity date greater than 6 months after the after the Focus Monthly Review Effective Date following the next Focus Monthly Review Selection Date.

To be eligible for addition to **Sub-Investment Grade Indices** an issue:

- (i) Must be a Vanilla issue (see Section 3.2.2 for full details)
- (ii) Must:
  - a) Have an Issue level, Guarantor’s Issuer level or an Issuer level rating below BBB-, in the order of precedence stated. If a rating is found at any of the levels, no further ratings are considered.

OR

- b) Be unrated

Only the Moody’s and S&P ratings are considered at Issue Level. Only the following Issuer level ratings from Moody’s or S&P are considered when assessing the Guarantor or Issuer credit rating.

Moody’s	S&P
<ul style="list-style-type: none"><li>• LT Issuer Rating</li><li>• LT Issuer Rating (Domestic)</li><li>• LT Issuer Rating (Foreign)</li></ul>	<ul style="list-style-type: none"><li>• Foreign Currency LT</li><li>• Local Currency LT</li></ul>

‘Shadow’ or implied ratings are not accepted.

#### 3.2.3.2. Maintenance Process

Credit sub-indices are determined by reference to the eligible credit ratings described in the preceding section.

For issues rated by both services, the lower credit rating at the level used is applied.

The Credit Sub-Indices are obtained by grouping ratings into 2 separate classes, these are:

- Investment Grade – BBB- and above
- Sub-Investment Grade – Below BBB- and not rated

Both rating agencies provide several types of ratings for issuers (see previous section), the derivation of the issuer ratings used for this guideline are given in the Appendix Section 6.5.2.

A table giving the cross reference between rating systems is given in the Appendix Section 6.5.1.

##### 3.2.3.2.1. Issues Being Added to the Index

For issues that are being added or are proposed to be added to Global Index under Section 2.5; the process of classifying an issue as Investment Grade or Sub-Investment Grade is carried out as part of the Add process and feedback regarding the classification will be taken in conjunction with any other feedback regarding the proposed addition of the issue.

### **3.2.3.2.2. Changes Between Investment and Sub-Investment Grade**

When a rating change results in an issue changing between Investment Grade and Sub-Investment Grade, the treatment within the Credit Sub-indices will be as follows:

**(i) For all Indices** - issues changing from Sub-Investment Grade to Investment Grade only:

Must have more than 6 months to maturity after the Focus Monthly Review Effective Date following the next Focus Monthly Review Selection Date to be included in any Investment Grade indices. Issues of this type will remain in Sub-Investment Grade Sub-Indices. This guideline is applied irrespective of whether the issue is a member of the Global Focus Index at the time of the change with Focus Monthly Review Selection Date being used for convenience.

**(ii) For Focus Sub-Indices:**

The change will be announced immediately and then applied at the Focus Monthly Review Effective Date which follows the first Focus Monthly Review Selection Date which falls on or after the announcement date.

**(iii) For other Sub-Indices**

The change will be announced immediately and then applied on the 5<sup>th</sup> Workday following the announcement.

The Index Manager may vary the timing of the announcement or application of the rating change to sub-indices.

If an issue is reclassified the change will be included in the Index Status Report.

#### **Historical notes for Credit sub-indices**

Prior to January 2013 mandatory convertible issues were eligible for non-Focus Credit Sub-indices.

Prior to 10<sup>th</sup> July 2014 the guidelines provided for R&I and JCR ratings to be additionally considered in respect of Japanese issues.

Prior to 8 October 2014 the guidelines excluded issuer ratings from consideration.

### 3.3. Dynamic Sub-indices

#### 3.3.1. Focus and All Cap Focus Sub-Indices

##### 3.3.1.1. Global Focus and Global All Cap Sub-Index Overview

**The Global Focus Sub-Index** is an index derived from the Global Index using Regional Market Capitalisation, Percentage Price and Premium criteria. It aims to represent a sub-set of the Convertible market by selecting a sub-set of constituents from the Global Index with a common set of defined characteristics representing issues with what is termed a ‘balanced’ profile. The derivation process is mechanical.

The Global Focus Sub-Index contains any issue that was either retained in or added to the Global Focus Sub-Index following the latest Focus Monthly Review, the maintenance process as set out in Section 3.3.1.3.

Only the current constituents of the Global Index and Issues announced as a ‘firm’ Add to the Global Index no later than the last day of the current Focus Monthly Review Selection Period will be reviewed for eligibility and can be part of it.

Any issue that has previously been a constituent of the Global Focus Sub-Index and was removed due to failing the reselection guidelines can be tested during any of the subsequent testing cycles providing it meets all eligibility criteria.

Other variants of the Global Focus Sub-Index such as Focus Investment Grade (Credit) or Europe Focus (Regional) Sub-Indices are derived from the Global Focus Sub-Index, as such; any changes to the Global Focus Sub-Index are reflected in the Sub-Indices derived from it.

**The Global All Cap Focus Sub-Index** is an index derived from the Global Index and is created using Percentage Price and Premium criteria.

Other variants of the Global All Cap Focus Sub-Index such as Global All Cap Focus Investment Grade (Credit) or Europe All Cap Focus (Regional) Sub-Indices are derived from the Global All Cap Focus Sub-Index, as such; any changes to the Global All Cap Focus Sub-Index are reflected in the Sub-Indices derived from it.

See Section 3.1 for the summary of available Sub-Indices, a detailed list of Focus and All Cap Focus Sub-Indices is available [here](#); Section 3.2 details the derivation rules for the Credit and Regional Sub-Indices.

##### 3.3.1.2. Eligibility Criteria

To be eligible for consideration for addition to the Global Focus Sub-Index, an issue must:

- (i) Be
  - a. a constituent of the Global Index prior to the start of the Focus Monthly Review,

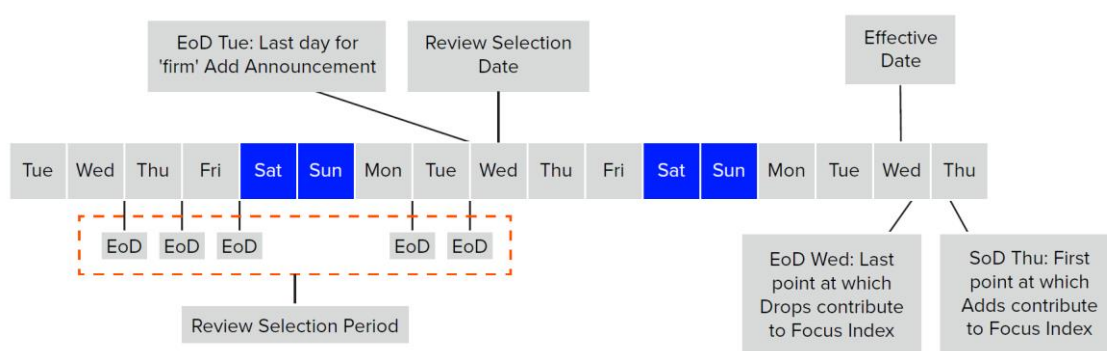
OR

  - b. an issue that has been announced as a ‘firm’ Add no later than the EOD on the last day of the Focus Monthly Selection Period. The full calendar of the upcoming Monthly Reselections can be found [here](#).
- (ii) Be a dated (i.e. non-perpetual) issue
- (iii) Be a Vanilla (i.e. non-mandatory) issue (See Section 3.2.2 for full definition)
- (iv) Have a maturity date that is more than 6 months after the Focus Monthly Review Effective Date for the current Focus Monthly Review.
- (v) Not have any of the following actions associated with it:
  - a. Be announced as a Drop from the Global Index on a future date

- b. Have an offer outstanding for some or all of the issue as of the Focus Monthly Review Selection Date
- c. Have a merger or takeover offer outstanding on the underlying asset of the issue as of the Focus Monthly Review Selection Date

Should an existing constituent be restructured such that it becomes perpetual or mandatory, it will cease being eligible.

### 3.3.1.3. Reselection Process for the Focus and All Cap Focus Sub-Indices



The following process applies to both the Focus and All Cap Focus Sub-Indices except where stated otherwise.

- (i) The maintenance process for the Focus Sub-Index takes place monthly in line with the Calendar published [here](#) in advance. Testing periods are based on Weekdays, so no holidays are taken into consideration.
- (ii) In the event the Index Manager needs to amend any of the dates, the announcement will be made in the Index Status Report. See Section 3.3.1.6 for further details.
- (iii) All issues eligible for consideration, as defined in section 3.3.1.2, are tested during the Focus Monthly Review Selection Period. Issues, for which the ‘firm’ Add announcement date (for the Global Index) falls after the start of the Focus Monthly Review Selection Period, are reviewed on the basis of the data from the ‘firm’ Add announcement date to the end of the Focus Monthly Review Selection Period. See diagram above.
- (iv) Issues that are constituents of the Global Focus Sub-Index on the Weekday immediately preceding the first day of the Focus Monthly Review Selection Period are tested for retention in the Global Focus Sub-Index, all other issues are tested for addition using the relevant thresholds. Addition and retention thresholds are defined in Section 3.3.1.4.
- (v) For an issue eligible for consideration to be announced as an Add to the Global Focus Sub-Index it must satisfy all of the thresholds below on each of the days it is tested. If the issue falls outside any of the thresholds on any of the days in the Focus Monthly Review Selection Period, then the issue will not be added to the Focus Sub-Index. The thresholds to satisfy are:
  - a. Regional Market Capitalisation (see Section 3.3.1.4.1) – DOES NOT APPLY to All CAP FOCUS SUB-INDICES.
  - b. Conversion Premium (see Section 3.3.1.4.2)
  - c. Percentage Price (see Section 3.3.1.4.3)



- (vi) For any constituent of the Global Focus Sub-Index to be announced as a Drop from the Global Focus Sub-Index, it must separately fail either of the two thresholds listed below on each of the 5 testing days. The thresholds are:
  - a. Conversion Premium (see Section 3.3.1.4.2)
  - b. Percentage Price (see Section 3.3.1.4.3)
- (vii) Any additions or deletions to the Global Focus Sub-Indices are announced the Weekday following the last testing day on Focus Monthly Review Selection Date and are subject to 24-hour revision provision, any changes to the announced reselection results are published the following day. A revision will only be made during the 24-hour revision period if there is a factual error in the data used for the selection or if new information becomes available that would impact the selection.
- (viii) Actual implementation of the announced results takes place on the Focus Monthly Review Effective Date which is the 5th Weekday after the announcement of the results.

Price Basis and Price Sources used for Additions to and Deletions from the Global Focus Sub-Indices are detailed in Section 6.3.2 and Section 6.3.3 respectively.

There is no general provision for additions to or deletions from the Focus Sub-index between Focus Monthly Reviews, however changes may be made in any of the following circumstances:

- (ix) Any issue removed from the Global Index for whatever reason is automatically removed from the Focus Sub-index. This is not particular to the Focus Sub-index but applies to all sub-indices.
- (x) Any issue that is in the Focus Sub-index that is replaced in the Global Index by one or more other issues will be advised to the Index Manager. The Index Manager will then determine which, if any, of the replacement issues will be added to the Focus Sub-index.
- (xi) Circumstances may occur such that, between Focus Monthly Reviews, it may be appropriate for an issue to be added to or removed from the Focus Sub-index. In these circumstances the Index Manager will determine the detail of any amendments to the constituents of the Focus Sub-index.

If an issue is added to or removed from the Focus Sub-Index between Focus Monthly Reselections the change/proposed change will be included in the Index Status Report.

#### **3.3.1.4. Reselection Thresholds**

The specific thresholds for retention and addition are set out in the sections below. The thresholds are monitored at each Focus Monthly Review and the Index Manager may amend any of the threshold values as described in Section 3.3.1.5.

All thresholds are tested using end of day Bid side of the Market Price.

An existing Focus Sub-Index constituent is any issue forming part of the Global Focus Sub-Index the Weekday preceding the first day of the Focus Monthly Review Selection Period.

##### **3.3.1.4.1. Regional Market Capitalisation**

THIS SECTION DOES NOT APPLY to All CAP FOCUS SUB-INDICES.

The Market Capitalisation for each of the days during the Focus Monthly Review Reselection Period is calculated using the Market Price and FX rates applicable to the relevant day together with the Outstanding Issue Size used for Index calculations on the last day of the Focus Monthly Review Selection Period (see definition for the Market Capitalisation in Section 6.1.8).

This test applies to the issues tested for addition only. To satisfy the test the issue must be greater than or equal to the stated thresholds.

Region	Currency	Threshold	Countries included in the Region
US	USD	500m	US
Europe	EUR	375m	Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Liechtenstein, Luxembourg, Netherlands, Norway, Poland, Portugal, Russia, Spain, Sweden, Switzerland, UK
Other	USD	275m	Any country not listed under US, Europe, Asia ex-Japan or Japan regions.
Asia ex-Japan	USD	275m	China, India, Indonesia, Malaysia, Pakistan, Philippines, Singapore, South Korea, Taiwan, Thailand, Vietnam
Japan	JPY	22,000m	Japan

The threshold for Market Capitalisation has been varied historically as a result of the prevailing market conditions. The historical values used are shown in Section 3.3.1.4.4 below.

#### 3.3.1.4.2. Conversion Premium

Conversion premium is defined in Section 6.1.11.

Constituent Status (test type)	Threshold
An existing Focus Sub-Index constituent (retention)	Meets guideline if Premium is $\leq 100\%$
NOT an existing Focus Sub-Index constituent (addition)	Meets the guideline if the Premium $< 75\%$

The threshold upper limit for premium has been varied historically as a result of the prevailing market conditions. The historical values used are shown in Section 3.3.1.4.4 below.

#### 3.3.1.4.3. Percentage Price

~~For the purpose of this test, the price is first converted to a Dirty Price by the addition of any contractual Accrued and then expressed as a percentage of the Accreted Issue Price plus any contractual Accrued (Percentage Price). See [Percentage Price details is defined](#) in Section 6.1.7.~~

Constituent Status (test type)	Threshold (ranges are inclusive)
An existing Focus Sub-Index constituent (retention)	Meets guideline if Percentage Price is $\geq 60\% \ \& \ \leq 140\%$
NOT an existing Focus Sub-Index constituent (addition)	Meets guideline if Percentage Price is $> 70\% \ \& \ < 125\%$

The limits for Percentage Price have been varied historically as a result of the prevailing market conditions. The historical values used are shown in Section 3.3.1.4.4 below.

#### 3.3.1.4.4. Reselection Thresholds (Historic Levels)

The following section contains details of the historical thresholds for the Market Capitalisation, Premium and Price respectively.

These limits are subject to further revision by the Index Manager (Section 3.3.1.5 gives details of this process).

The threshold levels have been varied historically because of the prevailing market conditions. The historical values used are shown in the table below.

## Market Capitalisation Threshold History

Region	Currency	Inception – Dec 2009	Jan 2010 – Jan 2013	Feb 2013 - Current
US	USD	650m	600m	500m
Europe	EUR	450m	400m	375m
Asia ex-Japan	USD	300m	300m	275m
Japan	JPY	30,000m	25,000m	22,000m
Other Markets	USD	300m	300m	275m

## Premium Threshold History

Date		An existing constituent (retention)	NOT an existing constituent (addition)
Start	End	Premium ≤	Premium <
Inception	Oct 2008	100%	75%
Nov 2008	Dec 2009	200%	75%
Jan 2010	Sep 2010	125%	75%
Oct 2010	Current	100%	75%

## Percentage Price Threshold History

Date		An existing constituent (retention)		NOT an existing constituent (addition)	
Start	End	Prc. Price ≥	Prc. Price ≤	Prc. Price >	Prc. Price <
Inception	Oct 2008	50%	140%	60%	125%
Nov 2008	Dec 2009	40%	140%	60%	125%
Jan 2010	Dec 2011	50%	140%	60%	125%
Jan 2012	Current	60%	140%	70%	125%

### 3.3.1.5. Amendment of Thresholds by the Index Manager

The Percentage Price or Premium thresholds used for retention or addition during the Focus Monthly Review Selection together with the Regional Threshold Level may be amended by the Index Manager.

Any changes that are made to the thresholds will be communicated in the Announcement section of the Index Status Report.

### 3.3.1.6. Focus Monthly Review Timetable Details.

The Focus Monthly Reselection calendar is available [here](#). Below are the detailed descriptions of the terms. The Focus Monthly Review Selection Date and the Focus Monthly Review Effective Date fall on the first and the second Wednesday of each month respectively except where amended by the Index Manager. Further, if the 1 January is a Wednesday, then both dates are move to the second and third Wednesday in January respectively, the dates for the rest of the year remain unaffected.

The Focus Monthly Review Effective Date is the date on which changes required as a result of the Focus Monthly Review are applied - issues that are to be removed from the Focus Sub-Indices will be removed at the EOD Market Price (Bid) and issues that are to be added to the Focus Sub-Indices will be added at the EOD Market Price (Ask).

The Focus Monthly Review Selection Date is the date on which the constituents of the Focus Sub-index that will be effective from the Focus Monthly Review Effective Date are determined and announced.

The Focus Monthly Review Selection Period is the period during which market prices and related parameters are measured to allow application of the mechanical thresholds.

The Focus Monthly Review Selection Period is the 5 Weekdays immediately prior to the Focus Monthly Review Selection Date.

## 4. Equity Indices

### 4.1. Equity Indices

For the Global Index and each Sub-Index there are number of related equity indices calculate for research and analysis purposes: Parity and Equity Cash (Since Inception, Year to Date, Quarter to Date and Year on Year).

Details of the indices can be found in the Equity Indices Methodology [here](#).

## 5. Index Calculation Methods

### 5.1. Regular Index Calculation

The basic index calculation method is a Market Capitalisation weighted chain-linked index calculation with income reinvestment (Total Return).

The index is calculated every Weekday to the full precision available to the calculation process; however, the official published values of the index are rounded to 2 decimal places (1 decimal place up to and including 31 December 2007).

The Index is calculated using the input data and other necessary data available each Weekday at the time of calculation.

The Index will not be subject to retrospective calculation except where the Index Manager determines that it is necessary based on the expert judgement. Retrospective calculation is limited to the previous Weekday's EoD values only.

Any retrospective recalculation that is made will be announced in the Index Status Report and notified to the Independent Oversight Committee.

#### 5.1.1. Daily Index Calculation

The index is constructed, and the index value is computed such that the impact of each issue is in proportion to the Market Capitalisation of the issue and where the income periodically due to each issue is fully and continually reflected in the index value.

In order to derive:

$V^t$  The value of the index on day  $t$ . Index values are only computed for Weekdays and if day  $t$  is a Friday then day  $t+1$  will be the following Monday

The values required are:

$D_i^t$  The dirty cash value of one unit of the  $i^{\text{th}}$  issue in the index on day  $t$ .

$C_i^t$  The cash value of any income that becomes due for one unit of the  $i^{\text{th}}$  issue in the index on day  $t$

$S_i^t$  The issue size outstanding at SoD in units of the  $i^{\text{th}}$  issue in the index on day  $t$

$X_i^t$  The exchange rate used to convert the cash price of the  $i^{\text{th}}$  issue in the index on day  $t$  to the index currency.

$F^t$  The index factor on day  $t$

$n^t$  The number of issues in the index on day  $t$

The value of the index is given by:

$$V^t = \frac{\sum_{i=1}^{n^t} \left( (D_i^t + C_i^t) \times S_i^t \times X_i^t \right)}{F^t}$$

The value of  $F$  will remain unchanged until there is a change to the constituents of the index, there is a change to the issue size of one or more of the constituents or until an income event occurs for an issue in the index.

The above equation assumes that income is generated in the same currency as the price. In exceptional cases the income currency is different to the price currency, in which case the equation is modified shown below:

$$V^t = \frac{\sum_{i=1}^{i=n^t} (D_i^t \times S_i^t \times X_i^t + C_i^t \times S_i^t \times X_{C_i^t})}{F^t}$$

Where  $X_{C_i^t}$  is the exchange rate used to convert the income cash value to the index currency.

For simplicity, the remaining equations in this section assume that the income currency is the same as the price currency, although in practice the index is computed on the more general basis shown above.

### 5.1.2. Treatment of Income Events

The principle is that the index should, at all times, reflect the income stream of constituent issues.

On a day to day basis the index reflects the income element of constituent issues by using the Dirty Price for computation. Thus, if all issues in the index were priced at constant Clean Prices on successive days, the index would increase to reflect the increase of accrual on each issue.

The key date for the handling of income events is the Ex-income Date. The Ex-income Date is the first trade date on which trading takes place for delivery of the security such that the buyer does not become entitled to the income.

On the Ex-income Date for a particular security, the contribution to the index value from the security is composed of 2 elements:

- The Dirty Price for the issue multiplied by the number of units outstanding and converted to the index currency divided by the index factor.
- The income received per unit of the issue multiplied by the number of units outstanding and converted to the index currency divided by the index factor

If the index is considered as a theoretical portfolio this approach equates to holding the income as cash for the duration of the Ex-income Date and re-investing the cash at the end of day prices across the index in proportion to the Market Capitalisation of the issues.

At the end of the Ex-income Date, the income is re-invested in the index. This re-investment does not alter the value of the index and therefore the end of day value of the index before re-investment:

$$\frac{\sum_{i=1}^{i=n^t} ((D_i^t + C_i^t) \times S_i^t \times X_i^t)}{F^t}$$

must be equal to the end of day value after the re-investment

$$\frac{\sum_{i=1}^{i=n^t} (D_i^t \times S_i^t \times X_i^t)}{F_{new}^t}$$

The new index factor is therefore

$$F_{new}^t = F^t \times \frac{\sum_{i=1}^{i=n^t} (D_i^t \times S_i^t \times X_i^t)}{\sum_{i=1}^{i=n^t} ((D_i^t + C_i^t) \times S_i^t \times X_i^t)}$$

For convertible indices the gross income is used for the calculation. For equity indices the income used may be net or gross depending on the market, details for each market are given in Section 6.6.

### 5.1.3. Treatment of Changes of Constituents or Weightings

When changing the constituents of the index by adding or deleting issues, or by changing the size of an issue, the principle is that the immediate effect of the addition is to leave the index unchanged.

Given that the value of the index before the addition will be:

$$V^t = \frac{\sum_{i=1}^{i=n^t} (D_i^t \times S_i^t \times X_i^t)}{F^t}$$

and, that the value of the index after the addition will be:

$$V^t = \frac{\sum_{i=1}^{i=new\_n^t} (new\_D_i^t \times new\_S_i^t \times new\_X_i^t)}{new\_F^t}$$

Where

$new\_D_i^t$	The revised dirty cash value of one unit of the $i^{th}$ issue in the index on day $t$
$new\_S_i^t$	The revised issue size outstanding in units of the $i^{th}$ issue in the index on day $t$
$new\_X_i^t$	The exchange rate used to convert the cash price of the $i^{th}$ issue in the index on day $t$ to the index currency.
$new\_F^t$	The revised index factor on day $t$
$new\_n^t$	The revised number of issues in the index on day $t$

Then

$$new\_F^t = F^t \times \frac{\sum_{i=1}^{i=new\_n^t} (new\_D_i^t \times new\_S_i^t \times new\_X_i^t)}{\sum_{i=1}^{i=n^t} (D_i^t \times S_i^t \times X_i^t)}$$

Changes are always made using the final values for prices on a particular day. Thus, whilst a change has been implemented on a particular day, the first day on which the changes will affect the index value is the following day.

The conventional approach is to refer to the first day on which a change will affect the value of the index as being the date on which the change was implemented, although this is not strictly true. The conventional terminology is used throughout this document.

## 5.2. FX Hedged Index Calculation

### 5.2.1. FX Hedged Methodology

A simple hedge strategy is to sell forward currency of equal value to the securities held in any currency other than the base currency of the fund. It is this strategy that the FX Hedged methodology is intended to closely imitate.

The strategy is not intended to hedge any effects associated with cross-currency issues (i.e. where currency of the bond and the currency of the underlying are different).

The performance of a fund adopting this approach will be the performance of the securities in their native currencies plus the impact of the forward currency transaction.

The impact of the forward currency transaction over a specific period in isolation is the difference between the base currency amount required to purchase the securities and the amount of base currency that will be received when the forward is closed out.

For example:

- Start date: 5 July 2004
- Securities to be purchased 104,700,000 JPY
- To fund the purchase, buy 104,700,000 JPY at 109.1 JPY/US\$ at a cost of 959,670.03 US\$
- Looking at a 1-month period, to protect the fund against FX movements, the forward contract is: Deliver 104,700,000 JPY against 960,814.90 US\$ (108.97 JPY/US\$) in 1 month
- After 1 month (5 Aug 04) the securities have a value of 102,700,000 JPY
- At the end of the month, sell the securities to generate 102,700,000 JPY
- Settle the Forward contract to leave cash balances of:  
(2,000,000) JPY (102,700,000 – 104,700,000)  
1,144.87 US\$ (960,814.90 – 959,670.03)
- The JPY loss of 2,000,000 JPY is the performance of the securities during the period, which is (1.91)% of the original value (in JPY).
- The JPY loss converted to US\$ at the spot rate for 5 Aug 04 (111.78) is 17892.29 US\$, which is (1.86)% of the original value (in US\$).
- The US\$ profit of 1,144.87 is the impact of the forward transaction and represents 0.119% of the original value.
- The total performance for the period is (16,747.42) US\$, which represents (1.75)% of the original value.
- The total percentage performance can also be obtained as:  
**(% JPY Loss \* SOM FX/EOM FX) + % US\$ Profit = (-1.91 x 109.1/111.78) + .119 = -1.75**  
{EOM FX = End of Month FX Rate SOM FX = Start of Month FX Rate}

The first element of the equation is the performance of the security in the currency of the security adjusted for the impact of FX rate changes during the month between that currency and the base currency used for hedging.

The second element of the equation is the profit or loss generated by the forward transaction over the period.



## 5.2.2. FX Hedged Implementation

The implementation within an index calculation requires the calculation to closely imitate the strategy described above.

The calculation is applied on a per security basis for each day the index is calculated (each Weekday) for all issues where the issue's currency differs to the Index currency.

To provide a realistic estimate of the impact of an effective 1-day forward rate one-month deposit rates for the currencies are used as set out below, the mid-market rates are used for the calculations.

**The impact of the FX forward for a period of n days as a percentage of the position value is calculated as:**

$$\% \text{ Impact of FX forward} = (DR_{hc} - DR_{cc}) \times n/365$$

Where

$DR_{hc}$	1-month deposit rate for FX Hedge currency, mid-market rate from the previous Weekday. Where depo rate information is not available a value of zero is used.
$DR_{cc}$	1-month deposit rate for constituent (local) currency, mid-market rate from the previous Weekday. Where depo rate information is not available a value of zero is used.
$n$	either 1 day or 3 days, depending on whether a weekend is involved in the calculation.

**The performance of the constituent in base currency is adjusted to account for FX moves during the day as:**

$$\% \text{ Adjusted Performance} = RP \times FX_{SoD}/FX_{EoD}$$

Where

$RP$	% Raw Performance on the day in constituent's local currency
$FX_{SoD}$	Start of Day mid-market FX rate of the constituent currency per unit of base currency (equal to the prior Weekday's $FX_{EoD}$ )
$FX_{EoD}$	End of Day mid-market FX rate of the constituent currency per unit of base currency.

**The % hedged performance per constituent is:**

$$\% \text{ Hedged Performance}_{const} = \% \text{ Adjusted Performance} + \% \text{ Impact of FX forward}$$

**The performance of the overall hedged index is the sum of:**

$$\% \text{ Performance of the Hedged Index} = \sum_1^c \% \text{ Hedged Performance}_{const} \times W_{SoD}$$

Where

$W_{SoD}$	Percentage weight in Index of a constituent at Start of Day.
$c$	Number of constituents in the index on the day of calculation.

The performance of the overall hedged index is then used to generate an index value.

## 5.3. Concentration Factors

### 5.3.1. Concentration Levels

Concentration Factors are used to limit the impact of specific issues in a given index.

Concentration Factors are used for most indices.

For each index where Concentration Factors are used a Concentration Level is used to calculate the Concentration Factor to be applied to each issue in the index. The Concentration Level is the percentage of the Market Capitalisation of the index to which the influence of a single issuer or underlying **or a Specified Instrument Type** is limited by application of the Concentration Factors.

The Index Manager will determine from time to time which indices will use Concentration Factors and for those indices the Concentration Level to apply.

Any changes that are made to the list of which indices will use Concentration Factors and for those indices the Concentration Level to apply will be announced in the Index Status Report.

The table below sets out the Concentration Level used for each index group, the Concentration Level is used for all indices based on that selection of issues regardless of the calculation currency or calculation method.

Index Group	Underlying / Issuer Concentration Level*Concentration Level	Structured Exchangeable Concentration Level**
Global	2%	5%
Global Vanilla	2%	5%
Global All Cap Focus	2%	5%
Global ex US	3%	5%
US	3%	5%
US All Cap Focus	3%	5%
Global Focus	4%	5%
Global Investment Grade	4%	5%
US Vanilla	4%	5%
Europe All Cap Focus	4%	5%
Asia All Cap Focus	4%	5%
Europe	5%	5%
Eurozone	5%	5%
Asia	5%	5%
Growth Markets	5%	5%
Global Focus ex US	5%	5%
Global All Cap Focus Investment Grade	5%	5%
Global Focus Investment Grade	6%	5%
US Focus	6%	5%
Asia ex-Japan	6%	5%
Asia Focus	6%	5%
Japan	8%	5%
Europe Focus	8%	5%
Asia ex Japan All Cap Focus	8%	5%
Japan All Cap Focus	8%	5%
Eurozone Focus	10%	5%
Europe Investment Grade	10%	5%
Asia ex-Japan Focus	10%	5%
US Investment Grade	10%	5%
Europe All Cap Focus Investment Grade	10%	5%
Japan Focus	15%	5%
Europe Focus Investment Grade	15%	5%
US Focus Investment Grade	No Limit	No Limit
Japan Investment Grade	No Limit	No Limit
Other Markets	No Limit	No Limit

Note: \* Concentration Level values are effective as of August 2019. \*\* Structured Exchangeables (Specified Instrument Type) Concentration Level values are effective as of [EFFECTIVE DATE OF REVISION 9 – TO BE CONFIRMED].

~~Note: These values are effective as of August 2019.~~

The Concentration Level used for each index group is reviewed at each Focus Monthly Review and the Index Manager will determine any amendments to Concentration Levels.

Concentration Factors are used to ensure the following conditions are satisfied following the calculation of Concentration Factors.

- The total Market Capitalisation of issues from a single issuer does not exceed a specified amount set for that index.
- ~~The total Market Capitalisation of issues that convert into a particular underlying does not exceed a specified amount set for that index.~~
- **The total Market Capitalisation of the Specified Instrument Type does not exceed a specified amount set for that index.**

There is only one Concentration Factor for each issue in a particular index. **This concentration factor is comprised of Underlying / Issuer and any Specified Instrument Type applicable.**

The calculation of Concentration Factors may be carried out for an entire index or may be carried out for a selection of one or more issues.

The Index Manager may determine the Concentration Factor to be used for a specific issue in a particular index.

Mandatory convertibles are not included in the computation of the total capitalisation issued by an issuer but are included in the computation of the overall index capitalisation.

The issuer related to the Exchange Property of each issue is normally a straightforward determination, however where necessary the Index Manager will determine the issuer to be allocated for the purposes of these calculations.

Any changes or proposed changes to the issuer associated with the Exchange Property of an issue will be announced in the Index Status Report.

**Any Specified Instrument Type is based on the instrument type definition stated in Section 6.1.19 of the Methodology.**

For issues that are being added or are proposed to be added to Global Index under the Addition to the Global Index guidelines (Section 2.5) the process **of identifying the issue as being of the Specified Instrument Type and identifying** the issuer to be associated with the Exchange Property is carried out as part of the Issue Add process and feedback regarding the **identification** association will be taken in conjunction with any other feedback regarding the proposed addition of the issue.

### **5.3.2. Concentration Factor Changes**

The method used to calculate Concentration Factors is set out in section 5.3.3 below.

Concentration Factors are recalculated for each index, where applicable, on a monthly basis on the Focus Monthly Review Effective Date. ~~For full calendar see here.~~ **See here for the list of Concentration Level Reset Dates.**

Concentration Factors are recalculated for **specified issues** when an issue is added to or dropped from an index. In these circumstances the issues for which the Concentration Factors are recalculated is limited to the Related Issues **Related Issues (Section 5.3.3)** of the issue or issues being added or dropped.

During the daily index calculation, a check is carried out to determine if any issuer or underlying **or a Specified Instrument Type** exceeds 125% of the Concentration Level applying to the index / **Specified**

**Instrument Type.** If this situation occurs, then ~~the Index Operations Team will advise~~ the Index Manager **is notified** of the details of the situation and Index Manager will determine if a re-calculation of the Concentration Factors is to be carried out and if so the timing of such re-calculation. **The default position is NOT to re-calculate between the Monthly Concentration Level Reset Dates.**

The Index Manager may require a re-calculation of the Concentration Factors to be carried out for specified issues or indices **or a Specified Instrument Type(s)** or may defer a specific calculation of Concentration Factors.

### 5.3.3. Concentration Factor Calculation

The process for calculating the Concentration Factors is iterative as the application of any factor will change the weighting of all other issues in the index.

The calculation follows the same sequence whether the Concentration Factors for the whole index or the Concentration Factors for specific issues are being recalculated.

For recalculation of the Concentration Factors for the **whole index** the Relevant Issues are all of the constituents of the index.

For recalculation of specified issues, **in case of an Add or a Drop**, the Relevant Issues are the Related Issues based on the specified issues required for the recalculation.

**Related Issues are determined by initially selecting all issues with the same issuer (except for Mandatories), underlying or a Specified Issue Type(s) as any of the specified issues.**

**Then the process adds to Related Issues any additional bonds not already defined as Related Issues which have the same underlying, issuer (except for Mandatories) or Specified Issue Type as any of the issues already defined as Related Issues. This process is repeated until no further Related Issues are found.**

**Further, this process means that even if none of the issues that initiated the recapping process are known to be of the Specified Issue Type(s) but any of the Related Issues are identified as such, the recapping process will include the Specified Issue Type(s) captured by the Related Issues process.**

**As of Revision 9, only one Specified Issue Type is included in the capping process (Structured Exchangeables as defined in Section 6.1.18).**

Once Related Issues are determined, the sequence of operations for the calculation is as follows:

- a) Remove all of the Concentration Factors.
- b) For any issues where the Index Manager has set an override value for the Concentration Factor, apply the Concentration Factor and remove those issues from the list of Relevant Issues.
- c) **Underlying iteration:**
  - a. Calculate the total Market Capitalisation of the index using the Concentration Factors already set in step b) and then calculate the Threshold Capitalisation as the product of the Market Capitalisation and the Concentration Level.
  - b. For each underlying represented in the Relevant Issues, calculate the aggregate Market Capitalisation of all Relevant Issues with that underlying. If the value exceeds the Threshold Capitalisation, then adjust the Concentration Factor used for each of the Relevant Issues with that underlying by the ratio of the Threshold Capitalisation divided by the aggregate Market Capitalisation of all Relevant Issues with that underlying.
- d) **Repeat steps c(i) and c(ii) until no material change is made.**
- e) **Issuer Iteration:**

- i. Calculate the total Market Capitalisation of the index using the Concentration Factors already set and then calculate the Threshold Capitalisation as the product of the Market Capitalisation and the Concentration Level.
  - ii. For each issuer represented in the Relevant Issues, calculate the aggregate Market Capitalisation of all Relevant Issues from that issuer. If the value exceeds the Threshold Capitalisation, then adjust the Concentration Factor used for each of the Relevant Issues from that issuer by the ratio of the Threshold Capitalisation divided by the aggregate Market Capitalisation of all Relevant Issues from that issuer.
- f) Repeat steps e(i) and e(ii) until no material change is made.**

**g) Specified Instrument Type iteration:**

- a. Calculate the total Market Capitalisation of the index using the Concentration Factors already set and then calculate the Threshold Capitalisation as the product of the Market Capitalisation and the Concentration Level.
- b. For each and every member of the Specified Instrument Types represented in the Related Issues, calculate the aggregate Market Capitalisation of all Issues in a given Specified Instrument Type. If the value exceeds the Threshold Capitalisation for a given Specified Instrument type, then adjust the Concentration Factor used for each of the Issues from that Specified Instrument Type by the ratio of the Threshold Capitalisation divided by the aggregate Market Capitalisation of all Issues of a given Specified Instrument Type.

**h) Repeat steps g(i) and g(ii) for a given and each of the Specified Instrument Type(s) represented in the Related Issues until no material change is made.**

**i) Repeat steps (c) to (g) until no material change is made in either d, f or h.**

Related Issues are determined iteratively; initially the Related Issues are set to the specified issues. Then all issues that have the same issuer as any of the Related Issues together with all issues that have the same underlying as any of the Related Issues are added to the list of Related Issues. This process is repeated until no additions to the list of Related Issues are made.

The sequence of operations for the calculation is as follows:

- a) ~~Remove all of the Concentration Factors.~~
- b) ~~For any issues where the Index Manager has set an override value for the Concentration Factor, apply the Concentration Factor and remove those issues from the list of Relevant Issues.~~
- c) ~~Calculate the total Market Capitalisation of the index using the Concentration Factors already set and then calculate the Threshold Capitalisation as the product of the Market Capitalisation and the Concentration Level.~~
- d) ~~For each underlying represented in the Relevant Issues, calculate the aggregate Market Capitalisation of all Relevant Issues with that underlying. If the value exceeds the Threshold Capitalisation, then adjust the Concentration Factor used for each of the Relevant Issues with that underlying by the ratio of the Threshold Capitalisation divided by the aggregate Market Capitalisation of all Relevant Issues with that underlying.~~
- e) ~~Repeat step (c) and (d) until no material change is made.~~
- f) ~~Calculate the total Market Capitalisation of the index using the Concentration Factors already set and then calculate the Threshold Capitalisation as the product of the Market Capitalisation and the Concentration Level.~~
- g) ~~For each issuer represented in the Relevant Issues, calculate the aggregate Market Capitalisation of all Relevant Issues from that issuer. If the value exceeds the Threshold Capitalisation, then adjust the Concentration Factor used for each of the Relevant Issues from that issuer by the ratio~~

~~of the Threshold Capitalisation divided by the aggregate Market Capitalisation of all Relevant Issues from that issuer.~~

~~h) Repeat step (f) and (g) until no material change is made.~~

~~i) Repeat steps (c) to (h) until no material change is made in either (d) or (g)~~

The materiality test used is that if the aggregate Market Capitalisation is no more than US\$10 above the Threshold Capitalisation then the change is not material.

#### **5.3.4. Concentration Factor Usage**

The product of the Concentration Factor set at any particular calculation and the Outstanding Issue Size for a particular issue at the time of the calculation is the Maximum Allowed Size for that issue for the period until the next calculation of Concentration Factors affecting that issue.

The actual issue size used in index calculation will be the lower of the Outstanding Issue Size and the Maximum Allowed Size.

An issue that is not subject to the application of a Concentration Factor will use the Outstanding Issue Size as the actual issue size in index calculations.

## 6. Appendix

### 6.1. Definitions and Derivations

#### 6.1.1. Overview

This section contains details of the definitions, derivations and sources of a number of key parameters (including input data) used in the construction and calculation of the indices.

#### 6.1.2. Exchange Property

The Exchange Property for a convertible is the equity and/or any other value that is received on conversion of the issue.

Issues where the exchange property consists of an amount of cash where the cash value is directly linked to the market value of an equity or basket of equities are regarded as being convertible directly into the equities for the purposes of calculations in respect of the indices.

#### 6.1.3. Naming Methodology

The names used to describe issue in the Global Index follow specific conventions:

Convertible type	Naming method	Example
Convertible	Underlying name, coupon, maturity year	Celesio 2.5% 2018
Preferreds	Underlying name, dividend cash value per year, maturity year	Omnicare 'B' \$2 2033
Perpetual	Underlying name, coupon, type	Health Care REIT \$3.25 Perpetual
Exchangeable	Underlying name, (Issuer name), coupon, maturity year	Daimler (Aabar) 4% 2016

#### 6.1.4. Issue Price

The Issue Price for an issue is the price at which an issue is first sold to general investors. Issues which are re-offered at a price lower than the originally published issue price will be allocated the re-offered price as the Issue Price. Some issues, particularly Japanese issues are quoted with a headline issue price which is paid by the underwriter and then an offer price which is the price at which the issue is offered to the market. In this case the Issue Price is set to the offer price.

#### 6.1.5. Original Issue Size

If there is any doubt as to the appropriate price to be used for the Issue Price the Index Operations Team will refer the issue to the Index Manager. The Index Manager will determine the Issue Price to be used for the issue.

The Original Issue Size is the size of the issue when launched; including any option to increase that was exercised and including any subsequent tap issues.

#### 6.1.6. Initial Issue Proceeds & Outstanding Issue Proceeds

*Initial Issue Proceeds = Issue Price × Original Issue Size*

*Outstanding Issue Proceeds = Initial Issue Proceeds ×  $\frac{\text{Outstanding Issue Size}}{\text{Original Issue Size}}$*



### 6.1.7. Accreted Issue Proceeds and Percentage Price

The **Accreted Issue Proceeds** is a measure of the capitalisation of an issue which varies through the life of an issue to reflect the impact of discount issue or premium redemption terms.

By way of example, the TJX Companies 0% 2021 issue was launched in 2001 at an issue price of 67.165% with issue proceeds of US\$347,578,875, the issue matures in 2021 at a price of 100% with redemption proceeds of US\$517,500,000. The Accreted Issue Proceeds tracks the change from the issue proceeds to the redemption proceeds through the life of an issue.

The derivation of this value is as follows:

$$\text{Accreted Issue Proceeds} = \text{Dirty Accreted Issue Price} \times \text{Original Issue Size}$$

$$\text{Dirty Accreted Issue Price (DAIP)} = \text{Accreted Issue Price} + \text{Allowance for Accrued}$$

Allowance for Accrued is the accrued interest for transactions on the relevant trade date. For issues subject to contractual accrued this is the contractual accrued. For issues that trade with accrued in the price **Dirty Price** this value is a notional value calculated using an accrual method appropriate to the market.

$$\text{Accreted Issue Price} = IP \times (CY^{EL})$$

$$CY = \left(\frac{RP}{IP}\right)^{1/IT}$$

Where

<i>IP</i>	Issue Price as defined in Section 6.1.4
<i>RP</i>	Redemption Price
<i>CY</i>	Capital Yield*
<i>EL</i>	Elapsed Life is the number of years since issue date
<i>IT</i>	Issue Term is the number of years from Issue Date to final redemption

\*For issues where the Redemption Price is not a fixed value at issue (e.g. Floating principal issues) or where the Redemption Price is not defined (e.g. Perpetual Issues) or where the Redemption Price is zero (e.g. Mandatory issues) or where the Redemption Price is in a currency different to the Issue Price then Capital Yield is set to a value of 1.

**The Percentage Price is the price of an issue normalised to allow for a meaningful comparison of the issue's price with the prices of other constituents regardless of its issuance format (accreting vs non accreting), maturity stage or its pricing units.**

$$\text{Percentage Price} = \frac{DP}{DAIP}$$

**Where**

<b><i>DP</i></b>	<b>Dirty Price = Clean Price + Contractual Accrued</b>
<b><i>DAIP</i></b>	<b>Dirty Accreted Issue Price - see definition earlier in this section</b>

### 6.1.8. Market Capitalisation

$$\text{Market Capitalisation} = \text{Dirty Price} \times \text{Outstanding Issue Size}$$

### 6.1.9. Face Value

The Face Value of an issue is the nominal value of the issue, for bonds this is normally clearly stated in the prospectus and is the basis for the percentage pricing used in many markets. For preferred convertible issues the Face Value is normally the liquidation preference.

If the Face Value is not clear from the issue documentation the Index Operations Team will refer the issue to the Index Manager. The Index Manager will determine the Face Value to be used for the issue.

### 6.1.10. Parity

The Parity value of an issue is the value of the Exchange Property due to the holder of the issue on conversion of a single unit of the issue. Conventionally, Parity is converted to be in the same currency and units as the price of the issue. See details of the FX rates used for conversion in Section 6.3.3.3.

When an issue is priced at Parity then the security price used will be the security price such that the consideration paid is equal to the Parity, thus if the security trades on a Clean Price basis then the Clean Price will be the Parity less the Accrued.

For Bond + Warrant structures the calculation of Parity reflects the liquidation value of the complete unit to be consistent with the approach used for other Index constituents.

The calculation method takes into account the Exercise Price of the warrant and also the bond value.

The bond value is based on the market price of the straight bond element of the unit for this calculation, if this price is not readily available par value of the bond will be used.

The calculation for each bond is therefore:

$$Parity = LV \times FX_{unit}$$

$$LV = (MP_{BND} \times FX) + V_{sh.r} - EP$$

Where

$LV$	Liquidation Value
$MP_{BND}$	Market Price of straight Bond only, if relevant market price for the straight bond is not available par value of the bond is used.
$FX_{stock}$	FX Rate to convert to Stock Currency
$V_{sh.r}$	Value of Shares Received
$EP$	Exercise Price per Unit
$FX_{unit}$	FX Rate to convert to Unit currency

### 6.1.11. Premium (Conversion Premium)

Premium is the percentage by which a clean security price exceeds the Parity.

### 6.1.12. Traded Value

Traded Value is the value of turnover reported on an exchange or trade reporting platform for an issue.

When traded value is not in the same currency as Outstanding Issue Proceeds the Traded Value is converted to the relevant currency on a daily basis using the EoD FX rates used for index calculation on that day.

Traded Value data obtained from TRACE is subject to the following limitations:

- Trades marked 1MM+ on TRACE represents trades in excess of 1,000,000 nominal and are recorded for the purposes of Traded Value calculations as 1,000,000 nominal.
- Trades marked 5MM+ on TRACE represents trades in excess of 5,000,000 nominal and are recorded for the purposes of Traded Value calculations as 5,000,000 nominal.
- New Issues may, in some circumstances, not report through TRACE on the first day of trading. In those circumstances no Traded Value from TRACE will be recorded against the issue for that day.

As such the values used for assessing liquidity may understate the actual value traded.

#### **6.1.13. Day Types**

Calendar day – any day of the week.

Weekday – any day from Monday to Friday irrespective of any bank, market or other holidays.

Workday – a Weekday that is not a UK bank holiday.

#### **6.1.14. Guarantor**

A Guarantor, for the purposes of this methodology, is an entity explicitly identified in the issuance documents as providing an unconditional guarantee of the issuer's obligations for the entire life of the issue.

As such, 'Keepwell' agreements and 'Standby Letters of Credit' are not normally regarded as being equivalent to a Guarantor.

In circumstances where the status of an entity that might be considered a Guarantor is not clear the Index Manager will determine the status.

#### **6.1.15. Mandatory Issues**

A mandatory issue is an issue where conversion into the Exchange Property is compulsory at maturity.

#### **6.1.16. Preferred Issues**

A convertible preferred stock (Pref) is an issue where a holder is permitted conversion into the Exchange Property after a specified date under the specified conditions.

#### **6.1.17. Perpetual Issues**

A perpetual issue is an issue where the Redemption Price and Maturity Date are not defined.

#### **6.1.18. Structured Exchangeables (Specified Instrument Type)**

A Structured Exchangeable bond is a bond issued by a financial institution, where the issuer (or its affiliate(s) or proxy(ies)) also act(s) in a capital market capacity for the issue, structured to reflect the performance of the exchange property named and settled primarily in cash upon conversion or redemption. If there is any doubt as to the nature of the issue under consideration the Index Manager will determine the instrument type.

#### **6.1.19. Specified Instrument Type**

A sub-set of instruments in an index that are determined to be of a specific type as defined in Section 6.1 of the Methodology.

## 6.1.20. Financial Institution

A Financial Institution is any legal entity with TRBC classification of:

TRBC	Name
ECONOMIC SECTOR	Financials
BUSINESS SECTOR	Banking & Investment Services
INDUSTRY GROUP	Banking Services
INDUSTRY	Banks
ACTIVITY	Banks (NEC)

If there is any doubt or absence of a TRBC classification of the issuing entity the Index Manager will determine the classification.

## 6.2. Qualifying Prices

### 6.2.1. Overview

The number of Qualifying Prices is used as a guide to liquidity.

To be a Qualifying Price for an issue a price must meet a number of conditions which are set out in the section below.

### 6.2.2. Qualifying Price Conditions

#### 6.2.2.1. Absolute Conditions

To be a Qualifying Price a price must meet all of the following conditions:

- (i) The price must be from a source that provides prices that are available to be used by EPS in the determination of the EPS Closing Price
- (ii) The price must be no older than one week
- (iii) The price must have a non-zero bid and a non-zero offer
- (iv) The price must have a positive, non-zero spread
- (v) The price must have a spread less than or equal to 2% of Face Value
- (vi) The price must have a spread less than or equal to 3% of the Bid

#### 6.2.2.2. Relative Condition

In addition to the absolute conditions above, the mid prices of all the Qualifying Prices for an issue must fall within one Standard Spread.

A Standard Spread is the lesser of 2% of Face Value and 3% of the lowest mid-price of any Qualifying Price.

## 6.3. Pricing

### 6.3.1. Overview

The overall philosophy for pricing issues in the indices is that prices are acquired by the Index Operations Team using automated price feeds ('Market Prices').

### 6.3.2. Price Basis

The basis used for pricing convertibles in the Index is:

- (i) For issues being added or reinstated to the Global Index or any Sub-Index at the calculation point the offer(ask) price.
- (ii) For issues being retained in the Global Index or any sub-index at the calculation point ~~the~~ as well as the volume changes the bid price.
- (iii) In some circumstances an issue may be removed from the Global Index at the Parity value, in such circumstances the equity price prevailing at the end of the 'Hard' or 'Soft' Drop Effective Date will be used to compute the Parity.
- (iv) For issues being 'Hard' or 'Soft' dropped from the Global Index or any sub-index at the calculation point the bid price.

The equity prices used for calculation are last trading prices.

### 6.3.3. Price and Rates Sources

The Index Operations Team obtains Convertible Prices, Price for Equities, FX and Interest Rates as follows:

#### 6.3.3.1. Prices for Convertibles

- (i) For issues where a EPS Closing Price is available then the EPS Closing Price will be used
- (ii) For issues where a EPS Closing Price is not available then the closing price from a Recognised Convertible Exchange will be used
- (iii) For issues where neither a EPS Closing Price nor a closing price from a Recognised Convertible Exchange is available then the Index Manager will determine the price to be used (Section 6.3.6.1 applies)

When a price from a Recognised Convertible Exchange is used then the Index Operations Team will determine the appropriate exchange to use for a particular issue. If there is uncertainty as to the appropriate exchange to use, then the Index Manager will determine the appropriate exchange to use.

#### 6.3.3.2. Prices for Equities

The Index Operations Team obtains prices for equities from exchange feeds. The price used for Global Index calculation is the last trading price. Where an equity trades on a number of exchanges the Index Operations Team will determine which exchange or exchanges are appropriate for a particular issue at any particular time. If there is uncertainty as to the appropriate exchange to use, then the Index Manager will determine the appropriate exchange to use.

#### 6.3.3.3. FX Rates

WM/Reuters Closing Spot Rates are used as the basis for FX rates used for Index calculations. **The Index uses the Bid and Ask rates to USD to calculate a mid-rate to USD which is used for Index calculations.** Where cross-rates are required for calculation purposes these rates are calculated from the mid rates calculated by the Index.

Prior to 11 December 2015 the FX rates used for Index calculation were taken from Refinitiv as of 16:30 London time.

#### 6.3.3.4. Interest Rates

Interest rates required for the calculation of FX hedged indexes are taken from Refinitiv; the mid rates are used for calculation.

### 6.3.4. Price and Rates Timings

The prices and rates captured by the automated feeds are selected to reflect the most recent reliable value for each component of the Index calculation. Individual securities may be treated differently if the Index Manager determines that the general approach is generating unsatisfactory prices (Section 6.3.6.1 applies).

#### 6.3.4.1. General Basis for Convertibles

The general basis for convertibles is shown in the table below:

Price Type	Source
EPS Closing Price	The prices provided by EPS in the following regional price files (estimated delivery times in brackets): Asia px_asia_6pm_govcorp (18:45 Tokyo time) EMEA px_emea_6pm_govcorp (18:45 London time) US px_amer_4pm_govcorp (16:45 New York time)
Asian and European exchange traded convertibles	More than 1 hour after the stated close of the exchange, however the exchanges only transmit trades from regular trading and therefore last trade will be last trade during a regular session.
US Exchange traded issues	Most recent price collected when the exchange sends the "end of trading" message.

#### 6.3.4.2. General Basis for Equities

The general basis for equities is shown in the table below.

Price Type	Source
Asian and European Equity	More than 1 hour after the stated close of the exchange, however the exchanges only transmit trades from regular trading and therefore last trade will be last trade during a regular session.
US Equity	Most recent price collected when the exchange sends the "end of trading" message.

#### 6.3.4.3. General Basis for Rates

The general basis for rates is shown in the table below.

Rate Type	Source
FX Rates	WM/Reuters Closing Spot Rates, normally calculated at 16:00 London time.
Interest Rates (1 Month Deposit Rates)	Refinitiv Market Data feed.

#### 6.3.5. Recognised Exchanges

##### 6.3.5.1. Equity Exchanges

A Recognised Exchange for equity trading is any exchange that provides trading and price data on equities and is available as an exchange feed through the Refinitiv market data systems.

##### 6.3.5.2. Convertible Exchanges

A Recognised Convertible Exchange for convertible trading is any exchange that provides trading and price data on convertibles and is widely recognised as an exchange which provides a viable market in a particular issue.

- In general the Luxembourg Exchange is not regarded as a Recognised Convertible Exchange as it does not provide a trading forum.
- In general the Singapore Exchange is not regarded as a Recognised Convertible Exchange for issues that are not local issues as it does not provide a trading forum.

The Index Manager will decide if a particular exchange is a Recognised Convertible Exchange for a particular issue.

### **6.3.6. Index Manager role in Pricing**

#### **6.3.6.1. Index Manager Role in End of Day Pricing**

In general, the Market Prices generated from the automated price feeds will be used for all end of day pricing of issues required for calculation of the Index.

The Index Manager may determine that a different price source or a price determined by the Index Manager should be used either for a single calculation point or for an extended period if there is a clear reason to believe that the automated price is not representative.

#### **6.3.6.2. Index Manager Role in Pricing Adds and Drops**

All Add and Drop prices as well as prices used for change of the amount outstanding are reviewed by the Index Manager. On occasions, the price used for these types of events may require amendment. The Index Manager will use expert judgement to decide on the appropriate action to take in such circumstances.

If an amendment is required, then the following guidelines will be followed:

- (i) For an amendment to an Add price:

The issue will be dropped from the Index at the prevailing market price and then immediately reinstated at a different price. The difference between the prices will generate the required amendment.

- (ii) For an amendment to a Drop price:

The issue will be reinstated to the index for a single day and the Add and Drop prices will be selected to provide the required amendment.

- (iii) For an amendment to a price used for a change to amount outstanding:

The amount outstanding will be restored to the prior amount outstanding for one day in order to make the adjustment. The start and end of day prices for that day will be selected to provide the required amendment.

### **6.3.7. Refinitiv's Evaluated Pricing Services Closing Price**

The Refinitiv's Evaluated Pricing Service ('EPS') is an independent, global evaluated pricing source covering over 2.5 million fixed income securities, derivatives and bank loans. Coverage spans all major financial markets and prices are available at multiple times daily. EPS evaluations, which provide detailed transparency and market insight, are designed to support asset managers, custodian banks, mutual fund administrators and risk managers.

The EPS Closing Price is taken from the regional price files listed in Section 6.3.4. The regional price files contain both bid and offer prices.

## **6.4. Country and Region Details**

### **6.4.1. Allocation of Country to Region**

The allocation of an issue to a Country is determined as set out in 2.3.

The relationship between Country and Region is shown in the table below

The US and Japan are also regarded as Regions for the purposes of Sub-Indices creation.





Country to Region allocation table

Country	Global	Global ex US	US	Europe	Asia	Other Markets	Euro-zone	Asia ex Japan	Growth Markets	Japan
Argentina	x	x				x			x	
Australia	x	x				x				
Austria	x	x		x			x			
Bahamas	x	x				x				
Belgium	x	x		x			x			
Bermuda	x	x				x				
Brazil	x	x				x			x	
Canada	x	x				x				
Cayman Islands	x	x				x				
China	x	x			x			x	x	
Denmark	x	x		x						
Egypt	x	x				x			x	
Finland	x	x		x			x			
France	x	x		x			x			
Germany	x	x		x			x			
Ghana	x	x				x			x	
Greece	x	x		x			x			
Hungary	x	x		x					x	
India	x	x			x			x	x	
Indonesia	x	x			x			x	x	
Ireland	x	x		x			x			
Israel	x	x				x			x	
Italy	x	x		x			x			
Japan	x	x			x					x
Liechtenstein	x	x		x						
Luxembourg	x	x		x			x			
Malaysia	x	x			x			x	x	
Mauritius	x	x				x			x	
Mexico	x	x				x			x	
Netherlands	x	x		x			x			
New Zealand	x	x				x				
Norway	x	x		x						
OTHER	x	x				x				
Pakistan	x	x			x			x	x	
Philippines	x	x			x			x	x	
Poland	x	x		x					x	
Portugal	x	x		x			x			
Russia	x	x		x					x	
Singapore	x	x			x			x	x	
South Africa	x	x				x			x	
South Korea	x	x			x			x	x	
Spain	x	x		x			x			
Sweden	x	x		x						
Switzerland	x	x		x						
Taiwan	x	x			x			x	x	
Thailand	x	x			x			x	x	
UK	x	x		x						
United Arab Emirates	x	x				x			x	
US	x		x							
Vietnam	x	x			x			x		

## 6.5. Credit Rating Detail

### 6.5.1. Rating Equivalence Table

The equivalence between rating schemes for the purposes of allocating issues as Investment Grade or Sub Investment Grade is shown in the table below.

		S&P	Moody's
Investment Grade	1	AAA	Aaa
	2	AA+	Aa1
	3	AA	Aa2
	4	AA-	Aa3
	5	A+	A1
	6	A	A2
	7	A-	A3
	8	BBB+	Baa1
	9	BBB	Baa2
	10	BBB-	Baa3
Sub Investment Grade	11	BB+	Ba1
	12	BB	Ba2
	13	BB-	Ba3
	14	B+	B1
	15	B	B2
	16	B-	B3
	17	CCC+	Caa1
	18	CCC	Caa2
	19	CCC-	Caa3
	20	CC	Ca
	21	C	C
	22	D	

## 6.5.2. Issuer Rating Derivation

The issuer ratings used when determining the classification of each issue for the credit sub-indices in accordance with Section 3.2.3 are obtained from the Refinitiv GovCorp database which is maintained by the Refinitiv Ratings Team using data from relevant rating agencies.

The rating agencies considered for the purposes of the Index are Moody's and S&P.

The GovCorp data fields used are from the 'party' table for the issuer/guarantor and are populated from the data available from the rating agencies using the following procedures:

Moody	S&P
<b>mdy_issuer_rating_cd</b>	<b>sp_issuer_long_rating_cd</b>
This field is populated using the Moody rating designations listed below <b>only</b> . <ul style="list-style-type: none"><li>• LT Issuer Rating</li><li>• LT Issuer Rating (Domestic)</li><li>• LT Issuer Rating (Foreign)</li></ul>	This field is populated using the S&P rating designations listed below <b>only</b> . <ul style="list-style-type: none"><li>• Foreign Currency LT</li><li>• Local Currency LT</li></ul>
In the event that more than one of these is provided by the rating agency then the most recent is used to populate the field, if both Foreign and Domestic are updated at the same time then the Foreign rating is dominant.	In the event that more than one of these is provided by the rating agency then the most recent is used to populate the field, if both Foreign and Local are updated at the same time then the Foreign rating is dominant.

## 6.6. Equity Dividend Treatment

Gross dividends are used for all equity markets.

If there is any doubt as to the appropriate dividend to be used for the issue the Index Operations Team will refer the issue to the Index Manager. The Index Manager will determine the dividend to be used for the issue.

## 6.7. Index Calendar

The Index Calendar lists the key dates for the Focus Monthly Review and can be found [here](#).

The Index Calendar will be amended by the Index Manager from time to time. Any amendments will be announced in the Index Status Report which is published on all Weekdays. For more details see Section 3.3.1.6.

## 7. Index Publication and Communication of Index Events

### 7.1. Index Publication

The Indices are published overnight on an EOD basis for each Weekday via a number of delivery mechanism such as e-mail, FTP, Eikon terminals, Refinitiv data feeds, Bloomberg terminals and other redistributors.

Any requests for access to the published information should be directed to [CB\\_Index\\_Reporter@refinitiv.com](mailto:CB_Index_Reporter@refinitiv.com).

Calculation of the Indices takes place on or shortly after 10pm GMT and relies on a timely availability of the input data for each of the constituents as well as the timely availability of other necessary data. The input data used is verifiable. The quality of the input data is assured via a combination of Pricing Sources as detailed in Section 6.3.3.1.

In case of any delays with the delivery of input data or other necessary data for the publication of the Index, the Index Operations Team will notify the Index Manager of such a delay while investigating and resolving the incident with the support of the Index Technical Support Team. In case of a significant delay in obtaining the input or other necessary data for the publication of the Index values, the Index Manager may delay the calculation and publication of the Indices until the morning of the following Weekday to allow time for remedial actions.

The Index Manager may, using expert judgement, determine that it is necessary to use all or some of the input and / or necessary data other than what is available on the day via the Data Sources. The index manager will consult with the Index Operations and Index Technical Support teams prior to making the decision. In such circumstances the User Base will be notified.

### 7.2. Index Status Report – Overview and Format

The Index Status Report includes the announcements of the on-going, potential, forthcoming as well as recently completed events and changes covering existing and potential Index constituents as well as guidelines and thresholds.

The report is distributed to the User Base via the e-mail with a copy published on Eikon and other selected products.

The report is generated after 17:30 London time each Weekday.

The report consists of 2 sections:

- Announcement Section
- Index Changes Section

The Announcement Section may include index wide or constituent specific notifications (including but not limited to) request for feedback, clarification on the actions taken, changes to the event timings or thresholds. Announcements do not have a specific format but do include a Name and an Issue Identifier where appropriate.

The Index Changes Section is comprised of the general table (first table after the announcement section) and index family specific sub-sections (tables) containing constituent specific notifications of the related actions. The report is segregated into sections to group similar events together. The general table contains both the upcoming and confirmed events. Index family specific sub-sections only contain the confirmed Adds and / or Drop events.

### 7.2.1. Index Changes Section (Possible Event Announcements)

All events / status notifications will have a general format as shown below. The table below details possible Status / Events.

The Status / Event column indicates the date for the action announced.

- Adds state the SoD of the date when a given issues starts contributing to the index.
- Drops state the EoD of the date when a given issue stops contributing to the index.
- Other dates are EoD effective dates for the action.

#### (i) Additions to the Global Index

Status / Event	Description
Monitor for Add – ends DD-MMM	Identifies issues at the initial stage of review for the addition to the Global Index.
Monitor for Add – ends DD-MMM Extended until DD-MMM	Identifies issues at the initial stage of review for the addition to the Global Index where the 'Monitor for Add' is extended.
Potential Add - Review DD-MMM	Identifies issues being considered for the addition to the Global Index where the liquidity has been confirmed.
Add at start of day DD-MMM Effective price date DD-MMM	Identifies an issue confirmed as a 'firm' Add. Additions to the Global Index of reinstated issues will be identified using this event and carry a note.
Added for start of day DD-MMM Effective price date DD-MMM	Identifies issues already added to the Global Index.
Add Under Review – Review DD- MMM	Identifies an issue being reviewed prior to being confirmed or declined as an Add.
Add Declined on DD-MMM	Identifies an issue that was declined for addition to the Global Index.

## (ii) Removals from the Global Index

Status / Event	Description
'Hard' Drop at end of day DD- MMM Effective price date DD- MMM	Identifies an issue announced as a 'Hard' Drop.
'Soft' Drop at end of day DD- MMM Effective price date DD- MMM	Identifies an issue announced as a 'Soft' Drop.
'Hard' Dropped on DD- MMM Effective price date DD- MMM	Identifies an issue already 'Hard' dropped from the Global Index.
'Soft' Dropped on DD- MMM Effective price date DD- MMM	Identifies an issue already 'Soft' dropped.
Drop Under Review – Review DD- MMM	Identifies an issue being reviewed prior to accepting or amending the proposed action.
Possible Drop due to Size	Identifies an issue that has failed the Price test for 2 or more consecutive Weekdays.
Possible Drop due to Price	Identifies an issue that has failed the Price test for 2 or more consecutive Weekdays.
No Longer Eligible for Reinstatement – from DD- MMM	Identifies an issue confirmed as 'No Longer Eligible for Reinstatement' following a 'Soft' drop.

## (iii) Puts and Offers

Status / Event	Description
Put Under Review – Review DD- MMM	Identifies an issues subject to a Put being reviewed prior to advancing to the next stage.
Put – Retain	Identifies an issue subject to a Put that is being retained rather than 'Soft' dropped.
Offer Under Review – Review DD- MMM	Identifies an issues subject to an Offer being reviewed prior to advancing to the next stage.
Offer – Retain	Identifies an issue subject to an Offer that did not meet the removal guideline.

## (iv) Issue Size Changes

Status / Event	Description
Volume Change for the start of day DD – MMM Effective price date DD- MMM	Specifies a date from which the new volume is effective.

**(v) Rating, Country and Name Changes**

Status / Event	Description
Change	Identifies an issue for which a Rating, Country or Name change is being announced.

**(vi) Focus and Qualified Sub-Index Changes.**

Status / Event	Description
Focus Add for start of date DD- Effective price date DD- MMM	Identifies an issued announced as an Add to the Focus Sub-Indices during the current reselection cycle.
All Cap Focus Add for start of date DD- Effective price date DD- MMM	Identifies an issued announced as an Add to the All Cap Focus Sub-Indices during the current reselection cycle.
Qualified Add for start of date DD- Effective price date DD- MMM	Identifies an issued announced as an Add to the Qualified Sub-Indices during the current reselection cycle.
Focus Drop for end of date DD- Effective price date DD- MMM	Identifies an issued announced as a Drop from the Focus Sub-Indices during the current reselection cycle.
All Cap Focus Drop for end of date DD- Effective price date DD- MMM	Identifies an issued announced as a Drop from the All Cap Focus Sub-Indices during the current reselection cycle.
Qualified Drop for end of date DD- Effective price date DD- MMM	Identifies an issued announced as a Drop from the Qualified Sub-Indices during the current reselection cycle.

**(vii) Technical Changes.**

Status / Event	Description
Technical: Dropped / DD- Effective price date DD- MMM / Added – DD - MMM	Identifies an issue subject to the technical amendment.

### 7.3. Amendments to Reports

Reports that include information that relates to future events are subject to revision if additional information becomes available.

SoD reports are subject to revision during the day of publication in respect of SoD prices, in particular, Add prices.

If reports are subject to revision then Refinitiv will, at its sole discretion, decide what action to take, revised reports may not be published.

## 8. Sub-Indices - Definitions

### 8.1. Sub-Indices Groupings

For convenience the sub-indices are arranged in groups:

- Headline, Global, Regional, Credit, Focus Indices

The Headline group includes those indices that are most frequently used and contains indices from the other groups. The Global group contains those indices with a Global geographic coverage, some of which are also present in other groups.

The Sub-Indices tables are available from [here](#).



## 9. Historical Notes

### 9.1. Historical Calculation Arrangements

From inception of the indices in 1998 until November 2010 the UBS Convertible Indices Calculation Agent was MACE Advisers Ltd.

In November 2010 Refinitiv acquired MACE Advisers Ltd, following which, the day to day maintenance and calculation of the Thomson Reuter Indices was carried out by the same team that provided the maintenance and calculation prior to November 2010.

### 9.2. Transitional Arrangements

The transfer of the UBS Global Convertible Index from UBS to Refinitiv was subject to the following transitional arrangements:

- The maintenance and calculation of the index was carried out in accordance with the UBS Convertible Indices Guidelines dated 9 Jan 2013 until EoD on 9<sup>th</sup> July 2014.
- The Q2 2014 reselection (effective date 9 July 2014) was carried out under the UBS Convertible Indices Guidelines dated 9 Jan 2013.
- The maintenance and calculation of the index was be carried out in accordance with the Refinitiv Convertible Indices Initial Methodology from 10<sup>th</sup> July 2014 to 28<sup>th</sup> July 2014
- The maintenance and calculation of the index was carried out in accordance with the Refinitiv Convertible Indices Initial Methodology (Rev 2) from 29<sup>th</sup> July 2014 to 15 September 2014.
- From 16 September 2014 onwards, the maintenance and calculation of the index will be carried out in accordance with the relevant version of Refinitiv Convertible Indices Methodology.

### 9.3. Effective Date for Methodology Changes

The effective dates for revisions of the Methodology are:

Revision	Effective Date
3	<b>8 October 2014</b> , however Sections 2.2-2.4 were applied to the Q3 2014 Reselection process (effective data 8 October 2014) Section 2.5.4 was effective as of 16 September 2014
4	<b>2 December 2014</b>
5	<b>25 November 2015</b> , however the change to the source for FX Rates (Section 6.3.3) is effective as of the Index calculation at end of day on 11 December 2015.
6	<b>30 December 2016</b> (updated Index Calendar only)
7	<b>2 September 2019</b> The final Quarterly Reselection was Q1 2019, effective 10 Apr 2019.
8	<b>1 January 2020</b> Transition to RBSL under EU BMR; minor clarifications for Revision 7.

## 10. Further Information (Contact Details)

General queries should be directed to [CB\\_Index\\_Reporter@refinitiv.com](mailto:CB_Index_Reporter@refinitiv.com)

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