

# INDEX GUIDELINE

CROCI REW Japan

Version 1.0

08 August 2018



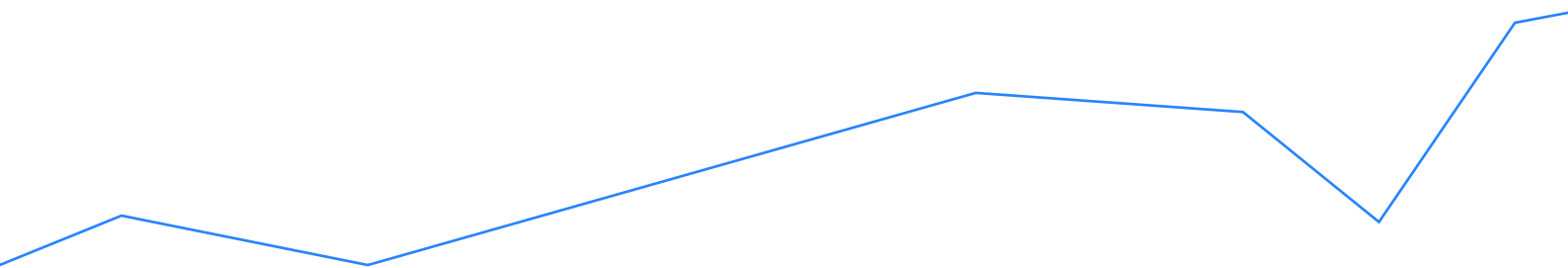
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# INDEX GUIDELINE

About this document



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# ABOUT THIS DOCUMENT

This document (the "Index Guide") together with the Index Administrator's Index Calculation Guidelines constitute the rules (the "Index Rules") governing the calculation, dissemination and maintenance of the Index. The Index Calculation Guidelines can be obtained free of charge from the Index Administrator.

Deutsche Asset Management (UK) Limited or any successor thereto (the "Index Sponsor") owns intellectual property rights in the Index (including all rights in the underlying Index methodology). Any use or publication of such intellectual property, as well as of the "CROCI" trademark or any other CROCI related methodologies, provisions or values must be with the prior written consent of the Index Sponsor. The Index Sponsor is acting solely in its capacity as the sponsor of the Index and does not undertake any administration duties in relation to the Index. Notwithstanding the foregoing, the Index Sponsor may undertake further non-administration-related tasks such as determination of and making available the proprietary CROCI data. The Index Sponsor assumes no obligation, duty or liability to any person in relation to the Index save as provided in any written agreement with such person. The Index Sponsor makes no express or implied warranty as to (a) the advisability of purchasing or assuming any risk in connection with any transaction related to the Index; (b) the levels at which the Index stands at any particular time on any particular date; (c) the results to be obtained by any party from the use of the Index or any data included in it for the purposes of issuing securities or carrying out any financial transaction; or (d) any other matter.

The Index Sponsor may assign the proprietary rights in the Index to a third party in its reasonable discretion.



# INDEX GUIDELINE

## Summary



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# 1 SUMMARY

The CROCI REW (Real Earnings Weighted) Japan (the "Index") reflects the performance of a rules-based, alternatively-weighted selection of Shares of the CROCI Coverage in Japan, herein referred to as Japan CROCI Coverage.

These Shares are selected in a process that involves application of certain filters and constraints and are weighted using the CROCI Economic Equity Earnings, a measure of the size of earnings available to holders of such Share which incorporates all of the assets and liabilities of a Company which are adjusted in a consistent manner by the CROCI Valuation Group.

The selection is reconstituted on a semi-annual basis such that for the period from (and including) the effective day of such reconstitution (the relevant Reconstitution Day) to the effective day of the next following reconstitution (the next following Reconstitution Day) the selection will reflect the performance of a portfolio of constituent Shares selected from the Japan CROCI Coverage. For avoidance of doubt, should a constituent Share be removed from the Japan CROCI Coverage, it should remain in the selection until the subsequent Reconstitution Day unless otherwise removed pursuant to the Index Rules.

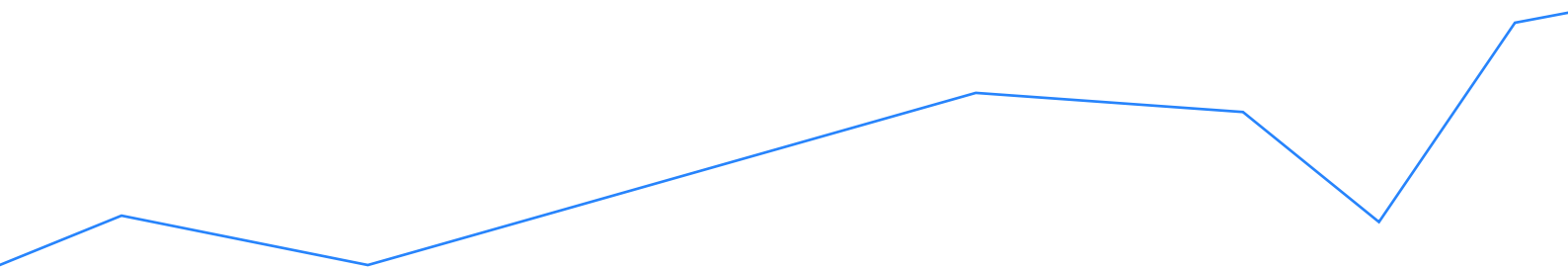
For each period from (and including) each Reconstitution Day to (but excluding) the next following Reconstitution Day, the Index Administrator shall identify, on each Selection Day, the New Constituents and New Weights in accordance with the following four steps:

- 1) List the shares: First, identify the Japan CROCI Coverage, but disregard certain Shares on the basis of their being restricted shares, or having zero or negative Trailing Twelve-month CROCI Economic P/E (the Shares identified pursuant to this first step being the New Constituents).
- 2) Determine the CROCI Economic Equity Earnings: for each Company relative to one or more New Constituent, determine the CROCI Economic Equity Earnings as the ratio of the CROCI Market Capitalisation divided by the Bounded Trailing Twelve-month CROCI Economic P/E;
- 3) Determine the CROCI Sector weights: For each CROCI Sector, determine the weight of any such CROCI Sector as the ratio of the cumulative CROCI Economic Equity Earnings of each New Constituent Company comprising such CROCI Sector (the "Sector Aggregate CROCI Economic Equity Earnings") divided by the sum of the CROCI Economic Equity Earnings of each New Constituent Company (the "Aggregate CROCI Economic Equity Earnings");
- 4) Determine constituent weights: The weight of each New Constituent within its CROCI Sector is determined proportionately to the square root of the CROCI Economic Equity Earnings of such New Constituent. Furthermore, the weight of each New Constituent is capped at five percent.



# INDEX GUIDELINE

## General Definitions



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## 2 GENERAL DEFINITIONS

**"Calculation Day"** means London Business Day.

**"Commencement Date"** means the 19th March 2004. The Index Sponsor and the Index Administrator have run the Index on a retrospective basis from this date up to and until the Live Date.

**"CROCI Valuation Group"** means DWS's CROCI Investment Strategy & Valuation Group which is part of Deutsche Asset Management (UK) Limited or any successor thereto;

**"Live Date"** means the 30th September 2014. The Index has been run on a live basis since the Live Date.

**"Modification Date"** means 8 August 2018 when the Index was modified to include financial companies under CROCI Coverage, to remove secondary share classes, and to use CROCI Market Capitalisation instead of Free-Float Market Capitalisation for the calculation of CROCI Economic Equity Earnings. The Index has been in the form as set out herein since the Modification Date.

**"London Business Day"** means a Weekday on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in London.

**"Index Administrator"** means Solactive AG.

**"Index Calculation Guidelines"** means the Index Administrator's standard index calculation rules and guidelines, which as of the 1st of September 2015 can be downloaded at [https://www.solactive.com/wp-content/uploads/2018/01/Index-Calculation-Guideline\\_V1.2.pdf](https://www.solactive.com/wp-content/uploads/2018/01/Index-Calculation-Guideline_V1.2.pdf).

"Real Earnings" means the CROCI Economic Equity Earnings.

**"Reconstitution Day"** means the third Friday of March and September every year, or if such day is not a Trading Day, the immediately following Trading Day.

**"Selection Day"** means the third Calculation Day immediately preceding each Reconstitution Day, (each such date, the relevant "Scheduled Selection Day"), provided that the Index Administrator may decide that any Selection Day shall not be the relevant Scheduled Selection Day but that Selection Day shall instead be the London Business Day immediately preceding or succeeding such Scheduled Selection Day as selected by the Index Administrator.

**"Index Sponsor"** means Deutsche Asset Management (UK) Limited or any successor thereto.

**"Trading Day"** means:

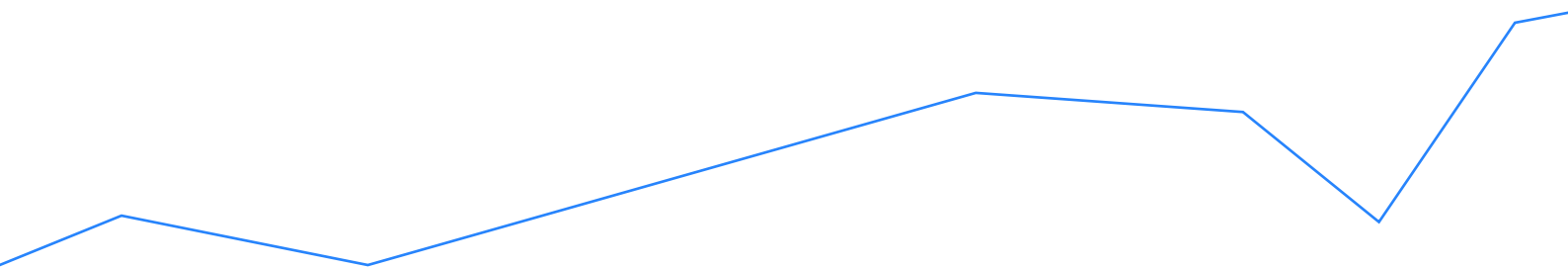
- 1) in respect of a Share, any day the Primary Exchange relative to such Share is scheduled to be open for its regular trading session; and
- 2) in respect of the Index, any day that is a Trading Day in relation to all Shares comprising the Index.





# INDEX GUIDELINE

Levels Produced



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## 3 LEVELS PRODUCED

The Index produces the following Index Levels:

Name	Ticker	Currency	Returns
CROCI Real Earnings Weighted Japan JPY Net Return	DBCREJN	JPY	Net Total Return – Dividends net of Withholding Tax
CROCI Real Earnings Weighted Japan JPY Price Return	DBCREJJ	JPY	Price Return only



# INDEX GUIDELINE

Reconstitution Process



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# 4 RECONSTITUTION PROCESS

## 4.1 CALCULATING RELEVANT INPUTS FOR NON-FINANCIAL COMPANIES

On each Selection Day, the CROCI Valuation Group shall determine the Trailing Twelve-month CROCI Economic P/E for any Shares issued by Non-Financial Companies as determined by the CROCI Valuation Group (and belonging to the CROCI Coverage) pursuant to the following four steps:

### 4.1.1 CROCI Enterprise Value

On each Selection Day, the CROCI Valuation Group shall determine the CROCI Enterprise Value (expressed in the CROCI Currency) pursuant as the sum of the following values (each expressed in the CROCI Currency):

- 1) the CROCI Market Capitalisation on such Selection Day;
- 2) the value of any other equity capital and equity equivalents (e.g. options, in-the-money convertibles of the issuer not represented in the CROCI Market Capitalisation of the issuer) on such Selection Day;
- 3) the value of non-consolidated equity holdings, joint ventures and minority interests on such Selection Day;
- 4) the sum of a) and b) where:
  - a) is the quotient of (i) the number of completed months in the relevant Current Fiscal Year as of such Selection Day multiplied by the Current Year CROCI Debt (as numerator) and (ii) twelve, being the number of months in a calendar year (as denominator) and
  - b) is the quotient of (i) the number of months (including any partially elapsed months) remaining in the relevant Current Fiscal Year to make up a full calendar year multiplied by the Prior Year CROCI Debt (as numerator), and (ii) twelve, being the number of months in a fiscal year (as denominator),

all as determined by the CROCI Valuation Group.

Expressed as a formula:

$$EV_T = MC_T + OE_T + NE_T + \left( \frac{M_{CY} \times D_{CY}}{12} \right) + \left( \frac{(12 - M_{CY}) \times D_{PY}}{12} \right)$$

where:

- $EV_T$  = CROCI Enterprise Value on the Selection Day, T
- $D_{CY}$  = Current Year CROCI Debt as of the Selection Day, T
- $D_{PY}$  = Prior Year CROCI Debt as of the Selection Day, T



$OE_T$  = Other equity capital and equity equivalents as of the Selection Day, including, for avoidance of doubt, any common stock share classes not already included in the CROCI Market Capitalisation.

$NE_T$  = Non-consolidated equity holdings, joint ventures and minority interests as of the Selection Day, T

$MC_T$  = CROCI Market Capitalisation on the Selection Day, T

$M_{CY}$  = Number of completed months elapsed in the relevant Current Fiscal Year as of the Selection Day, T

all as determined by the CROCI Valuation Group.

## 4.1.2 Trailing Twelve-month CROCI Net Capital Invested

On each Selection Day, the CROCI Valuation Group shall determine the Trailing Twelve-month CROCI Net Capital Invested (expressed in the CROCI Currency) as the quotient of 1) (as numerator) and 2) (as denominator) where:

- 1) is the sum of:
  - a) the number of completed months in the relevant Current Fiscal Year at such Selection Day multiplied by the relevant Current Year CROCI Net Capital Invested (expressed in the CROCI Currency); and
  - b) the number of months remaining in the relevant Current Fiscal Year to make up a full fiscal year (including any partially elapsed month) multiplied by the relevant Prior Year CROCI Net Capital Invested (expressed in the CROCI Currency), and
- 2) twelve, being the number of months in a fiscal year,

Expressed as a formula:

$$\text{Trailing Twelve – month CROCI NCI} = \frac{(M_{CY} \times NCI_{CY}) + ((12 - M_{CY}) \times NCI_{PY})}{12}$$

Where:

$M_{CY}$  = Number of completed months elapsed in the relevant Current Fiscal Year, as of the relevant Selection Day

$NCI_{CY}$  = relevant Current Year CROCI Net Capital Invested, as of the relevant Selection Day

$NCI_{PY}$  = relevant Prior Year CROCI Net Capital Invested, as of the relevant Selection Day;

## 4.1.3 Trailing Twelve-month CROCI

On each Selection Day, the CROCI Valuation Group shall determine the Trailing Twelve-month CROCI as the quotient of 1) (as numerator) and 2) (as denominator), where:



- 1) is the sum of:
  - a) the number of completed months in the relevant Current Fiscal Year at such Selection Day multiplied by the relevant Current Year CROCI; and
  - b) the number of months remaining in the relevant Current Fiscal Year to make up a full fiscal year (including any partially elapsed month) multiplied by the relevant Prior Year CROCI; and
- 2) twelve, being the number of months in a fiscal year,

Expressed as a formula:

$$\text{Trailing Twelve – month CROCI} = \frac{(M_{CY} \times CROCI_{CY}) + ((12 - M_{CY}) \times CROCI_{PY})}{12}$$

Where:

$M_{CY}$  = Number of completed months elapsed in the relevant Current Fiscal Year, as of the relevant Selection Day

$CROCI_{CY}$  = relevant Current Year CROCI, as of the relevant Selection Day

$CROCI_{PY}$  = relevant Prior Year CROCI, as of the relevant Selection Day

#### 4.1.4 Trailing Twelve-month CROCI Economic P/E

On each Selection Day, the CROCI Valuation Group shall determine the Trailing Twelve-month CROCI Economic P/E in relation to the issuer of a Share (if such issuer is a Non-Financial Company) and a Selection Day as the quotient of 1) (as numerator) and 2) (as denominator) where:

- 1) equals the quotient of a) (as numerator) and b) (as denominator), where:
  - a) equals the CROCI Enterprise Value for such issuer of such Share on such Selection Day; and
  - b) equals the Trailing Twelve-month CROCI Net Capital Invested for such issuer of such Share on such Selection Day; and
- 2) equals the Trailing Twelve-month CROCI for such issuer of such Share on such Selection Day.

## 4.2 CALCULATING RELEVANT INPUTS FOR FINANCIAL COMPANIES

On each Selection Day, the CROCI Valuation Group shall determine the Trailing Twelve-month CROCI Economic P/E for any Shares issued by Financial Companies as determined by the CROCI Valuation Group (and belonging to the CROCI Coverage) pursuant to the following five steps:



## 4.2.1 CROCI Enterprise Value for Financial Companies

On each Selection Day, the CROCI Valuation Group shall determine the CROCI Enterprise Value (expressed in the CROCI Currency) pursuant as the sum of the following values (each expressed in the CROCI Currency):

- 1) the CROCI Market Capitalisation on such Selection Day;
- 2) the value of any other equity capital and equity equivalents (e.g. options, in-the-money convertibles of the issuer not represented in the CROCI Market Capitalisation of the issuer) on such Selection Day;
- 3) the value of minority interests on such Selection Day;
- 4) Other Current Year CROCI Enterprise Value adjustments which include unrealised gains on non-core investments, deferred tax assets and other items; and
- 5) the sum of a) and b) where:
  - a) is the quotient of (i) the number of completed months in the relevant Current Fiscal Year as of such Selection Day multiplied by the Current Year Additional Tier 1 Capital (as numerator) and (ii) twelve, being the number of months in a calendar year (as denominator) and
  - b) is the quotient of (i) the number of months (including any partially elapsed months) remaining in the relevant Current Fiscal Year to make up a full calendar year multiplied by the Prior Year Additional Tier 1 Capital (as numerator), and (ii) twelve, being the number of months in a calendar year (as denominator),

all as determined by the CROCI Valuation Group.

Expressed as a formula:

$$EV_{TF} = MC_T + OE_T + MI_T + OA_T + \left( \frac{M_{CY} \times H_{CY}}{12} \right) + \left( \frac{(12 - M_{CY}) \times H_{PY}}{12} \right)$$

where:

$EV_{TF}$  = CROCI Enterprise Value of a Financial Company on the Selection Day, T

$MC_T$  = CROCI Market Capitalisation on the Selection Day, T

$OE_T$  = Other equity capital and equity equivalents as of the Selection Day, T

$MI_T$  = Value of minority interests as of the Selection Day, T

$OA_T$  = Current Year Other Enterprise Value Adjustments as of the Selection Day, T

$H_{CY}$  = Current Year Additional Tier 1 Capital as of the Selection Day, T

$H_{PY}$  = Prior Year Additional Tier 1 Capital as of the Selection Day, T

$M_{CY}$  = Number of completed months elapsed in the relevant Current Fiscal Year as of the Selection Day, T



## 4.2.2 Trailing Twelve-month CROCI Adjusted Tier 1 Capital for Financial Companies

On each Selection Day, the CROCI Valuation Group shall determine the Trailing Twelve-month CROCI Adjusted Tier 1 Capital (expressed in the CROCI Currency) as the quotient of 1) (as numerator) and 2) (as denominator) where:

- 1) is the sum of:
  - a) the number of completed months in the relevant Current Fiscal Year at such Selection Day multiplied by the relevant Current Year CROCI Adjusted Tier 1 Capital (expressed in the CROCI Currency); and
  - b) the number of months remaining in the relevant Current Fiscal Year to make up a full fiscal year (including any partially elapsed month) multiplied by the relevant Prior Year CROCI Adjusted Tier 1 Capital (expressed in the CROCI Currency), and
- 2) twelve, being the number of months in a calendar year,

Expressed as a formula:

$$\textit{Trailing Twelve – month CROCI Adjusted Tier 1 Capital} \\ = \frac{(M_{CY} \times AT1_{CY}) + ((12 - M_{CY}) \times AT1_{PY})}{12}$$

Where:

$M_{CY}$  = Number of completed months elapsed in the relevant Current Fiscal Year, as of the relevant Selection Day

$AT1_{CY}$  = relevant Current Year CROCI Adjusted Tier 1 Capital, as of the relevant Selection Day

$AT1_{PY}$  = relevant Prior Year CROCI Adjusted Tier 1 Capital, as of the relevant Selection Day;

## 4.2.3 Trailing Twelve-month Inflation Adjusted CROCI Return On Capital (ROC) for Financial Companies

On each Selection Day, the CROCI Valuation Group shall determine the Trailing Twelve-month Inflation Adjusted CROCI Return On Capital (ROC) as the quotient of 1) (as numerator) and 2) (as denominator), where:

- 1) is the sum of:
  - a) the number of completed months in the relevant Current Fiscal Year at such Selection Day multiplied by the relevant Current Year CROCI ROC; and





- b) the number of months remaining in the relevant Current Fiscal Year to make up a full fiscal year (including any partially elapsed month) multiplied by the relevant Prior Year CROCI ROC; and
- 2) twelve, being the number of months in a calendar year,

Expressed as a formula:

$$\textit{Trailing Twelve – month CROCI ROC} = \frac{(M_{CY} \times ROC_{CY}) + ((12 - M_{CY}) \times ROC_{PY})}{12}$$

Where:

$M_{CY}$  = Number of completed months elapsed in the relevant Current Fiscal Year, as of the relevant Selection Day

$ROC_{CY}$  = relevant Current Year CROCI ROC, as of the relevant Selection Day

$ROC_{PY}$  = relevant Prior Year CROCI ROC, as of the relevant Selection Day

#### 4.2.4 Trailing Twelve-month CROCI Economic P/E for Financial Companies

On each Selection Day, the CROCI Valuation Group shall determine the Trailing Twelve-month CROCI Economic P/E in relation to the issuer of a Share (if such issuer is a Financial Company) and a Selection Day as the quotient of 1) (as numerator) and 2) (as denominator) where:

- 1) equals the quotient of a) (as numerator) and b) (as denominator), where:
  - a) equals the CROCI Enterprise Value for such issuer of such Share on such Selection Day; and
  - b) equals the Trailing Twelve-month CROCI Adjusted Tier 1 Capital for such issuer of such Share on such Selection Day; and
- 2) equals the Trailing Twelve-month CROCI ROC for such issuer of such Share on such Selection Day;

#### 4.2.5 Trailing Twelve-month CROCI Economic P/E (Cost of Capital Adjusted) for Financial Companies

On each Selection Day, the CROCI Valuation Group shall determine the Trailing Twelve-month CROCI Economic P/E in relation to the issuer of a Share (if such issuer is a Financial Company) and a Selection Day as the product of:

- 1) the Trailing Twelve-month CROCI P/E relative to the issuer of such Share and such Selection Day, and
- 2) the CROCI Long-term Cost of Capital differential between Financial Companies and Non-Financial Companies, as determined by the CROCI Valuation Group,



## Index Guideline

Expressed as a formula:

$$CPE_i(T) = PE_i(T) \times COC Factor (T)$$

where:

$CPE_i(T)$  is the Trailing Twelve-month CROCI Economic P/E (Cost of Capital Adjusted) in relation to Share  $i$  and Selection Day  $T$ ;

$PE_i(T)$  is the Trailing Twelve-month CROCI Economic P/E relative to the issuer of Share  $i$  and Selection Day  $T$ ;

$COC Factor (T)$  is the CROCI Long-term Cost of Capital differential as determined by the CROCI Valuation Group on Selection Day  $T$ .

## 4.3 IDENTIFYING THE INDEX CONSTITUENTS

On each Selection Day, the CROCI Valuation Group shall identify any Share comprising the CROCI Coverage on such Selection Day, and retain only Shares in relation to which the CROCI Country is Japan. The Shares identified pursuant to the foregoing shall be the Japan CROCI Coverage Shares in relation to such Selection Day.

The Index Administrator shall identify each Japan CROCI Coverage Share and:

- 1) Exclude any Restricted Share;
- 2) Retain only Shares in relation to which the CROCI Valuation Group produces
  - a) a CROCI Enterprise Value, a CROCI Net Capital Invested and a CROCI Cash Return on Capital Invested, with respect to Shares issued by Non-Financial Companies,
  - b) a CROCI Enterprise Value, CROCI Adjusted Tier 1 Capital and Inflation Adjusted CROCI Return on Capital, with respect to Shares issued by Financial Companies;
- 3) Retain only Shares having non-zero positive Trailing Twelve-month CROCI.
- 4) Retain only Shares having non-zero positive Trailing Twelve-month CROCI Economic P/E.
- 5) In respect of a Company which is the issuer of more than one Share class, exclude all such Share class(es) other than the class which is considered as the primary Share class by the CROCI Valuation Group.

The Shares identified pursuant to the foregoing shall be the New Constituents in relation to such Selection Day.

Furthermore, the Index Administrator shall identify any Company which is the issuer of a New Constituent as a "New Constituent Company".



## 4.4 DETERMINING THE NEW WEIGHT OF EACH NEW CONSTITUENT

### 4.4.1 Determining the CROCI Economic Equity Earnings

On each Selection Day, the Index Administrator shall determine the CROCI Economic Equity Earnings in relation to a New Constituent Company and such Selection Day as the ratio of the CROCI Market Capitalisation (in US dollars) relative to such New Constituent Company and Selection Day divided by the Bounded Trailing Twelve-month CROCI Economic P/E relative to such New Constituent and Selection Day.

### 4.4.2 Determining the New Weight of each New Constituent

The Index Administrator shall calculate the New Weight of each New Constituent identified pursuant to the provisions of section 4.4.1, Fehler! Verweisquelle konnte nicht gefunden werden.as an amount equal to the product of (1) and (2), where:

- 1) Is the ratio of (a) the Growth Adjusted CROCI Economic Equity Earnings relative to the Company relative to such New Constituent; divided by (b) the Sector Aggregate Growth Adjusted CROCI Economic Equity Earnings relative to the CROCI Sector relative to such New Constituent; and
- 2) Is the ratio of (a) the Sector Aggregate CROCI Economic Equity Earnings relative to the CROCI Sector relative to such New Constituent; divided by (b) the Aggregate CROCI Economic Equity Earnings.

Or, expressed as a formula:

$$w_i = \frac{RE_i^G}{SARE_S^G} \times \frac{SARE_S}{ARE}$$

Where:

$w_i$  is the New Weight relative to New Constituent  $i$ ;

$RE_i^G$  is the Growth Adjusted CROCI Economic Equity Earnings relative to the Company relative to such New Constituent  $i$ ;

$SARE_S^G$  is the Sector Aggregate Growth Adjusted CROCI Economic Equity Earnings relative to the CROCI Sector  $S$  relative to such New Constituent;

$SARE_S$  is the Sector Aggregate CROCI Economic Equity Earnings relative to the CROCI Sector  $S$  relative to such New Constituent;

$ARE$  is Aggregate CROCI Economic Equity Earnings.

Notwithstanding with the foregoing, should a New Weight for a New Constituent exceed five percent (5%), the Index Administrator shall reduce the New Weight of such New Constituent to 5% and allocate the excess weight to the other New Constituents proportionally to their weight as determined above.



## 4.5 DEFINITIONS

**"Additional Tier 1 Capital"** means, in relation to a Share issued by a Financial Company and a Selection Day, the value of all such issuer's hybrid capital like preferred share, convertible instruments and similar, which are included in CROCI Adjusted Tier 1 Capital;

**"Aggregate CROCI Economic Equity Earnings"** means, in relation to a Selection Day, the sum of the CROCI Economic Equity Earnings of each Company relative to each New Constituent for such Selection Day.

**"Bounded Trailing Twelve-month CROCI Economic P/E"** means, in relation to a New Constituent and a Selection Day, the greater of 1.0 and the Trailing Twelve-month CROCI Economic P/E.

**"Company"** means, in relation to a Share, the issuer of such Share or the economic group which is the legal parent entity for such issuer, as determined by the CROCI Valuation Group by reference to such sources as it determines to be appropriate.

**"CROCI"**, or **"Cash Return on Capital Invested"** means, in relation to the issuer of a Share, the inflation adjusted, economic return on such issuer's assets as determined by the CROCI Valuation Group as at the relevant time and for the relevant period for which it is required to be determined pursuant to the provisions hereof. For each such issuer, the economic return is determined differently from the accounting return (as determined in accordance with relevant accounting standards) and is the discount rate over the economic life of the assets which, when applied to the after-tax gross earnings, before interest, depreciation and amortization, of the issuer causes the resultant figure to be equal to the weighted average of the total economic capital of the issuer. The total economic capital is the value of the issuer's tangible fixed assets and advertising and research and development items that are normally expensed in the profit and loss account of an issuer's financial statements, but which the CROCI Valuation Group deems to have an economic life longer than one year and other economic assets excluded from the balance sheet, such as leased assets.

The weighted average of the total economic capital is determined by the CROCI Valuation Group according to the estimated economic life of the issuer's assets, rather than the depreciable life of the assets determined for accounting purposes.

**"CROCI Adjusted Tier 1 Capital"** means, in relation to a Share issued by a Financial Company, an amount as determined by the CROCI Valuation Group as at the relevant time and for the relevant period for which it is required to be determined pursuant to the provisions hereof equal to the Tier 1 Capital on a fully loaded basis under Basel 3 rules or similar, then normalized for region specific regulatory differences and other items as may be determined by the CROCI Valuation Group.

**"CROCI Country"** means, in relation to a Company, the country in which such Company is domiciled, as determined by the CROCI Valuation Group having regards to, inter alia, such Company's country of incorporation, location of headquarters, country of revenue and assets, and stock listing. In addition the CROCI Valuation Group may use membership in country-specific market benchmarks as an indication of CROCI Country.



“**CROCI Coverage**” means, in relation to a London Business Day, the Shares and issuers thereof that are subject to coverage by the CROCI Valuation Group a list of which is available on the CROCI website at [WWW.DWS.COM/CROCI](http://WWW.DWS.COM/CROCI).

“**CROCI Currency**” means the currency in which the issuer of a Share publishes its financial statements.

“**CROCI Economic Equity Earnings**” means, in relation to a Company and a Selection Day, the aggregate ratio of the CROCI Market Capitalisation divided by the Bounded Trailing Twelve-month CROCI Economic P/E, in each case relative to each New Constituent issued by such Company as determined pursuant to the rules set out in section 4.3.

“**CROCI Enterprise Value**” means

- a) for Non-Financial Companies, the quantity determined by the CROCI Valuation Group in accordance with the rules set out in section 4.1.1;
- b) for Financial Companies, the quantity determined by the CROCI Valuation Group in accordance with the rules set out in section 4.2.1.

“**CROCI Exchange Rate**” means, in relation to a Share and a Selection Day, the rate of exchange on such Selection Day between the currency in which the Market Price of such Share is expressed (the “Reference Currency”) and the relevant CROCI Currency (expressed as the number of units of the Reference Currency or a fraction thereof required to buy one unit of the relevant CROCI Currency) as determined by the CROCI Valuation Group by reference to such source(s) as the CROCI Valuation Group may determine to be appropriate. The CROCI Valuation Group may determine any CROCI Exchange Rate by reference to any time or times on the relevant Selection Day or by reference to any time or times on one or more days approximate thereto.

“**CROCI Market Capitalisation**” means, in relation to the issuer of a Share and a Selection Day, the Market Price for such Share for such Selection Day, converted, if applicable, into the CROCI Currency by reference to the CROCI Exchange Rate on such Selection Day, multiplied by the number of outstanding Shares of the issuer of such Shares as determined by the CROCI Valuation Group by reference to such sources as it determines to be appropriate.

“**CROCI Net Capital Invested**” or “**CROCI NCI**” means, in relation to the issuer of a Share, an amount as determined by the CROCI Valuation Group as at the relevant time and for the relevant period for which it is required to be determined pursuant to the provisions hereof equal to the sum of the tangible fixed assets, leased assets, intangible assets (such as research and development, and other depreciable intangible assets such as brands) and non-depreciable capital (such as net working capital), all adjusted for inflation, less estimated economic accumulated depreciation. The resultant amount represents the net, inflation-adjusted value of all cash spent on creating each such issuer's asset base.

“**CROCI Sector**” means for each company, the sector classification as determined by CROCI Valuation Group.

“**CROCI Valuation Group**” means DWS's CROCI Investment Strategy & Valuation Group which is part of Deutsche Asset Management (UK) Limited or any successor thereto;



**"Current Fiscal Year"** means, in relation to the issuer of a Share and a Selection Day, the fiscal year of such issuer in which such Selection Day falls as determined by the CROCI Valuation Group.

**"Current Year Additional Tier 1 Capital"** means, in relation to the issuer of a Share and a Selection Day, the Additional Tier 1 Capital for such issuer calculated as of such Selection Day and in respect of the Current Fiscal Year;

**"Current Year CROCI Adjusted Tier 1 Capital"** means, in relation to the issuer of a Share and a Selection Day, the Adjusted Tier 1 Capital for such issuer calculated by the CROCI Valuation Group as of such Selection Day and in respect of the Current Fiscal Year;

**"Current Year CROCI"** means, in relation to the issuer of a Share and a Selection Day, the Cash Return on Capital Invested for such issuer calculated by the CROCI Valuation Group as of such Selection Day and in respect of the Current Fiscal Year.

**"Current Year CROCI Debt"** means, in relation to the issuer of a Share and a Selection Day, the value of all such issuer's debt and debt equivalents such as pension liabilities, provisioning and items such as advance payments, which may or may not be counted as debt by the issuer, calculated as of such Selection Day and in respect of the Current Fiscal Year, as determined by the CROCI Valuation Group.

**"Current Year CROCI Net Capital Invested"** means, in relation to the issuer of a Share and a Selection Day, the Net Capital Invested calculated as of such Selection Day and in respect of the Current Fiscal Year as determined by the CROCI Valuation Group.

**"Current Year CROCI ROC"** means, in relation to the issuer of a Share and a Selection Day, the Inflation Adjusted CROCI Return On Capital for such issuer calculated by the CROCI Valuation Group as of such Selection Day and in respect of the Current Fiscal Year.

**"Exchange"** means, in relation to a Share, an exchange, trading system or quotation system on which, in the Index Administrator's determination, such Share usually trades.

**"Financial Company"** means any Company which is deemed to be a Financial by the CROCI Valuation Group and which is therefore subject to the CROCI company model for Financials.

**"Growth Adjusted CROCI Economic Equity Earnings"** means, in relation with a Selection Day and a Company, the square root of the CROCI Economic Equity Earnings for such Company on such Selection Day.

**"Inflation Adjusted CROCI Return On Capital or ROC"** means, in relation to the issuer of a Share (when such issuer is a Financial Company), the inflation adjusted return on such issuer's capital, as determined by the CROCI Valuation Group as at the relevant time and for the relevant period for which it is required to be determined pursuant to the provisions hereof. For each such issuer, the return is determined as Inflation Adjusted CROCI Earnings divided by CROCI Adjusted Tier 1 Capital, both determined by the CROCI Valuation Group.

**"Identifying the CROCI Long-term Cost of Capital differential"** means, in relation to a Selection Day, a quantity, as determined by the CROCI Valuation Group in its sole and entire discretion, representing the



quotient of the CROCI Long-term Cost of Capital for Financial Companies and the CROCI Long-term Cost of Capital for Non-Financial Companies. At the time of Modification Date for this Index Guide, this quantity is the quotient of 1) (as numerator) and 2) (as denominator), where:

- 1) is equal to 7.5%, representing the Long-term Cost of Capital for Financial Companies, and
- 2) is equal to 5.4%, representing the Long-term Cost of Capital for Non-Financial Companies.

**"Japan CROCI Coverage"** means any Share that is a Japan CROCI Coverage Share.

**"Japan CROCI Coverage Share"** means any Share which (1) is part of the CROCI Coverage (2) the CROCI Country of which is Japan, all as determined pursuant to the rules set out in section 4.3

**"Market Price"** means, in relation to a Share, the closing price of such Share on the relevant Selection Day (or if such day is not a Trading Day, the immediately preceding Trading Day) determined by reference to such time(s) and source(s) (including, but not limited to, third party providers selected by the CROCI Valuation Group from time to time) as the CROCI Valuation Group determines to be appropriate.

**"New Constituent"** means, in relation with a Selection Day, each Share selected pursuant to the Index Rules.

**"New Constituent Company"** means, in relation with a Selection Day, each Company selected pursuant to the rules set out in section 4.3.1.

**"New Weight"** means, in relation with a Selection Day and a New Constituent, the proportion of the Index allocated to such Share in the Index pursuant to the Index Rules.

**"Non-Financial Company"** means any Company which is deemed not to be a Financial by the CROCI Valuation Group in its sole and absolute discretion (and which is therefore subject to the CROCI company model for non-Financials).

**"Primary Exchange"** means, in relation to a Share, the Exchange that in the Index Administrator's determination is the principal venue for trading such Share.

**"Prior Fiscal Year"** means, in relation to the issuer of a Share and a Selection Day, the fiscal year of such issuer immediately preceding the fiscal year of such issuer in which such Selection Day falls as determined by the CROCI Valuation Group.

**"Prior Year Additional Tier 1 Capital"** means, in relation to the issuer of a Share and a Selection Day, the Additional Tier 1 Capital for such issuer calculated as of such Selection Day and in respect of the Prior Fiscal Year;

**"Prior Year CROCI Adjusted Tier 1 Capital"** means, in relation to the issuer of a Share and a Selection Day, the CROCI Adjusted Tier 1 Capital for such issuer calculated as of such Selection Day and in respect of the Prior Fiscal Year;

**"Prior Year CROCI"** means, in relation to the issuer of a Share and a Selection Day, the CROCI for such issuer calculated as of such Selection Day in respect of the Prior Fiscal Year.

**"Prior Year CROCI Debt"** means, in relation to the issuer of a Share and a Selection Day, the value of all such issuer's debt and debt equivalents such as pension liabilities, provisioning and items such as advance



payments, which may or may not be counted as debt by the issuer, calculated as of such Selection Day in respect of the end of the Prior Fiscal Year by the CROCI Valuation Group.

**"Prior Year CROCI Net Capital Invested"** means, in relation to the issuer of a Share and a Selection Day, the CROCI Net Capital Invested, calculated in respect of the Prior Fiscal Year.

**"Prior Year CROCI ROC"** means, in relation to the issuer of a Share and a Selection Day, the Inflation Adjusted CROCI Return On Capital for such issuer calculated as of such Selection Day and in respect of the Prior Fiscal Year;

**"Restricted Share"** means a Share that Deutsche Bank AG and/or any of its Affiliates is at any relevant time and in the absence of any available exemptions, restricted from dealing in pursuant to regulatory or legal obligations or internal policies (which policies are designed to comply with regulatory or legal obligations applicable to Deutsche Bank AG and/or its Affiliates and/or to avoid any legal and/or regulatory reporting and/or disclosure requirements and/or any legal and/or regulatory restrictions that might otherwise arise by virtue of such dealing).

**"Sector Aggregate Growth Adjusted CROCI Economic Equity Earnings"** means, in relation to a Selection Day and a CROCI Sector, the sum of the Growth Adjusted CROCI Economic Equity Earnings of each New Company comprising such Sector on such Selection Day.

**"Sector Aggregate CROCI Economic Equity Earnings"** means, in relation to a Selection Day and a CROCI Sector, the sum of the CROCI Economic Equity Earnings of each New Company comprising such Sector on such Selection Day.

**"Share"** means a financial instrument issued by a Company that is in legal form a share in the equity capital of that Company.

**"Trailing Twelve-month CROCI Adjusted Tier 1 Capital"** means the quantity determined by the CROCI Valuation Group in accordance with the rules set out in section 4.2.2.

**"Trailing Twelve-month CROCI"** means, for a Non-Financial Company, the quantity determined by the CROCI Valuation Group in accordance with the rules set out in section 4.1.3.

**"Trailing Twelve-month CROCI Economic P/E"** means

- a) for Non-Financial Companies, the quantity determined by the CROCI Valuation Group in accordance with the rules set out in section 4.1.4;
- b) for Financial Companies, the quantity determined by the CROCI Valuation Group in accordance with the rules set out in section 4.2.5.

**"Trailing Twelve-month Inflation Adjusted CROCI Return On Capital (ROC)"** means the quantity determined by the CROCI Valuation Group in accordance with the rules set out in section 4.2.3.

**"Trailing Twelve-month CROCI Net Capital Invested"** means, for a Non-Financial Company, the quantity determined by the CROCI Valuation Group in accordance with the rules set out in section 4.1.2.

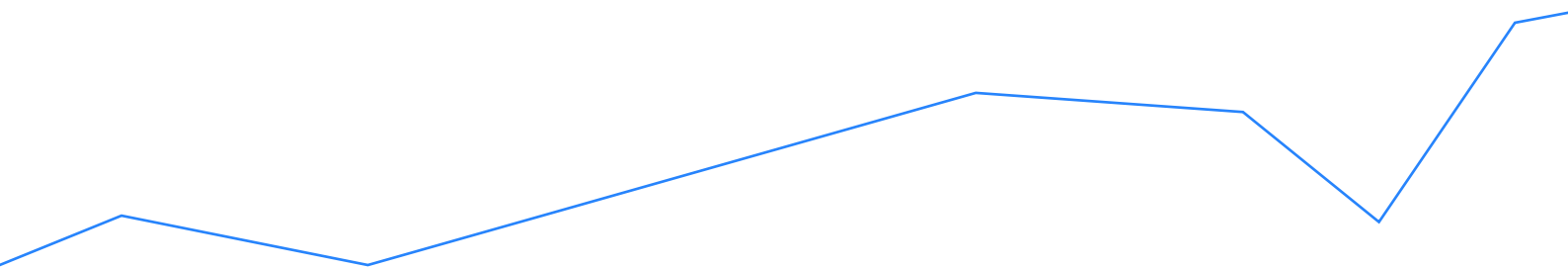
**"Weekday"** means each calendar day other than a Saturday or a Sunday.





# INDEX GUIDELINE

## Appendix



Version 1.0 – 08 August 2018



# 5 APPENDIX

## 5.1 CONTACT DATA

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## 5.2 CHANGES IN CALCULATION METHOD

The application by the Index Administrator of the method described in this document is final and binding. The Index Administrator shall apply the method described above for the composition and calculation of the Index. However, it cannot be excluded that the market environment, supervisory, legal, financial or tax reasons may require changes to be made to this method. The Index Administrator may also make changes to the terms and conditions of the Index and the method applied to calculate the Index that it deems to be necessary and desirable in order to prevent obvious or demonstrable error or to remedy, correct or supplement incorrect terms and conditions. The Index Administrator is not obliged to provide information on any such modifications or changes. Despite the modifications and changes, the Index Administrator will take the appropriate steps to ensure a calculation method is applied that is consistent with the method described above.