

# **INDEX RULE BOOK**

**CAC 40 EXT Index**

Version 21-01

Effective from 15 Dec 2021

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For further information in relation to Euronext Indices please contact: [index-team@euronext.com](mailto:index-team@euronext.com)

# 1. INDEX

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## 2. HIGHLIGHTS

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This document is applicable to the CAC 40 EXT ("Index Family"), which consists of all the Indices as mentioned in the Reference Table.

The Index Family is designed to reflect the price level trends in the trading of shares listed in France.

Euronext Paris is the Administrator of this Index Family. No Independent Supervisor is appointed for the Index Family.

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### Previous version notes

18-01 Removal of the 2W Eonia Swap (Euro) and replacement of the 2M Eonia Swap (Euro) by the MM Eonia Swap (Euro).

19-01 Removal of the 3W Eonia Swap (Euro) and replacement of EONIA rates by recalibrated EONIA (€STR plus a spread) and Euribor rates. Update of governance naming.

20-01 Integration of ESG Disclosures

### Version notes

Version	Effective date	New or changed parts	Reference/announcement
21-01	15 Dec 2021	Replacement of recalibrated EONIA (€STR plus a spread) by €STR  restyled version in view of newly published Calculation and Corporate Actions rulebooks	EIA 2021-365

## 3. CALCULATION OF THE EXT INDEX

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### 3.1 DEFINITION

The EXT Index aims to give investors an indicator of the levels of the Underlying index outside the regular Euronext trading period.

### 3.2 CALCULATION

The EXT Index is calculated on the basis of the futures contracts traded on the Euronext exchange, adjusted for interest payments and dividends (see below).

### 3.3 FUTURE MATURITY AND PRICES

The values of the EXT Index are calculated using the last traded prices of the 1<sup>st</sup> month futures traded on Euronext.

### 3.4 PUBLICATION FREQUENCY

The level of the EXT index is in principle published every 15 seconds.

### 3.5 SESSION

The calculation of the levels of the EXT index starts at 8.00 a.m. to 6.30 p.m.

### 3.6 ROLLOVER

Rolling between the first month futures and the second month futures takes place one day before the expiration date.

### 3.7 EXCEPTIONAL EVENT

If there is a disruption event of the Underlying index, the EXT index will continue to be calculated using the latest prices available on the future market.

If the futures exchange fails to open or halts due to unforeseen circumstances, the Administrator may decide to stop the calculation and broadcast of the EXT index. As a rule, the EXT index will not be recalculated.

### 3.8 FORMULA

The general formula of the EXT Index is defined as follows:

$$\text{EXT Index} = F_t e^{-r^* t} + D_t$$

Where:

$F_t$  = Last prices of the 1<sup>st</sup> month future at time  $t$

$t$  = Number of days to expiration of the 1<sup>st</sup> month future maturity / 360

$r^*$  = Interpolated risk free interest rate (see section below)

$D_t$  = Dividend to be paid by the components of the underlying index until the 1<sup>st</sup> month future maturity

#### 3.8.1 Risk Free rate ( $r^*$ )

The risk free interest rate ( $r$ ) is calculated by a linear interpolation of the recalibrated EONIA (€STR plus a spread) or Euribor swap rates as described below:

$$r^* = r_1 + \frac{r_2 - r_1}{t_2 - t_1} \times t_* - t_1$$

Where

$r^*$  = Risk free rate, i.e interpolated rate between  $r_1$  and  $r_2$

$r_1$  = Listed €STR or Euribor swap rate with closest maturity **before** the futures expiration date.

$r_2$  = Listed Euribor swap rate with closest maturity **after** the futures expiration date.

$t_1$  = Number of days to maturity for  $r_1$

$t_2$  = Number of days to maturity for  $r_2$                       where     $t_1 < t^* < t_2$

$t^*$  = Number of days to maturity for  $r^*$

Name	Maturity
€STR	1D
1W Euribor Swap (Euro)	1 Week
1M Euribor Swap (Euro)	1 Month
3M Euribor Swap (Euro)	3 Months

### 3.8.2 Dividends ( $D_t$ )

$D_t$  represents the total amount of dividend points to be paid by the components of the Underlying index until the 1<sup>st</sup> month future maturity. For each index constituent the dividend amount considered for the calculation is equal to the amount of ordinary gross dividend calculated in index points.

Most of the times, companies announced their dividend before the 1<sup>st</sup> month future expiration. If not, dividend forecasts (amount and ex-date) will be based on dividend estimates.

## 4. REFERENCES

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Index name	Isin code	Mnemo	Bloomberg Code	Reuters code
CAC 40® EXT	QS0011252754	CAEXT	CAEXT	.CAEXT

### 4.1 BASE CURRENCY

The Base Currency of this index family is Euro.

### 4.2 PUBLICATION

The EXT Index is calculated and distributed every 15s from 8.00 a.m. till 6:30 p.m. on days that Euronext is open.

## 5. ESG DISCLOSURES

EXPLANATION OF HOW ESG FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY	
Item 1. Name of the benchmark administrator.	Euronext Paris
Item 2. Type of benchmark	Equity Benchmark
Item 3. Name of the benchmark or family of benchmarks.	<b>CAC 40 EXT</b>
Item 4. Does the benchmark methodology for the benchmark or family of benchmarks take into account ESG factors?	No
Item 5. If the response to Item 4 is positive, please find below the ESG factors that are taken into account in the benchmark methodology and how they are used for selection, weighting and exclusion	
a) List of environmental factors considered:	Not applicable
b) List of social factors considered:	Not applicable
c) List of governance factors considered:	Not applicable
Item 6. Data and standards used.	
a) Data input. <i>(i) Describe whether the data are reported, modelled or, sourced internally or externally.</i> <i>(ii) Where the data are reported, modelled or sourced externally, please name the third party data provider.</i>	Not applicable
b) Verification of data and guaranteeing the quality of those data. <i>Describe how data are verified and how the quality of those data is ensured.</i>	Not applicable
c) Reference standards <i>Describe the international standards used in the benchmark methodology.</i>	Not applicable

Information updated on:

30<sup>th</sup> April 2020