



## **Rules for the CAC 40® index**

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## Table of contents

1.	Composition of the CAC 40® index .....	2
2.	Calculation and publication of the CAC 40® index.....	3
3.	Rules for the periodical review of the CAC 40® index.....	5
4.	Corporate events affecting the composition.....	7
5.	Corporate events affecting weighting of constituents.....	8
6.	Governance and final provisions .....	11
7.	Definitions .....	13

# 1. Composition of the CAC 40® index

- 1.1 *Definition of the CAC 40 Index* The CAC 40 index is an index weighted by free-float market capitalization<sup>1</sup> that measures the performance of 40 equities listed on Euronext's regulated markets in Paris.
- 1.2 *Purpose of CAC 40 Index* The CAC 40 index is designed to reflect the general trends in the trading of shares listed on Euronext Paris. It is made up of shares issued by 40 companies selected among the 100 largest and most traded stocks on Euronext in such a way that it is not only a suitable underlying asset for derivatives products, but also a relevant benchmark for portfolio management.
- 1.3.1 *Universe* Constituents are selected from the stocks listed in Paris on Euronext's regulated markets.
- 1.3.2 *Eligibility rule* The CAC 40 Index only includes shares issued by companies deemed to be representative of the Euronext Paris equity market. The index consists of :
- a) Companies with Euronext Paris as market of reference; and
  - b) Companies with a market of reference that is not Euronext Paris who qualify based on
    - 1. The significant presence (relative to the size of the group) of business assets and/or head-office activities in France and/or employment of significant numbers of staff in France; or
    - 2. Significant trading volumes on related derivative products in Paris; or
    - 3. History of inclusion in indices (including takeovers), in so far 1. and/or 2. are applicable for the candidate stock.
- 1.4 *Selected line* As only one listing - the most active one - is permitted per company, the listing representing the company's ordinary shares is generally used.
- 1.5.1 *Maximum weighting of percentage* The weight of a company in the CAC 40 index is capped at 15% of the index's free-float market capitalization. See rules 3.6.2 and 5.7
- 1.5.2 *Shares* A quarterly adjustment scheme is applied for amendments to the numbers of shares.  
The number of shares to be used after the quarterly review for each constituent will be based on the number of shares listed on the market. The number of shares may be modified in between the quarterly updates as described in the rule 5.4.

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<sup>1</sup> Free-float market capitalization is obtained by multiplying the number of issued shares by the share price, and then multiplying the result by the free float (see below).

## 2. Calculation and publication of the CAC 40® index

- 2.1 *Calculation of the index* The CAC 40 index is calculated using the following formula:

$$I_t = 1000 \times \frac{\sum_{i=1}^N Q_{i,t} F_{i,t} f_{i,t} C_{i,t}}{K_t \sum_{i=1}^N Q_{i,0} C_{i,0}}$$

Where:

t	day of calculation
N	number of constituent equities in index
$Q_{i,t}$	number of shares of equity i on day t
$F_{i,t}$	free float of equity i
$f_{i,t}$	capping factor of equity i
$C_{i,t}$	price of equity i on day t
$Q_{i,0}$	number of shares of equity i on index base date
$C_{i,0}$	price of equity i on index base day
$K_t$	adjustment coefficient for base capitalization on day t

The base date for the CAC 40 index is 31 December 1987 and the base market capitalization was FF 370,437,433,958 before the adoption of the euro as local currency in France. This number should now be regarded as a constant when computing the index level, because the adjustment coefficient  $K_t$  had been adjusted accordingly to account for the conversion of the figure into Euro.

- 2.2 *Share prices* If no price has been established for a constituent's share on the trading day concerned, either the last known price established during regular daytime trading in officially listed shares on Euronext Paris for traded stocks or the last adjusted price resulting from the adjustment of the closing price due to a corporate action, will be used.

For constituents that have non-traded, halted or suspended status, the previous day reference prices or estimated prices (for IPOs, buyouts and swap offers) are used, instead.

- 2.3 *Cancellation of prices* If prices are cancelled, the index will not be recalculated unless the Compiler decides otherwise.

- 2.4 *Publication frequency* The level of the CAC 40 index is in principle published every 15 seconds.

- 2.5 *Start calculation* The calculation of the level of the CAC 40 index starts when Euronext Paris begins regular daytime trading in officially listed shares in accordance with the provisions of the Euronext Rule Book (see rule 2.6.3).

## 2.6 Opening and pre opening

2.6.1 *Pre-opening forerunner* A pre-opening indicator known as pre-opening forerunner aiming to give an indication of market trend is disseminated before the market opening. This pre-opening forerunner is calculated from 7.15 to 9.00, on the basis of the theoretical opening prices determined by matching bid and ask prices as if trading were started on the market.

2.6.2 *Session Forerunner* If for any reason, share prices are not available for all constituents after Euronext Paris has started regular daytime trading, a forerunner will be disseminated until the two conditions set forth in article (2.6.3) are met. This forerunner is calculated on the basis of the available share prices traded. It gives then an indication of the first percentage change of the index.

This forerunner is defined as the variation percentage between the total free float market capitalization of stocks traded and the most recent closing market capitalization of the same stocks.

2.6.3 *Opening level/ Opening criteria* The **opening level** is calculated using the opening prices of traded constituents or in the case of constituents that have non-traded, halted or suspended status, the previous day reference prices or estimated prices (for IPOs, buyouts and swap offers). The opening index level reflects the opening prices of the index constituents. The opening index level is disseminated at the same time as the first index level, and it might not be equal to the first index level, which is disseminated as soon as the following conditions are met:

1. The total weight of stocks traded, halted or suspended equal 100% of the total free float market capitalization of the CAC 40 index.
2. The weight of stocks traded is superior or equal to 65% of the total free float market capitalization of the CAC 40 index

If after the market opens the CAC 40 index remains in forerunner as defined in the article (2.6.2), during the entire trading session, the closing level of the CAC 40 index will be calculated on the basis of the most recent traded prices, or the most recent reference price (possibly adjusted to account for corporate actions).

During the session, the forerunner can be substituted for the index on an exceptional basis in the event that 35% of the market capitalization of the index may not be traded. The calculation and dissemination of the index levels resumes five minutes after the weight of stocks traded is superior or equal to 65% of the free float market capitalization of the index.

- 2.7 *Closing level* The following indices are disseminated after the market close.
1. The reference closing level, which is calculated on the basis of all closing prices derived from the closing auction.
  2. The reference opening price, which is calculated on the basis of the opening shares prices.
- In both cases, for constituents that have non-traded, halted or suspended status, the previous day reference prices or estimated prices (for IPOs, buyouts and swap offers) are used, instead.
- 2.8 *Intervention in publication by Compiler* The Compiler retains the right to delay the publication of the opening level of the CAC40 index. Furthermore, the Compiler of the CAC40 index retains the right to suspend the publication of the level of the CAC 40 index if it believes that circumstances prevent the proper calculation of the index.
- 2.9 *Return index* A net<sup>2</sup> total return index, which is obtained by reinvesting the net dividends, is calculated and disseminated at the same frequency as the CAC 40 (price index).

### 3. Rules for the periodical review of the CAC 40® index

- 3.1 *Responsibility for composition* The management of the composition of the CAC 40 index is the responsibility of the Conseil Scientifique.
- 3.2 *General Aim periodical review* The general aim of the Conseil Scientifique when making periodical review of the CAC 40 index is to ensure that the selection of the constituents continue to meet the principles set out in section 1. The liquidity of the index constituents is then frequently monitored to ensure that the index remains suitable for its different uses.
- 3.3 *Publication of new selection* The decisions of the Conseil Scientifique are published immediately after the Conseil Scientifique meetings, and are effective at least two weeks after the announcement.
- The new selection of the CAC40 index constituent, their free float factors, number of shares and capping factors will be reminded through an official notice two trading days before the effective date.
- 3.4 **Quarterly review of the composition**
- Selection criteria* At each quarterly review, the components of the selection universe are ranked by free float market capitalisation and turnover, in decreasing order. Turnover is based on daily data over the 12 months prior to the review.

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<sup>2</sup> Since the tax credit has been cancelled in January 2005, the percentage changes in the levels of the gross total return index which included the net dividend and the tax credit are equal to the percentage changes in the levels of the net total return index.

3.5 **Quarterly adjustment of the weighting of constituents**

- 3.5.1 *Number of shares* A quarterly adjustment scheme is applied for amendments to the numbers of shares. The number of shares to be used after the quarterly review for each constituent is based on the number of shares listed on the Euronext Paris market on that date. The quarterly updates are carried out after the market close, on the third Friday of March, June, September and December.  
The new numbers of shares are published by official notice, where possible at least two trading days in advance of the effective date.
- 3.5.2 *Prices used for effectuation* The closing prices used are those available on the day the quarterly adjustment is made.

3.6 **Annual review of free floats and capping factors**

- 3.6.1 *Free Float* The free-float factors used for the calculation of the CAC 40 index are reviewed once a year. They are rounded up to the next multiple of 5%.  
The free float factors are determined on the basis of the information available on the last day of August. The annual review of the free float factors comes into effect on the 3<sup>rd</sup> Friday of September at the same time as the quarterly updates of the number of shares (as indicated in the rule 3.5.1).
- 3.6.2 *Capping* A weighting limit of 15% is applied to CAC 40 constituents. If the weight of a given stock exceeds this limit it is scaled down by a coefficient called "capping factor".  
The capping factors are review annually. Alike the free float factors, the capping factors are reviewed on the 3<sup>rd</sup> Friday of September at the same time as the quarterly updates of the number of shares.

## 4. Corporate events affecting the composition

4.1 *General* The Conseil Scientifique of the CAC40 index may decide to change the composition of the index due to events, which affect one or more of its constituents.

### 4.2 **Suspensions, Removals, Mergers and Acquisitions**

4.2.1 *Price source* When trading in a stock is suspended prior to a cash tender offer or a tender offer in the form of a share swap, the price used to calculate the index is as follows.

*Cash tender offer*

- the last price at which shares were traded prior to publication of the regulator's (AMF) agreement to allow the offer to proceed;
- price (or prices) of the cash tender offer on the day after publication of the regulator's (AMF) agreement, up to the moment when trading resumes.

*Tender offer in the form of a share swap:*

- The last price at which shares were traded prior to publication of the regulator's (AMF) agreement to allow the offer to proceed;
- The value of shares offered in euros (if traded or estimated on the French market) on the day after publication of the regulator's (AMF) agreement, up to the moment when trading resumes.

4.2.2 *Mergers, Acquisitions, Other cases* There are three different possibilities.

- The acquiring company is an index constituent and its target is not. In that case, the assets of the acquired company are simply transferred to the acquirer.
- Both the acquiring company and the target company are constituents of the index. In that case, the assets of the acquired are transferred to the acquiring company, and the Conseil Scientifique decides to remove the acquired company in light of the time schedule of the offer.
- The acquiring company is not a constituent, but the target company is. In that case, the target company is removed from the index while a replacement is sought.

If the number of shares of a constituent changes in relation to a case as described above, such change will be dealt with in accordance with the provisions laid down in the rule 5.4.

4.2.3 *Removal of a constituent from the index* If an index constituent is subject to a takeover bid or an acquisition, the Conseil Scientifique may decide to remove temporarily the stock in question from the index, before the announcement of the official result of the offer, facilitating the completion of arbitrage operations during the period of the offer. In light of the outcome of the offer, the Conseil Scientifique decides to remove or not definitively the stock from the index.

If trading in a stock is suspended during the trading session prior to its removal from the index, and if exceptional conditions make it impossible to organize a procedure to fix an exit price, the calculation will be based on a token price of €0.01.

- 4.3 *Split-up* The method that is applied for the treatment of spin-offs rides on the official information published by the company.  
When the spin-off is likely to change the composition of the CAC 40 index, the Conseil Scientifique meets in order to determine the new composition of the index.
- 4.4 *Addition of new stocks* The Conseil Scientifique may decide to add a newly listed stock to the index. In this case the decision comes into effect at least two weeks after the official announcement.

## 5. Corporate events affecting weighting of constituents

- 5.1 *General aim operational adjustments* The treatment of corporate events initiated by the CAC 40 index constituents necessitates that the compiler carries out some adjustment so that they can be reflected in the sample, while the continuity of the index is still maintained.

### 5.2 **Dividends**

- 5.2.1 *Ordinary dividend* No adjustment takes place on the day when a share becomes extraordinary dividend.

- 5.2.2 *Special dividend* On the day shares go ex a special dividend, the number of shares is unchanged and the share price is reduced by the value of this special dividend. Total index capitalisation is adjusted to reflect this reduction. To decide whether a dividend should be considered a special dividend Euronext will use the following criteria:
- a) the declaration of a company of a dividend additional to those dividends declared as part of the company's normal results and dividend reporting cycle; merely an adjustment to the timing of the declaration of a company's expected dividend would not be considered as a special dividend circumstance; or
  - b) the identification of an element of a dividend paid in line with a company's normal results and dividend reporting cycle as an element that is unambiguously additional to the company's normal payment.

For the purpose of clarification, the Euronext will not make adjustment for the following situations:

1. Payment of ordinary dividends, irrespective of how they are financed;
2. Issue of redeemable shares or any other entitlement in lieu of an ordinary dividend; or
3. Unexpected increase or decrease, resumption or cessation, or change in frequency to an ordinary dividend.

Concerning the qualification of the dividend, the Compiler reserves the right to ask to the issuer more details concerning the dividend distributed.

### 5.3 **Rights issues and other rights**

5.3.1 *Rights issue (Issue with pre-emptive subscription rights)* On the day the shares go ex-rights, the value of the rights is subtracted from the stock share price. As this changes the total free float market capitalization on which the index is based, an adjustment coefficient is calculated.

When the new shares are merged with existing shares, the operation is treated in the same way as a merger of shares, and is subject to the rule 5.4 laid down hereunder.

In the case of an issue of shares carrying equity subscription rights, The Compiler calculates the theoretical value of the relevant right. On the day the shares go ex-rights, the index's total free float market capitalization is adjusted and an adjustment coefficient is applied.

5.3.2 *Bonus shares* **a) the new shares are merged with the existing shares the same day as the stock goes ex-rights**

The number of shares is increased by the number of bonus shares created, and the share price is reduced by the theoretical value of the right. Since the combination of these changes leaves the total index market capitalization unchanged, there is no calculation of the adjustment coefficient.

**b) the new shares are not merged with the existing shares the same day as the stock goes ex-right**

The number of shares is not adjusted. The stock share price is reduced by the theoretical value of the right. Since the market capitalization of the index is modified, an adjustment coefficient is calculated.

5.3.3 *Other rights and warrants* The procedure set out in article 5.3.1 will also be followed if a value can be attributed to a subscription right for convertible bonds, bonds with warrants or warrants with preferential rights for shareholders

The method used for valuing the right in question is based on the information published by the company.

5.4 *Change in the number of shares* The issue of new shares resulting from the corporate events listed hereunder leads to an increase of the total number shares listed:

- Transfers of assets and mergers
- Issues of shares reserved for specific third parties
- Conversions of bonds
- Exercising of warrants
- Exchanges and conversions of existing shares
- Dividend payments in the form of newly-issued shares
- Exercising of options

In the event of share mergers the CAC 40 rules for quarterly updates of the number of shares apply, meaning no adjustments, except in the situations in between two review quarters:

- where the change in the number of shares exceeds 5%, (it being understood that such a change may also be the result of several cumulative changes) or
- where the change of the number of shares exceeding 5% comes from a new line of shares, and occurs simultaneously with a distribution of dividend that the holders of the old outstanding shares (listed on the main line considered for the calculation of the index) are entitled to receive. In this case, a price adjustment may be made along with the change in the number of shares the day that the new shares are merged with the existing shares.

As this changes the total market capitalization, an adjustment coefficient is applied.

5.5	<i>Share split</i>	A split or reverse split does not affect the stock's current market capitalization. Since the total market capitalization remains unchanged, there is no need to calculate an adjustment coefficient. The new number of shares is incorporated in the calculation of the index following the corporate action.
5.6	<i>Free float factor change</i>	<p>In exceptional cases, where the change in free float is equal to or greater than 5% in absolute value, the free-float factor may be reviewed.</p> <p>Exceptional reviews can be carried out if the proportion of the rounded-off float becomes modified by 5%, more or less. The following events are taken into account for these reviews:</p> <ul style="list-style-type: none"><li>• operations cancelling or creating shares, takeover swaps and mergers,</li><li>• shareholder's notifications exceeding thresholds of 20% and beyond.</li></ul> <p>These exceptional reviews are published by Euronext notice and come into effect two trading days after they are published.</p>
5.7	<i>Capping factor change</i>	The Conseil Scientifique may decide to review exceptionally the capping factor in response to a substantial change in the shareholding structure of the companies concerned, or if extraordinary corporate events significantly change the weighing in the index.

## 6. Governance and final provisions

6.1 *Supervisor* The Conseil Scientifique acts as Supervisor of the CAC 40 index. The Conseil Scientifique consists of representatives of the Bank of France, the French Financial Markets Authority (AMF), and the European and French associations of financial analysts, economists and academics, including well-known specialists and statisticians. The Supervisor is responsible for monitoring the selection of constituents for the CAC 40 index and ensuring that the index offers a reliable and representative view of the market.

The Conseil Scientifique brings the index a three-fold guarantee:

- **recognized expertise** through the participation of well known financial experts and statisticians;
- **independence**, since the decisions to modify the composition of the index are totally impartial;
- **transparency**, since changes in the sample are announced immediately after the Conseil Scientifique meetings.

6.2 *Compiler* Euronext Indices BV. is the Compiler of the CAC 40 index. The Compiler is responsible for the day-to-day management of the CAC 40 index and is also responsible for decisions regarding the interpretation of these rules.

6.3 *Cases not covered in rules* In cases not covered by these rules the Compiler submits a proposal to the Conseil Scientifique for approval.

6.4 *Rule book changes* These rules may be supplemented, amended in whole or in part, revised or withdrawn at any time. Supplements, amendments, revisions and withdrawals may also lead to changes in the way the CAC 40 index is compiled or calculated or affect the CAC 40 index in another way. The Compiler will submit all decisions regarding supplementing, amending, revising or withdrawing these rules to the Conseil Scientifique for recommendations and approval.

All decisions will be published immediately. Barring exception, a period of at least three months should pass between the date a proposed change is published and the date this comes into effect. Euronext N.V., its subsidiaries, the Compiler nor the Conseil Scientifique are liable for any losses resulting from supplementing, amending, revising or withdrawing the Rules for the CAC 40 index.

6.5 *Liability* The Compiler will do everything within its power to ensure the accuracy of the composition, calculation, publication and adjustment of the CAC 40 index in accordance with relevant rules. However, nor Euronext N.V., nor the Compiler nor the Conseil Scientifique of the CAC 40 index are liable for any inaccuracy in share prices, calculations and the publication of the index, the information used for making adjustments to the index and the actual adjustments.

Furthermore, Euronext NV., its subsidiaries, the Compiler of the CAC 40 index and the Conseil Scientifique of the CAC 40 index do not guarantee nor the continuity of the composition of the CAC 40 index, nor the continuity of the calculation of the CAC 40 index, nor the continuity of the dissemination of the CAC 40 index levels, nor the continuity of the calculation of the CAC 40 index.

- 6.6 *Ownership and trademarks* Euronext Paris SA owns all intellectual and other property rights to the CAC 40 index, including the name, the composition and the calculation of the CAC 40 index.

## 7. Definitions

<i>Capping factor</i>	The Conseil Scientifique has decided to limit the maximum weight of securities in the CAC 40 index to 15%. This measure came into effect on December 1 <sup>st</sup> , 2003. The 15% limit is reached by applying a coefficient called capping factor. When the index components are not capped, their capping factor is equal to 1. As with the free float, these factors are reviewed once a year except in case of significant changes in the market capitalization of the capped securities.
<i>Free float</i>	Free float is the portion of the capital that is available to the public. The free float will be calculated to the exclusion of all interests with more than 5% of capital in the issuing entity, except where such an interest is held by an undertaking for collective investment or a pension fund. Free float calculated in this way will be rounded up to the next multiple of 5%.
<i>Free float market capitalization</i>	The free float market capitalization is the product of the number of shares times the price and times the free float factor.
<i>Price index</i>	The price index or the naked index is the "classic" CAC 40 price index calculated continuously every 15s.
<i>Return index</i>	A return index takes into account the reinvestment of net dividends. It is calculated and disseminated at the same frequency as the price index.
<i>Market spread</i>	The market spread measures the spread in % between the best bid and the best offer compared to the mid price
<i>Velocity ratio</i>	The velocity ratio is the ratio of the volume of the transactions to the number of shares of the stock. It is measured daily and averaged over a 12-month period preceding the review of the Conseil Scientifique.

## EXAMPLES

### 4.4 Addition of new stocks

When the stock is added to the index, its capitalization is added as follows.

Where:

$Q_{t-1}$	number of shares on t-1 relating to the new equity
$C_{t-1}$	last market price of new equity
$CB_{t-1}$	previous day's closing market capitalization (adjusted to take account of free float and any capping factor)
$k_t$	adjustment coefficient
$F_t$	free float
$f_t$	capping factor

The adjustment coefficient is therefore:

$$k_t = 1 - \frac{\Delta CB}{CB_{t-1}}$$

and:

$$\Delta CB = Q_t F_t f_t C_{t-1}$$

### 5.3.1 Rights issue

Issue with pre-emptive subscription rights

On the day the shares go ex-rights, the value of the rights is subtracted from the equity's total capitalization. As this changes the total capitalization on which the index is based, an adjustment coefficient is calculated as follows.

Where:

$Q_t$	number of shares when shares go ex-rights ( $Q_t = Q_{t-1}$ )
$N$	new quantity of shares
$A$	former quantity of shares
$C_{t-1}$	equity's closing price
$CB_{t-1}$	previous day's closing market capitalization (adjusted to take account of free float and any capping factor)
$k_t$	adjustment coefficient
$F_t$	free float
$f_t$	capping factor
$d_t$	theoretical value of rights on t
$DN$	net dividend announced by the company or, failing this, the last dividend paid
$PE$	issue price of new shares

If the new shares carry the same rights as the old shares, the theoretical value of the right is as follows.

$$d_t = \frac{N}{A + N} (C_{t-1} - PE)$$

If not, the theoretical value of the right can be represented as follows.

$$d_t = \frac{N}{A + N} (C_{t-1} - PE - DN)$$

The resulting adjustment coefficient  $k_t$  is calculated as follows.

$$k_t = 1 - \frac{\Delta CB}{CB_{t-1}} \text{ Where:}$$

$\Delta CB = Q_t F_t f_t d_t$  represents the decline in capitalization resulting from the shares going ex-rights.

When the new shares are merged with existing shares, the operation is treated in the same way as a merger of shares, and capitalization is raised by a corresponding amount.

Comment: In the case of an issue of shares carrying equity subscription rights, Euronext's reference system calculates the theoretical value of the relevant right. On the day the shares go ex-rights, the index's total capitalization is adjusted and an adjustment coefficient is applied.

5.4 *Change in the number of shares*

In the event of share mergers the CAC40 rules for quarterly updates of the number of shares apply meaning no adjustments, except in the situation in between two review quarters where the change in the number of shares exceeds or equals 5%, or in the event of a special dividend.

The number of shares is changed on the day that the new shares are listed and merged with existing shares. As this changes the total capitalization, an adjustment coefficient is applied.

Where:

- $Q_t$  number of new shares admitted on t
- $C_{t-1}$  last market price of the share
- $CB_{t-1}$  previous day's closing market capitalization (adjusted to take account of free float and any capping factor)
- $k_t$  adjustment coefficient
- $F_t$  free float
- $f_t$  capping factor
- $DN_t$  net dividend paid during time t

The adjustment coefficient is therefore:

$$k_t = 1 - \frac{\Delta CB}{CB_{t-1}}$$

Where:

$$\Delta CB = Q_t F_t f_t C_{t-1}$$

If listed shares are merged on the date of the dividend payment, or if a second line of shares is listed in connection with the above corporate actions, or if the shares do not participate in the dividend paid during time t, then the adjustment coefficient must be changed as follows.

$$k_t = 1 + \frac{\Delta CB}{CB_{t-1}}$$

Where:

$$CB = Q_t F_t f_t (C_{t-1} - DN_t)$$