

INDEX RULE BOOK

PSI 20[®] Index

Version 16-01

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indices.euronext.com

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1. INDEX SUMMARY

Factsheet	PSI 20®
Index names	PSI 20®
Index type	Price index; Net return index and Gross return index versions are also available.
Index governance structure	The PSI® Committee acts as Supervisor of the PSI 20 index. Euronext acts as the Compiler and is responsible for the day-to-day management of the index.
Eligible stocks	Companies admitted to listing on Euronext Lisbon, that fulfil screening criteria regarding (among others) trading form and minimum period admitted to listing .
Selection	The PSI 20 index is made up of shares issued by maximum 20 highest ranking companies in terms of free float market capitalization. Eligible companies are required to fulfil the velocity threshold and minimum free float. Furthermore included companies should in principle have a minimum Free Float market capitalization of € 100 million.
Number of constituents	Maximum 20, minimum 18
Weighting	Based on Free Float adjusted market capitalization. The Free Float is rounded up to the next multiple of 5%.
Capping	12%
Review of composition	Annual with quarterly fast entry or replacement. Effective after the third Friday of March, June, September and December.
Review of free float and number of shares	Annual in March, quarterly update if rounded free float changes 10% or more or if the number of shares changes more than 20%..
Review of capping	Annual in March
Base Currency	Euro

Note: the factsheet is a summary of the rule book for information purposes only. The text of the rulebook is leading.

Reference Data

Index name	Isincode	Mnemo	Bloomberg Code	Reuters code	Base date	Base value	Publication since
PSI 20®	PTING0200002	PSI20	PSI20	.PSI20	31-12-92	3000	31-12-92
PSI 20® NR	QS0011211180	PSINR	PSINR	.PSINR	02-11-92	11987.6	29-12-10
PSI 20® GR	PTING0210001	PSITR	PSI20TR	.TRPSI20	31-12-92	3000	31-12-92

2. GOVERNANCE AND DISCLAIMER

2.1 INDICES

This rule book applies to the following indices (hereinafter “index”) owned by Euronext N.V. or its subsidiaries (hereinafter jointly “Euronext”):

- PSI 20

2.2 COMPILER

Euronext is the compiler of the index (“Compiler”). The Compiler is responsible for the day-to-day management of the index and is also responsible for decisions regarding the interpretation of these rules.

2.3 SUPERVISOR

The PSI Committee acts as independent supervisor of the index (“Supervisor”). The Supervisor is responsible for monitoring the selection of constituents for the index and ensuring that the index offers a reliable and representative view of the market. All Supervisor decisions will be published without delay following the decision (after market close).

2.4 CASES NOT COVERED IN RULES

In cases which are not expressly covered in these rules, operational adjustments will take place along the lines of the aim of the index. Operational adjustments may also take place if, in the opinion of the Compiler, it is desirable to do so to maintain a fair and orderly market in derivatives on this index and/or this is in the best interests of the investors in products based on the index and/or the proper functioning of the markets. The Compiler will report to the Supervisor if it took a decision about a case which is not specifically covered in the rules for comments and review.

2.5 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 index is compiled or calculated or affect the index in another way. The Compiler will submit all decisions regarding supplementing, amending, revising or withdrawing these rules to the Supervisor for recommendations or approval.

2.6 LIABILITY

Euronext, the Compiler and the Supervisor are not liable for any losses resulting from supplementing, amending, revising or withdrawing the rules for the index.

The Compiler will do everything within its power to ensure the accuracy of the composition, calculation, publication and adjustment of the index in accordance with relevant rules. However, neither Euronext, nor the Compiler, nor the Supervisor are liable for any inaccuracy in index composition, share prices, calculations and the publication of the index, the information used for making adjustments to the index and the actual adjustments. Furthermore, Euronext, the Compiler and the Supervisor do not guarantee the continuity of the composition of the index, the continuity of the method of calculation of the index, the continuity of the dissemination of the index levels, and the continuity of the calculation of the index.

2.7 OWNERSHIP AND TRADEMARKS

Euronext owns all intellectual and other property rights to the index, including the name, the composition and the calculation of the index. PSI® and PSI 20® are registered trademarks of Euronext.

3. PUBLICATION

3.1 DISSEMINATION OF INDEX VALUES

3.1.1 Opening

The opening level is calculated using the last known 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 official opening level is the first level published after a share price is available for all constituents. Index levels published before the official opening level is published are considered pre-opening index levels.

If, for whatever reason, share prices are not available for all constituents five minutes after Euronext Markets (as defined in the Euronext harmonised rule book) started regular daytime trading, the official opening level will be published as soon as the companies whose share prices are available of the current trading day represent at least 80% of the value of the index at the close of the previous trading day.

3.1.2 Calculation and dissemination

The index is calculated based on the most recent prices of transactions concluded on Euronext Markets. The level of the index is in principle published every 15 seconds. The index is calculated from 09:00 hours until Euronext Markets stop regular daytime trading on the days when the Euronext Markets are open for trading.

3.1.3 Closing level

The closing level is the last level disseminated on the trading day.

3.2 EXCEPTIONAL MARKET CONDITIONS AND CORRECTIONS

The Compiler retains the right to delay the publication of the opening level of the index. Furthermore, the Compiler retains the right to suspend the publication of the level of the index to mark the level of the index indicative if it believes that circumstances prevent the proper calculation of the index.

If prices are cancelled, the index will not be recalculated unless the Compiler decides otherwise.

If the index remains in pre-opening phase during the entire trading session, the last published pre-opening level of the index will be used as the official closing level of the index for that day. In such cases, the Compiler will not calculate an official opening level for the index.

The general procedures in case of index outages and other situations in which the normal provision of indices is interrupted are described in Euronext Indices Correction Policy on indices.euronext.com/index-rules.

3.3 ANNOUNCEMENT POLICY

The announcement policy is described in the Euronext Indices Announcement policy document that is available on indices.euronext.com/index-rules.

4. CALCULATION

4.1 CALCULATION OF THE PRICE INDEX

The index is calculated on a price return basis. The calculation is based on the current Free Float (see section 8. Definitions) market capitalization divided by the divisor. The divisor was determined on the initial capitalization base of the index and the base level. The divisor is adapted as a result of corporate actions and composition changes.

4.2 CURRENCY CONVERSION

The base currency of the index is Euro ("Base Currency").

Share prices that are quoted in other currencies than the Base Currency will be converted to the Base Currency using the last known exchange rate observed on Reuters. Closing prices will be converted based on the most recent WM/Reuters spot rates, which are published each business day around 17:00 CET.

4.3 TOTAL RETURN INDEX CALCULATION

4.3.1 Return indices

A net total return index as well as a gross total return index, is calculated and disseminated at the same frequency as the price index. The return indices are obtained by reinvesting the net and gross dividends respectively.

4.3.2 Withholding tax rate

The net dividend is calculated as the gross dividend minus the applicable withholding tax. A table detailing the percentages that are applied is available on the website of Euronext.

4.3.3 Ordinary dividends in shares

If a dividend is distributed in the form of shares only and if this is regarded as ordinary dividend, the return index will be reinvesting a cash equivalent of the dividend. If shareholders may choose between cash or shares the amount which is reinvested will be based on the cash option.

4.3.4 Conversion of dividends declared in other currencies

If a dividend for a constituent is declared in another currency than the Base Currency of the index, then the Compiler will in first instance use the Base Currency amount if investors have the option to be paid in that currency. If the dividend amount is available only in currencies that deviate from the Base Currency, the Compiler will convert the dividend amount using the reference rate for the cum-day (the business day prior to the ex-date). In principle the reference rate will be based on the foreign exchange reference rates as published daily by the ECB.

5. INDEX REVIEWS

5.1 GENERAL AIM AND FREQUENCY OF REVIEWS

5.1.1 General aim of the periodical review

The general aim of the periodical review of the index is to ensure that the selection and weighting of the constituents continues to reflect the underlying market or market segment it represents.

5.1.2 Review Cut-Off Dates and Review Effective Dates

The Review Cut-Off Date (see 8. Definitions) is after the market close of the last Friday of February (for the annual review), May, August and November (for the quarterly reviews).

The Review Effective Date is after the market close of the third Friday of March (the annual review), June, September and December (quarterly reviews).

5.2 ELIGIBLE COMPANIES AND SELECTION

5.2.1 Index universe

The Universe of the index is defined as companies that have been admitted to listing on Euronext Lisbon's regulated market.

5.2.2 Exclusion of constituents

The shares of the following companies are excluded from the index:

- a. Companies that were admitted to listing less than 20 trading days before the Review Cut-Off Date
- b. Companies that are not traded on the continuous trading segment
- c. Convertible preference shares and loan stocks until converted, and
- d. Warrants, rights and other derivative securities
- e. Companies whose Free Float (see 8. Definitions) is less than 15%.
- f. Companies removed under rule 6.2.1 after the previous Review Effective Date.
- g. Other companies or institutions as determined by the Compiler based on substantial negative forecasts regarding liquidity, depth, regularity or continuity of market price formation.

5.2.3 Selection basis

RANKING

Eligible companies are ranked based on the free float adjusted market capitalization on the Review Cut-Off Date. As a rule the number of shares that is taken for the selection is based on the number of shares listed on the Review Cut-Off Date.

The free float percentages applied for the selection ranking and velocity calculation at each review are based on the free float percentage relevant on the Review Cut-Off Date.

LIQUIDITY SCREENING: FREE FLOAT VELOCITY

The shares of a company must have a trading free float velocity of at least 25%. In other words, their Regulated Trading Volume should represent at least 25% of the total number of listed shares available for trading (Free Float), calculated over the course of the full 12 months relevant for the review. Velocity is calculated on a daily basis by dividing the number of shares traded by the number of shares listed, adjusted for free float. These daily figures are added up to calculate the annual velocity.

If Regulated Trading Volume in shares for a particular company is not available for the entire period of 12 months, the Regulated Trading Volume will be extrapolated to the entire period. The Regulated Trading Volume during the first twenty trading days after the company was admitted to listing will not be taken into consideration.

In the event of a spin-off, a split up or a similar corporate event, the Regulated Trading Volume before the corporate event will be assigned to the companies resulting from the corporate event based on the ratio of the corporate event. The Regulated Trading Volume will be assigned if a spun-off division is listed as an independent company. For companies that were removed under rule 6.2.1 and that have become eligible

again the velocity will be determined based on the period after the removal, excluding the first twenty trading days.

The free float percentage that is used in the velocity calculation is based on the Free Float relevant on the Review Cut-Off Date, rounded up to the nearest 5% multiple. However, the free float percentage used in the velocity calculation shall always be at least 25%.

5.2.4 Selection of constituents at the annual review (in March)

Eligible companies are ranked based on the size in terms of free float adjusted market capitalization on the Review Cut-Off Date provided that they fulfil the velocity and free float requirements.

The 18 highest ranking eligible companies will be selected by default.

Furthermore the 2 highest ranking eligible companies are selected provided that they have a minimum free float market capitalization of at least € 100 million. If more than 2 eligible companies surpass the minimum size threshold, current constituents are preferred over companies that aren't part of the index at the moment, unless their ranking is 23rd or lower.

5.2.5 Selection of constituents at the quarterly reviews (in June, September and December)

Eligible companies are ranked based on the size in terms of free float adjusted market capitalization on the Review Cut-Off Date. The ranking consists of current included eligible companies as well as non-included eligible companies that fulfil the velocity and free float requirements.

Current constituents will be removed from the index if they rank lower than 25. Constituents will not be removed at the quarterly review due to their free float velocity becoming lower than 25% or due to their free float becoming less than 15%.

Eligible non constituent companies may be added to the index at the occasion of the quarterly review if they rank 15 or higher. Furthermore the highest ranking non constituent company will be added if the index consists of fewer than 18 constituents.

Should the index consist of more than 20 companies after the removal of low ranking constituents and the addition of high ranking non constituents or due to a split up or similar situation, then the lowest ranking current constituent(s) will be selected for removal in order to bring the number of constituents down to 20.

5.2.6 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.

5.3 PERIODICAL UPDATE OF WEIGHTING

5.3.1 Update of number of shares and free float factors at the annual review

At annual reviews, the number of shares included in the index will be updated with the number of shares listed on the Review Cut-Off Date, taking into account adjustments due to Corporate Actions as described in Chapter 6.

All free float factors are updated at the annual review. Free Float is rounded up to the next 5% bracket and determined on the basis of the information relevant at the Review Cut-Off Date.

5.3.2 Update of number of shares and free float factors at the quarterly reviews

At quarterly reviews, both the number of shares included in the index and the free float factor will be updated if the free float factor on the Review Cut-Off date deviates by 10% or more from the free float factor currently applied in the index (2 or more bands) and/or if the number of shares listed on the Review Cut-Off Date, deviates by more than 20% from the current number of shares included in the index.

In the case of an update the new numbers of shares are based on the number of shares listed on the Review Cut-Off Date, taking into account adjustments due to Corporate Actions as described in Chapter 6. The new Free float factors are determined on the basis of the information relevant at the Review Cut-Off Date.

The Compiler may decide not to update the number of shares for companies after a merger or similar situation.

In the case where the free float adjusted number of shares changes for companies with a capping factor less than 1, the Compiler will recalculate the capping factor such that the capped free float adjusted number of shares remains unchanged at the quarterly review.

5.3.3 Capping

A maximum weighting of 12% is applied to each index constituent at the annual review. The assessment and new capping coefficients are based on the Review Composition Announcement Date. Capping factors are not updated at quarterly reviews for companies that continue to be included in the index.

5.3.4 Companies added at the quarterly review

For companies, if any, to be added to an index at the quarterly review, the weightings in terms of number of shares in the index and free float are determined based on the Review Cut-Off Date, while the capping factor is determined based on the Review Composition Announcement Date. The weight of companies that are added is subject to a maximum of 12%.

5.4 ADJUSTMENTS TO THE OUTCOME OF THE REVIEW

In the event of a takeover or other exceptional circumstances, the Compiler has the right to revise the selection from the time the announcement is published up to the Review Composition Announcement Date.

The Compiler will not change the outcome of the review for events that happen after the Review Composition Announcement Date. Corporate actions happening before the Review Effective Date will lead to an update of the new composition that is in line with the treatment according to chapter 6.

6. CORPORATE ACTIONS

6.1 GENERAL

The index may be adjusted in order to maintain the continuity of the index level and the composition. The underlying aim is that the index continues to reflect as closely as possible the value of the underlying portfolio.

Adjustments take place in reaction to events that occur with constituents in order to mitigate or eliminate the effect of that event on the index.

6.2 REMOVAL OF CONSTITUENTS

A constituent will be removed from the index if it has appeared that the liquid trading will be significantly affected due to a takeover, merger, bankruptcy or similar situations. In case of a takeover that is paid primarily in shares the constituent may be replaced by the acquiring company.

If a company is removed from the index, the divisor will be adapted to maintain the index level.

6.2.1 Mergers and acquisitions

If a constituent is subject to a takeover offer, a merger, an acquisition, liquidation, bankruptcy filing or a similar situation or has in the opinion of the Compiler ceased to be a viable constituent as defined by the rules, the constituent in question will either be removed or will be replaced by the acquiring company.

Replacement will occur provided that the bid is paid in shares and that the acquiring company meets the inclusion criteria of the index. In case of a mixed bid of cash and shares the Compiler will treat the bid as a share bid if the share part amounts to at least 75% of the offer price, on the day of the publication of the terms of the offer. The replacement of the shares of the relevant index constituent by the shares of the company that continues to be traded will be executed on the basis of the bid ratio. The divisor will be adapted only for the cash part of the offer price.

The removal or replacement will take place with effect from the first business day following the acceptance of the bid provided that the acceptance has been made public before the close of regular daytime trading on Euronext Markets.

6.2.2 Suspensions and delistings

If a constituent is suspended, the Compiler will consider whether the constituent should be removed or not within five trading days. If it is decided to maintain the constituent a further reassessment date will be set. The Compiler reserves the right to take action before that date if new developments give reason to do so.

In case a constituent is removed following suspension, it will be removed from the index as soon as possible and on a day announced by the Compiler. The company will be removed from the index after the close of the markets assuming a price of zero unless the Compiler sets a different price, where possible supported by an objective source.

If it has been announced that a constituent will be delisted from Euronext, it will be removed from the index as soon as possible and on a day announced by the Compiler. The company will be removed from the index based on either the last known price established during regular daytime trading or on a price determined by the Compiler, whereby the company may also be removed at a price of zero.

Removing assuming a price of zero implies no divisor change because of the removal. If another price is set, the divisor will change based on the removal of the value of that company from the index portfolio when applying that price.

6.2.3 Pricing sources

In the event that the trading in shares is suspended, the last known price established during regular daytime trading will be used.

6.3 SPLIT UP / SPIN-OFF

In the event that a company included in the index is split up, the companies resulting from the split, including the original company where appropriate will continue to be included in the index providing they

still qualify as an eligible company in their own right. The index may then temporarily consist of fewer than, or more than the standard number of constituents until the next periodical review takes place.

For the purposes of these rules a split up is taken to mean a legal demerger, a spin-off or another situation which the Compiler deems to be similar.

In case the shareholder of the company which was originally included in the index does not automatically receive shares in a company which is created as a result of the split up, this company is considered to be a newly listed company.

The removal of any non-qualifying company resulting from a split up will take place after the close of the first day of trading in the shares of that company. If all companies resulting from the split are to be removed, the removal will take place at the close of the last trading day before the split.

6.4 EARLY INCLUSION OF NON-CONSTITUENTS

As a rule newly listed companies are considered for inclusion in the index at the time of the periodical index rebalancing.

6.5 DIVIDENDS

6.5.1 Distinction ordinary and special dividend

The price index will be adjusted for dividends that are special.

The following criteria will be applied to decide whether a dividend should be considered a special dividend:

- 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, no adjustment will be made 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.

6.5.2 Adjustment for special dividend

The adjustment of the index takes place by a reduction of the closing price of the share in question. Subsequently the divisor will be adapted in order to maintain the index level. The adjustments will be based on gross amounts.

6.6 RIGHTS ISSUES AND OTHER RIGHTS

In the event of a rights issue the new shares will be included in the index on the ex-date of the rights issue and an adjusted closing price will be applied as calculated by the Compiler. The adjustment will be made based on the shares currently in the index. The divisor will be adapted in such a way that the level of the index remains the same.

The new shares are only added if less than 0.4 share is issued for every share that is currently held and if the new shares are fungible with the existing line of shares (e.g. no dividend disadvantage). Otherwise the index is adjusted based on the value of the rights only.

The index will be adjusted only if the rights represent a positive value.

The index will also be adjusted if a value can be attributed to a subscription right for convertible bonds, bonds with warrants or warrants with preferential rights for shareholders or similar situations.

6.7 BONUS ISSUES, STOCK SPLITS AND REVERSE STOCK SPLITS

For bonus issues, stock splits and reverse stock splits, the number of shares included in the index will be adjusted in accordance with the ratio given in the corporate action. The divisor will not be changed because of this. The Compiler may regard a bonus issue as the issue of an entitlement in lieu of an ordinary dividend and therefore treat this in accordance with 6.5.1.

6.8 CHANGES IN NUMBER OF SHARES OR FREE FLOAT

In between the reviews the number of shares and free float factors will remain unchanged.

7. INDEX CALCULATION FORMULAS

The general formula for the **price index** is:

$$I_t = \frac{\sum_{i=1}^N Q_{i,t} F_{i,t} f_{i,t} C_{i,t} X_{i,t}}{d_t}$$

Where:

- t Time of calculation
- N Number of constituent equities in index
- $Q_{i,t}$ Number of shares of equity i included in the index on day t
- $F_{i,t}$ Free Float factor of equity i ¹
- $f_{i,t}$ Capping factor of equity i ¹
- $C_{i,t}$ Price of equity i on t
- $X_{i,t}$ Current exchange rate on t ¹
- d_t Divisor of the index on day t

The **total return index** calculation takes two steps: the first step is to transpose the announced dividend payment into index points. This is called the XD adjustment. This uses the following formula:

$$\text{XD adjustment} = \sum_{i=1}^N \frac{g_i * w_i}{d}$$

Where:

- N Number of constituent equities in index
- g_i The announced dividend per share of the ith component stock (for net return index withholding tax is deducted from this dividend);
- w_i The weighting of the ith component stock in the index, based on number of shares included in the index, Free Float factor, capping factor and exchange rate;
- d Divisor of the index.

The second step of the calculation uses the figures calculated in step one (XD adjustment). The dividend is assumed to be reinvested at the close of the ex-date.

$$TR_t = TR_{t-1} \left(\frac{IV_t + XD}{IV_{t-1}} \right)$$

Where:

- TR_{t-1} : Total return index value yesterday;
- TR_t : Total return index value on t;
- IV_{t-1} : Underlying price index yesterday;
- IV_t : Underlying price index on t;

¹ Factor is equal to 1 if not applied for the index

8. DEFINITIONS

8.1 FREE FLOAT

Free Float is defined as the outstanding capital less shareholdings exceeding 5%, except where such interests are held by

- a. collective investment schemes/mutual funds or
- b. pension funds.

In addition, certain insider holdings (e.g. shares held by directors, employees, founders and family), government holdings and holdings of the company itself (including subsidiaries) are not considered Free Float, irrespective of the size.

The Free Float percentages are rounded up to 5% bands.

8.2 PSI COMMITTEE

Committee consisting of independent persons which acts as supervisor to the PSI 20 index and to which all decisions regarding supplementing, amending, revising or withdrawing these rules are submitted for approval. The composition and responsibilities of the PSI Committee are laid down in the Rules of Procedure document that is available on the website.

8.3 COMPILER

Committee of Euronext officials appointed by Euronext.

8.4 REVIEW RELEVANT DATES

The **Review Cut-Off Date** is the date on which, after the market close, relevant data are gathered that will serve as basis for the periodical review of the index.

The **Review Announcement Date** is the date on which, after the market close, the changes relating to the periodical review are announced as well as the preliminary free float factors.

The **Review Effective Date** is the date on which, after the market close, the changes relating to the periodical review are being effectuated in the index portfolio.

The Review Composition Announcement Date is the date on which, after the close, the full details are announced regarding the index composition that will come into effect after the review effective date. this includes numbers of shares, free float factors and capping factors of all companies included in the new index portfolio.

8.5 REGULATED TURNOVER AND REGULATED TRADING VOLUME

Regulated Turnover consists of value of turnover traded via the Euronext electronic order book as well as the value of turnover from off-exchange transactions within the scope of Euronext's regulatory environment, such as block trades and the like.