

 <p>ZAGREBAČKA BURZA <i>Zagreb Stock Exchange</i></p>	<b>Indices manual</b>	Version 1.4
		DNR 141

**Indices manual  
of the Zagreb Stock Exchange, Inc.**

Zagreb, 15 December 2022

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### Approved by

<i>Title</i>	<i>Name and surname</i>	<i>Date</i>	<i>Signature</i>
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### Revision history log

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Pursuant to Article 7 of the Articles of Association of the Zagreb Stock Exchange Inc. with its registered office in Ivana Lučića 2a/22, Zagreb (hereinafter: the Exchange), on 29 December 2021, the Exchange Management Board adopted the following

## Indices manual

### 1 Introduction

The document entitled the “Indices manual of the Zagreb Stock Exchange, Inc.” refers to all stock indices calculated by the Zagreb Stock Exchange, Inc. (hereinafter: the Exchange, the Zagreb Stock Exchange) and covers the benchmarks listed in Annex I.

The Zagreb Stock Exchange currently calculates 10 stock indices and a further index ADRIAprime, in cooperation with the Ljubljana Stock Exchange.

The first stock index which the Exchange began to calculate on 3 September 1997 was **CROBEX<sup>®</sup>**. It is a price index in which the weighting of each share is determined in accordance with its free float market capitalisation. Index constituents are the most liquid shares having the highest market capitalisation, with a maximum weighting of individual shares limited to 10 %. The base value is 1,000 points and the base index date 1 July 1997. CROBEX<sup>®</sup> is calculated in the kuna and distributed in real time, continuously in the course of trading.

The **CROBEX10<sup>®</sup>** index includes 10 shares with the highest free float market capitalisation and turnover from among the constituents of the CROBEX index. The base index value was 1,000 points on 31 July 2009. It is a price index in which the weighting of each share is determined in accordance with its free float market capitalisation and limited to 20 % in order to prevent the dominant influence of share with a high capitalisation. It has been calculated since 7 September 2009. CROBEX10<sup>®</sup> is calculated in the euro and distributed in real time, continuously in the course of trading.

On 22 February 2013, the Exchange has begun calculating the **CROBEXplus<sup>®</sup> index and five sectoral indices**: CROBEXnutris<sup>®</sup> (food production and processing), CROBEXindustrija<sup>®</sup> (industrial production), CROBEXkonstrukt<sup>®</sup> (construction industry), CROBEXtransport<sup>®</sup> and CROBEXturist<sup>®</sup>. They are so-called equal weight indices. All the indices had the base value of 1,000 points as at 21 February 2013. CROBEXplus<sup>®</sup> and the sectoral indices are calculated in the euro and distributed in real time, continuously in the course of trading.

**CROBEXtr<sup>®</sup>** is a total return index, taking into account in its calculation the payment of dividends on the constituent shares. CROBEXtr<sup>®</sup> has the same composition as the CROBEX index, and its calculation began on 24 February 2014. The weighting of each share is determined in accordance with its free float market capitalisation and is limited to 10 %. The base index value of the CROBEXtr<sup>®</sup> index was 1,000.00

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points on 21 February 2014. CROBEXtr<sup>®</sup> is calculated in the euro and distributed in real time, continuously in the course of trading.

**CROBEX10tr<sup>®</sup>**, equity index, ISIN: HRZB00ICB103, is a total return index, taking into account in its calculation the payment of dividends on the constituent shares. CROBEX10tr<sup>®</sup> has the same composition as the CROBEX index, and its calculation began on 15 July 2020. The weighting of each share is determined in accordance with its free float market capitalisation and is limited to 20 %. The base index value of the CROBEX10tr<sup>®</sup> index was 1,000.00 points on 29 May 2020. CROBEX10tr<sup>®</sup> is calculated in the euro and distributed in real time, continuously in the course of trading.

**CROBEXprime<sup>®</sup>** is the total return index, taking into account the dividends, in which the weighting of each share is determined in accordance with its free float market capitalisation. Index constituents are all the shares listed on the Prime Market managed by the Exchange, with a maximum weighting of individual shares limited to 30 %. The base index value is 1,000 points and the base index date 28 December 2018. CROBEXprime has been calculated since 18 February 2019. The calculation currency is the euro, and the index is distributed in real time, continuously in the course of trading.

The **ADRIAprime<sup>®</sup>** index includes the shares listed in the top market segment – the Prime Market – of the Zagreb and the Ljubljana Stock Exchange. It is the total return index, taking into account the dividends, in which the weighting of each share is determined in accordance with its free float market capitalisation. The maximum share weighting is limited to 15 %. The base index value was 1,000 points on 30 April 2019. ADRIAprime has been calculated in the euro since 19 June 2019 and distributed in real time, continuously in the course of trading.

All the aforementioned indices are the intellectual property of the Exchange.

## 2 Definitions

**Administrator** – natural or legal person that has control over the provision of a benchmark;

**Index** means any figure:

- (a) that is published or made available to the public;
- (b) that is regularly determined:
  - i. entirely or partially by the application of a formula or any other method of calculation, or by an assessment; and
  - ii. on the basis of the value of one or more underlying assets or prices, including estimated prices, actual or estimated interest rates, quotes and committed quotes, or other values or surveys.

**Non-significant benchmark** – a benchmark that does not fulfil the conditions laid down in Articles 20(1) and 24(1) of Regulation (EU) No 2016/1011;

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**Benchmark** means any index by reference to which the amount payable under a financial instrument or a financial contract, or the value of a financial instrument, is determined, or an index that is used to measure the performance of an investment fund with the purpose of tracking the return of such index or of defining the asset allocation of a portfolio or of computing the performance fees.

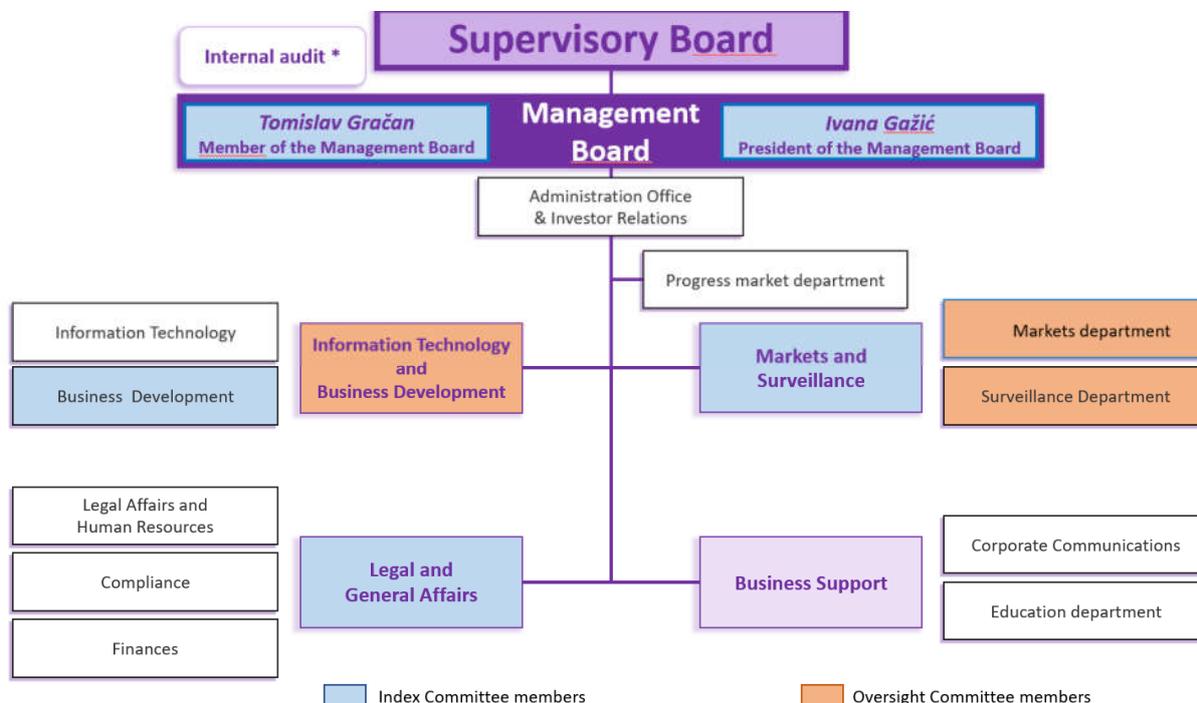
**Regulation (EU) No 2016/1011** – Regulation (EU) of the European Parliament and of the Council of 8 June 2016 on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investments funds and amending Directives 2008/48/EC and 2014/17/EU and Regulation (EU) No 596/2014.

### 3 Governance Framework

In order to ensure that Exchange indices are constructed, maintained and managed in accordance with the highest standards, the Exchange has developed a robust governance framework for the authorisation of the methodology of new indices and changes to the methodology of existing indices.

The governance framework consists of two expert bodies:

- the Indices Committee, and
- the Oversight Committee



**Chart 1:** organizational chart of governance framework.

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### 3.1 Indices Committee

The Indices Committee consists of five members appointed by the Management Board from the Exchange employees who have expert knowledge of the Croatian capital market, the methodologies of calculation of indices and input data, and who are responsible for the operational conduct of periodic index reviews.

The Indices Committee shall have the following duties and powers:

1. preparing, reviewing and interpreting index definitions and methodologies;
2. continuously monitoring and proposing refinements to the methodology of index calculation;
3. deciding on the names of indices, the selection criteria in respect of the shares to be included as constituents, the methods of index divisor calculation and adjustment;
4. deciding on the final index composition;
5. deciding on the number of shares to be included in the index, on the inclusion and exclusion of an individual share from the index and on the change in weight of a particular index constituent;
6. deciding on the method of index adjustment in the event of corporate actions;
7. preparing a report on its activity and submitting it to the Oversight Committee;
8. undertaking a regular and an extraordinary index review.

The Rules of procedure of the Indices Committee is available on the Exchange website:

<https://zse.hr/en/indices-552/551>

### 3.2 Oversight Committee

The Oversight Committee consists of three members appointed by the Management Board from the Exchange employees who have expert knowledge of the provision of benchmarks or of the economic reality measured by such benchmarks, who must be of good repute and have sufficient time to commit to discharging duties resulting from membership of the Committee, and who are free from any conflict of interest resulting from or in relation to the provision of the benchmark.

The Oversight Committee shall have the following responsibilities and powers:

1. reviewing the benchmark definition and methodology at least once a year;
2. overseeing any changes to the benchmark methodology and being able to request the Exchange to consult on such changes;
3. reviewing the control framework of the Exchange as the benchmark administrator, the management and operation of the benchmark;
4. examining the decisions of the Exchange Management Board with regard to the provision of the benchmark;

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5. reviewing and approving procedures for cessation of the benchmark, including any consultation about a cessation;
6. overseeing any third party involved in the provision of the benchmark, including calculation or dissemination agents;
7. assessing internal and external audits or reviews, and monitoring the implementation of identified remedial actions;
8. reporting to HANFA any misconduct by the Exchange as the benchmark administrator of which it becomes aware during oversight.

The Rules of procedure of the Oversight Committee is available on the Exchange website:

<https://zse.hr/en/indices-552/551>

## 4 Input Data

Input data for the calculation of Exchange indices are the prices obtained on the basis of transactions concluded on the regulated market managed by the Exchange, via the XETRA T7 trading platform. Within the meaning of the provisions of Art. 3(1)(24) of Regulation (EU) No 2016/1011, benchmarks referred to in Annex I of this document are the benchmarks based on regulated data or determined by the application of a formula covering input data contributed entirely and directly from the trading venue, as defined in Article 4(1)(24) of Directive 2014/65/EC.

## 5 Index Calculation

### 5.1 Index calculation service provider

The Vienna Stock Exchange is charge of the calculation of Exchange indices as the benchmark administrator, registered with the Austrian Financial Market Authority (ATFM) in accordance with Art. 34 of Regulation (EU) 2016/1011.

For the purpose of ensuring the effectiveness of the benchmark governance framework, the Exchange undertakes assessment of all providers of outsourced service functions, generally on an annual basis, in accordance with the guidelines contained in the internal acts on the control of service providers and service quality control.

#### 5.1.1 ESG factors for each benchmark

The index methodology in key elements of the methodology does not take into account ESG factors for every benchmark it provides since benchmarks provide do not pursue ESG objectives or take into account ESG factors.

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## 5.2 Index monitoring and calculation control

The calculation of Exchange indices is monitored and controlled at two levels – by the Vienna Stock Exchange as the index calculation service provider and by the Exchange itself.

The responsibility for the monitoring and control of the index calculation by the Vienna Stock Exchange lies with the Index Management Team, using the monitoring tool for this purpose. That tool enables the monitoring of index distribution to users and checks of the index calculation. Similarly, the tool is used as a simulation for the implementation of index review and shows all pending dividends and dates on which the index is not calculated.

The responsibility for the monitoring and control of Exchange index calculation lies with the Business Development Department, which checks the calculation of indices by the Vienna Stock Exchange at least twice a day. The index calculation monitoring and control is done using the *Indeks monitor* internal application, developed by the Exchange.

*Indeks monitor* provides an overview of the constituent shares of each individual index and parameters necessary for its calculation (number of shares issued, free float factor, weight factor and last price). Based on these parameters and on a particular index divisor, the *Indeks monitor* application performs its own calculation of the index value and compares it with the index value calculated by the Vienna Stock Exchange.

Where the Business Development Department detects an index calculation error, it shall take action in accordance with the guidance contained in the internal incident management acts and notify it to the Indices Committee.

## 5.3 Index review

The index review may be regular or extraordinary. The body responsible for undertaking the index review is the Indices Committee.

Regular index reviews are conducted twice a year. During a regular index review, the new composition of the index is determined and the index divisor, as well as free float and weight factors of all constituent shares are calculated.

In case of extraordinary events which may affect the representativeness of indices, the Indices Committee may undertake an extraordinary index review between two regular reviews.

The following events in particular are deemed extraordinary:

1. corporate actions,
2. delisting of a particular share,
3. long-term trading suspension of a particular share,
4. motion to institute pre-bankruptcy proceedings, bankruptcy proceedings or liquidation proceedings against the company.

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## 5.4 Emergencies

Emergencies are situations where, due to market disturbances, technical system problems of the contractual index calculation service provider or *force majeure*, the current index calculation is not correct or cannot be executed correctly.

The examples of events which may be deemed by the Exchange to constitute market disturbance include termination or temporary suspension of trading in most shares that are index constituents (volatility interruption or other circuit breaker due to exceedance of the limit of price change, e.g. fall in the CROBEX® index value by 10 % or more compared to its last value on the previous trading day); termination of cooperation with the counterparty (e.g. an event which hampers or compromises the ability of market participants to settle transactions), amendments to legal regulations, etc.

**Force majeure** is an external emergency which could not have been foreseen, prevented, eliminated or avoided. It could be a natural phenomenon, such as earthquake, thunderbolt, fire, landslide, etc. or a social phenomenon, such as wars, sabotage, strikes, export bans, etc.

Force majeure shall be also deemed to include any other event, in addition to those mentioned above, which render the calculation of indices incorrect or impossible on technical grounds or otherwise.

### 5.4.1 Contingency procedures

In the event of contingencies, the Indices Committee has the possibility of interrupting the index calculation, restarting or suspending the index calculation on a particular trading day.

In accordance with the guidance contained in the internal incident management acts, the Exchange shall publish (through client messages, press releases, website information) the latest official index value and composition based on which the index user may settle an index product.

## 6 Methodology for Index Calculation

### 6.1 Transparency of methodology

In respect to all indices the Exchange shall use a methodology which ensures the reliability and accuracy of index calculation so that participants may assess its representativeness, relevance and appropriateness for the intended use.

The methodology for the calculation of indices lays down the method of selecting the shares to be included in the indices, the formula for the calculation of index value, the method of adjustment for the occurrence of corporate actions and the frequency and method of index review.

In case of corporate actions occurring, the Indices Committee may decide to undertake an index adjustment in a manner different from the methodology for the calculation of a particular index if it believes another method of adjustment to be more appropriate to the circumstances.

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In case of corporate actions or occurrence of any events which are not regulated by the methodology for the calculation a particular index, the Indices Committee will consider the need for extraordinary review and, if necessary, undertake an extraordinary review to maintain the objectivity and credibility of the index and as well as its time comparability.

If any information which may affect the listing of a particular share (e.g. regulated market delisting, takeover of the joint stock company, pending status changes of the issuer, etc.) is disclosed at the time of review, the Indices Committee may decide not to include the share in the index or to exclude it from the index.

The Indices Committee may decide to keep a particular share in the index irrespective of the fact that it does not meet quantitative criteria for being an index constituent set out in the methodology for the index calculation if it finds that the application of quantitative criteria alone may affect the interests of capital market participants or index representativeness. The Indices Committee may not exercise this right in respect of one and the same share in two consecutive reviews.

The methodology for the calculation of Exchange indices has been published and made available on the Exchange website:

<https://zse.hr/en/indices/38>

## 6.2 Review of methodology

In order to ensure the representativeness of Exchange indices, the Oversight Committee undertakes an internal review of the methodology once a year. A methodology review report shall be submitted, together with recommendations for a change in the methodology, if any, to the Exchange Management Board and the Oversight Committee.

## 6.3 Change in the methodology and procedures for consultations

To ensure the representativeness of the benchmark, the Exchange may change the methodology for an individual index. Given that each such change in the methodology affects stakeholders and index users, the Exchange specifies the procedures to be followed when changing the benchmark methodology, including the need for public consultation, so that users and stakeholders can take the necessary action in light of those changes or notify the Exchange if they have concerns about those changes.

Thus, a change in the methodology for the calculation of indices may be spurred by recommendation of the Indices Committee or the Oversight Committee, by feedback of index users and in other cases where representativeness, relevance and appropriateness of a particular index for the intended use is called into question.

The Indices Committee shall consider and discuss all proposed changes in the index methodology. If the Indices Committee concludes that a request for change is justified, it will task the Business Development Department with drafting a detailed proposal for new methodology.

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If the Oversight Committee has recommended that public consultations be held or when it comes to significant changes in the methodology, the proposal for changes in the methodology and a brief explanation of such changes or clarification of the reasons and purposes to be achieved by changing the methodology will be published on the Exchange website, under Legal regulations/Consultation with the interested public (available in Croatian only), normally for 30 days.

The Exchange may also send the proposal for changes in the methodology to all index users via e-mail so that they can provide comments and objections.

Having given due consideration to stakeholder objections and comments on the proposed changes in the methodology, the Indices Committee will prepare a report on the public consultations held to be made public via the Exchange website.

The final text of the new methodology shall be prepared by the Indices Committee. Changes in the methodology shall be approved by the Management Board, and the Oversight Committee shall oversee the procedure of its implementation.

## 7 Index Correction Policy

### 7.1 Types of errors

Possible errors include but are not limited to:

- omitted or erroneous dividend information in the case of total return indices;
- omitted or incorrectly implemented corporate action;
- index calculation error due to error in the computer programme or wrong interpretation of the methodology for index calculation;
- incorrect index composition published in the index review announcement;
- error occurring during index review (erroneous calculation of parameters).

### 7.2 Index correction guidance

Guidance for index correction is provided below:

- omitted or erroneous dividend information in the case of total return indices shall be corrected promptly after being identified;
- omitted or incorrectly implemented corporate action shall be corrected promptly after being identified;
- index calculation error due to error in the computer programme or wrong interpretation of the methodology for index calculation shall be corrected promptly after being identified;
- incorrect index composition published in the index review announcement will normally not result in the recalculation of historical index values. Instead, the Indices Committee will consider the materiality of the error and, where necessary, undertake an extraordinary review;

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- error occurring during index review (erroneous calculation of parameters) shall be corrected promptly after being identified.

All index corrections shall be discussed and decided by the Indices Committee.

The Chairman of the Indices Committee may request from the Vienna Stock Exchange, as the index calculation service provider, to interrupt the index calculation and correct any error identified in the course of the trading day. The index calculation will resume after the error has been corrected.

Index values will be recalculated at the end of business if this is found by the Indices Committee to be necessary.

### 7.3 Notifications

Notification on the method of eliminating index calculation errors shall be sent to all index users via e-mail as soon as practicable. Notification of the public shall be made via the Exchange website.

## 8 Cessation of a Benchmark

Given that the termination of provision of a benchmark may result in the termination or impossibility of implementation of the financial instruments or financial contract and thus harm investors, the Exchange has introduced procedures to be undertaken in the event of the termination of calculation of a benchmark in respect of which it is the administrator.

The proposal for the termination of benchmark calculation shall be put forward by the Indices Committee.

The reasons for the cessation of a benchmark may be the following:

- insufficient number of eligible shares available for inclusion;
- benchmark no longer serves its purpose or is not representative;
- insufficient demand for a benchmark to justify its continued calculation;
- changes of legal regulations.

When deciding on the cessation of a benchmark, the Exchange shall take the following actions and activities:

- consider whether there is need for urgent cessation of the benchmark;
- identify benchmark users and probable impact of such decision;
- identify potential substitute benchmarks;
- conduct a public consultation process for the cessation of the benchmark;

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- adopt a time schedule for the cessation of the benchmark, in which the exact cessation date needs to be indicated;
- notify benchmark users and the public via the Exchange website of the termination of the benchmark calculation (not less than three months before the proposed cessation date where possible).

The proposal for the termination of benchmark calculation shall be approved by the Oversight Committee, and the decision terminating the benchmark calculation shall be adopted by the Exchange Management Board.

## 9 Complaint Handling Policy

The way and procedure of submitting a complaint concerning whether a certain determination of a benchmark is representative of the market value, proposed changes in the benchmark determination process, the use of methodology for determination of a particular benchmark and other decision concerning the benchmark determination process or (non-)compliance with Regulation (EU) No 2016/1011, is described in the document entitled “Complaint handling policy” which is available on the Exchange website:

<https://zse.hr/en/indices-552/551>

## 10 Record-Keeping

Any documents related to the calculation of indices shall be recorded and preserved as permanent archives in accordance with internal acts.

## 11 Conflict of Interest

Measures for the identification, disclosure and prevention of conflicts of interest, and the efficient management of an existing conflict of interest in relation to the provision of a benchmark are described in the document entitled “Conflicts of interest management policy of the Zagreb Stock Exchange, Inc.”, which is available on the Exchange website.

<https://zse.hr/en/indices-552/551>

## 12 Transitional and Final Provisions

This Manual shall enter into force on 1 January 2023.