

**BULGARIAN  
STOCK  
EXCHANGE-SOFIA**



**BULGARIAN  
STOCK EXCHANGE**  
SOFIA

**RULES FOR CALCULATING  
THE INDICES OF  
BULGARIAN STOCK EXCHANGE – SOFIA**

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## **Section I GENERAL PROVISIONS**

**Article 1.** These Rules shall define the principles and requirements for the calculation of indices by the Bulgarian Stock Exchange – Sofia (BSE-Sofia).

**Article 2.** Bulgarian Stock Exchange – Sofia shall calculate the following types of indices:

1. Indices of the regulated markets;
2. Sector (industry) indices – based on the sectors defined in the National Classification of Economic Activities.

**Article 3.** The indices of BSE-Sofia shall cover issues of securities, listed on any of the organised markets, which comply with the general and specific criteria of the respective index and accurately reflect the market performance.

**Article 4.** The methodology of each index calculated by the BSE-Sofia shall be described in a specific Appendix to these Rules.

**Article 5.** The initial value of each index shall be 100 points, unless otherwise provided in the respective Appendix.

**Article 6.** For the purpose of determination of prices, number of transactions and turnover, only trades executed on the regulated market shall be taken into consideration.

**Article 7.** If there is no transaction with a certain instrument during a trading session, the price of the last trade with this instrument shall be taken into consideration for the purposes of the respective index.

**Article 8.** The interval, at which the values of the indices shall be computed throughout the trading session, shall be 1 (one) minute, unless otherwise provided in the respective Appendix.

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## **Section II GENERAL CRITERIA FOR SELECTION OF CONSTITUENT ISSUES**

**Article 9.** The indices of BSE-Sofia shall cover only issues of companies:

1. Which have been admitted to trading on a regulated market;
2. Which have not been declared bankrupt or into liquidation, nor are carrying out a company recovery plan.
3. Which have not been temporarily suspended from trading.
4. With no legal uncertainty because of which the amount of the issue cannot be accurately and undeniably determined.

**Article 10.** The minimum number of issues included in the indices shall be 5 (five).

**Article 11.** The indices shall cover a variable or constant number of issues.

## **Section III THE INDEX COMMITTEE**

**Article 12.** The Board of Directors of BSE-Sofia ('the Board') shall elect a 3-member Index Committee ('the Committee') and shall appoint its Chairperson.

**Article 13.** The Committee shall be responsible for calculating the indices and for all related procedures, including:

1. Preparing proposals to the Board for launching and termination of index calculation;
2. Preparing proposals to the Board for a change of the portfolio of a certain index (the index base) in pursuance with these Rules;
3. Changing the free-float factors and the weight factors of certain issues included in the BSE indices calculation;
4. Changing the divisors of certain issues in case of occurrence of corporate actions;
5. Preparing proposals to the Board for amendment and supplement of these Rules and the Appendixes thereto;
6. Preparing any other proposals to the Board related to the calculation of indices by the BSE-Sofia;
7. Any other actions if assigned by the Board.

**Article 14.** The Chairperson shall convene and chair the Committee's meetings.

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**Article 15.** With reference to the calculation of BSE indices, at proposal by the Committee, the Board shall take decisions for:

1. Amendment and supplement to these Rules and the Appendixes thereto;
2. Launching the calculation of new indices, including their methodology, initial date, initial value and interval of computing;
3. Termination of the calculation of existing indices;
4. Changes within the base of existing indices.

**Article 16.** The proposals of the Committee as per the foregoing item shall be reported to the Board by the Chairperson of the Committee.

#### Section IV

### PROCESSING OF CORPORATE ACTIONS

**Article 17.** Regarding the indices the following corporate actions shall be processed:

1. Distribution of cash dividends;
2. Distribution of dividends in shares (bonus shares);
3. Capital increase with pre-emptive rights;
4. Change of the nominal value of 1 (one) share keeping the capital of the issuer unchanged;
5. Reduction of the capital under art. 200, item 1 of the Commerce Act, which leads to a decrease in the issuer's own capital;
6. Other corporate actions requiring a change in the indices, at the discretion of the Committee.

**Article 18.** Upon occurrence of a corporate action under art. 17, item 1, an adjustment to the close price shall be made after the end of the trading session on the last date of conclusion of transactions giving right to participate in the respective corporate action (record date). The adjusted price shall be used until the first conclusion of a transaction on a regulated market with the respective instrument. The adjustment is a result of applying the following formula:

$$P_{t-1}^a = P_{t-1} - DPS$$

Where:

t-1 is the last date for conclusion of transactions giving right to participate in the respective corporate action;

$P_{t-1}^a$  is the adjusted price of the last transaction after the end of the session on day t-1

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as a result of the occurrence of the corporate action;  
 $P_{t-1}$  is the price of the last trade with the respective issue of shares after the end of the session on the day t-1 before the adjustment is made;  
DPS is a gross dividend per 1 (one) share;

**Article 19.** Upon occurrence of a corporate action under art. 17, item 2, an adjustment to the close price and in the number of shares in the issue shall be made after the end of the trading session on the last date of conclusion of transactions giving right to participate in the respective corporate action (record date). The adjusted price shall be used until the conclusion of the first transaction on a regulated market with the same instrument and is the result of applying the following formula:

$$P_{t-1}^a = \frac{P_{t-1} \times N_{t-1}}{N_{t-1}^a}$$

Where:

t-1 is the last date for conclusion of transactions giving right to participate in the respective corporate action;

$P_{t-1}^a$  is the adjusted price of the last transaction after the end of the session on day t-1 as a result of the occurrence of the corporate action;

$P_{t-1}$  is the price of the last trade with the respective issue of shares after the end of the session on the day t-1 before the correction is made;

$N_{t-1}^a$  is the adjusted number of shares after the end of the session on day t-1, due to the occurrence of the corporate action on day t;

$N_{t-1}$  is the number of shares after the end of the session on the day t-1 before the correction is made;

The adjusted number of shares  $N_a$  on day t-1 is calculated using the following formula:

$$N_{t-1}^a = N_{t-1} + N^{new}$$

Where:

$N^{new}$  is the total number of new shares in the respective issue, further allocated as a result of the corporate action.

**Article 20.** Upon occurrence of a corporate action under art. 17, item 3, an adjustment to the close price shall be made after the end of the trading session on

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the last date of conclusion of transactions giving right to participate in the respective corporate action (record date). The adjusted price shall be used until the first conclusion of a transaction on a regulated market with the same instrument and is a result of applying the following formula:

$$P_{t-1}^a = P_{t-1} - TRP$$

In the case that  $TRP > 0$ ,

Where :

$P_{t-1}$  is the price of the last trade with the respective issue after the end of the session on the day t-1 before the correction is made as a result of the occurrence of the corporate action;

TRP is the theoretical value of 1 (one) right of the capital increase and is a result of applying the following formula:

$$TRP = \frac{P_{t-1} - P^{ev}}{Ratio^{rs} + 1}$$

$P^{ev}$  is the issue value of the new shares from the capital increase of the respective issue of shares;

RATIO<sup>rs</sup> is the ratio between the issued rights and the new shares of the capital increase of the respective issue of shares.

**Article 21.** Upon occurrence of a corporate action under art. 17, item 3 a correction shall be made in the number of shares in the issue after the end of the trading session on the date of registration of the increase of the capital in the register of the Central Depository.

**Article 22.** Upon occurrence of a corporate action under art. 17, item 4, an adjustment to the close price and in the number of shares in the issue shall be made after the end of the trading session on the date of registration of the corporate action in the register of the Central Depository. The adjusted price shall be used until the conclusion of a transaction on a regulated market with the same instrument and is the result of applying the following formula:

$$P_{t-1}^a = \frac{P_{t-1} \times nv_{t-1}^a}{nv_{t-1}}$$

Where :

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t-1 is the last date for conclusion of transactions giving right to participate in the respective corporate action;

$P_{a,t-1}$  is the adjusted price of the last transaction after the end of the session on day t-1 as a result of the occurrence of the corporate action;

$P_{t-1}$  is the price of the last deal with the respective issue of shares after the end of the session on the day t-1 before the correction is made;

$nva_{t-1}$  is the nominal value of 1 (one) share after the end of the session on the day t-1 after the adjustment is made as a result of the occurrence of the corporate action on day t;

$nv_{t-1}$  is the nominal value of 1 (one) share after the end of the session on day t-1 before the adjustment is made;

The adjusted number of shares in the issue is calculated using the following formula:

$$N_{t-1}^a = \frac{N_{t-1} \times nv_{t-1}}{nv_{t-1}^a}$$

Where:

t-1 is the date of registration of the corporate action in the Central Depository's register;

$N_{a,t-1}$  is the adjusted number of shares after the end of the session on day t-1, due to the occurrence of the corporate action on day t;

$N_{t-1}$  is the number of shares after the end of the session on the day t-1 before the adjustment is made;

$nv_{a,t-1}$  is the nominal value of 1 (one) share after the end of the session on the day t-1 after the adjustment is made as a result of the occurrence of the corporate action on day t;

$nv_{t-1}$  is the nominal value of 1 (one) share after the end of the session on day t-1 before the adjustment is made;

**Article 23.** Upon occurrence of a corporate action under art. 17, item 5, an adjustment to the close price shall be made after the end of the trading session on the date of registration of the corporate action in the register of the Central Depository. The adjusted price shall be used until the conclusion of a transaction on a regulated market with the same instrument and is a result of applying the following formula:

$$P_{t-1}^a = \frac{P_{t-1} \times nv_{t-1}^a}{nv_{t-1}}$$

Where:

t-1 is the last date for conclusion of transactions giving right to participate in the respective corporate action;

$P_{t-1}^a$  is the adjusted price of the last transaction after the end of the session on day t-1 as a result of the occurrence of the corporate action;

$P_{t-1}$  is the price of the last deal with the respective issue of shares after the end of the session on the day t-1 before the correction is made;

$nv_{t-1}^a$  is the nominal value of 1 (one) share after the end of the session on the day t-1 after the adjustment is made as a result of the occurrence of the corporate action on day t;

$nv_{t-1}$  is the nominal value of 1 (one) share after the end of the session on day t-1 before the adjustment is made;

**Article 24.** Corporate actions under art. 17, item 6 shall be processed at the discretion of the Commission.

## Section V

### CORRECTIONS (ADJUSTMENTS) OF THE INDEX VALUES IN RESPONSE TO CORPORATE ACTIONS

**Article 25.** The indices might be recalculated through a change in the divisors of the respective issues in case of:

1. Corporate actions under art. 17;
2. Change in the weight factors;
3. Change in the free-float factors;

**Article 26.** The free-float and weight factors shall be determined at meetings of the Committee on the dates as specified in the respective Appendix. The new factors shall be announced in the official bulletin of BSE-Sofia by the end of the following working day, unless otherwise provided in the respective Appendix.

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## Section VI

### CHANGING THE BASE OF AN INDEX

**Article 27.** At proposal of the Committee, the Board shall periodically review the indices base.

**Article 28.** Regardless of the provision of Article 27, the Board may also perform extraordinary reviews.

**Article 29.** An issue may be removed from an index (the index base) in the following cases:

1. Delisting of the issue;
2. Violation of any of the criteria laid down in Article 9, items 1, 2 and 4 or of the specific requirements of the respective index;
3. Temporary suspension of the issue from trading for more than one trading session;
4. Occurrence of any other circumstances leading to non-compliance with the requirements laid down in Article 3 of these Rules.

**Article 30.** An issue may be added to an index (the index base) provided it meets the general criteria laid down in Article 9 and the specific requirements of the respective index as of the moment of preparation of the Committee's proposal to the Board of Directors.

**Article 31.** In case of adding issues as per Article 28, the issues ranked first outside the initial selection and not included in the index base at its last period review, shall be selected.

**Article 32.** In respect of indices with a constant number of constituent issues if it occurs at the time of ranking within the terms laid down in the respective Appendix that the issues complying with the requirements of the respective index are less than the stipulated constant number, the Board may take a decision not to change the index base for the next period.

**Article 33.** In cases pursuant to Article 32, by the date of the next regular review of the respective index base, the Board shall review at its meeting the necessity for amendment to the provisions of these Rules and the respective Appendix.

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## **SUPPLEMENTARY PROVISIONS**

**§ 1.** Within the meaning of these Rules:

1. “Free-float” shall be the number of shares based on data of a depository institution, held by shareholders owning not more than 5 (five) per cent of the votes at the General Meeting of the issuing company.
2. “Free-float factor” shall be the median value of the ratio between the number of shares under item 1 and the number of shares in the issue based on the data of a depository institution, rounded to the fourth decimal place, with regard to each one of the trading sessions for 1 (one) of the following quarterly periods: 2 March – 1 June, 2 June – 1 September, 2 September – 1 December, 2 December – 1 March.
3. “Market capitalisation” shall be the product of the number of the financial instruments of the respective issue (according to the data of a depository institution, except for the cases of corporate actions under Art. 17, item 2 and item 6) and the unit market price.
4. “Free-float market capitalisation” shall be the product of the values under item 2 and 3.
5. “Economic group” shall be a group of companies defined for the purposes of a consolidated financial report preparing.
6. “Index base (index portfolio)” shall be the issues taken into consideration for the calculation of the respective index.

## **TRANSITIONAL AND FINAL PROVISIONS**

**§ 1.** These Rules shall be in force as from 9<sup>th</sup> June 2017.

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## **Appendix 1 METHODOLOGY FOR CALCULATION OF SOFIX**

1. SOFIX shall be an index based on the market capitalisation of the included issues of common shares, adjusted with the free-float of each of them.
  2. SOFIX shall cover the 15 (fifteen) issues of shares complying with the requirements under item 3 and ranked in accordance with the requirements of items 4 - 7 of this Appendix.
  3. In addition to the requirements of Article 9 of these Rules, an issue included in the index base of SOFIX shall meet the following criteria:
    - a) It has been admitted to trading on the Main Market of the Exchange (Bulgarian Stock Exchange or BSE)
    - b) It has been traded on a market, organised by the Exchange, for at least 3 (three) months before its introduction into the SOFIX portfolio. Provided an issue has been transferred for trading from one market segment to another, the first quotation date of the issue shall be assumed as its first trading date;
    - c) The free-float market capitalisation of the issue shall be no less than BGN 10,000,000 (ten million Bulgarian Leva);
    - d) The number of shareholders of the issue shall be no less than 750 (seven hundred and fifty) persons.
    - e) There shall be available spread between buy and sell prices determined in accordance with paragraph 7.1 in a test of 10,000 (ten thousand), at least in 68.27% (confidence interval at one standard deviation for a two-tail test) of actual observations during the previous six-month period.
  4. The ranking under item 2 of issues complying with the requirements as per item 3 shall be carried out according to the following criteria:
    - The largest free-float market capitalisation;
    - The highest number of transactions during the last 6 (six) month period;
    - The highest median value of the weekly turnover during the last 6 (six) month period;
    - The lowest arithmetic mean of the bid-ask spread calculated in accordance with paragraph 7. 1
  5. The criteria under the preceding item shall have the same weight. If, as a result of the ranking, it turns out that two or more issues are equally ranked, priority to inclusion shall be given to the ones with a higher free float market capitalisation. If one or more issues have median of weekly turnover or number of transactions with a
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value of 0, then they all shall receive the lowest rank n.

6. The final ranking shall be in ascending order according to the following formula:

$$Position = K_1 + K_2 + K_3 + K_4$$

Where:

K1 is the position in the ranking of the respective issue by median value of the weekly turnover;

K2 is the position in the ranking of the respective issue by number of transactions;

K3 is the position in the ranking of the respective issue by the arithmetic mean of the spread;

K4 is the position in the ranking of the respective issue by the free-float market capitalisation.

7.1 The bid-ask spread for each issue shall be calculated as follows:

- The resting orders in the order-book are tested daily for simultaneous execution of incoming "sell" and "buy" orders with a total value of BGN 20,000 (twenty thousand), BGN 15,000 (fifteen thousand) and BGN 10,000 (ten thousand) each in four randomly selected moments during a trading session, once in each of the intervals 10:00:00 - 11:30:00, 11:30:01 - 13:00:00, 13:00:01 - 15:30:00 , 15:30:01 - 16:55:00
- In each of the intervals and for each of the four test values of incoming orders, the spread reached after the potential execution of the buy and sell orders shall be calculated as a result of applying the following formula:

$$Spread = \left( \frac{A - B}{A} \right) * 100 (\%)$$

Where:

“A” is the price of the best sell order after the potential execution of an incoming buy order, respectively "B" is the price of the best buy order after the potential execution of an incoming "sell" order for each of the four test values.

7.2 Ranking of the issues under this criterion shall carried out in ascending order for each amount of potentially executable orders for the last six month period.

7.3 Issues that do not have a determined value in 68.27% of the BGN 20 000 (twenty thousand) tests for the execution of orders, but have a test of BGN 15 000 (fifteen thousand), shall be ranked under Item 4 after the last issue with a definable spread of BGN 20,000 (twenty thousand).

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7.4 Issues that do not have a determined value in 68.27% of the BGN 15,000 (fifteen thousand) orders test, but have a definable result of a test of BGN 10,000 (ten thousand), shall be ranked under Item 4 after the last issue, with a spread of BGN 15,000 (fifteen thousand).

8. The SOFIX daily value shall be calculated as its base value is multiplied by the ratio of the sum of the market capitalisations of the issues currently included in the index portfolio adjusted by the divisor, the weight factor and by the free-float factor of each issue, to the sum of the adjusted by the weight factor and by the free-float factor market capitalisations at the base moment.

9. Formula for calculation of SOFIX:

$$SOFIX_t = SOFIX_{t-1} \times \left[ \frac{\sum_{i=1}^n N_{i,t} \times P_{i,t} \times FF_{i,t} \times W_{i,t} \times D_{i,t}}{\sum_{i=1}^n N_{i,t-1} \times P_{i,t-1} \times FF_{i,t-1} \times W_{i,t-1}} \right] \times K$$

**Where:**

**SOFIX** is an index of the regulated markets of BSE-Sofia;

**N<sub>i,t</sub>** is the number of shares of the respective issue on the **(t)** day;

**N<sub>i,t-1</sub>** is the number of shares of the respective issue on the **(t-1)** day;

**P<sub>i,t</sub>** is the price of the last trade in the **(i)**-th instrument on the **(t)** day;

**P<sub>i,t-1</sub>** is the price of the last trade in the **(i)**-th instrument on the **(t-1)** day;

**FF<sub>i,t</sub>** is the free-float factor of the **(i)**-th instrument on the **(t)** day;

**FF<sub>i,t-1</sub>** is the free-float factor of the **(i)**-th instrument on the **(t-1)** day;

**W<sub>i,t</sub>** is the weight factor of the **(i)**-th instrument on the **(t)** day (*W<sub>i</sub> = 1 unless the weight of the instrument would exceed 15 % of the index*);

**W<sub>i,t-1</sub>** is the weight factor of the **(i)**-th instrument on the **(t-1)** day;

**n** is the number of issues included in the index portfolio;

**i** is the indicator of the specific instrument;

**t** is the day, for which the index is calculated;

**D<sub>i,t</sub>** is the divisor effective for the current trading session for the **(i)**-th instrument;

**K** is the adjustment factor (*K=1, unless the index base is changed*).

10. Upon the occurrence of a corporate action that requires a change in the divisor, the value of the divisor for the next trading session shall be calculated in the following way:

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$$D_{i,t} = \frac{N_{i,t-1} \times P_{i,t-1}}{N_{i,t-1}^a \times P_{i,t-1}^a} \times \frac{FF_{i,t-1(OLD)}}{FF_{i,t-1(NEW)}} \times \frac{W_{i,t-1(OLD)}}{W_{i,t-1(NEW)}}$$

**Where:**

**D<sub>i,t</sub>** is the divisor of the **(i)**-th instrument for the next trading session;

**P<sup>a</sup><sub>i,t-1</sub>** is the adjusted price of the last trade in the **(i)**-th instrument after the end of the trading session on the **(t-1)** day in result of the occurrence of a corporate action on the **(t)** day;

**N<sup>a</sup><sub>i,t-1</sub>** is the adjusted number of shares of the **(i)**-th instrument after the end of the trading session on the **(t-1)** day in result of the occurrence of a corporate action on the **(t)** day;

**FF<sub>i,t-1(OLD)</sub>** is the value of the free-float factor of the **(i)**-th instrument for the **(t-1)** day;

**FF<sub>i,t-1(NEW)</sub>** is the new value of the free-float factor of the **(i)**-th instrument for the **(t-1)** day;

**W<sub>i,t-1(OLD)</sub>** is the weight factor of the **(i)**-th instrument for the **(t-1)** day;

**W<sub>i,t-1(NEW)</sub>** is the new value of the weight factor of the **(i)**-th instrument for the **(t-1)** day.

11. When re-balancing the index, the value of the divisor is set to 1 (one).

12. The Index Committee shall define the free-float factors at its meetings held on 2<sup>nd</sup> June and 2<sup>nd</sup> December, but if the respective date occurs on a non-working day then on the first working day thereafter, and on the dates of the Board meetings under item 17 . The new factors shall become effective as from the first trading session following the third Friday of the month, in which the respective meeting has been held.

13. If as of 1st March and 1st September the weight of the issues of companies belonging to one economic group exceeds 20 (twenty) per cent of the market value of the SOFIX free-float, one or more companies of that group shall be consecutively taken out from the index base until their combined weight falls below the mentioned threshold.

14. If by the day preceding the date of enforcement of the decision as per item 12 the market value of the free-float of a certain issue exceeds 15 (fifteen) per cent of the market value of the SOFIX free-float, the weight factor of the respective issue shall be defined so that the market value of its free-float to equal 15 (fifteen) per cent of the market value of the free-float of the whole index.

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15. When defining the weight factors, the free-float factors for the new period shall be taken into consideration.

16. The free-float factors and the weight factors shall be effective until a new meeting is held on the respective date under item 12.

17. Decisions for a change in the SOFIX base shall be taken twice per annum – on the first meeting of the Board following 2<sup>nd</sup> March respectively 2<sup>nd</sup> September. The decisions shall become effective as from the first trading session following the third Friday of the month, in which the respective meeting has been held.

18. A change in the base of SOFIX shall be made on the grounds of a Decision of the Board of Directors in pursuance with Section VI of the Rules for Calculating the Indices of BSE-Sofia. In this case, the adjustment factor for the next day, i.e. the (t+1) day, shall be calculated in the following way:

$$K_{t+1} = \frac{SOFIX_{oldbase}}{SOFIX_{newbase}}$$

**Where:**

**SOFIX<sub>old base</sub>** is the value of the index after the end of the session.

**SOFIX<sub>new base</sub>** is the value of the index after the end of the session but calculated using the new base.

19. Once the index base has been changed, the adjustment factor K shall be reset to 1 (one).

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## **Appendix 2 METHODOLOGY FOR CALCULATION OF BGBX 40**

1. BGBX 40 shall be an index based on the market capitalisation of the included issues of common shares, adjusted with the free-float of each of them. BGBX 40 shall cover 40 (forty) issues of common shares of the companies with the greatest number of transactions and the highest median value of the daily turnover during the last 6 (six) months as the two criteria shall have equal weight.
  2. If as a result of the application of the criteria as per item 1 it occurs that two or more issues have been ranked at the same place, the issues with the greater number of transactions executed during the last 6 (six) months shall be treated with priority to be included in the index base of BGBX 40.
  3. In addition to the compliance with the requirements laid down in Article 9 of these Rules, an issue included in the BGBX 40 index base shall also meet the following additional criteria:
    - 3.1 It has been admitted to trading on the Main Market of the Exchange (Bulgarian Stock Exchange or BSE);
    - 3.2 It has been traded on a market organised by the BSE-Sofia for at least 3 (three) months before its introduction into the BGBX 40 portfolio. Where a given issue has been transferred for trading from one market segment to another, the first quotation date of the issue shall be assumed as its first trading date.
  4. Not more than 4 (four) companies belonging to one economic group, all compliant with the requirements as per item 3, with the greatest number of transactions and the highest median value of the daily turnover shall be admitted to the ranking as per item 1. If as a result of the ranking it occurs that two or more issues of companies belonging to one economic group have been ranked at the same place, the issues with the greater number of transactions executed during the last 6 (six) months shall be treated with priority with respect to the inclusion.
  5. If as of 1st March and 1st September the weight of the issues of companies belonging to one economic group exceeds 25 (twenty five) per cent of the market value of the BGBX 40 free-float, and the issues are more than 3 (three), only the three issues with the greatest number of transactions and the highest median value of the daily turnover shall be admitted to the ranking as per item 1.
  6. The BGBX 40 daily value shall be calculated as its base value is multiplied by the
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ratio of the sum of the market capitalisations of the issues currently included in the index portfolio adjusted by the divisor, the weight factor and by the free-float of each issue, to the sum of the adjusted by the weight factor and by the free-float market capitalisations at the base moment.

7. BGBX 40 shall be calculated according to the following formula:

$$BGBX 40_t = BGBX 40_{t-1} \times \left[ \frac{\sum_{i=1}^n N_{i,t} \times P_{i,t} \times FF_{i,t} \times W_{i,t} \times D_{i,t}}{\sum_{i=1}^n N_{i,t-1} \times P_{i,t-1} \times FF_{i,t-1} \times W_{i,t-1}} \right] \times K$$

**Where:**

**BGBX 40** is an index of the regulated markets of BSE-Sofia;

**N<sub>i,t</sub>** is the number of shares of the respective issue on the **(t)** day;

**N<sub>i,t-1</sub>** is the number of shares of the respective issue on the **(t-1)** day;

**P<sub>i,t</sub>** is the price of the last trade in the **(i)**-th instrument on the **(t)** day;

**P<sub>i,t-1</sub>** is the price of the last trade in the **(i)**-th instrument on the **(t-1)** day;

**FF<sub>i,t</sub>** is the free-float of the **(i)**-th instrument on the **(t)** day;

**FF<sub>i,t-1</sub>** is the free-float of the **(i)**-th instrument on the **(t-1)** day;

**W<sub>i,t</sub>** is the weight factor of the **(i)**-th instrument on the **(t)** day ( $W_i = 1$  unless the weight of the instrument would exceed 10 % of the index);

**W<sub>i,t-1</sub>** is the weight factor of the **(i)**-th instrument on the **(t-1)** day;

**n** is the number of issues included in the index portfolio;

**i** is the indicator of the specific instrument;

**t** is the day, for which the index is calculated;

**D<sub>i,t</sub>** is the divisor effective for the current trading session for the **(i)**-th instrument;

**K** is the adjustment factor ( $K=1$ , unless the index base is changed).

8. Upon the occurrence of a corporate action that requires a change in the divisor, the value of the divisor for the next trading session shall be calculated in the following way:

$$D_{i,t} = \frac{N_{i,t-1} \times P_{i,t-1}}{N_{i,t-1}^a \times P_{i,t-1}^a} \times \frac{FF_{i,t-1(OLD)}}{FF_{i,t-1(NEW)}} \times \frac{W_{i,t-1(OLD)}}{W_{i,t-1(NEW)}}$$

**Where:**

**D<sub>i,t</sub>** is the divisor of the **(i)**-th instrument for the next trading session;

**P<sub>i,t-1</sub><sup>a</sup>** is the adjusted price of the last trade in the **(i)**-th instrument after the end of the trading session on the **(t-1)** day in result of the occurrence of a corporate action on

the **(t)** day;

**N<sup>a</sup><sub>i,t-1</sub>** is the adjusted number of shares of the **(i)**-th instrument after the end of the trading session on the **(t-1)** day in result of the occurrence of a corporate action on the **(t)** day;

**FF<sub>i,t-1</sub> (OLD)** is the value of the free-float factor of the **(i)**-th instrument for the **(t-1)** day;

**FF<sub>i,t-1</sub> (NEW)** is the new value of the free-float factor of the **(i)**-th instrument for the **(t-1)** day;

**W<sub>i,t-1</sub> (OLD)** is the weight factor of the **(i)**-th instrument for the **(t-1)** day;

**W<sub>i,t-1</sub> (NEW)** is the new value of the weight factor of the **(i)**-th instrument for the **(t-1)** day

9. BGBX 40 is calculated in 2 (two) versions – BGBX 40 which divisor as per item 8 shall not be adjusted in case of cash dividend distribution and BGBX 40 TR – which divisor as per item 8 shall be adjusted in case of cash dividend distribution.

10. When re-balancing the index, the value of the divisor shall be set to 1 (one).

11. The Index Committee shall define the free-float factors at its meetings held on 2nd June and 2nd December, but if the respective date occurs on a non-working day then on the first working day thereafter, and on the dates of the Board meetings under item 15. The new factors shall become effective as from the first trading session following the third Friday of the month, in which the respective meeting has been held.

12. If by the day preceding the date of enforcement of the decision as per item 11 the market value of the free-float of a certain issue exceeds 10 (ten) per cent of the market value of the BGBX 40 free-float, the weight factor of the respective issue shall be defined so that the market value of its free-float to equal 10 (ten) per cent of the market value of the free-float of the whole index.

13. When defining the weight factors, the free-float factors for the new period shall be taken into consideration.

14. The free-float factors and the weight factors shall be effective until a new meeting is held on the respective date under item 11.

15. Decisions for a change in the BGBX 40 base shall be taken twice per annum – on the first meeting of the Board following 2<sup>nd</sup> March respectively 2<sup>nd</sup> September. The decisions shall become effective as from the first trading session following the third Friday of the month, in which the respective meeting has been held.

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16. Except as provided in Article 22 of these Rules, an extraordinary rebalancing at the BGBX 40 base shall be possible in the following cases:

- a) the market value of the free-float of an issue exceeds 15 (fifteen) per cent of the market value of the BGBX 40 free-float and its annualized monthly volatility exceeds 250%;
- b) the market value of the free-float of an issue exceeds 20 (twenty) per cent of the market value of the BGBX 40 free-float and its annualized monthly volatility exceeds 100%.

17. In case an issue has been removed from the BGBX 40 base at an extraordinary review as per item 16, it cannot participate in the next two regular reviews of the index base as per item 15.

18. A change in the base of BGBX 40 shall be made on the grounds of a Decision of the Board of Directors in pursuance with Section VI of the Rules for Calculating the Indices of BSE-Sofia. In this case, the adjustment factor for the next day, i.e. the (t+1) day, shall be calculated in the following way:

$$K_{t+1} = \frac{BGBX\ 40_{oldbase}}{BGBX\ 40_{newbase}}$$

**Where:**

**BGBX 40** *old base* is the value of the index after the end of the session.

**BGBX 40** *new base* is the value of the index after the end of the session but calculated using the new base.

19. Once the index base is changed, the adjustment factor K shall be reset to 1 (one).

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### **Appendix 3**

## **METHODOLOGY FOR CALCULATION OF BG REIT**

1. BG REIT shall be an index based on the free-float-adjusted market capitalisation and shall cover 7 (seven) issues of common shares of special investment purpose companies that operate in the field of securitisation of real estates and/or land, i.e. real estate investment trusts (REITs), with the greatest market value of the free-float and the highest median value of the weekly turnover during the last 6 (six) months. The two criteria shall have equal weight.

2. In addition to the requirements as per Article 9 of these Rules, an issue included in the index base of BG REIT shall meet the following criteria:

- a) It has been traded on a market, organised by BSE-Sofia, for at least 3 (three) months before its introduction into the BG REIT portfolio. Provided an issue has been transferred for trading from one market segment to another, the first quotation date of the issue shall be assumed as its first trading date;
- b) The market capitalisation of the issue shall not be less than BGN 5,000,000 (five million Bulgarian Leva);
- c) The free-float shall not be less than 25 (twenty-five) per cent of the total volume of the issue.

3. BG REIT shall include the first 7 (seven) issues ranked as per item 1. If as a result of the ranking it occurs that two or more issues have been ranked at the same place, the issues with the greater market value of the free-float shall be treated with priority in respect to the inclusion.

4. The BG REIT daily value shall be calculated as its base value is multiplied by the ratio of the sum of the adjusted by the divisor, the weight factor and by the free-float of each company issue market capitalisations of all issues in the index portfolio at the current moment, towards the sum of the adjusted by the weight factor and by the free-float market capitalisations at the base moment.

5. BG REIT shall be calculated according to the following formula:

$$BG\ REIT_t = BG\ REIT_{t-1} \times \left[ \frac{\sum_{i=1}^n N_{i,t} \times P_{i,t} \times FF_{i,t} \times W_{i,t} \times D_{i,t}}{\sum_{i=1}^n N_{i,t-1} \times P_{i,t-1} \times FF_{i,t-1} \times W_{i,t-1}} \right] \times K$$

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**Where:**

**BG REIT** is a sector (industry) index of BSE-Sofia;

**N<sub>i,t</sub>** is the number of shares of the respective issue on the **(t)** day;

**N<sub>i,t-1</sub>** is the number of shares of the respective issue on the **(t-1)** day;

**P<sub>i,t</sub>** is the price of the last trade in the **(i)**-th instrument on the **(t)** day;

**P<sub>i,t-1</sub>** is the price of the last trade in the **(i)**-th instrument on the **(t-1)** day;

**FF<sub>i,t</sub>** is the free-float of the **(i)**-th instrument on the **(t)** day;

**FF<sub>i,t-1</sub>** is the free-float of the **(i)**-th instrument on the **(t-1)** day;

**W<sub>i,t</sub>** is the weight factor of the **(i)**-th instrument on the **(t)** day (*W<sub>i</sub> = 1 unless the weight of the instrument would exceed 20 % of the index*);

**W<sub>i,t-1</sub>** is the weight factor of the **(i)**-th instrument on the **(t-1)** day;

**n** is the number of issues included in the index portfolio;

**i** is the indicator of the specific instrument;

**t** is the day, for which the index is calculated;

**D<sub>i,t</sub>** is the divisor effective for the current trading session for the **(i)**-th instrument;

**D<sub>i,t-1</sub>** is the divisor of the **(i)**-th instrument on the **(t-1)** day;

**K** is the adjustment factor (*K=1, unless the index base is changed*).

6. Upon the occurrence of a corporate action that requires a change in the divisor, the value of the divisor for the next trading session shall be calculated in the following way:

$$D_{i,t} = \frac{N_{i,t-1} \times P_{i,t-1}}{N_{i,t-1}^a \times P_{i,t-1}^a} \times \frac{FF_{i,t-1(OLD)}}{FF_{i,t-1(NEW)}} \times \frac{W_{i,t-1(OLD)}}{W_{i,t-1(NEW)}}$$

**Where:**

**D<sub>i,t</sub>** is the divisor of the **(i)**-th instrument for the next trading session;

**P<sup>a</sup><sub>i,t-1</sub>** is the adjusted price of the last trade in the **(i)**-th instrument after the end of the trading session on the **(t-1)** day in result of the occurrence of a corporate action on the **(t)** day;

**N<sup>a</sup><sub>i,t-1</sub>** is the adjusted number of shares of the **(i)**-th instrument after the end of the trading session on the **(t-1)** day in result of the occurrence of a corporate action on the **(t)** day;

**FF<sub>i,t-1(OLD)</sub>** is the value of the free-float factor of the **(i)**-th instrument for the **(t-1)** day;

**FF<sub>i,t-1(NEW)</sub>** is the new value of the free-float factor of the **(i)**-th instrument for the **(t-1)** day;

**W<sub>i,t-1(OLD)</sub>** is the weight factor of the **(i)**-th instrument for the **(t-1)** day;

**W<sub>i,t-1(NEW)</sub>** is the new value of the weight factor of the **(i)**-th instrument for the **(t-1)** day;

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day.

7. When re-balancing the index, the value of the divisor shall be set to 1 (one).

8. The Index Committee shall define the free-float factors at its meetings held on 2<sup>nd</sup> June 2<sup>nd</sup> December, but if the respective date occurs on a non-working day then on the first following working day, and on the dates of the Board meetings under item 12. The new factors shall become effective as from the first trading session following the third Friday of the month, in which the respective meeting has been held.

9. If as of the day preceding the date of enforcement of the decision as per item 8 the market value of the free-float of a certain issue exceeds 20 (twenty) per cent of the market value of the BG REIT free-float, the weight factor of the respective issue shall be defined so that the market value of its free-float to equal 20 (twenty) per cent of the market value of the free-float of the whole index.

10. When defining the weight factors, the free-float factors for the new period shall be taken into consideration.

11. The free-float factors and the weight factors shall be effective until a new meeting is held on the respective date under item 8.

12. Decisions for a change in the BG REIT base shall be taken twice per annum – on the first meeting of the Board following 2<sup>nd</sup> March respectively 2<sup>nd</sup> September. The decisions shall become effective as from the first trading session following the third Friday of the month, in which the respective meeting has been held.

13. A change in the base of BG REIT shall be made on the grounds of a Decision of the Board of Directors in pursuance with Section VI of the Rules for Calculating the Indices of BSE-Sofia. In this case, the adjustment factor for the next day, i.e. the (t+1) day, shall be calculated in the following way:

$$K_{t+1} = \frac{\text{BG REIT}_{old\ base}}{\text{BG REIT}_{new\ base}}$$

**Where:**

**BG REIT** *old base* is the value of the index after the end of the session.

**BG REIT** *new base* is the value of the index after the end of the session but calculated using the new base.

14. Once the index base is changed, the adjustment factor K shall be reset to 1 (one).

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**Appendix 4**  
**METHODOLOGY FOR CALCULATION OF BG TR30**  
**(BG TOTAL RETURN 30)**

1. BG TR30 shall be an index based on the price performance of the common shares included in the index portfolio, as each constituent issue shall have equal weight.
  2. The number of the issues included in the index base shall be 30 (thirty).
  3. The initial value of the index shall be 1,000 (a thousand) points.
  4. In addition to the requirements as per Article 9 of these Rules, an issue included in the index base of BG TR30 shall meet the following conditions:
    - a) It has been admitted to trading on the Main Market of the Exchange (Bulgarian Stock Exchange or BSE);
    - b) It has been traded on a market organised by the BSE-Sofia for at least 3 (three) months before its introduction into the BG TR30 portfolio. Where a given issue has been transferred for trading from one market segment to another, the first quotation date of the issue shall be assumed as its first trading date.
    - c) The market capitalisation of the issue shall not be less than BGN 10,000,000 (ten million Bulgarian Leva);
    - d) The free-float shall not be less than 10 (ten) per cent of the total volume of the issue;
    - e) The volume (amount) of the issue shall not be less than 250,000 (two hundred and fifty thousands) shares.
  5. All issues meeting the conditions as per item 4 shall be ranked to the following criteria of equal weight:
    - Market capitalisation;
    - Number of transactions executed during the last 6 (six) months;
    - Turnover (value traded) during the last 6 (six) months;
    - Free-float.
  6. In case of more than two companies belonging to one economic group and complying with the conditions as per item 4, only the two largest issues in terms of market capitalization shall be admitted to the ranking as per item 5.
  7. BG TR30 shall cover the first 30 (thirty) of all issues ranked as per item 5. If as a result of the ranking it occurs that two or more issues have been ranked at the same
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place, the issues with the greater market capitalisation shall be treated with priority in respect to the inclusion.

8. The BG TR30 daily values shall be calculated as a sum of the products of the price of the last trade and the respective weight factor of all issues included in the index base.

9. BG TR30 shall be calculated according to the following formula:

$$\text{BG TR30}_t = \sum_{i=1}^{30} [(P_{i,t} \times D_{i,t} + \sum \text{Div}_{i,t}) \times W_{i,t}]$$

**Where:**

**BG TR30** is an index of the regulated markets of BSE-Sofia;

**P<sub>i,t</sub>** is the price of the last trade in the **(i)**-th instrument on the **(t)** day;

**D<sub>i,t</sub>** is the divisor effective for the current trading session for the **(i)**-th instrument;

**Div<sub>i,t</sub>** is the sum of the dividends distributed within the period between two dates of re-balancing of the index;

**W<sub>i,t</sub>** is the weight factor of the **(i)**-th instrument on the **(t)** day;

**i** is the indicator of the specific instrument;

**t** is the day, for which the index is calculated.

10. The initial value of the divisor shall be 1 (one). Upon the occurrence of a corporate action that requires a change in the divisor but not a dividend distribution, the value of the divisor for the next trading session shall be calculated in the following way:

$$D_{i,t+1} = \frac{P_{i,t}}{P_{i,t}^a}$$

**Where:**

**D<sub>i,t+1</sub>** is the divisor of the **(i)**-th instrument for the next trading session;

**P<sub>i,t</sub><sup>a</sup>** is the adjusted price of the last trade in the **(i)**-th instrument after the end of the trading session on the **(t)** day in result of the occurrence of a corporate action on the **(t+1)** day;

**P<sub>i,t</sub>** is the price of the last trade in the **(i)**-th instrument on the **(t)** day.

11. Upon the occurrence of several corporate actions that require a change in the divisor of a certain instrument, the divisor shall equal the product of the divisors related to each of the corporate actions.

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12. If a company included in the BG TR30 portfolio distributes dividend, the value of the respective dividend shall be capitalised into the index by adding it in the **Div** field.

13. The index shall be re-balanced 4 (four) times per annum - on the first trading session following the third Friday of each calendar quarter.

14. The re-balancing formula of BG TR30 shall be, as follows:

$$W_{i,t+1} = \frac{BG\ TR30_t}{30 \times P_{i,t}}$$

**Where:**

**BG TR30<sub>t</sub>** is the value of the index on the **(t)** day;

**P<sub>i,t</sub>** is the price of the last trade in the **(i)**-th instrument on the **(t)** day;

**W<sub>i,t+1</sub>** is the weight factor of the **(i)**-th instrument for the **(t+1)** day.

15. The new weight factors shall be announced by the end of the following working day in the BSE Official Bulletin and shall become effective for the next trading session following the index re-balancing.

16. After index re-balancing, the divisors shall be reset to the value of 1 (one) and the dividend values - to 0 (zero).

17. Decisions for a change in the BG TR30 base shall be taken twice per annum – on the first attendance meeting of the Board following 2<sup>nd</sup> March respectively 2<sup>nd</sup> September, on the grounds of the performed ranking as per item 5 on the basis of data as at 1<sup>st</sup> March and 1<sup>st</sup> September. The decisions shall become effective as from the first trading session following the third Friday of the month, in which the respective meeting has been held.

18. In case of extraordinary reviews of the index base of BG TR30 in pursuance with Article 21 of these Rules, the weight of each new issue shall equal the current weight of the issue which has been taken out.

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