

BELEX15 Methodology

Ver 2.3

Belgrade Stock Exchange, Avgust 2012

Table of Contents

1. GENERAL INFORMATION	3
Disclaimer	3
2. INDEX NAME	3
3. INDEX DEFINITION	4
4. INDEX PURPOSE	4
5. INDEX COMMITTEE.....	4
6. PRINCIPLES OF CALCULATION	5
7. TYPES AND CLASSES OF SHARES WHICH ARE ELIGIBLE FOR INDEX BASKET	5
7.1. Free float factor (FFc)	5
8. PRICES USED IN INDEX CALCULATION	5
9. WEIGHT INFLUENCE LIMITATION	7
9.1. Company Weight Influence Limitation.....	7
9.2. Sector Weight Influence Limitation.....	7
10. BASE PERIOD.....	8
11. INDEX FORMULA.....	8
12. INDEX BASKET COMPOSITION	9
12.1. Index Basket - Definition and Criteria	9
12.2. Number of Issuers with Shares in the Index Basket.....	10
12.3. Criteria for Exclusion of Shares from the Index Basket.....	10
13. INDEX BASKET REVISION.....	11
13.1. Index Revision Procedures	11
13.2. Extraordinary Index Revisions	12
13.2.1 Data accuracy	12
13.2.2 Extraordinary exclusion of issuers from the index basket	13
14. THE BELGRADE STOCK EXCHANGE INDEX COMMITTEE.....	13
14.1. Index Committee Authorization	13
15. INDEX PUBLISHING	14

1. GENERAL INFORMATION

BELEX15 is the leading index of the Belgrade Stock Exchange (BELEX) with the purpose to closely describe movements of the most liquid Serbian shares.

Initial definition and methodology of calculating the index **BELEX15** was in September 2005.

Disclaimer

In view of the information availability concerning the issuers traded on the Regulated market of the Belgrade Stock Exchange, which can be included in the index basket, the Belgrade Stock Exchange cannot guarantee that the data used in the calculation of the index, the calculation itself or the accompanying coefficients and index components will be completely protected from possible errors, since errors can appear as the consequence of irregular delivery of information on the part of the issuer, incorrect information delivered to the Exchange and other institutions, or due to inadequate application of this methodology. The Belgrade Stock Exchange shall calculate the index and the accompanying coefficients with due care, but shall not accept any responsibility for possible direct and indirect losses resulting from a mistake in calculating the index and accompanying coefficients. The content of any index of the Belgrade Stock Exchange cannot be considered as a recommendation for investing in any component of the index, and for that reason the Belgrade Stock Exchange shall not accept responsibility for the consequences of investment decisions based on the use of indexes and derived products.

The methodology of calculating the index **BELEX15** is published bilingually, in the Serbian and English language, and the Belgrade Stock Exchange guarantees only for the Serbian language version of the Methodology.

2. INDEX NAME

The official index name: **Index of the most liquid shares BELEX15**

3. INDEX DEFINITION

BELEX15 is a free-float market capitalization weighted index, which is not adjusted for paid dividends and is not protected from dilution effect resulting from dividends payout.

BELEX15 is weighted only by free-float market capitalization. **BELEX15** consists of shares traded on the Regulated market, which have satisfied criteria for inclusion into the index basket. The influence of the index components is limited to a maximum of 20% of the total market capitalization of the index on the revision date.

4. INDEX PURPOSE

The purpose of the index is to measure price changes (price index) of shares traded on the Regulated market, which have previously satisfied criteria for inclusion into the index basket.

BELEX15 is primarily created for improving the investment process, through measuring performances of the most liquid segment of the Serbian capital market and the possibility of comparing potential investment strategies with the index. On the other hand, **BELEX15** is designed in a way which precisely describes market movements of the most liquid shares and can serve as an underlying for the creation of structured products and derivatives on the local and foreign markets. The index is expected to be an analytical tool for portfolio managers, professional analysts, professional public, investors, as well as for all other entities who study dynamics of price movements on this market.

5. INDEX COMMITTEE

For reaching the highest possible standards used in creating investable products, the Index Committee is authorized to use this Methodology. Additionally, the Index Committee is authorized to improve, by its authority and expertise, the processes of methodology itself and the selection of securities which will be based on the principles presented in these rules. The competence of the Index Committee also includes the application of discretionary rights in the use of the Methodology, especially in cases when the Committee estimates that quantitative criteria defined by this Methodology are not in accordance with the best interests of market participants and the Exchange.

The functioning and authorities of the Index Committee are presented in article 14 of these rules.

6. PRINCIPLES OF CALCULATION

The index **BELEX15** is calculated and published every BELEX working day in real time, from the moment when the condition for its calculation and publishing is fulfilled until the formation of the closing price.

The price of shares included in the calculation of BELEX15 is each share price formed in trading in shares contained in the index basket, with the exception of prices from block transactions. The first value of **BELEX15** during the day is calculated in real time, from the moment when at least one component from the index basket has the first transaction during the day (opening price).

7. TYPES AND CLASSES OF SHARES WHICH ARE ELIGIBLE FOR INDEX BASKET

In calculating the index value at any moment, the relevant quantity of shares of a particular issuer used in the calculation includes the total number of ordinary shares multiplied by the free float factor (FFc), on the day of the last revision of the index basket.

7.1. Free float factor (FFc)

The free float factor (FFc) represents the percentage of shares in free float and publicly available to potential investors. The free float factor is calculated as the difference between the total number of shares and non free float shares. Non free float shares are shares owned by:

- persons which individually own more than **5 %** of the total number of outstanding shares, excluding shares owned by mutual and pension funds and other shares on custody accounts, asset management companies, insurance companies, broker-dealer companies and other investment companies with short-term investment strategies;
- International organizations and institutions for development, if they own more than 5 % of the total number of outstanding shares;
- Republic of Serbia, including shares owned by State Funds and agencies if they own more than 5 % of the total number of outstanding shares.

Calculation of the free float factor (FFc) and accompanying coefficients:

$FFc (\%) = 100\% - \text{Non free float}\%$

Number of shares in free float = $FFc * \text{total number of shares}$

Free float market capitalization = $FFc * \text{total market capitalization}$

The free float factor is calculated based on publicly available information on the web site of the Central Securities Depository and Clearing House, as well as on the data published in the issuer's

prospectus on the date of revision of the index basket. The free float factor is calculated quarterly, it is applied from the moment of revision of the index basket and is valid until the next revision.

8. PRICES USED IN INDEX CALCULATION

Indicative price – closing price in the previous trading of the security.

Opening price – price of the first transaction with the security.

Closing price – price calculated based on the algorithm defined by the Managing Director of the Exchange.

Closing price is determined alternatively as:

- the price of the last transaction in the continuous trading phase, or
- volume weighted average price of the specified number of last-traded units of each security, or
- volume weighted average price of the last-traded specified percent of the total traded units of each security, or
- volume weighted average price of the last-traded units of each security in the specified time interval.

If during the current trading day of the index calculation there was no trading of shares of a certain issuer, closing price used in the calculation of the index is the indicative price of the share.

The share price used for calculation of **BELEX15** is each share price formed in trading in shares from the index basket, with the exception of prices from block transactions, from the moment when conditions for calculating and publishing the index are fulfilled.

9. WEIGHT INFLUENCE LIMITATION

9.1. Company Weight Influence Limitation

In order to prevent dominant weight of certain shares in the index basket, the number of shares of a certain issuer in the index basket is limited. The limitation of the number of shares of an issuer is carried out only on the day of revision of the index basket.

The limitation of the weight of a certain issuer is carried out through the weight factor (A_i), in the following way:

- if the participation of the free float market capitalization of an individual share is smaller than or equal to 20% of the total free float market capitalization, the weight factor is equal to 1;
- if the participation of the free float market capitalization of an individual share is larger than 20% of the total free float market capitalization, then the weight is adjusted until the participation of each component of the index basket becomes smaller than or equal to 20%;
- such a weight factor multiplies the number of shares in free float, and the result represents the number of shares which will be included in the index basket;
- after the procedure of limiting the weights for issuers with the initial weight larger than 20%, the weights of other issuers increase, and if their weight is larger than 20%, the weight is limited in the described way, until the moment when weights of all issuers become lower than or equal to 20%;
- the number of shares in the index basket is unchanged until the next index revision.

9.2. Sector Weight Influence Limitation

In order to prevent the dominant weight of certain industrial sectors in the index basket, the number of shares from the same industrial sector in the index basket is limited.

In that sense, an industrial sector is limited to 50% of the total number of issuers in the index basket.

The Index Committee makes the decision on limitation during a revision of the index basket. In that case, the process of selection of a security is not based only on quantitative indicators. Instead, a decision has to be made on the content of the index basket. The limitation of the number of securities from the same industrial sector is carried out only on the day of (regular or extraordinary) revision of the index basket.

10. BASE PERIOD

Base date: 01.10.2005.

Base value of index: **1.000,00** points

Base value of weighted free float market capitalization: 33.087.213.173 RSD (*market capitalization on the basis date, after market close*)

Base value of divisor = *basis value of weighted free float market capitalization / 1000* = 33.087.213, 17

In the base period, the value of the index is defined at 1000.00 index points, the influence of individual components is limited and, at the same time, the number of shares of each issuer in the index basket is defined, the total market capitalization is calculated as well as the divisor which represents the result of the total market capitalization of the issuer's shares included in the index basket divided by the previously defined index value (1000.00 points). The divisor is calculated in this way only in the base period.

11. INDEX FORMULA

Index **BELEX15** is calculated by Laspeyer's formula:

$$BELEX15(t) = \frac{\sum_{i=1}^n C(i,t) * K(i,t) * FFC * Ai}{d(t)}$$

In the process of updating the index basket, divisor is calculated in the following way:

$$d(t) = \frac{\sum_{i=1}^n Cp(i,t) * Kp(i,t) * FFC(t) * Ai(t)}{\sum_{i=1}^n C(i,t-1) * K(i,t-1) * FFC(t-1) * Ai(t-1)} * d(t-1) = \frac{New_index_basket}{Old_index_basket} * d(t-1)$$

In which:

BELEX15 (t) – value of index of selected securities, in the moment **t**, rounded on two decimals;

n – number of issuers whose shares are in the index basket - selected securities remains unchanged from the moment of updating;

i – calculator, takes values from **1** to **15** representing certain issuer with shares in the index basket;

$C(i,t)$ – price of shares of the issuer i , in the moment t , taken in real time from trading system;

$K(i,t)$ – quantity of shares of the issuer i , in the moment t ;

$d(t)$ – value of divisor in the moment t ;

$FFc(i,t)$ - free float factor of issuer i , in the moment t ;

$A(i)$ – adjusting factor of the issuer i (weight);

In order to avoid deviation of the index value from real values, the divisor is adjusted because of a change of the index basket, as well as because of changes inside the components of the index basket. The adjustment of the divisor is carried out in such a way that the value of the index remains the same if the share prices from the index basket stay unchanged.

12. INDEX BASKET COMPOSITION

The procedure of the index composition is based on quantitative measures determined in article 12.1 of this Methodology, although it is not solely guided by these measures. The process of final composition of the index basket is responsibility of the Index Committee, which decides on the final number of securities included in the index basket, questions of revision, share inclusion and exclusion from the index basket.

The Index Committee has a discretionary right to carry out the selection of securities for the index basket, based on this Methodology and in the best interest of the Exchange as the creator of the index.

12.1. Index Basket - Definition and Criteria

The index basket consists of **common** shares traded on the Regulated market, which have fulfilled criteria for the index basket.

After creating a list of shares fulfilling the above criteria, a ranking according to the non-weighted free float market capitalization is carried out. The first 15 shares on the thus created list represent the index basket. The weight of components in the index is limited to a maximum of 20%, compared with the total free float market capitalization, with the use of the weight factor A_i . If participation of the free float market capitalization of a certain share is smaller than 20% of the total free float market capitalization, the weight factor A_i has the value of 1. If the free float market capitalization of a certain share is larger than 20% of the total free float market capitalization, then the weight factor A_i has to be adjusted (reduced), until participation of each component of the index basket becomes smaller than or equal to 20% of the total weighted free float market capitalization.

12.2. Number of Issuers with Shares in the Index Basket

The number of issuers with shares participating in the construction of the index basket is constant during the period between two index revisions. The index basket can have at least 7, and maximum 15 components, depending of the decision made by the Index Committee.

12.3. Criteria for Exclusion of Shares from the Index Basket

Shares are excluded from index basket only on revision dates, when:

- Rule 80 was unfulfilled,
- issuer submitted request for exclusion from the regulated market,
- procedure of bankruptcy or liquidation of issuer was initiated,
- procedure from Article 9.2 was started.

The Index Committee makes the final decision on exclusion of the share in question from the index basket.

13. INDEX BASKET REVISION

The index revision is carried out semiannually. Revision dates are 15th of March and 15th of September.

Revision is implemented after the end of the trading day, on the following dates:

Quarter	<i>Index revision implementation dates</i>
I	31 st March
III	30 th September

If the date of revision or the date of implementation of revision is a non working day, activities based on this Methodology, which are carried out on the cited date, are carried out on the previous working day.

The index components can be changed only on the revision or review dates, as described in 12.1.

The data on the index components are updated on a quarterly basis on the review dates. Review dates are 15th of June and 15th of December. The implementation of review is carried out after the end of the trading day on 30th June and 31st December. Review dates include adjustment for changes in the free float factor (FFc), changes in the number of outstanding shares when the change is less than 5%, as well as adjustment of the adjusting factor (Ai) and divisor.

13.1. Index Revision Procedures

The index revision begins after the end of all trading scheduled for that day, upon calculation of the closing index value.

During each index revision the following steps are taken:

- 1) new free float factor FFc is determined,
- 2) all increases and decreases in the number of shares below 5% are identified, the number of shares of the issuer included in the index basket is corrected,
- 3) creation of a new ranking list based on the free float market capitalization,
- 4) number of the issuer's shares participating in the index basket is determined,
- 5) adjustment of the divisor on the day before the index revision is implemented,
- 6) upon making decision on the change of the index basket, the BELEX publicly announces:
 - a) content of the index basket,
 - b) list of shares of issuers which will be included in the index basket,

- c) list of shares of issuers which will be excluded from the index basket,
 - d) explanation of reasons for inclusion and exclusion of shares in and out of the index basket,
 - e) effective date,
- 7) On the day preceding the date of implementation of the index revision, and after the end of trading day, the divisor is adjusted in the adequate way, as the result of a decrease or increase in the market capitalization of the new index basket.
- Adjustment of the divisor should preserve the value of the index in continuity, as the result of corporate activities of the issuer of shares included in the index basket. In this way, changes in the market capitalization due to corporate activities are neutralized, without affecting the index value.

13.2. Extraordinary Index Revisions

In case of an extraordinary index revision, the procedure is identical to regular revisions of the index basket. In order to provide consistent values of indexes, extraordinary revisions will take place only in cases of significant changes in the characteristics of the index components. Extraordinary revision is carried out after the end of the trading day. Changes are applied and become valid from the next trading day.

Extraordinary revision of the index basket is carried out in the following cases:

13.2.1 Data accuracy

If in the period between two regular revisions significant changes in the number of shares of issuers, or in the *free float* factor, take place, the Index Committee has the right to initiate the procedure of extraordinary revision. A significant change in the number of shares is considered to be a cumulative change between two regular revisions larger than 5%, or change in the value of the free float factor FFC of more than 10%. A change in the number of shares can be the result of subscription and payment of a new issue, conversion of convertible securities into ordinary shares, etc.

If information concerning a change in the number of shares and date of validity of the decision concerning a change in the number of shares were not delivered to the BELEX in advance, the procedure of revision will be carried out only on the day when the BELEX gets the official information from the issuer, or during the first regular revision, if such information is not delivered to the BELEX.

13.2.2 Extraordinary exclusion of issuers from the index basket

The extraordinary revision is started if in the period prior to the regular revision any of the following situations take place:

- the issuer has applied for delisting,
- procedure of bankruptcy or liquidation of the issuer was initiated,
- merger of issuer with another issuer,
- de-merger of issuers,

14. THE BELGRADE STOCK EXCHANGE INDEX COMMITTEE

Members of the Index Committee of the Belgrade Stock Exchange are selected by the decision of the Director of the Exchange, with unlimited mandate. Members of the Index Committee can be elected among the employees of the Exchange, representatives of Universities, representatives of institutions that use licenses on the Exchange indices, and other experts who can improve decision-making processes concerning the index policy of the Belgrade Stock Exchange.

The Index Committee can organize meetings and invite third persons, and can use their advising services.

Direct competence and responsibility is exclusively upon the members of the Index Committee.

14.1. Index Committee Authorization

The Index Committee is authorized for application of this Methodology and composition of the index.

The Index Committee organizes meetings on dates preceding regular revisions of the index basket. In the periods between the revisions, the Index Committee can delegate authorizations for managing the indexes in situations that require urgent reactions to changes originating from the market.

15. INDEX PUBLISHING

The value of **BELEX15** is calculated and published in real time.

BELEX15 will have its opening value, daily high and low value, closing value, as well as an absolute and relative change compared with closing value from the previous day.

The value of **BELEX15** at the end of the day is released in the following form:

- value **BELEX15** (in time **t**) in format *n.nnn,nn*;
- percentual change compared with the index value from the previous day in format (+/-) *n,nn* %;

BSE will calculate and publish the following parameters:

- total traded value of all index components,
- historical maximum index value,
- historical minimum index value,
- change from the beginning of the month,
- change from the beginning of the year,
- maximum index value in the last year,
- minimum index value in the last year,
- graphic presentation of the index value and turnover value,
- foreign investors participation in trading with the index components.

BELEX15 is published on the web site of the Belgrade Stock Exchange, on BELEX.info service, on the internet tickers of the Belgrade Stock Exchange as well as on all reports published by the BSE.