MACEDONIAN STOCK EXCHANGE INC.
SKOPJE

M E T H O D O L O G Y

FOR CALCULATION OF THE MACEDONIAN STOCK EXCHANGE INDEX (MBI10)

Skopje, December 2010

MACEDONIAN STOCK EXCHANGE INDEX (MBI10)

1. Name of the index
Full name: Macedonian Stock Exchange Index
Short name: MBI10

2. Composition of the index
MBI10 is consisted of the ordinary shares of up to 10 listed companies, selected according to the criteria of this Methodology.

3. Type of the index
Price index, weighted with the free float market capitalization, non-adjusted with dividend payments, with limit that on the day of revision the stake of each share- part of the index is not over 20%.

4. Formula for calculation of the index:

$$MBI10_t = \frac{\sum_{i=1}^{n} p_{i,t} * q_{i,R} * FFi}{\sum_{i=1}^{n} p_{i,0} * q_{i,R} * FFi} * 1000 * C_t$$

where:
$i = 1.....n;$
$n = 10;$
t = trading day;
R = index revision day;
T = day before the calculation of the index with a new composition;
$p_{i,t}$ = daily average price of the shares in the index, on the day t;
$p_{i,0}$ = base price;
$p_{i,0} = p_{i,j}$ = official average price on the day j;
q = outstanding shares of a particular share-component of the index;
FFi = free float of the issuer i;
j = day of the regular or exceptional revision.

4.1 Calculation of free float

Free floating factor (FF) is a percentage of distribution of shares to the public. For the purpose of calculation of the percentage from the previous paragraph, the public does not include:
a) members of the issuer's management boards, if they own over 5% shares of that class;
b) substantial shareholders (individual or institutional) who own more than 10% or more shares of that class and
c) securities held by the Government of the Republic of Macedonia and other state institutions, if they own over 10% shares of that class.

FF (%) = 100% -% of shares which are not in free circulation.

Number of shares in Free float = FF * Total number of shares

Free float market capitalization = FF * Total market capitalization

Free float factor is calculated based on data from the Central Securities Depository on the basis of the Protocol for cooperation of exchange of the data from operations with securities, and based on publicly available data released by publishers.

Free float factor is calculated on the date of the revision of the index, is applied from the time of implementation of the index.

4.2 Calculation of correction factor

For the continuation of the index, every time before its calculation with a new composition, a correction factor is calculated according the following formula:

$$C_T = C_{T-1} * \frac{\textit{Value of the index with the old composition on the day before the calculation of the index with the new composition}}{\textit{Value of the index with the new composition on the day before the calculation of the index with the new composition}}$$

$C_0 = 1$.

The correction factor provides a chronological comparability of the index besides the changes in its composition. Thus, it is provided that the index reflects the price changes that occurred in the period from the revision day until the day of the calculation of the index with a new composition.

5. Criteria for selection of shares–components of the index

The selection of the shares-components of the index is done from all shares that were listed on the Official market of the Macedonian Stock Exchange at least 30 days before the revision of the index (regular or extraordinary).

The index is consisted of up to 10 shares that comply with the following criteria, according to the opinion of the Stock Exchange Index Commission:

		Criterion	Weight	Formula
K1		Free float market capitalization of the shares on the index revision day	50%	$K1_i = Q_i * P_{i*FFi}$ where i = 1,...,n; n = number of ordinary shares listed on the Official market; Q_i = outstanding shares of the share i; P_i = average price of the share i on the index revision day. FFi = Free float of the issuer
K2		Daily average turnover of a particular share in the last 6 months before the revision of the index (in denars).	30,00%	$$K2_i = \frac{V_i}{D_i}$$ where i = 1,...,n; n = number of ordinary shares listed on the Official market; V_i = turnover of the share i from the first trading day after the last revision of the index up to the day of the new revision of the index; D_i = number of trading days from the first trading day after the last revision of the index up to the day of the new revision of the index.
K3		Relation between the number of days a particular share was traded and the total number of trading days on the Official market	20,00%	$$K3_i = \frac{A_i}{D_i}$$ where i = 1,...,n; n = number of ordinary shares listed on the Official market; A_i = number of trading days when the share i was traded; D_i = number of trading days from the first trading day after the last revision of the index up to the day of the new revision of the index.

6. Ranking of the shares

All listed shares are ranked according every criterion from the number 1 to n (n = number of shares listed on the Official market). The smaller the value of a criterion for a particular share - the higher the rank of that share for that criterion (for all 3 criteria). The highest rank is number 1.

The average rank for a particular share is calculated according to the following formula:

$$AR_i = R1*0,5 + R2*0,3 + R3*0,2$$

where
R1,...,R3 = rank for the criterion 1,...,3;
R = 1,...,n;
n = number of shares listed on the Official market.

For calculation of the final rank, the shares are ordered according to the average rank. The share with the highest average rank is given the number 1, and the other shares follow further, as their average rank is decreasing, up to the number 10. If two or more shares have an equal average rank, the higher place is given to the share with smaller rank according to the criterion R3.

During the index revision, the Index Commission may use a "rank zone", with the following rules: first seven (7) shares are included in the new composition of the MBI10 index. The remaining three (3) shares are chosen between shares that are ranging from 8 th to 13 th place, with preference given to shares that were elements of the previous composition of the index MBI10.

The composition of the index establishes the basis of quantitative criteria for selection of stocks, the index elements. In case the above criteria and rules are not sufficient for selection of stocks from which the index would be calculated in the following period, the Stock Exchange Index Commission decides on the final number of shares that would have entered in the index, and the shares that should be included or excluded od the calculation of the index. The Stock Exchange Index Commission has discretion on the basis of this methodology to perform a selection of shares that will enter in the calculation of the index, taking into account the market capitalization, liquidity, number of trading days of the shares, market conditions and the continuity of the index.

7. Determination of the stake of each share in the index

The stake of each share in the index is calculated by dividing the value of the market capitalization of that share on the date of the revision with the total market capitalization of all shares in the index on the day of the revision. The maximum allowed stake of each share is 20%. If the stake of some share exceeds 20%, the value of the stake of that particular share is adjusted to 20%, and the stakes of the other shares included in the index are adjusted using the following formula:

$$D_{i,R} = T_{i,R} * \frac{((1-(k_j+m)*0,20)}{T_R}$$

where:

$D_{i,R}$ = adjusted stake of the share i in the index (after the limitation of 20%)
i = 1,…n-m-k_j;
n = number of shares which comprise the index;
T_{iR} = primary stake of the share i in the index without the 20% limitation (or the stake at the previous step, in a case of the second or further step);
k_j = number of shares whose stakes in the index during the previous adjustments were lowered to 20%;
k_0 = 0;
k_{j+1} = k_j + m;
j = number of steps = 0,…,J, where J is the definite number of steps;
m = number of shares whose stake in the first (or previous, in a case of the second or further step) calculation of composition of the index exceed 20%;
T_R = sum of the primary stakes (or stakes in the previous calculation of index's composition, in a case of the second or further step) of the shares within the index, whose stakes in the calculation of the index composition without 20% limitation do not exceed the 20% limit.
The procedure is repeated until the stakes of all shares are not greater than 20%.

8. Base of the index

The base of the index, with a value 1,000, is 30.12.2004.

9. Revisions of the index

The MSE will perform regular and extraordinary revisions to the index MBI10.

For execution of revisions the MSE Executive Director appoints Stock Exchange Index Commission.

Dates of the regular revisions are 15.12 and 15.06, every year. If the revision date is not a trading day, than the revision is done on the next trading day.

Dates of implementation of changes in the indices are: 30.06 and 30.12.
If the implementation date is not a trading day, than the implementation is done on the next trading day.

The Stock Exchange Index Commission may decide to perform an extraordinary revision of the index MBI10 if any extraordinary circumstance occurs. If an extraordinary revision is made, changes are applied and become valid from the next trading day.

Reasons for an extraordinary revision of the index may be:

a) Delisting of a share-component of the index, from the Official market;
b) Bankruptcy or liquidation procedure over the issuer of a share-component of the index;
c) Change of the number of outstanding shares of a particular issuer whose shares are a component of the index, if the change is more than 5% of the number of outstanding shares. If the change is below 5%, the correction is done on the next regular revision.
d) Corporate actions (eg separation of action, a significant increase or decrease in the number of issued shares, merger and division of the issuer, a significant increase or decrease in the distribution of the shares in public etc..) that would have a significant impact on the calculation of the index;
e) Longer respite of trading with a particular share-component of the index. Longer respite is considered if a particular share is not traded subsequently for 30 or more trading days;
f) Other reasons.