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## TYPES OF INDICES SPECIFIC TO THE STOCK EXCHANGE MARKET

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### Abstract

In the analysis of stock exchange market, the stock exchange indices are used, being calculated in real time or at the end of transaction day. Stock exchange indices can be calculated according to the shares quoted on a single market or on several markets (international indices). As types of indices specific to the stock exchange market: Bucharest Stock Exchange (BSE) we refer to BET index, BET-C index, ROTX index and BET-NG index, constituted in a system of indices.

**Key words:** stock exchange market, specific indices, stocks and shares, criteria, system of indices.

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Firstly, **BET Index** was created, in order to reflect the general trend of the prices for the most active 10 companies traded on BVB. These companies are selected exclusively from the companies listed on the BVB first tier; the diversity criteria are also taken into account. Secondly, BET Index was created in order to establish an adequate base for the investors' risk, especially when commodities derivatives on indexes (opposite index and future contracts) are traded.

The BET index is calculated as an average weight of the price capitalization of the most liquid 10 shares listed on BVB. The index daily value is compared with the index value from the reference date.

$$I = \frac{\sum_{i=1}^N P_{i0} w f_{i0} \times \frac{P_{it}}{P_{i0}}}{\sum_{i=1}^N P_{i0} w f_{i0}}$$

Where:

N- number of symbols included in the portfolio index (10)

$p_{i0}$  – the closing price of the symbol registered on the market (Regular market) within the reference trading session (of the last updating of the index basket, considered as  $t=0$ );

$p_{it}$  – the closing price of the symbol registered on the market (Regular market) within the trading session  $t$ ;

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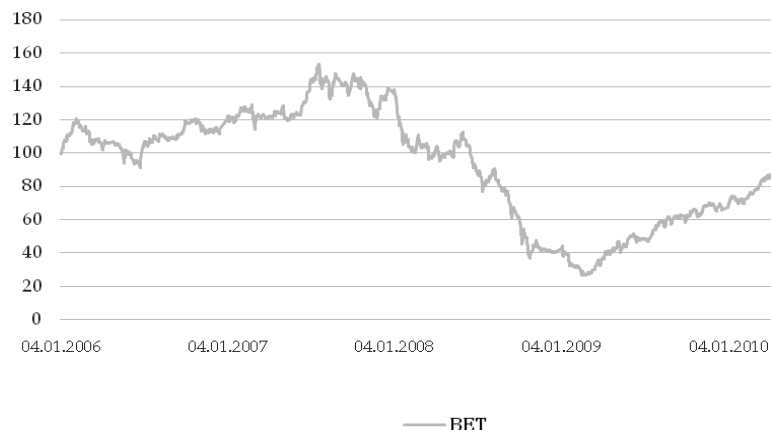
$wf_{i0}$  – weighing factor of the respective symbol in the trading reference session ( $t=0$ ).

The selection criteria for the securities/shares included in the index are:

- shares should be traded on the first tier of BVB;
- shares should have the larger market capitalization; the amount of the companies' capitalization included into the index shall not exceed 60% of the total market capitalization;
- shares should ensure the diversity of the index portfolio;
- shares should be the most liquid shares; the amount of the total transactions for the shares included in the index portfolio shall be under the limit of 70 % from the total value traded.

These criteria are monthly updated by analyzing the financial performances of the companies for which the shares are included in the index portfolio (index basket) and of the recent listed companies, in order to update the index composite (possible substitute).

#### **Evolutions reflected by BET index at the beginning of each year (2006-2010 period)**



From the previous figure, you can notice that, after a peak (maximum historic) registered in 2007, during 2008 (the beginning of the financial crisis for the Romanian economy), the BET index has significantly decreased. The slight revival from the beginning of 2010 represented only a false signal for a possible overcome of the crisis. However, without a correspondent in the economically trend, this signal represented only the result of the movements

in the market, exclusively linked to the maximum historic ant not to the minimum registered in 2009.

**BET-C Index** (BUCHAREST EXCHANGE TRADING – COMPOZIT INDEX) was launched in May 2008 and represents the evolution of the priced traded on BVB. The necessity of establishing this index has been linked to the increasing number of the companies listed on BVB. BET-C, as second generation index, uses the average formula of average prices of shares weighted with the market capitalization. The index portfolio contains all the listed shares; the new listed shares are automatically included the second day after the market price formation. The continuity and comparability index values are ensured by a correction factor which is index itself from the day before the modification of the index basket composition. The BET-C index does not permit futures and option operations; however the BET-C is useful because it can make possible the calculation of the correlation index highlighting the links between the markets/segments, when shares do not correspond to the selection criteria (and the index portfolio is updated). In this case (when the index portfolio is updated), the correlation factor is recalculated in order to reflect the updating modifications. Thus, the requirements of reflecting the daily updates in the shares prices are observed.

**BET-FI Index** (BUCHAREST EXCHANGE TRADING – SECTORIAL INDEX FOR THE INVESTMENT FUNDS), is the first sector index launched by BVB on November 1st, 2000. The BET-FI index represents the general trend of prices for the investment companies traded on BVB. The calculation method is similar to BET and BET-C indexes. The weighting factor for a symbol included in the BET-FI index is the number of shares of the respective symbol.

The adjusting methods for this index are: the modification of the weighting factor and the modification of the index value through application of the correction factor (the similar rule with that used for the BET and BET-C indexes).

**The BET-FI index is composed of:**

| Symbol      | Company                               | No. of shares  | Ref. price | Percentage (%) |
|-------------|---------------------------------------|----------------|------------|----------------|
| <b>FP</b>   | SC FONDUL PROPRIETATEA SA - BUCURESTI | 13.778.392.208 | 0,4400     | 27,83          |
| <b>SIF5</b> | SIF OLTENIA S.A.                      | 580.165.714    | 1,0690     | 16,17          |
| <b>SIF2</b> | SIF MOLDOVA S.A.                      | 519.089.588    | 1,1900     | 16,11          |
| <b>SIF4</b> | SIF MUNTENIA S.A.                     | 807.036.515    | 0,7150     | 15,05          |
| <b>SIF1</b> | SIF BANAT CRIȘANA S.A.                | 548.849.268    | 0,8700     | 12,45          |
| <b>SIF3</b> | SIF TRANSILVANIA S.A.                 | 1.092.143.332  | 0,4350     | 12,39          |

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As compared with BET index which has been analyzed above, the evolution of the BET-FI index has been more spectacular, ascending by the beginning of the year 2008. This has resulted from the spectacular evolution of the five investment companies, whose financial performances have attracted both domestic and foreign investors. However, following the withdrawal of the foreign capital from Romania and the transfer of the Romanian investors capital into safer placements, starting with the year 2008, a sharp decline has been observed with a slight recovery at the beginning of the year 2010.

#### **Evolutions reflected by BET-FI index during 2006-2010**



From the comparative chart of the three BVB indices, it can be observed a correlation of their evolution, outlining the fact that all sectors of the economy have been affected by the world financial crisis and that the Romanian capital market, as all the emerging markets, has been among the first markets where the foreign capitals have retreated from. We will see in the next pages that there has been a market that has been less affected, namely Poland, as it has represented the centre of the big investment funds and of the important international investors that wanted to keep their placements in the Est-Europe area.

**Evolution of those three BSE indices (2006-2010)**



**Indicele ROTX\*** (ROMANIAN TRADED INDEX) was launched in March 2005 and reflects the real time evolution of “blue chip” shares. This index is designed as a tradable index and could be an underlying asset for derivatives and structured products.

**The index composition as of June, 26, 2012**

| Symbol      | Company                                  | No. of shares. | Ref price | Percentage (%) |
|-------------|--|----------------|-----------|----------------|
| <b>BRD</b>  | BRD - GROUPE SOCIETE GENERALE S.A.       | 696.901.518    | 8,3300    | 20,00          |
| <b>FP</b>   | S.C. FONDUL PROPRIETATEA S.A.– BUCURESTI | 13.778.392.208 | 0,4400    | 18,80          |
| <b>EBS</b>  | Erste Group Bank AG                      | 394.568.647    | 60,7000   | 18,77          |
| <b>SNP</b>  | OMV PETROM S.A.                          | 56.644.108.335 | 0,3700    | 18,05          |
| <b>TLV</b>  | BANCA TRANSILVANIA S.A.                  | 1.903.042.413  | 0,8840    | 13,04          |
| <b>TGN</b>  | S.N.T.G.N. TRANSGAZ S.A.                 | 11.773.844     | 191,5000  | 3,88           |
| <b>TEL</b>  | C.N.T.E.E. TRANSELECTRICA                | 73.303.142     | 12,0900   | 2,29           |
| <b>AZO</b>  | AZOMURES S.A.                            | 526.032.633    | 1,9500    | 1,77           |
| <b>BIO</b>  | BIOFARM S.A.                             | 1.094.861.499  | 0,1650    | 1,56           |
| <b>BVB</b>  | S.C. BURSA DE VALORI BUCURESTI S.A.      | 7.674.198      | 23,1900   | 1,53           |
| <b>COMI</b> | CONDMAG S.A.                             | 381.335.751    | 0,0986    | 0,19           |
| <b>DAFR</b> | DAFORA S.A.                              | 1.002.323.294  | 0,0403    |                |

\* [www.bvb.ro](http://www.bvb.ro)

**BET-NG\*** is a sectoral index that reflects the evolution of prices of companies operating in the energy sector or provide services in this sector. It was launched on 1st of July 2008.

#### The index composition as of June 26, 2012

| Symbol      | Company                      | No of shares   | Ref. price | Percentage (%) |
|-------------|------------------------------|----------------|------------|----------------|
| <b>SNP</b>  | OMV PETROM S.A.              | 56.644.108.335 | 0,3700     | 31,90          |
| <b>TGN</b>  | S.N.T.G.N. TRANSGAZ S.A.     | 11.773.844     | 191,5000   | 28,96          |
| <b>TEL</b>  | C.N.T.E.E. TRANSELECTRICA    | 73.303.142     | 12,0900    | 17,08          |
| <b>RRC</b>  | ROMPETROL RAFINARE S.A.      | 44.109.205.726 | 0,0290     | 16,43          |
| <b>OIL</b>  | OIL TERMINAL S.A.            | 582.430.253    | 0,1287     | 1,93           |
| <b>COMI</b> | CONDMAG S.A.                 | 381.335.751    | 0,0986     | 1,45           |
| <b>PTR</b>  | ROMPETROL WELL SERVICES S.A. | 278.190.900    | 0,2350     | 1,26           |
| <b>DAFR</b> | DAFORA S.A.                  | 1.002.323.294  | 0,0403     | 0,78           |
| <b>PEI</b>  | PETROLEXPORTIMPORT S.A.      | 408.697        | 17,3200    | 0,14           |
| <b>ENP</b>  | COMPANIA ENERGOPETROL S.A.   | 2.024.655      | 0,9500     | 0,07           |

#### Conclusion

The stock exchange indices underlying analyzes of the evolution of the overall stock market in Romania, as well as international comparisons in the field. Specificity indices is considered relevant in undertaken studies. A conclusive analysis should be based on a system of indices.

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