

Methodology for the MICEX index calculation

General conception of the index

The MICEX index is the capitalization weighed basic official index of the Moscow Interbank Currency Exchange (MICEX) that comprises most liquid Russian stocks traded in MICEX.

The MICEX index is calculated whenever a transaction with a stock from the list forming the calculation base of the index is clinched in the MICEX Trading System.

The MICEX index calculation base contains stocks admitted to trading in the MICEX Stock Market Section and are to be selected by the Supervisory Council.

Stock prices for calculations are nominated in the Russian rubles.

Index calculation base composition

The index base composition is determined by the Supervisory Council on the basis of the expert's estimations among the stocks traded in MICEX, and is not dependent on their belonging to the listing levels.

The various issues of the equity in the purposes of the index calculation are considered as the uniform equity.

Calculation formula

The calculation formula for the MICEX index is

$$MICEX_k = MICEX_{k-1} \cdot D \cdot \left(\frac{\sum_{i=1}^M (Cap_i^k * Adj_i)}{\sum_{i=1}^M Cap_i^{k-1}} \right) \quad (1)$$

where:

$$Cap_i^{k-1} = P_i^{k-1} \cdot Q_i^{k-1} \quad (2)$$

$$Cap_i^k = P_i^k \cdot Q_i^k \quad (3)$$

$$P_i^k = \frac{\sum_j q_{ij} p_{ij}}{\sum_j q_{ij}} \quad (4)$$

$$Adj_i = \prod_n Adj_i^n \quad (5)$$

$i = 0, 1, 2, \dots, M; j = 1, 2, 3, \dots, 10; n = 1, 2, 3, \dots$

where:

- Cap_i^k - adjusted capitalization of a stock i ;
- P_i^k - volume weighted price of a stock i based on 10 last trades;
- p_{ij}, q_{ij} - price and volume in trade j with a stock i ;
- Q_i^k - adjusted issue volume of a stock i ;
- M - stocks totally in the MICEX Index;
- Adj_i^n - adjustment factor recalculated whenever a capitalization change n happens with a stock i ;
- D - adjustment factor recalculated whenever the index calculation base is changed in order to ensure that the index level remains unchanged (initial $D_o = 100$).

Adjusted capitalization

Adjusted capitalization (2), (3) is a market capitalization calculated on basis of the adjusted issue volume of a stock (free float) Q_i^k that equals a total shares outstanding reduced by:

- government ownership;
- cross-ownership (to avoid double counting in a case where one company owns stock in a second company, both being constituents of the index base),
- amount of shares owned by shareholders, who own more than 5 % of the joint-stock capital, in a case that shareholders are not settlement depositors of a stock exchange.

Adjusted capitalization is calculated on basis of the information disclosed by the Federal Commission on Securities Market.

The corporate events, taken into account for the MICEX index calculation

New issue:

$$Adj_i^n = \frac{P_i^{prev}}{P_i} \quad (6)$$

$$P_i' = \frac{Cap_i + (P_i^{offer} * Q_i^{offer})}{Q_i^0 + Q_i^{offer}} \quad (7)$$

where:

- P_i^{prev} - last price of a stock i before the placement of an additional issue;
- P_i^{offer} - placement price of an additional issue of a stock i ;
- Q_i^{offer} - volume of an additional issue of a stock i ;

Stock split or consolidation:

$$Adj_i = \frac{Q_i}{Q_i^{prev}} \quad (8)$$

where:

- Q_i - trading volume of a stock i after stock split (consolidation);
- Q_i^{prev} - trading volume of a stock i before stock split (consolidation).

Recalculation of adjustment factor Adj_i^k is made at the trading day previous to corporate event with reference to the value of the MICEX index at 7:00 p.m.

The beginning of the MICEX index calculation

The MICEX index calculation has started on September, 22 1997.

Changing of the MICEX Index base composition

Revision of the MICEX Index base composition is carried out by the Supervisory Council.

The change and the recalculation of the adjustment factor take place with reference to value of the index at 7:00 p.m.

The calculation formula of adjustment factor is:

$$D_i = D_{i-1} \frac{MICEX^{old_ba}}{MICEX^{new_ba}} \quad (9)$$

where:

$MICEX^{old_base}$ - the MICEX index value at 7:00 p.m.,
calculated with a previous base composition;

$MICEX^{new_base}$ - the MICEX index value at 7:00 p.m.,
calculated with a new base composition.