Iryna Demko

Kyiv School of Economics, Ukraine

STOCK MARKET TRADING AT EMERGING MARKETS: THE EQUALITY ESTIMATION AND IMPROVEMENT

At the markets of capitals there are a lot of different indices with the same meaning, but, in fact, for market participants it's much more convenient to deal with only one index. "Which one?" – is our question. Now the sphere of using stock indices is wider than it was hundred years ago, formulas and methodologies are more difficult. Indices' authors tell only about advantages and strong characteristics of calculation methodology. For the last 10 years indices become goods. Trade indices stock is one of the biggest segments of finance market in American and European stock exchanges. That's why the quality requirements for stock indices are growing.

In order to deal with this problem such quality characteristics as accuracy, adequacy and reliability can be calculated on the base of Jacobi procedure, which calculates in MS Excel and VBA eigenvalues and eigenvectors of covariance matrix for the five Ukrainian stock indices: PFTS-index, PFTS-Cbonds, PFTS-Cbonds/TR, SB50 and KP-Dragon. Then with using this matrix we can easily find matrix of latent indices and standard stock indices values.

In this research, accuracy of stock indices is the difference between its actual and true value and measured with the series of errors. According to calculations the highest level of accuracy has index KP-Dragon, it's average relative error is 1,11 %. Also high levels of accuracy have PFTS-Cbons/TR (1,19 %) and PFTS-index (1,64 %). The biggest average relative error has index SB50.

On the other hand, adequacy of stock index is the level of accordance the values of stock indexes to the character of the market events. The low value of this index means the low adequacy of stock index. If A < 0,75 there is no practical use of this index. Adequacy index for the PFTS-Cbonds/TR is 0,87887. It means PFTS-Cbonds/TR shows 87,887 % of the total variability of standard stock index.

To determine the reasons of low PFTS-index quality and prevent instability and uncertanty at financial sector, linear model of factors which influence PFTS dynamics is used. Among 8 variables the best explanation of PFTS dynamics is provided by only two: deposits rate in national and foreign currency.

Further directions of studying this topic are estimation the third characteristic of quality – reliability, determination the influence on the stock indices quality such factors as input data, market capitalization, branches set for the calculation the index base, index formula, foreign issuers, representativeness of sample, volatility and liquidity. Also in the net studies we plan to make recommendations on construction an efficient stock index for emerging market.