Stress test methodology

1. Objective of stress tests

Running stress tests by KELER CCP has a double objective:

- on the one hand to check that the default fund (TEA) is of appropriate size at all times, and
- to check compliance with the requirements on the other financial resources of KELER CCP on the other hand.

2. Historical scenarios

We developed a historical database on the prices of products we clear and from January 1998 and we identified the periods when the greatest volatility was experienced. In line with the Technical Standards we considered the holding period as 2 days.

Groups of products were defined, for each of them one parameter was determined:

- In the case of equities (including certificates, mutual funds and debt securities due to their attributes on the one hand and the insignificant volume they represent on the other) the decrease of price is seen as the main risk, although the price increase may have inherent risks as well. However, based on our experience to date, the sudden upward price change generally follows a price movement of the opposite direction and great extent, thus the risk of positive correction is far less than the risk of a sudden fall of price in a normal period.
- In the case of government bonds the change of the valid reference yields expressed in percentage points was examined as the increase of yields results in a decreased price of government bonds.

Based on their volatilities we separated stress periods for the product groups.

For all stress periods we checked the exact price changes of all product groups, this how we determined the parameter sets of our five historical scenario.

3. Hypothetical scenarios

In our view a shock impacting the entire market can happen in two ways: either a crisis started abroad reaches Hungary or the shock impacts the Hungarian capital market only. There are several examples of the first case in the historical scenarios; therefore in the development of the hypothetical scenarios we assumed the collapse of the Hungarian market only.

In line with the assumed scenario the downgrading of Hungary would be followed by a sudden rise in CDS prices, consequently Hungary would get close to bankruptcy. Should bankruptcy occur, based on the correlation among the prices of our product groups, we can conclude that equities prices would fall, government bonds would suffer a major loss of value due to the rise of yields.

4. Concluding stress tests

We complete stress testing daily, at the level of the clearing entity (own, omnibus client, individually segregated non-clearing member / client) for all seven scenarios. The results are consolidated at clearing member and group level without netting, i.e. only the open risks are added up. In the spot market, in line with the T+2 settlement cycle, we consider the open risks of 2 days.

After the results of the scenarios are determined for the spot market, we select the first or the second and the third if their sum is larger exposure(s) with uncovered risk in each market, the worst value(s) are compared to the default fund (TEA) of the multinet market concerned and the financial resources of KELER CCP to check compliance.