

Research Topic: Big-Data Analysis of Information Disclosure in the Pre-Trading Session of Futures Market

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Abstract:

The objective of this study was to evaluate, under trading scheme, the effectiveness of the Taiwan futures market's pre-trading session information disclosure launched on 12 May 2014. The study examined order-level trading information for the period from May 2011 to March 2017, comparing changes in pre-trading orders, opening prices, and trading volumes over the three years preceding and following the launch, and analyzing whether the greater transparency resulting from the information disclosed during the pre-trading session increased the price efficiency of the market's opening prices and made the market more competitive.

Statistical analysis showed that: 1) following the implementation of information disclosure mechanism at the pre-trading session, the simulated matching prices provided before market open resulted in better-informed investors, leading to declines of canceled orders of futures, options, and the overall market marking a ratio of 4.16%, 2.47% and 2.92%, respectively; 2) the disclosure mechanism increased the referentiality of simulated matching prices during the period in which order cancellations are prohibited, making investors more willing to place orders (investors' orders rose by 69.49% during this time period); 3) the increase in transparency enhanced the accuracy of expected opening prices, reducing short-term price amplitude after market open. For example, the average daily price amplitude for TAIEX Futures, Electronics Sector Index Futures and Finance Sector Index Futures in the one minute after market open declined by 0.04%, 0.05% and 0.08%, respectively; 4) increased price efficiency has reduced uncertainty, which led to the growth in trading volume at market open. The average daily volumes of futures, options, and the whole market raised 25.82%, 44.90% and 40.1% respectively in the 15 minutes following market open.

In short, the increased transparency resulting from pre-trading session information disclosure enhanced the price efficiency of the Taiwan futures market's opening prices, and reinforced the market's international competitiveness.