Trading

Trading Patterns and Excess Comovement of Stock Returns

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In April 2000, 30 stocks were replaced in the Nikkei 225 Index. The unusually broad redefinition allowed for a study of the effects of index-linked trading on the excess comovement of stock returns. A large increase occurred in the correlation of trading volume of stocks added to the index with the volume of stocks that remained in the index, and opposite results occurred for the deletions.

Daily index return betas of the additions rose by an average of +0.45 in the 300 days after the event, according to the Nikkei 225 Index; over the same period, the index return betas of the deleted stocks fell by an average of –0.63, according to our research. Theoretical predictions for changes in autocorrelations and cross-serial correlations of returns of index additions and deletions were confirmed. The results are consistent with the idea that trading patterns are associated with short-run excess comovement of stock returns.

The redefinition of the Nikkei 225 was an ideal natural experiment for testing our hypotheses. The tests provided remarkably strong support for the theory. We verified that the results were not driven by characteristics of the added and deleted companies, such as size or industrial sector. Most interestingly, our data showed that upon inclusion in a stock index, a stock's pricing process becomes less efficient; in our tests, returns to additions caused by excess short-run comovement with the remainders predictably reverted. Symmetrical results held for the deletions.

In general, our evidence suggests that, although demand shocks are pervasive determinants of stock returns in the short run, the forces of arbitrage cause comovement to revert in a relatively short time.

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