Order-Imbalance and the Pricing of Index Futures

Joseph K.W. Fung

Research Fellow
Hong Kong Institute for Monetary Research

Associate Professor
Department of Finance and Decision Sciences
Hong Kong Baptist University
Hong Kong
Tel: (852) 3411 7559
Fax: (852) 3411 5585
E-mail: jfung@hkbu.edu.hk

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Abstracts

This study examines empirically with high frequency intraday stock and futures data whether the premium or discount in the futures price can be explained by the direction and magnitude of the order-imbalance of the underlying index stocks. The data spans the period of the Asian financial crisis and hence contains observations of large variations of order imbalance and index-futures basis. The study employs complete transaction records of the index futures and of the index stocks, as well as the bid/ask price quotes of the latter. To alleviate the measurement problem of the index due to infrequent trading and bid-ask bounce of the index components, the study estimates the prospective transaction price of the index with the active quotes of individual stocks.

The analysis also controls for realistic trading costs and actual (ex-post) dividend payments. The study finds that the level of the discount (premium) in the futures price is positively related to the magnitude of the aggregate negative (positive) order imbalance in the underlying index stocks; moreover, negative order-imbalance has a stronger impact than positive order imbalance on the mispricing. The findings support Grossman's (1988) conjecture that index arbitrageurs are important providers of liquidity in the futures market when the stock market is displaced from equilibrium.