MASTER'S THESIS

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What Determine the Information Shares in the Price Discovery Process Between the Index Futures and the Underlying Cash Index?

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ABSTRACT

This research examines the intraday price discovery process between the Hang Seng Index (HSI) futures contract and the underlying cash index. The study uses high frequency intraday transaction data of the futures, the minute-by-minute reported index value, and the mid-quote index based on synchronous bid and ask quotes of all the component stocks of the index. Hasbrouck's (1995) information share model and the permanent transitory model of Gonzalo and Granger (1995) are adopted in the study. The mid-quote index is used to purge for the potential effects of non-synchronous trading in the reported index. To test for the impact of overall market conditions on the results, the study examines the relatively calm period right before the Asian financial crisis and the financial crisis period.

The results show that futures dominate the cash index in price discovery throughout the sample periods. Both the information share and common factor of futures decrease gradually from the pre-crisis period to the crisis period and revert back to the level in the pre-crisis period after the financial crisis. Decreasing the sampling frequency from once every minute to once every five minutes, the information share of futures decline. However, the common factor measure is less sensitive to changes in sampling frequency. Finally, the paper finds that short-selling activities in index stocks, relative liquidity and the relative volatility between the futures and cash index returns significantly affect the information shares between the two markets.

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