

MASTER'S THESIS

The profitability of index futures spread arbitrage strategies with bid and ask index quotes

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**The Profitability of Index Futures Spread Arbitrage Strategies
with Bid and Ask Index Quotes**

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**A Thesis Submitted in Partial Fulfillment of the Requirement
for the Degree of
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ABSTRACT

This study tests for potential mispricings of index futures spreads with high frequency intraday data for the index futures and the underlying stocks of the index. It analyses the economic significance of the mispricings by applying both ex-post and ex-ante tests on simulated arbitrage trades. To mitigate the bid-ask price effect, the study uses active quotes of the futures and of the index basket. The bid and ask price quotes of the index basket is estimated from concurrent quotes of the component stocks of the index. The study examines both the buy-and-hold and an early unwinding strategy. The sample also covers the period when the Hong Kong stock market government is directly intervened by the government

The results show that the next month futures contract is slightly underpriced relative to the spot month contract. However, the magnitude of the underpricing increased substantially during the government intervention. Transaction cost was unable to explain away the mispricings. Ex-ante tests show that the mispricings were potentially exploitable although the size of the arbitrage profit declines with longer execution time lag. The early-unwinding strategy improves the profitability of the strategies by avoiding the transactions costs associated with the basket trade and by capturing potential reversals in the mispricings. Regression analysis shows that the magnitude of the mispricing is positively related to market volatility but negatively related to the time-to-maturity of the next month contract.

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