

MASTER'S THESIS

A comparison between an ex-ante and ex-post test of early unwinding strategy in put-call-futures arbitrage

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A Comparison Between An Ex-ante and Ex-post Test
of Early Unwinding Strategy in Put-call-futures Arbitrage

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Abstract

Previous studies on arbitrage efficiency in derivatives market mainly focus on the cost-of-carry relationship and put-call parity condition. Tucker (1993) introduces the put-call-futures parity condition to investigate the joint efficiency of futures and options markets without incurring the trading of equity. The study applies this parity condition since it provides a superior method to investigate the arbitrage opportunity between futures and options markets. Moreover, it overcomes the obstacles which are associated with the trading in the cash leg of the arbitrage portfolio.

In the study, potential investors are divided into four categories by transaction cost paid. Results show that all investors can make positive profit under the buy-and-hold strategy with ex-post data. However, when ex-ante data is employed, only investors in Category C and D, who are the Exchange members, earn positive profit. The result reconfirms Fung, Cheng & Chan's finding (1997) that the long-futures strategy is more profitable than the short-futures strategy. The results also show that the Exchange members (Category C and D) may make profitable trade under longer execution time lag. Regression results indicate that the parity relationship does hold at both the expiration and non-expiration dates.

Early unwinding strategy is adopted with and without execution time delay to test the arbitrage efficiency of the derivatives markets. Under the early unwinding strategy with ex-post data, it shows that the arbitrage profit is improved for all

investors. When ex-ante data is used, the number of observation is reduced sharply for all kinds of investors. We find that the average arbitrage profits for investors A and B (the individual investor and institutional investor) are below zero or insignificant. We also find that the average profits for investors C and D are lower than that in ex-post analysis. This phenomenon may due to the poor trading signal.

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