THE COMPARISON OF PRICING PERFORMANCES BETWEEN COST OF CARRY MODEL AND IMPERFECT MARKET MODEL: AN EMPIRICAL STUDY ON SET 50 INDEX FUTURES

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Abstract

Choosing the right pricing approach is the key to deriving the true derivatives prices. This paper aims to compare the pricing performance of the cost of carry model and the imperfect market model in pricing the SET 50 index futures prices. This study replicates the study of Wang (2007) that compares the futures pricing performances of the cost of carry model and the imperfect market model in the Stock Exchanges of Japan, Hong Kong, Korea, and Taiwan. By using the mean percentage errors and the mean absolute percentage errors as criteria in measuring the pricing performances of two models, the empirical results indicate that the highly imperfect financial market like SET 50 index futures market is relatively mispriced based on the model of perfect market assumption, suggesting that the suitable approach in pricing the SET 50 index futures is the imperfect market model. Relying on the perfect market assumption evidences an enormous misprice especially when the calculation is based on the calendar days. Therefore practitioners should identify the appropriate pricing method before estimating the theoretical prices of stock index futures.

INTRODUCTION

Derivatives have a long history in the world of finance. The basic derivatives include forward, futures, swap, and option, whose values depend on the values of the other underlying variables. Futures and forward contracts are the agreement between two parties to buy or to sell a certain product at a certain future time for a fixed certain price but trading futures are on the exchange. Futures are now trading actively on many exchanges throughout the world, however, futures contracts on financial product has just been launched in Thailand Futures Exchange Plc (TFEX) on April 28, 2006.

The TFEX, a subsidiary of The Stock Exchange of Thailand (SET), was established on May 17, 2004 as a derivatives exchange. The TFEX is governed by the Derivatives Act B.E. 2546 (2003) and is under the supervision of the Securities and Exchange Commission (SEC). SET 50 index futures is the first derivatives product in TFEX, which has the contract months in March, June, September, December, and the contract multiplier is THB 1,000 per index point[1]. As TFEX is a new emerging derivative exchange in Thailand, it is trying to stimulate both retail and institutional investors to manage their equity exposures by entering into these contracts. TFEX's website provides many instruments to support trading for the investors including a program for calculating the futures price. The cost of carry model is the only pricing method in this program.

[1]http://www.tfex.co.th/en/products/set50futures.html, Visited on May 18, 2006.