

國立臺北大學九十七學年度第二學期碩士學位論文提要

論文題目：台指期現貨與選擇權市場關聯性、長期記憶與波動外溢效果之研究
-外資介入與美國S&P500期貨避險效果及FIVAR-HYGARCH模型
之應用

論文頁數：171 頁 所組別：國際企業 系(所) (學號：79635109)

研究生：賴昆睦 指導教授：劉祥熹

論文提要內容：

本文以台指期現貨與選擇權為主要研究對象，並應用 FIVAR-HYGARCH 模型分析台指期現貨與選擇權市場之關連性、長期記憶與波動外溢效果，同時兼論外資介入與美國 S&P500 期貨之避險效果，樣本期間為 2005 年 1 月 1 號至 2008 年 8 月 31 號。

實證結果證明 FIVAR-HYGARCH 模型可以正確的捕捉長期之波動現象，台指期現貨報酬率與選擇權價值比率(vrs)具有長期記憶與自我外溢效果，同時條件變異亦具顯著之波動外溢、長期記憶與波動振幅，顯示台指期現貨報酬率與選擇權價值比率具有動態關連性。納入外資與美國 S&P500 期貨後，台指期現貨報酬率與選擇權價值比率(vrs)之長期記憶會縮短，波動外溢效果與波動持續性亦有減少之現象，顯示外資與美國 S&P500 期貨會對台指期現貨與選擇權造成影響。避險方面，本文以考量台指期現貨之直接避險績效效果最佳。選擇權多空力道方面，顯示出選擇權價值比率正向資訊($vrs > 1$)對三市場的影響並未大於負向資訊($vrs < 1$)的影響效果，且隨外資與美國 S&P500 期貨作為模式外生變數時，影響效果有減少之現象，正顯示外資與美國 S&P500 期貨扮演中介效果(mediating effect)的角色。

關鍵字：長期記憶、分數共整合、FIVAR-HYGARCH、避險

ABSTRACT

A Study on the Interactions, Long Memory, and Volatility Spillover Effects for Stock, Futures, and Options Markets of Taiwan Weighted Stock Index: The Mediating Effect of Foreign Capital and Hedging Effect of S&P500 Futures and an Application of FIVAR-HYGARCH Model

by

LAI, KUN-MU

June 2009

ADVISOR(S): Dr. LIU, HSIANG-HSI

DEPARTMENT: GRADUATE INSTITUTE OF INTERNATIONAL BUSINESS

MAJOR : INTERNATIONAL BUSINESS

DEGREE: MASTER OF BUSINESS ADMINISTRATION

This study investigates the interactions, long memory, and volatility spillover effects for stock, futures and options markets of Taiwan weighted stock index by using FIVAR-HYGARCH model. It also discusses the mediating effects of foreign capital and hedging effect of American S&P500 Futures. The sample period of this study is from January 1, 2005 to August 31, 2008.

The empirical results verify that the FIVAR-HYGARCH model can capture the long-term volatility behavior. The stock, futures and options indexes returns of Taiwan weighted indexes have long memory and own-mean spillover effects. Moreover, the conditional variances also have volatility spillover effects, long memory and its amplitude. Hence, it exists dynamic interrelationships among the stock, futures and options indexes returns of Taiwan weighted indexes. Furthermore, it shows the reduction in long memory and spillover effects by incorporating foreign capital and US S&P500 futures into the model. It also finds that the hedge performance has been improved by using FIVAR-HYGARCH model. In addition, option trading value ratios ($vrs > 1$ or $vrs < 1$), the representative variable of option market have significant effect on cash and futures markets. This indicates that informed investors trade in both option and stock (cash or futures) markets will cause positive/negative option volume to predict future stock price comovement. This effect could be reduced when US S&P500 futures or foreign capital is incorporated into the model as an exogenous variable. This also implies that US S&P500 futures or foreign capital to play the role for showing the mediating effect.

Key words: Long Memory, Fractional Co-integration, FIVAR-HYGARCH, Hedge