

The Dynamic Spillover Effects among Greater China Stock Markets: Evidence from China's "B" Shares Experience

朱孟芳、陳君達

E-mail: 9511698@mail.dyu.edu.tw

ABSTRACT

The aim of this paper is to investigate the impact of CSRC allowing domestic residents to invest in the B-share stock market. We analyze whether there are different the volatility spillover effects and asymmetric effects in greater china area - the Shanghai A, Shanghai B, Hong Kong, and Taiwan stock markets during the pre- and post-event period via EGARCH model. The sample period spans from January 1, 1998 to December 31, 2004. Our results indicate that these four stock markets all have volatility spillover effects during pre-event period. The results also show that there are asymmetric effects in Shanghai B, Hong Kong, and Taiwan stock markets. However, the Shanghai A- and B-share has higher correlation and the Shanghai A and Hong Kong stock markets have no volatility spillover effect during post-event period. During the post-event period, only Taiwan has asymmetric effects. This result is consistent with the segmentation market theory. We therefore conclude that the CSRS by permitting domestic residents to invest in B shares will impact the Shanghai A- and B-share, Hong Kong, and Taiwan stock markets.

Keywords : Return spillover, Volatility spillover, EGARCH model

Table of Contents

封面內頁 簽名頁 授權書.....	iii	中文摘要.....	iv	英文摘要.....	v	誌謝.....	vi	目錄.....	vii	圖目錄.....	ix	表目錄.....	x																																						
第一章 緒論 第一節 研究背景與動機.....	1	第二節 研究目的.....	4	第三節 研究範圍與限制.....	4	第四節 研究內容與流程.....	5	第二章 文獻探討 第一節 國際資本市場整合與區隔理論.....	7	第二節 波動性與EGARCH 模型之相關研究.....	10	第三章 研究設計 第一節 研究架構.....	13	第二節 研究方法.....	14	第三節 資料來源與處理.....	29	第四章 實證結果分析 第一節 敘述統計.....	31	第二節 單根檢定.....	36	第三節 EGARCH 模型之分析.....	37	第五章 結論與建議 第一節 結論.....	46	第二節 建議.....	47	參考文獻.....	48	圖目錄 圖1. 研究流程圖.....	6	圖2. 研究架構圖.....	13	圖3. 四變數之日資料趨勢圖.....	32	表目錄 表1. 四變數之基本統計資料.....	34	表2. 四變數之相關係數矩陣.....	35	表3. 四變數之單根檢定.....	36	表4. 四變數差分後之單根檢定.....	37	表5. 各樣本市場股市AR(1)模型殘差項分析.....	38	表6. 全樣本時期多變量EGARCH(1.1)模型之估計.....	41	表7. B股開放前多變量EGARCH(1.1)模型之估計.....	44	表8. B股開放後多變量EGARCH(1.1)模型之估計.....	45

REFERENCES

- 中文部份 1.吳銀釧,「台灣與國際股市相關係數的時間數列分析及應用」,國立政治大學國際貿易研究所碩士論文,民國87年6月。
2.李文雄、陳志鈞與陳君達(2006),「亞洲主要股市報酬關聯性之研究 - 以日本股市歷史低點前後為例 - 」,企業管理學報,即將刊登。
3.林基煌與徐政義(2004),東亞地區新興市場匯率與股價指數之關係-金融風暴前後的實証分析,中華管理學報,5:1,23-39。
4.林景春、邱建良與李命志(2003),「國際股市報酬關聯性與波動傳遞不對稱現象之研究」,企業管理學報,56,63-85。
5.黃博怡與陳君達(2002),「台灣與美日兩國股市股價的關聯性-分類 股價指數門檻GARCH 模型分析」,臺灣銀行季刊,53:4,67-88。
6.董澍琦、楊聲勇與藍淑鳳(2005),股票報酬與經濟成長-亞太新興國家之實証研究,東海管理評論,7:1,285-304。
7.劉祥熹與曾建國(2003),「共整合系統中隱含共同因子之估計與應用 -亞太華人地區股市關聯性之分析」,企業管理學報,56,31-61。
8.謝明瑞(2001),「新228事件國內產業恐掏空」,中央日報,3月12日。
9.蘇永成與蔡玠旻(1996),「亞洲新興市場間波動性及報酬之波及效果」,證券市場發展季刊,8:1,67-88。
英文部分 1.Arshnapalli, B. and J. Doukas (1993), " International Stock Market Linkages: Evidence from the Pre- and Post-October 1987 Period. " Journal of Banking & Finance, 17, 193-208. 2.Arshnapalli, B., J. Doukas, and L. H.. P. Lang (1995), " Pre and Post-October 1987 Stock Market Linkages Between U.S. and Asian Markets. " Pacific-Basin Finance Journal, 3, 57-73. 3.Black, F. (1976), " Studies of Stock Market Volatility Changes. " Preceedings of the Americans Statistical Association Business and Economics Studies Section, 117-181. 4.Bollerslev, T. (1986), " Generalized Autoregressive Conditional Heteroskedasticity, " Journal of Econometrics, 31:3, 307-327.

5. Bollerslev, T. P., R. F. Engle, and J. M. Wooldridge (1988) "A Capital Asset Pricing Model with Time Varying Covariances." *Journal of Political Economy*, 96, 116-131. 6. Braun, P. A., D. B. Nelson, and A. M. Sunier (1995), "Good News, Bad News, Volatility, and Betas." *Journal of Finance*, 50:5, 1575-1603. 7. Chan, K. C., B. E. Gup, and M. S. Pan (1992), "An Empirical Analysis of Stock Prices in Major Asian Markets and the United States." *The Financial Review*, 27:2, 289-307. 8. Chiu, C.-L., M. Lee, C.-D. Chen (2005), "Removal of an Investment Restriction: The 'B' Share Experience from China's Stock Markets." *Applied Financial Economics*, 15:4, 273-285. 9. Chow, K. V., M. S. S. Pan, and R. Sakano (1996), "On the Long-Term or Short-Term Dependence in Stock Prices: Evidence from International Stock Markets." *Review of Quantitative Finance and Accounting*, 6:2, 181-194. 10. Christie, A. (1982) "The Stochastic Behavior of Common Stock Variance: Value, Leverage and Interest Rate Effects." *Journal of Financial Economics*, 10, 407-432. 11. Christofi, A. C., P. Theodossiou, and P. Andreas (1999), "Time-varying Risk and Return in Global Portfolio Management." *Journal of Investing*, 8, 62-69. 12. Dickey, D. A. and W. A. Fuller (1979), "Distribution of the Estimators for Autoregressive Time Series with a Unit Root." *Journal of American Statistics Association*, 74, 427-431. 13. Engle, R. F. (1982), "Autoregressive Condition Heteroskedestivity with Estimates of the Variance of United Kingdom Inflation." *Econometrica*, 50, 987-1007. 14. Engle, R. and C. Mustafa (1995), "Implied ARCH Models from Option Prices." *Journal of Finances*, 48, 289-311. 15. Eun, C.S. and S. Shim, (1989), "International Transmission of Stock Market Movements." *Journal of Financial and Quantitative Analysis* 24(2), 241-256. 16. Ewing, B. T., P. E. James, and S. Clifford (1999), "NAFTA and North American Stock Market Linkages: An Empirical Note." *North American Journal of Economics and Finance*, 10:2, 443-459. 17. French, K. R., G. W. Schwert, and R. Stambaugh (1987), "Expected Stock Returns and Volatility." *Journal of Financial Economics*, 19, 3-29. 18. Geoffrey B., T. Martikainen, and Y. Tse (1997), "Price and Volatility Spillovers in Scandinavian Stock Markets." *Journal of Banking and Finance*, 21, 811-823. 19. Gerrits, R. J. and A. Yuce (1999), "Short- and Long-Term Links among European and US Stock Markets." *Applied Financial Economics*, 9:1, 1-9. 20. Ghosh, A. (1999), "Who Moves the Asia-Pacific Stock Markets U.S. or Japan? Empirical Evidence Based on the Theory of Cointegration." *The Financial Review*, 34, 159-170. 21. Granger, C. W. J. and P. Newbold (1974), "Spurious Regressions in Econometrics." *Journal of Econometrics*, 2, 111-120. 22. Hamao, Y.R., R.W. Masulis, and V.K. Ng, (1990), "Correlation in Price Changes and Volatility across International Stock Markets." *The Review of Financial Studies* 3(2), 281-307. 23. Jarrow, R. A., V. Deventer, and R. Donald (1998), "The Arbitrage-Free Valuation and Hedging of Demand Deposits and Credit Card Loans." *Journal of Banking and Finance*, 22, 249-272. 24. Johnson R. and L. Soenen (1993), "Stock Market Reaction to EC Economic and Monetary Integration." *European Management Journal*, 11, 85-92. 25. Ko, K. S. and S. B. Lee (1991), "A Comparative Analysis of the Daily Behavior of Stock Return: Japan, the U.S. and the Asian NICs." *The Journal of Business Finance & Accounting*, 18:2, 219-234. 26. Koutmos, G. and G.G. Booth, (1995), "Asymmetric volatility transmission in international stock markets." *Journal of International Money and Finance* 14, 747-762. 27. Lamoureux, C. G. and W. D. Lastrapes (1990), "Heteroskedasticity in Stock Return Data: Volume Versus GARCH Effects." *The Journal of Finance*, 45, 221-230. 28. Lee, S. B. and K. Y. Ohk (1992), "Stock Index Futures Listing and Structural Change in Time-Varying Volatility." *The Journal of Futures Markets*, 12, 493-509. 29. Lessard, D. (1976), "World, Country and Industry Relationships in Equity Returns: Implications for Risk Reduction through International Diversification." *Financial Analysis Journal*, 32, 32-38. 30. Liu, Y. A., M. S. Pan and J. C. P. Shieh (1998), "International Transmission of Stock Price Movements Evidence from the U.S. and Five Asian-Pacific Markets." *Journal of Economics and Finance*, 22:1, 59-69. 31. Ludwig, A. and S. Torsten (2004), "The Relationship between Stock Prices, House Prices and Consumption in OECD Countries." *Topics in Macroeconomics*, 4, 1114-1139. 32. Mandelbort, B. (1963), "The variation of certain speculative prices." *Journal of Business*, 36:2, 394-419. 33. Maysami, R. C. and T. S. Koh (2000), "A Vector Error Correction Model of the Singapore Stock Market." *International Review of Economics & Finance*, 9:1, 79-92. 34. Nelson, D. B. (1991), "Conditional Heteroskedasticity in Asset Returns: A New Approach." *Econometric*, 59:2, 347-370. 35. Partell, J. and M. Wolfson (1984), "The Intraday Speed of Adjustment of Stock Prices to Earnings and Dividend Announcements." *Journal of Financial Economics*, 13, 223-252. 36. Racine, M. D. and L. F. Ackert (2000), "Time-Varying Volatility in Canadian and U.S. Stock Index and Index Futures Markets: A Multivariate Analysis." *The Journal of Financial Research*, 23:2, 129-143. 37. Roca, E. D., E. A. Selvanathan, and W. F. Shepherd (1998), "Are the ASEAN Equity Markets Interdependent?" *ASEAN Economic Bulletin*, 15:2, 109-120. 38. Yang, J., W. K. James, and M. Insik (2003), "Stock Market Integration and Financial Crises: The case of Asia." *Applied Financial Economics*, 13, 477-499.