The Dynamic Interrelationship between Stock Markets of Taiwan and Its Main Trading Partners

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ABSTRACT

This study discusses the interrelationship among the Taiwan and Taiwan's top five trading nation stock markets at the industry level. The study period includes from January 3rd of 2000 to August 31th of 2012. There are totally data of 3,305 days. The industrial indices are extracted from the Datastream database. The industry classification refers to the industry sector indices of Level 2 industry code. The empirical results show, all the eight sector indices of Taiwan and it top five trading nations belong to time series of I (1). Taiwan and its top five trading nations have cointegration in five sectors: basic materials, financials, oil & gas, technology, and telecom. The cointegration does not exist in three sectors: consumer goods, industrials, consumer service. Thus, investors should choose the sectors carefully when making their long-term portfolio in stock markets of Taiwan and its top five trading nations in order to diversify the risk. Besides, according to the results of Granger causality test, this study finds the interrelationship of the bi-directional feedback and unidirectional causality between the sectors of Taiwan and the US is stronger. With the impluse response analysis, this study finds that, for the sectors that cointegration does not exist among Taiwan and its top five trading nations, the short-term interrelationship is not strong. For sectors that cointegration exists, there is long-term equilibrium relationship. Finally, by the variance decomposition results, this study finds all the eight sectors of the US have the highest explanatory power for the variation of Taiwan sector indices. On the other hand, the indices of Taiwan have weak explanatory power for the indices of its trading nations, except that the explanatory power is relatively higher for the variation of South Korea's stock sectors. In summary, the US has the highest impact on Taiwan while Taiwan has relatively higher impact on South Korea. In other words, the industry stocks of Taiwan and the US have the strongest interrelationship while those of Taiwan and South Korea have relatively higher interrelationship. Investors can predict the indices of Taiwan's stock market and formulate a reference investment strategy by observing the sector variation of the US stock market.

Keywords: Taiwan and its major trading nations sector indices interrelationship

Table of Contents

REFERENCES

1.　　　　2002　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　2.
2006　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　3.　　(2001)
-　　　　　　　　　　　　　　　　　　　　　　　　　　4.　　　2010
5.　　　　　　2004
1(2)　1-24　　6.　?　　　　　2010
61　2　191-207　7.　　2005　　　　　　　　　　　BDI
8.　　　(2008)
2　1　87– 113　9.　　2010　　　　　　TFT-LCD
FIEC-FIGARCH　　　　　　　　　　　4　1　225 -244　10.　　　　　　　　　2010
WTO　　　　　　　　　　10　2　171– 204　11.
2012　　　WTO　　　　　　　　　　9　2　53– 92　12.
2009　　　　　　　　　　　　　　　　13.　　　　1998
35(2)　1-15　14.　1995
15.　　　　　2006　　　　　　　:　IRF
8　1　1-32

1.Bracker, K.,Docking, D.S.,and Koch,P.D. 1999 .Economic Determinants of Evolution in International Stock Market Integration. Journal of Empirical Finance,6,1-27. 2.Chowdhury, A. R. (1994). Stock market interdependencies : evidence from the AsianNIEs, Journal of Macroeconomics, 16, 629-51. 3.Chung, P. J., & Liu, D. J. (1994). Common stochastic trends in Pacific rim stockmarket, The Quarterly Review of Economics and Finance, 34, 241-259. 4.Engle, R., & Granger, C. W. J. (1987), " Cointegration and error correction: Representation, Estimation and testing" Econometrica, 55:251-267. 5.Eung, C. and S. Shim, 1989 " International Transmission of Stock Market Movements," Journal of Financial and Quantitative Analysis, Vol. 24, , pp.241-356 6.Forbes, K. & Rigobon, R. (2002)," No Contagion Only Interdepenence:Measuring Stock Market Comovements." Journal ofFinance, Vol.5:2223-2261. 7.Grubel, H. G. (1968), " International Diversified Portfolios : Welfare Gains and Capital Flows" American Economic Review, Vol.58(5):1299-1314. 8.Granger, C. W. J. (1969), Investigating causal relations by econometric models and cross-spectral, Econometric, Vol.37:424-438. 9.Granger, C. W. J. and Newbold, P. (1974). Spurious Regressions in Econometrics , Journal of Econometrics, Vol.12, pp.111~ 120. 10.Huang, B. N., Yang, C. W., & Hu, W. S. (2000). Causality and cointegration of stockmarket among the United States, Japan and the south China growth triangle,International Review of Financial analysis, 9, 281-297. 11.Johansen, S. and Juselius, K. 1990 , " Maximum Likelihood Estimationand Inference on Cointegration with Application to the Demand 101 for Money" , Oxford Bulletin of Economics and Statistics, Vol.52 (5):169-210. 12.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 Susiness Finance Accounting,18,pp.219-234. 13.Lin,Y.A.,Pan,M.S. and Fung,H.G.(1996)," International Transmission of Stock Prices Movement: Evident from the U.S. and Six Asian Stock Pacific Basin Markets," Journal of Multinational Management,Vo1.6,pp.81-94. 14.Markowitz H. M. 1952 , " Portfolio Selection" Journal of Finance, Vol.7(1):77-91. 15.Malliaris, A. G., & Urrutia, J. L. (1992). The international crash of October 1987 : causality tests, Journal of Financial and Quantitative Analysis, 8, 71-91. 16. Nelson, C. R., & Plosser, C. I. (1982). Trends and random walks in macroeconomic time series, Journal of Monetary Economics, 10, 149-162. 17.Roca, E. D. (1999). Short-term and long-term price linkages between the equity markets of Australia and its major trading partners. Applied Financial Economics, 501-511. 18.Pretorius, E. 2002 .Economic Determinants of Emerging Stock Market Interdependence. Emerging Markets Review,3,84-105. 19.Roll, R. 1992 ," Industrial structure and the comparative behavior of international stock market indices." Journal of Finance, Vol.47:3-41. 20.Said, S. and Dickey, D. (1984), " Testing for Unit Roots in Autoregressive-Moving Average Model of Unknown Order" Biometrica, Vol.71:599-607. 21.Shamsuddin, A. F. M. and Kim, J. H. (2003) " Integration and Interdependence of Stock and Foreign Markets: An Australian Perspective," International Financial Markets, Institution And Money, 13:237-254. 22.Sims, C. A. (1980). Macroeconomics and reality, Econometric, 48, 1-48. 23.Soydemir, G 2000 .International Transmission Mechanism of Stock Market Movements :Evidence from Emerging Equity Markets. Journal of Forecasting,19,149-176.