An Exploration of Correlations Between Returns of Real Estate and Investment Products The Case of United States and Ja

林志堯、陳美玲

E-mail: 9806457@mail.dyu.edu.tw

ABSTRACT This research is to study the linkages of price information exchange among REITs, stock, and bond market. The researcher chose

America and Japan as the representative market of REITs and used the data collected during 2005 to 2008, covering the discussion of volatility clustering, Volatility Asymmetry, Volatility and Volatility Asymmetry transmission, risk premium, Multivariate model as the setting of GJR GARCH-M model in order to further specify the dynamics among both America and Japan markets. The empirical result has revealed that REITs, stock and bond, and stock profit re-turns from America and Japan market are positive correlated, meaning that they are to some degree impacted the price of both stock market. In the aspect of the Volatility transmission, if the REITs of America and Japan market is positive correlated with bond market, the more the fluctuation from REITs market, the stronger the fluctuation of the bond market. On the contrary, if they are negative correlated, the market is considered either overreacted or insufficient information. Moreover, it also further explained that the higher the risk of fluctuation,

In addition to the obvious volatility clustering existed between REITs, stock, and bond market in America and Japan, within the Volatility Asymmetry, it also revealed significant result, explaining that the worsening of the previous market situation will strengthen the present market fluctuation.

The estimation of Volatility Asymmetry transmission of REITs and stock market in America and Japan has reached certain level of standard. This explained that the wor-sening of REITs market exhibited greater cross market volatility asymmetry transmission when compared to the soaring of REITs market. Finally, coming to the correlation variance of REITs, stock, and bond market in America and Japan, due to REITs shares the property of stock and bond, the profit return or fluctuation estimation also revealed high correlation. Conclusively, if the investor take three of them into portfolio combination, it will be difficult to hedge the risk. The research result shows: Taiwan is the horizontal of glass industry clusters. And China is classified in the vertical of glass industry clusters. The glass industry clusters in Taiwan are related to Business competitive advantage obviously. On the contrary, the glass industry clusters in China with Business competitive advantage have reverse rela-tion.

Keywords: REITs, GJR GARCH-M, volatility clustering, volatility asymmetry transmission

Table of Contents

中文	摘要																			iii
英文	摘要																			iv
誌謝	爵辛																			vi
內容	目錄																			νi
表目	錄																			ix
圖目	錄																			Х
第一	章		緒詣	H																1
	第一	節		石	开:	究	背	景	與	動	機									1
	第二	節		石	开:	究	目	的												6
	第三	節		石	开:	究	流	程												7
	第四	節		石	开:	究	範	韋	與	限	制									7
第二	章		文鬳	1	回	顧														9
	第一	節		7	不	動	產	投	資	信	託	之	定	義						9
	第二	節		A	殳:	票	與	債	券	之	相	關	文	獻						10
	第三	節	RE	ΙT	Γs	與	服	票	之	.相	鄸	文	鬳	ὶ.				1	0	
	第四	節	RE	ΙT	Γs	與	[債	券	之	.相	鄸	文	鬳	ὶ.				1	2	
	第五	節		B	夸	市	場	波	動	傳	導	之	探	討						13
第三	章		研究	ะว	方	法														15

the higher the risk in risk premium.

第一節 資料來源與處理
第二節 單根檢定
第三節 序列相關及異質性檢定 17
第四節 多元GARCH模型
第五節 實證模型
第四章 實證結果
第一節 基本特性 24
第二節 檢定方法與結果 28
第三節 GJR GARCH-M實證模型結果 33
第四節 綜合結果說明 40
第五章 結論與建議
第一節 結論
第二節 建議
參考文獻
附錄A 美、日不動產證券化制度之比較 51
附錄B 美國REITs、股票及債券市場動態關聯證估計結
果表
附錄C 中國大陸問卷
表目錄
表 4- 1 各類投資商品報酬率之基本敘述統計量 27
表 4-1 各類投資商品報酬率之基本敘述統計量27表 4-2 各類投資商品報酬率之報酬之單根檢定結果29
表 4-2 各類投資商品報酬率之報酬之單根檢定結果 29表 4-3 一階序列相關檢定統計值
表 4-2 各類投資商品報酬率之報酬之單根檢定結果 29表 4-3 一階序列相關檢定統計值
表 4-2 各類投資商品報酬率之報酬之單根檢定結果 29 表 4-3 一階序列相關檢定統計值
表 4-2 各類投資商品報酬率之報酬之單根檢定結果 29 表 4-3 一階序列相關檢定統計值
表 4-2 各類投資商品報酬率之報酬之單根檢定結果 29 表 4-3 一階序列相關檢定統計值
表 4-2 各類投資商品報酬率之報酬之單根檢定結果 29 表 4-3 一階序列相關檢定統計值
表 4-2 各類投資商品報酬率之報酬之單根檢定結果 29 表 4-3 一階序列相關檢定統計值
表 4-2 各類投資商品報酬率之報酬之單根檢定結果 29 表 4-3 一階序列相關檢定統計值
表 4-2 各類投資商品報酬率之報酬之單根檢定結果 29 表 4-3 一階序列相關檢定統計值
表 4-2 各類投資商品報酬率之報酬之單根檢定結果 29 表 4-3 一階序列相關檢定統計值
表 4-2 各類投資商品報酬率之報酬之單根檢定結果 29 表 4-3 一階序列相關檢定統計值
表 4- 2 各類投資商品報酬率之報酬之單根檢定結果 29 表 4- 3 一階序列相關檢定統計值
表 4- 2 各類投資商品報酬率之報酬之單根檢定結果 29 表 4- 3 一階序列相關檢定統計值
表 4- 2 各類投資商品報酬率之報酬之單根檢定結果 29 表 4- 3 一階序列相關檢定統計值
表 4- 2 各類投資商品報酬率之報酬之單根檢定結果 29 表 4- 3 一階序列相關檢定統計值
表 4- 2 各類投資商品報酬率之報酬之單根檢定結果 29 表 4- 3 一階序列相關檢定統計值

REFERENCES

一、中文部份王牲(1995),報酬衝擊對條件波動所造成之不對稱效果-台灣股票市場之實證分析,證券市場發展季刊,7(1),125-161。王凱立,陳美玲(2002),美國和台灣股票期貨市場之動態關聯:一般化多變量GARCH模型的應用,經濟論文,30(4),363-408。林卓民,王凱立,王美智(2004),美國與台灣跨國債券市場交互動態關?之研究,第五屆全國實證經濟學論文研討會。富邦證券投資顧問股份有限公司(2004),不動產投資信託REITs分析之國際經驗,不動產與不動產投資信託研究專題(一),台北:富邦證券投資顧問股份有限公司。黃仁德,楊忠誠(1999),台灣公債殖利率決定因素的探討,國立政治大學學報,79,63-98。葉淑玲(2006),談美日不動產投資信託(REITs)之發展經驗,證券暨期貨月刊,24(3),38-62。廖咸興,李阿乙,梅建平(1999),不動產投資概論(3版),台北:華泰書局。歐宏杰(2006),未來資產配置的新星-REIT,集保結算所月刊,156,13-34。頤欣,徐則娟(2007),基於GJR GARCH模型上海股票市場之風險值分析,金融經濟,2007(6B),97-98。二、日文部份大橋和?,紙田純子,永井輝一(2004),J-REIT?????分析-2001年9月??2004年3月???週次??????分析-,國土交通政策研究第36號。岡正規(2007),不動?投資市場?動向,????基礎研究所金融研究部門NLI Research Institute。三、英文部份Bauwens, L., & Laurent, S. (2002). A new class of multivariate skew densities, with application to GARCH models. Forthcoming in

Journal of Business and Economic Statistics, 23(3), 346-354.Berndt, E. K., Hall, B. H., Hall, R. E., & Hausman, J. A. (1974). Estimation inference in nonlinear structural models. Annuals of Economic and Social Measurement, 4, 653-665. Bogert, G. G., & Bogert, G. T. (1992). The Law of Trusts and Trustees, 247. Minnesota: West publishing corporation. Bodie, Z. (1976). Common stocks as a hedge against inflation. Journal of finance, 44, 459-470.Bollerslev, T. (1990). Modelling the coherence in short-run nominal exchange rates: A multivariate generalized ARCH model. Review of Economics and Statistics, 72, 498-505. Chan, S. H., Erickson, J., & Wang, K. (2003). Real estate investment trusts structure, performance, and investment opportunities. New York: Oxford University Press.Chou, R.Y. (1988). Persistent volatility and stock returns some empirical evidence using GARCH. Journal of Applied Econometrics, 3, 279-194.Chu, Q. C., Hsieh, W. G., & Tse, Y.(1999). Price discovery on the S&P500 index markets: An analysis of spot index, index futures, and SPDRs. International Review of Financial Analysis, 8, 21-34. Clayton, J., & MacKinnon, G. (2000). Measuring and explaining changes in REIT liquidity: Moving beyond the bid-ask spread. Real Estate Economics, 28, 89-115.Corgel, J., Mcintosh, B. W., & Ott, S. H. (1995). Real estate investment trusts: A review of the financial economics literature. Journal of Real Estate Literature, 3, 13-43. Edelen, R. M., & Warner, J. B. (2001). Aggregate price effects of institutional trading: A study of mutual fund flow and market returns. Journal of Financial Economics, 59, 195-220. Engle, R. F., Lilien, D. M., & Robins, R. P. (1987). Estimating time-varying risk premia in the term structure: The ARCH-M model. Econometrica, 55, 391-407. Engle, R.F., & Ng, V. K. (1993). Measuring and testing the impact of news on volatility. Journal of Finance, 48, 1749-1778. Fornari, F., & Mele, A. (1995). Sign and volatility-switching ARCH model theory and volatility. Journal of Applied Econometrics, 12, 49-56. Glascock, J. L., Lu C., & So, R. W. (2000). Further evidence on the integration of REIT, bond, and stock returns. Journal of Real Estate Finance and Economics, 20, 177-194. Glascock, J. L., Lu C., & So, R. W. (2000). REITs return and inflation: Perverse or reverse causality effects. Journal of Real Estate Finance and Economics, 24, 301-317. Glosten, L. R., Jagannathan, R., & Runkle, D. (1993). On the relation between the expected value and the volatility of the nominal excess return on stocks. Journal of Finance, 48, 1779-1801.Hull, J. C. (2001). Fundamentals of futures and options markets (4th eds.). New Jersey: Prentice-Hall.Ibbotson, R. C., Siegel, L. B., & Love, K. S. (1985). World wealth: Market values and returns. Journal of Portfolio Management, 12, 4-23. Jaffe J. F. (1991). Tax and the capital structure of partnership, REITs, and related entities. The Journal of Finance, 46(1), 401-407. Kanas, A. (1998). Volatility spillovers across equity markets: European evidence. Applied Financial Economics, 8, 245-56. Kellman, M., & Kraizberg, E. (2002). Matched-long term maturity stock and bond returns in the international markets. American Economist, 46, 45-53. Larson, S. (2005). Real estate investment trusts and stock price reversals. Journal of Real Estate Finance & Economics, 30, 81-88.Li, Y., & Wang, K. (1995). The predictability of REIT returns and market segmentation. Journal of Real Estate Research, 10, 471-483. Ling, D. C., & Ryngaert, M. (1997). Valuation uncertainty, institutional involvement, and the underpricing of IPOs: The case of REITs. Journal of Financial Economics, 43, 433-456. Longin, F., & Solnik, B. (1995). Is the correlation in international equity returns constant: 1960-1990. Journal of International Money and Finance, 14(1), 3-26.Lowy, J. M. (1999). Real estate investment trusts. Tax Management Real Estate Journal, 15, 115-158. Marcus, T. A., Madura, J., & Springer, T. M. (2000). REIT characteristics and the sensitivity of REIT returns. Journal Real Estate Finance and Economics, 21, 141-152. Maris, B. A., & Fayez, A. E. (1990). Capital structure and the cost of capital for untaxed firms: The case of REITs. AREUEA Journal, 18(1), 22-39. Mukherjee, T. K., & Naka, A. (1995). Dynamic relations between macroeconomic variables and the Japaneses stock market: An application of a vector error correction model. The Journal of Financial Research, 18, 223 -237. Nelson, C. (1976). Inflation and rates of return on common stock. Journal of Finance, 31, 471-483. Oppenheimer, P., & Grissom, T. V. (1998), Frequency space correlation between REITs and capital market indices, Journal of Real Estate Research, 16, 291-310.Potter, M. (1996). The dynamic relationship between security returns and mutual fund flows. University of Massachusetts-Amherst Ph.D. Dissertation. Ross, S. A. (1989). Information and volatility: The no-arbitrage martingale approach to timing and resolution irrelevancy. Journal of Finance, 44, 1-17. Shiller, R. J., & Beltratii, A. E. (1990). Stock prices and bond yields: Can their co-movements be explained in terms of present value models? Journal of Monetary Economics, 30, 25-46. Vines, T. W., Hsieh, C. H., & Hatem, J. J. (1994). The role of systematic covariance and coskewness in the pricing of real estate: Evidence from equity REITs. The Journal of Real Estate Research, 9, 421-429