

The relationship among stock prices, housing prices, and loan rates : evidence from U.S. and Taiwan

張原啟、劉文祺

E-mail: 324860@mail.dyu.edu.tw

ABSTRACT

The crisis of sub-premium mortgage happened in USA not only led stock market and housing market to fluctuate violently and crash, but also hurt the economy in the world. Taiwan is one of them, too. The fluctuating of stock prices and housing prices affect personal income and business seriously. Especially, housing prices fluctuating will make bad debt happen when bank loan money; Fluctuating in loan rates not just affect the repayment for person and enterprise, it may bring stock prices and housing prices fluctuating, too. Loan rates bring stock prices and housing prices will affect each other seriously because of that. Therefore, it is necessary to know the relationship among stock prices, housing prices and loan rates. In this study, we analyze the relationship among stock prices, housing prices and loan rates of USA and Taiwan, respectively. The time span is from 1994Q1 to 2010Q3, including 67 seasons. In Taiwan, the stock prices in last season and before one make the positive effect in the housing prices, and it is wealth effect. In the other words, investors get more income will get more consuming or make some of fund in the real estate for spreading loss after stock prices rising. However, we can't get the same information in the USA sample. The housing prices don't have obvious effect. It means there are not any credit-price effects in the same way. Even the housing prices rising can't affect stock prices rising obviously. It is approved after match two models. In the last, we observe the effects between stock prices, housing prices to loan rates. Only stock prices rising will affect the loan rates in positive effect, but the housing prices don't help it. We can see the result in the two samples.

Keywords : Stock prices、Housing Prices、Loan Rates、VECM

Table of Contents

中文摘要	英文摘要
誌謝辭	內容目錄
表目錄	圖目錄
第一章 緒論	1 第一節 研究動機
1 第二節 研究目的	3 第三節 研究範圍
4 第四節 研究架構	5 第二章 文獻探討
7 第一節 股價與房價關聯性之文獻回顧	7 第二節
13 第三節 房價與利率關聯性之文獻回顧	15 第四節
18 第三章 研究方法	21
21 第一節 定態數列與單根檢定	24 第二節 共整合概念與Johansen 共整合檢定
26 第三節 向量自我迴歸模型 (VAR)	26 第四節 向量誤差修正模型 (VECM)
27 第四章 實證分析	30 第一節 敘述統計
30 第二節 單根檢定	35 第三節 Johansen共整合檢定
37 第四節 向量誤差修正模型 (VECM)	39 第五章 結論與後續建議
45 第一節 研究結論	45 第一節
47 參考文獻	48 第二節 後續建議

REFERENCES

- 一、中文部分 王美玲 (2004), 「我國住宅抵押債權違約壓力忍受程度之研究」, 朝陽科技大學財務金融系碩士論文。林聰賢 (2007), 「STVEC-GARCH模型之建立、估計與應用 - 台灣地區股價、房價與利率關聯性之研究」, 國立臺北大學統計學系碩士論文。俞海琴、張錫杰 (1993), 「台灣地區股價與匯率、利率互動關係之研究 - 向量自我迴歸模式之應用」, 中原學報, 22卷:176~191。陳隆麒、李文雄 (1998), 「臺灣地區房價、股價、利率互動關係之研究 聯立方程模型與向量自我迴歸模型之應用」, 中國財務學刊, 5卷4期:51~71。秦國維 (1996), 「股價與房價互動關係之實證研究」, 私立輔仁大學碩士論文。黃佩玲 (1994), 「住宅價格與總體經濟變數關係之研究」, 政治大學地政研究所碩士論文。張鳳貞 (1999), 「台灣地區利率、匯率與股價互動關係之研究」, 國立中

興大學統計學系碩士論文。曾淑婷 (2005) , 「以向量自我迴歸模型探討股價及利率之關聯性」, 南華大學管理科學研究所碩士論文。鄭佳音 (2000) , 「台灣地區股價與房價之互動關係研究」, 淡江大學碩士論文。蔡明倫 (2008) , 「不動產市場與股票市場關聯性分析-以美國、澳洲、日本、台灣市場為例」, 中央大學碩士論文。賴碧瑩 (2007) , 「應用類神經網路於電腦輔助大量估價之研究」, 住宅學報, 學術論著, 16卷2期:43-65。賴郁媛 (2004) , 「我國不動產市場與經濟變數長期整合之探討」, 朝陽科技大學碩士論文。賴怡誠 (1998) , 「房地產景氣預測之研究」, 國立中央大學土木工程研究所碩士論文。羅國男 (1991) , 「台灣房地產景氣與股價關係性之研究」, 國立中興大學企業管理研究所碩士論文。二、英文部分 Abdullah, D. A., and S. C. Hayworth (1993), "Macroeconometric of Stock Price Fluctuation," *Quarterly Journal of Business and Economics*, 32, 50-68. Ali Velshi (2010) , "Buying a Home Now Is a No-Brainer," *Money*, 39(11), 44. Banerjee, A., J. Dolado, J. W. Galbraith, and D. F. Hendry (1993) *Cointegration, Error-Correction, and The Econometric Analysis of Non-stationary Data*. New York: Oxford University Press. Dickey, D. and W. A. Fuller (1979), "Distribution of the Estimates for Autoregressive Time Series with a Unit Root. ", *Journal of the American Statistical Association*, 74, 427-31. Dickey, D. and W. A. Fuller (1981), "Likelihood Ratio Statistics for Autoregressive Time Series with a Unit Root ", *Econometrica*, 49, 1057-1072. Enders, W. (1995), *Applied Econometric Time Series*, John Wiley & Sons Inc. Enders, W., and P. L. Siklos, (2001), "Cointegration and Threshold Adjustment," *Journal of Business Economics & Statistics*, 19, 166-167. Engle, R. and C. Granger (1987), "Co-Integration and Error Correction: Representation, Estimation and Testing," *Econometrics*, 55, 251-276. Granger, C. W. J. (1969), "Investigating Causal Relations by Econometric Models and Cross-spectral Methods," *Econometrica*, 37, 424-438. Kim, E. and W. Yang, (2006), "Profitability of Office Rental Market in Seoul: An Application of Simultaneous Structural Equations," *Real Estate Economics*, 34, 157-171. Honda, Y. and Y. Kuroki (2006), "Financial and Capital Markets' Responses to Changes in the Central Bank' Target Interest Rate: The Case of Japan," *Economic Journal*, 116(513), 812-842. Tsai, H. J. and M. C. Chen (2010), "The Impacts of Extreme Events of Dynamic Interactions on Interest Rate, Real House Price and Stock Markets," *International Research Journal of Finance & Economics*, 35, 187-201. Jacobsen, D. S., K. Johansen, and K. Haugland, (2007) , "Housing investment and house prices," *Economic Bulletin (Norges Bank)*, 78 (1), 33-46. Johansen, S. (1988), "Statistical analysis of cointegrating vectors ", *Journal of Economic Dynamics and Control*, 12, 231-254. Johansen, S. and Juselius, K. (1990), "Maximum likelihood estimation and inference on cointegration – with applications to the demand for money " , *Oxford Bulletin of Economics and Statistics*, 52, 169-210. Johansen, S. (1995), "Likelihood-Based Inference in Cointegrated Vector Autoregressive Models," Oxford University Press. Larson, S. (2005), "Real Estate Investment Trusts and Stock Price Reversals," *Journal of Real Estate Finance & Economics*, 30, 81-88. Nathan B., A. Y. Gu, and D. Lien (2007) , "Dynamic Correlation: A Tool for Hedging House Price Risk?" *Journal of Real Estate Portfolio Management*, 13 (1), 17-28. Ong, S. E. (1995), "Singapore Real Estate and Property Stocks – A Cointegration Test," *Journal of Property Research*, 12, 29-39. Quan, D. C. and S. Titman (1999), "Do Real Estate, Prices, and Stock Prices Move Together? An International Analysis," *Real Estate Economics*, 27, 183 – 207. Vogel, J., H. John (2006), "Real Estate Finance," (Aspen Publishers Inc.), 22 (6) 10-14.