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Procedia Computer Science 91 (2016) 422 – 431

Procedia Computer Science

Information Technology and Quantitative Management (ITQM 2016)

Dynamic Correlations between Real Estate Prices and International Speculative Capital Flows: An Empirical Study Based on DCC-MGARCH method

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Abstract

This paper employs DCC-MGARCH to calculate the dynamic correlation coefficient between international capital flows and real estate prices. Then it uses VAR model to analyze the relationship between the dynamic correlations between international capitals flows and real estate prices. The empirical study shows that there is a steady positive correlation between real estate prices and international short-term capital flows. When the real estate prices go up, the correlation coefficient is higher, which will lead the short-term international capital to entry. However, when the prices suffer a downturn, the correlation coefficient is lower, which will lead it to quit. The entry of short-term international capital will contribute to the increase of the real estate prices.

Peer-review under responsibility of the Organizing Committee of ITQM 2016

Keywords: real estate prices; international speculative capital flows; dynamic conditional correlation coefficient; VAR model

1. Introduction

The rapid appreciation of housing prices and the growth of investment-oriented housing purchases have been continuing in the past few years. Lured by the rising prices of housing and the steady revaluation of the Chinese currency RMB, foreign funds entered the real estate markets in some popular regions, such as Shanghai and Beijing, through various channels. The entry of international capital brings huge capital and advanced management experience, helps accelerate an increase of supply in real estate market directly and indirectly. Prasad & Wei (2005) reported that starting from 2003, there has been huge capital inflows into

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Peer-review under responsibility of the Organizing Committee of ITQM 2016
doi:10.1016/j.procs.2016.07.114

China that can't be explained by trade surplus or foreign direct investment [1]. Zhang & Fung (2006) indicated the speculative capital inflow is believed to have fuelled inflation, driven up stock prices, and helped accelerate a worrisome bubble in the real estate market [2].

The real estate market is one of the pillars of the Chinese economy and its development has fuelled the economic growth and promoted a restructuring of the economy. The fluctuation of real estate prices relate to cities' potential development ability and competition, and moreover influences the stability of financial system and the establishment of macroeconomic policy. It is indicated that the international capital flow could easily produce a bubble and be one of the reasons of the collapse of housing bubble. Coupled with the sudden increase in China's foreign exchange reserves in the past several years, the domestic real estate market experienced a protracted bull run during the same period, causing many to wonder whether China may be the next country to suffer sharp real estate price declines, or whether it may escape relatively unscathed.

Under the background of real estate prices inflation, it will help to formulate supervision polices of foreign investment, reduce the negative effect caused by international capital flow and stabilize the real estate prices to promote the sustainable, healthy and stable development of real estate industry.

The remainder of this paper is organized as follows: Section 2 gives some background discussions on international capital inflows resulting from the financial liberalization in China and the relevant literature review. Theoretical background is described in Section 3. Section 4 provides empirical analysis. The last section summarizes the main findings and draws some relevant policy implications.

2. Literature Review

2.1. The Reason Resulting in International Capital Flow

According to interest rate parity theory, the difference of interest rate is the main season that results in the short-term international capital flow.

The capitals will inflow the country with higher interest rate when the difference of interest rate can make up capital gains tax and this currency will continue. Fleming (1962) indicated that the international capital flow is more sensitive to floating interest rate than fixed interest rate [3]. Mundell (1962) demonstrated that the international capital flows are responsive to interest rate differentials [4]. Branson (1968) suggested that the shot-term international capital flows depends on the imports and exports balance, interest-rate and exchange rate [5]. Calvo & Reinhart (1993) argued that capital inflows into Latin America are partly explained by conditions outside the region, and the importance of external factors suggests that a reversal of those conditions may lead to future capital outflow, increasing the macroeconomic vulnerability of Latin America economics [6].

2.2. The Effect of International Capital Flows

Owing to capital premium in stock market and real estate market that affects the short-term international capital flows, the correlationship of them has become a new research focus. As indicated in Kim & Singal (2000), the movements of speculative funds, particularly in emerging markets, are allegedly highly sensitive to differences in interest rates, expectations of currency revaluations, and expected returns from holding securities [7]. Gerlach & Peng (2004) studies the relationship between residential property prices and bank lending in Hong Kong and suggest that excessive bank lending was not the root cause of the boom and bust cycles of the property market in Hong Kong [8]. Chari & Kehoe (2003) indicated the nature of the portfolio investments is that they are very yield sensitive, volatile, of shorter duration and are easily exposed to some information frictions, expectations, and herd behaviour of the investors in comparison to other forms of capital flows [9]. During the study of Thailand in the pre-crisis period from Jansen (2003), private capital inflows are found to be