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Does "hot money" drive China's real estate and stock markets?

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ABSTRACT

The paper investigates the extent of the impact from "hot money" or speculative capital inflow on the fluctuations of China's real estate market and stock market. The results indicate that hot money has driven up property prices as well as contributed to the accelerating volatilities in both markets due to its enormous size and its short-term characteristic of investing. In particular, we find that hot money ranks as the second largest contributor in the fluctuations of China's real estate prices. In the "risky" regime, which corresponds to more inflows and higher volatility of hot money, the effects are even more prominent.

1. Introduction

"Hot money" refers to the flow of speculative funds (or capital) from one country to another in order to mainly earn a short-term profit on interest rate differences and/or anticipated exchange rate shifts (Chari & Kehoe, 2003). It is reported that starting from 2003, there has been huge capital inflows into China that can't be explained by trade surplus or foreign direct investment (Prasad & Wei, 2005). Martin and Morrison (2008) estimate that the aggregate hot money that flowed into China from 2003 to the first quarter of 2008 amounts to about 1.75 trillion dollars, or 104% of China's total foreign exchange reserves by the end of March 2008.

The speculative capital inflow is believed to have fueled inflation, driven up stock prices, and helped accelerate a worrisome bubble in the real estate market (Zhang & Fung, 2006). However, they focus on the imbalance between the stock market and the housing market as these two markets constitute competing investment avenues. The real estate market is one of the pillars of the Chinese economy and its development has fueled the economic growth and promoted a restructuring of the economy (Chen, Guo, and Zhu, 2009). 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, renminbi (RMB), foreign funds entered the real estate markets in some popular regions, such as Shanghai and Beijing, through various channels. The overpriced real estate market could easily produce a bubble. In the meantime, a significant speculative influx of

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foreign capital has also flown into China's equity market, which has undergone a rather volatile period with sharp upturns and steep downturns.

As indicated in Kim and 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. Chari and Kehoe (2003) echo the same argument that financial booms and crises in emerging economies are tightly linked to international capital flows. Large amounts of capital flow into a country can lead to a financial boom, whereas sometimes large amounts of outflow lead to an economic crisis. Domowitz, Jack Glen, and Madhavan (1997) find that hot money from abroad has significantly affected stock price increases and market capitalization in Mexico, and has contributed to the 1994 Mexican financial market turmoil to a great extent.

However, international capital flows are typically viewed through a dual lens of costs and benefits (Neumann, Penl, and Tanku, 2009). This is particularly true in an emerging economy such as China. The upside is that when the speculative fund inflow begins, the markets become effervescent. The demand for stock shares or property tends to increase, and in turn driving prices up as well as market capitalizations and stock index gains. Ferreiraa and Matos (2008) indicate that hot money from foreign institutional investors is more prone to chase shares with recent positive stock return performance in "hot" markets. The good times roll in the markets where speculators and investors could make whopping profits. For example, 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 with consequences of the subprime mortgage crisis in the United States.

On the other hand, hot money would create enormous volatility in the financial market due to its presence of enormous size in China and its short-term nature of investing.[1] Instead of moving in accordance with changes in the financial fundamentals of companies, stock prices are believed to be largely moved by the liquidity shock stemmed from hot money. When the outflow of hot money occurs, the bubble bursts and the consequence could be devastating, which is capable of destabilizing the whole financial market, even if it is temporarily. Sarno and Taylor (1999) demonstrate that the sudden reversal of capital flows has played an important role in the 1997 East Asian financial crisis. The reason is that while the inflow of hot money builds up gradually over time, the outflow happens en masse and simultaneously, with each player struggling to be the first to exit (Domowitz et al., 1997).

There is little evidence in the extant literature on the role of hot money in the recent evolvement of China's real estate market and stock market, and the empirical question as to what extent the hot money factor is transmitted to the behavior of housing prices and stock prices remains unaddressed. Therefore, we intend to explore and shed more light on this issue, which not only warrants a timely study but also could be of considerable concern to scholars and policymakers worldwide. Toward this end, we utilize a multivariate vector autoregressive (VAR) model with Markov regime-switching (MS) feature and our empirical results demonstrate that the speculative capital flow has aggravated short-term property prices and enhanced the volatilities in both real estate and stock markets in China. Given the sensitivity of these investments, even a small shock to the economy could lead to a volatile change in fund flows, which may exacerbate the shock and destabilize the domestic economy. Moreover, the hot money generating process is characterized by nonlinearity with two distinct regimes and the turning point occurs in 2003. Specifically, we find in the "risky" regime, which corresponds to more flows and higher volatilities of speculative funds, the impact of hot money on property prices appears to be even larger.

The rest of the paper is organized as follows. In Section 2, we offer some background discussions on hot money inflows resulting from the financial liberalization in China and the relevant literature review. Data source and variable definitions are provided in Section 3. Section 4 presents our econometric methodologies. We provide the empirical results and their implications in Section 5. The last section summarizes the main findings and draws some relevant policy implications.

2. Background discussions

2.1. Hot money flows in China

Despite its recent capital market liberalizations in China, short-term international capital inflows are still strictly restricted and portfolio investments are constrained, providing it with various instruments to prevent the inflow of unwanted hot money (Zhang, 2003). However, China is not fully insulated from hot money inflows as capital controls are not applied to all categories of capital account transactions and several of them are free or loosely managed (Xie, 2004).[2] According to Martin and Morrison (2008), speculators have been using various methods to circumvent Chinese laws and regulations. More than half of the speculative funds or capitals flown into China take the form of over-reported or forged FDI. An additional 11% of the hot money is generated by underreporting the value of imports, and another 10% comes from the overvalued exports. About 5% of the hot money enters China via "underground money exchanges".[3] Chan, Fung and Thapa (2007) also mention that the large trade report discrepancy between China and Hong Kong can contribute to the large inflows of hot money from tax haven countries to China in an attempt to explore differential tax treatment between domestic and foreign firms.

[1] Since bottoming out in the summer of 2005, the Shanghai Stock Index has gone parabolic, gaining 483% from its trough to a historic record-high around 6000 points in October 2007 before shedding one-third of the points in the subsequent year.

[2] In fact, managing capital flows is one of the most difficult issues facing policy makers in emerging economies (Munro, 2009).

[3] Employee compensations (wages sent to China by overseas workers and remuneration paid by Chinese enterprises to overseas staff working in China) and current transfers (emigrant remittances, gifts, and donations) may be another major source of hot money (Martin & Morrison, 2008).