Rental Rates under Housing Price Uncertainty: A Real Options Approach

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Summary

Following extreme monetary easing in the developed world after the recent financial crisis, there is deep concern about asset bubbles and imported inflation (especially in the housing market) in emerging economies and small open economies. More intriguing is that people often observe that property rents tend to follow property prices in some cases, which is in contrast to conventional wisdom that rents affect housing prices, but not the reverse.

This paper is motivated by the observation that housing prices may influence rents and extends the theory on investment under uncertainty by studying household property investment under housing price uncertainty. Specifically, we model the renter's decision to buy a house and the landlord's decision to sell as real options of waiting and examine real options effects on rental demand, supply, and thus the rental rate. Using unique data from Hong Kong, we empirically verify two predictions that arise from our theoretical model.

First is the monotonic price effect, i.e., that positive housing price shocks produce rapid rental growth while negative price shocks reduce rental growth. The empirical results show that a one percent housing price spike would push the rental rate up by about 0.28% in Hong Kong. Second is the regime-dependent volatility effect, i.e., that rental growth increases with volatility when housing prices are rising and decreases with volatility when housing prices are falling.

The policy implications of the paper are important given the large weight of rent in the CPI in Hong Kong. Property bubbles may spill over to rent inflation and pricking the bubble may cause rent deflation. Also, rent is not just driven by fundamentals; housing price shocks and their volatility also play an important role in rental adjustment. Therefore, the price-to-rent ratio could underestimate the size of housing bubbles.