

Discussion on the Key Factors of Real Estate Bubble Formation in The Process of Urbanization

Shuning Zhang

Malvern College Qingdao, Qingdao, China

Abstract: With the acceleration of global urbanization, the real estate market plays a vital role in urban development. However, the emergence of real estate bubble has become a global problem, which poses a serious threat to economic and social stability. The purpose of this study is to explore the key factors of real estate bubble formation in the process of urbanization, so as to reveal its complex mechanism and influence. It is found that financial factors are one of the main driving forces for the formation of the real estate bubble. Low interest rate policy, loose monetary policy and easy access to credit conditions have stimulated investors' funds to flow into the real estate market, which has led to unreasonable price increases. The relationship between supply and demand also played an important role in the process of bubble formation. In addition, speculation has also played a key role in the real estate market. Investors usually pursue quick profits, but the volatility of the real estate market attracts speculative investment and promotes the unreasonable rise of housing prices. The government's land policy, planning restrictions and development control also have a direct impact on the market, and government policies and measures can affect land supply and real estate market prices. Generally speaking, the formation of real estate bubble in the process of urbanization is a complex phenomenon of multi-factor interaction, and its mechanism involves finance, supply and demand, speculation, policy and external factors. This study is expected to provide powerful theoretical basis and policy suggestions for decision makers to deal with the real estate bubble in the process of urbanization.

Keywords: Real estate, Real estate bubble, Process of urbanization.

1. Introduction

The formation of real estate bubble in the process of urbanization is a topic of great concern, which has aroused extensive discussion not only in academic circles, but also in the government and market supervision institutions. With the accelerated development of global urbanization, the bubble problem of real estate market has become an important issue affecting social, economic and financial stability. In the past few decades, urbanization has become the main trend in the world. More and more people are pouring into cities, which leads to a sharp increase in the demand for housing and commercial real estate [1]. This trend is not only attracted by the opportunities and convenience brought by urbanization, but also attracted by the growing scale of cities in employment, education and culture. This wave of urbanization has provided great opportunities for the real estate market, but also triggered a series of challenges, the most prominent of which is the formation of the real estate bubble.

The real estate bubble usually refers to the situation that the real estate market price is obviously higher than its actual value. This overestimation leads to the excessive enthusiasm and optimism of investors, and finally leads to the collapse of the market [2-3]. The collapse of the bubble has not only affected the real estate market itself, but also affected the financial market and the whole economic system. Therefore, understanding the key factors of real estate bubble formation is very important to ensure the sustainability of urbanization and economic stability.

This paper will focus on a series of key factors that may lead to the formation of real estate bubbles in the process of urbanization, including but not limited to the imbalance between market demand and supply, the lack of financial

policies and supervision, external shocks and investor sentiment. Through in-depth analysis of these factors, we will be able to better understand the formation mechanism of the real estate bubble and provide powerful suggestions for policy makers to reduce the risk of the bubble and maintain the health and stability of the real estate market. Finally, this study will contribute to the sustainable development of urbanization and provide useful lessons for future urban planning and real estate market policy.

2. Key Factors of Real Estate Bubble Formation in The Process of Urbanization

2.1. Imbalance between supply and demand

In the process of urbanization, population flows into cities, and the demand increases rapidly, especially the demand for housing. If the supply cannot meet the demand, the real estate market price may rise sharply, triggering a bubble. This imbalance between supply and demand can be caused by many factors, including insufficient land supply, lagging planning and construction, and policy constraints. The tension between supply and demand may lead investors to be overly optimistic about the market, thus pushing up house prices [4].

2.2. Financial policies and regulatory measures

The government's financial policies and regulatory measures are crucial to the healthy development of the real estate market. If the government's excessively loose monetary policy, low interest rate policy or loan policy leads to excessive credit supply, it may aggravate investors' speculation, push up housing prices and form a bubble. At the same time, the lack of supervision may allow misconduct to spread, such as fraud and improper financial engineering.

2.3. Investor sentiment and expectations

Investors' emotions and expectations play an important role in the real estate market. When investors generally expect that real estate prices will continue to rise, they are more willing to invest and further push up prices [5-6]. This kind of emotion-driven cycle may lead to speculative investment and market speculation, and eventually promote the formation of bubbles. Therefore, emotions and expectations are crucial to market stability.

2.4. External shock

External factors such as global economic situation, political events and natural disasters may also have an impact on the real estate market. The unstable global economic situation may lead to the inflow or withdrawal of capital, thus affecting market stability. Political events and changes in laws and regulations may also lead to market uncertainty. Natural disasters, such as earthquakes or floods, may lead to a shortage of supply or a decline in demand, which will have a short-term impact on the market.

2.5. Market transparency and information asymmetry

Market transparency and information asymmetry have an important impact on investors' decision-making. Lack of sufficient market information and transparency may make it difficult for investors to accurately evaluate market risks and values, and increase the possibility of market bubbles. The government and market supervision institutions can reduce information asymmetry by improving information disclosure requirements and market supervision.

In a word, the formation of real estate bubble in the process of urbanization is the result of the interaction of many factors. These factors include market supply and demand, financial policy, investor sentiment, external shocks and market transparency. In-depth study and comprehensive consideration of these factors can help policy makers better understand and manage the real estate market bubble in the process of urbanization, so as to promote sustainable urban development and economic stability.

3. Measurement of Real Estate Bubble in The Process of Urbanization

3.1. Theoretical model

It is crucial to measure the real estate bubble in the process of urbanization, because it helps to find potential risks early and take appropriate policies and measures to maintain the stability and sustainability of the market. Price-to-income ratio is an indicator that compares the house price in the real estate market with the average income level of local residents. When this ratio significantly exceeds the historical average, it may mean that the market is in a bubble state, because the housing price far exceeds the ability of most people to pay. Observing the transaction volume of the real estate market is also a way to measure the bubble. If there is a large-scale real estate transaction in the market, it may be a sign of a bubble, because speculative transactions may push up prices. Real estate price index can be used to track the trend of market price [7]. By comparing the prices at different time points, we can see whether there is an obvious upward trend, which may be a sign of a bubble. An in-depth analysis of the periodicity of the real estate market, including rising period, boom period,

falling period and recovery period, can help to determine the current position of the market. Bubbles usually develop at the peak, so it is important to identify the market cycle as early as possible.

Ramsey model is a macroeconomic model, which is usually used to study long-term economic growth and resource allocation. Although Ramsey model is not a direct model of real estate market, it can be used to calculate the change of real estate price theoretically, provided that the supply and demand of real estate and the economic variables in the market are taken into account.

In Ramsey model, we consider an economy, which includes households, enterprises and government. Family decision-making includes saving, investment and housing choice [8-9]. The enterprise sector is responsible for production and depends on capital and labor. The government formulates monetary policy, tax policy and other policies to affect the overall economy.

Utility function of representative individuals: $U(C, H)$, where C represents consumption and H represents housing.

Production function:

$$Y = F(K, L) \quad (1)$$

Where Y stands for economic output, K stands for capital and L stands for labor.

Maximizing the utility of the family:

$$\text{Max } U(C, H) \quad (2)$$

Family budget constraints:

$$C + P_H * H = Y - T + (1 + r) * A \quad (3)$$

Where P_H stands for house price, Y stands for total household income, T stands for tax, r stands for interest rate and A stands for capital income.

Conditions of supply and demand equilibrium in real estate market;

$$H = H_d(P_H, Y, r) = H_s(P_H, K, L) \quad (4)$$

Where H_d represents housing demand, H_s represents housing supply and P_H represents housing price.

Families choose the level of consumption and housing and the accumulation of capital according to the maximization of utility. Using the maximization of family utility and the equilibrium condition of supply and demand in the market, the real estate price P_H is solved.

In this way, Ramsey model can solve the problem of asset basic value. Therefore, we need to measure the real estate bubble by the marginal rate of return on capital to find the

basic value of assets. In the following, we will make an empirical analysis on whether there is a bubble in China real estate market from 2000 to 2008 according to this method.

3.2. Empirical analysis

Because not only the population growth rate and time preference should be considered in the real economy, but also the inflation rate should be included in the range of problems to be solved, so the basic value of assets can be expressed as:

$$j = f'(k_t) = \theta + \beta + \alpha \quad (5)$$

Where β represents the inflation rate. That is to say, the final determinants of asset base value include population

growth rate, time preference and inflation rate. In a balanced and stable state, the marginal rate of return on capital is ultimately determined by the population growth rate α and the time preference rate θ , and $f'(k_t)$ is the basic value of assets.

In this paper, in order to make the market price of real estate comparable with its basic value, we choose the change rate of price index of real estate in China as its actual price. In addition, due to the limited time and data, we choose the narrow concept of real estate, namely commercial housing, to measure the real estate bubble in China. According to the above formula, we can measure the real estate bubble in China from 2000 to 2008 (see Table 1 and Figure 1).

Table 1. Measurement of real estate bubble

year	population rate of increase	Minimum rate of return	Maximum rate of return	Commercial housing price growth rate
2000	0.56	2	1.63	2.44
2001	0.76	2.1	1.84	4.52
2002	0.64	2.25	2.12	3.56
2003	0.57	3.91	1.35	3.59
2004	0.61	1.63	-2.5	16.65
2005	0.65	-0.33	2.25	18.77
2006	0.67	1.31	2.62	7.87
2007	0.5	-0.46	-1.7	13.77
2008	0.5	-3.34	-2.37	-1.78

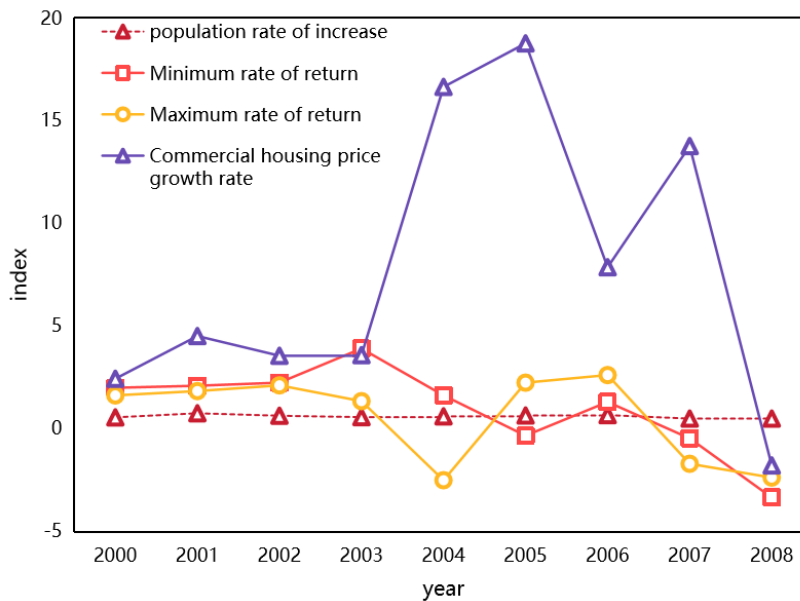


Figure 1. Line chart of measurement results of real estate bubble

The calculation results of the above measurement methods show that the real estate market in China was bubble-free from 2000 to 2003, and the real estate price was increasing year by year during this period. After 2003, the real estate bubble began to appear. During this period, the price of real estate fluctuated greatly, and there was a small peak in 2005 and 2007. It was not until 2008 that it returned to a short-term bubble-free stage.

4. Countermeasures to Curb the Real Estate Bubble

With the acceleration of global urbanization, the real estate market plays a vital role in cities. However, the emergence of real estate bubble has become a global problem, which not only threatens economic stability, but also has a negative impact on the well-being of society and citizens. Therefore, curbing the real estate bubble has become an urgent task for

the government and policy makers. The following are some countermeasures to curb the real estate bubble:

Strengthen supervision and monitoring: The government needs to establish a stricter supervision mechanism to supervise the operation of the real estate market. This includes strengthening the supervision of real estate developers, financial institutions and real estate brokers to ensure that they abide by laws and regulations [10]. In addition, a more perfect data collection and monitoring system should be established in order to find market anomalies in time and take measures.

Stabilize monetary policy: the central bank should adopt a prudent monetary policy to prevent the excessive expansion of leverage in the financial system. Controlling inflation by adjusting interest rates and money supply can reduce investors' speculative enthusiasm for the real estate market.

Improve land supply: urban planning departments should increase land supply to meet market demand. By developing undeveloped land or improving the efficiency of land use, the shortage of supply and demand in the market can be alleviated, thus reducing the speed of housing price increase.

Increase the control of fiscal policy: the government can curb the real estate bubble through tax policy. For example, a high vacancy tax is imposed on vacant houses to encourage real estate investors to rent out their properties instead of leaving them vacant. In addition, imposing a moderate capital gains tax on real estate transactions can also reduce the motivation of speculative real estate speculation.

Promote the transparency of the real estate market: the government should encourage developers and real estate agents to provide more market information to ensure that citizens can understand the market situation. Transparency helps to reduce uncertainty and market volatility.

Improve the supply of public housing: the government can reduce the housing pressure of low-income families by increasing the supply of public housing, thus reducing the demand pressure in the market.

In a word, curbing the real estate bubble requires comprehensive policy measures, including supervision, monetary policy, land supply, fiscal policy, market transparency and public housing supply. The goal of these countermeasures is to ensure the stability and sustainable development of the real estate market, so as to promote the healthy development of urbanization and maintain social economic and social stability.

5. Conclusions

Generally speaking, the formation of real estate bubble in the process of urbanization is a complex multi-factor phenomenon, which is usually the result of the interaction of many factors. Therefore, comprehensive policy measures are needed to curb the real estate bubble, including strengthening financial supervision, controlling land supply, promoting market transparency and prudent monetary policy, so as to maintain the stability and sustainable development of the real estate market and ensure the smooth progress of urbanization.

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