

# ***Alert to the Potential Crisis in the Real Estate Environment: Learn from International Lessons and Find a Way out***

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**Abstract:** In the early years after New China's creation, China's real estate industry was far from being on a large scale, and the planned economic system restricted the development of real estate enterprises. It was not until after 1978 that, along with the development and deepening of the reform and opening-up policy, the level of urbanisation in China gradually increased and the rise in the standard of living of the people also stimulated the enthusiasm of the residents to purchase homes, making the real estate industry expand at a rapid pace. The value added of China's real estate industry and its contribution to the economy have been on a steady rise, with significant growth and an increasing proportion. The real estate sector has become an integral part of the tertiary industry. However, there have been several obstacles to China's real estate industry's growth, as evidenced by the financial crisis in 2008 and the impact of the new crown epidemic on China. This paper analyses the impact of the real estate industry on the whole economy during the recession and the potential crisis in China through the economic crises in the US and Japan. Through analysis, it can conclude that a rapid fall in house prices before the economy has fully recovered under the impact of the epidemic could be a major potential crisis for the country. Recommendation: Be wary of the trap of high and low property price differentials and adhere to the policy of no speculation in house prices.

**Keywords:** real estate, real estate bubble, real estate crisis, economic crisis, housing supply, housing demand

## **1. Introduction**

Since the full marketization of the housing system, the real estate industry has developed rapidly and increased its proportion in the national economy year by year. 1998, the added value of the real estate industry was RMB343.5 billion, accounting for 4% of GDP; in 2007, the added value of the real estate industry rose to RMB1.4 trillion, accounting for 5.1% of GDP. Despite the slowdown in economic growth after 2008, the real estate sector continued to grow at a rate that was higher than GDP; in 2019, the value added of the real estate sector rose to RMB 6.96 trillion, accounting for 7.0% of GDP [1].

The contribution of the real estate sector to economic growth has also increased since the full marketisation of the housing system. From 1999 to 2007, the average contribution of the real estate sector to GDP growth was 5.28%; from 2009 to 2019, the average contribution of the real estate sector to GDP growth grew to 7.96%. This confirms the rising share of the real estate sector in the

national economy (calculation of the average contribution rate: average contribution rate =  $\frac{\text{growth in value added of the real estate industry in the year}}{\text{national economy}}$ ) [1].

Data from the National Bureau of Statistics show that in 2019, China's national residents' per capita residential consumption expenditure became 5,055 yuan, accounting for 23.4% of all consumption expenditure, and urban residents' per capita residential consumption expenditure in 2019 was 6,780 yuan, accounting for 24.2% of all consumption expenditure; rural residents' per capita residential demand in 2019. Consumption expenditure was RMB2,871, accounting for 21.5% of all consumption expenditure. Consumption expenditure on housing accounts for an important part of residents' consumption expenditure. It ranks second only to food consumption in all categories of consumption expenditure. According to the urban-rural integration survey conducted by the National Bureau of Statistics since 2013, the national per capita residential consumption expenditure has increased from RMB2,999 in 2013 to RMB5,055 in 2019. However, the per capita residential consumption expenditure has remained relatively stable among all consumption expenditures, remaining at around 22% [1].

In the midst of the real estate boom, the prices associated with it are also rising, and there are concerns about crises such as the real estate bubble. In this paper, it will analyse the lessons learned from the international real estate crises of the past, analyse the current high property prices in China, and make recommendations accordingly.

## **2. Review of Foreign Real Estate Crisis**

### **2.1. Review of the Japanese Real Estate Crisis**

#### **2.1.1. Background of Japan's Real Estate Crisis**

From 1980 onwards, the import and export trade led to the rapid development of the Japanese economy. A large amount of international lending capital witnessed the appreciation of the yen and began to pour into the Japanese capital market, which also drove the Japanese real estate market and stock market. The real estate market in particular, at a time when almost everyone in Japan was fascinated by the real estate sector, and even major companies such as Mitsubishi and Sony were entering the real estate market.

As a result of the booming real estate market in Japan, neighbouring countries also entered the Japanese real estate market to invest. In 1990, when the United States was 15,000 times larger than Tokyo, the cost of land in Tokyo alone was comparable to the cost of land in the whole US. International lenders profited handsomely from the appreciation of the currency.

#### **2.1.2. Causes of the Japanese Real Estate Bubble**

Early in the 1980s, both the US fiscal deficit and the trade imbalance increased considerably. In order to increase the competitiveness of exports and improve the imbalance of payments, the "Plaza Accord", which led to the devaluation of the US dollar, was created. As a result of the Plaza Agreement, the Nikkei index rose to 389.15 billion yen on December 29, 1989, a day when the total market value of the Japanese stock market reached 63 billion yen, equivalent to three times that of 1985. The rapid rise in stock prices was accompanied by an extraordinary safeguard in the price of land, which was also an asset price. At the end of 1985, the total market value of land assets in Japan was 1,004 trillion yen, but by the end of 1990, this figure had tumbled to 2,389 trillion yen. The Japanese government passively increased the amount of money it put into the country. The total amount of money in society far exceeded the needs of the real economy, leaving the entire financial system with a large amount of cash and reserves and the ability to expand lending. At the same time, the Bank of Japan reduced the discount rate one after another, and the low interest rates reduced the

cost of borrowing for companies. This led to a large amount of borrowing by companies. However, as Japan's economic growth rate declined at the time, companies used these funds to speculate on land and financial assets, while at the same time banks issued mortgages without restraint, financing land speculation in large amounts and contributing to the rise in real estate prices. Real estate bubbles were encouraged to emerge and grow as a result of credit being continuously expanded and real estate prices rising [2].

Real estate assets rise sharply in the course of ongoing transactions, and their prices deviate from their values. When asset prices rise to an unsustainable level, they will inevitably fall sharply. The asset price bubble led to a de-realisation of the economy, a depression in manufacturing, a fall in the income of industrial workers, and a rise in the cost of living. So, the Japanese real estate bubble finally exploded. Having identified the problem, the local government began to take the initiative to curb the rise in house prices and introduce monetary tightening to curb the high degree of monetary inflation, implementing a policy of aggregate control on real estate financing, which to some extent limited the budding of financing activities in Japan. When wages fell and prices rose, people could not afford the costs, the Japanese real estate bubble burst, and Japan entered a decade-long depression.

## **2.2. Review of the US Sub-prime Crisis: Causes of the Sub-prime Mortgage Crisis**

### **2.2.1. Interest Rate Hikes**

In the five years prior to 2006, the Federal Reserve issued a relatively accommodative monetary policy to stimulate growth in business investment activity and economic development, and interest rates in the US were low. By June 2003, the federal funds rate had been cut 13 times in a row, from 6.5% to 1%, reaching its lowest level in 46 years. At the same time, interest rates on home mortgages have fallen over the same period, from 8.1% at year-end 2000 to 5.8% in 2003 for 30-year mortgages and from 7% at year-end 2001 to 3.8% in 2003 for one-year adjustable-rate mortgages [3]. The decline in interest rates increased people's purchasing power and demand, and the US housing market continued to boom as large amounts of money and assets flowed into the real estate market. More and more people began to buy homes, including those who had been denied prime mortgages by banks because of their poor credit history or weak repayment ability, and would apply for subprime mortgages to purchase homes. At the same time, however, the Federal Reserve was faced with continuing upward pressure on inflation. With 17 interest rate hikes in two consecutive years since June 2004, subprime borrowers were unable to pay interest as the federal funds rate was raised from 1 percent to 5.25 percent, causing the supply of homes on the market to exceed demand and home prices to continue to fall.

### **2.2.2. Financial Derivatives**

When Freddie Mac and Fannie Mae were faced with such huge loans, they transformed these assets into a pool of assets, on which they packaged and issued mortgage-backed bonds (MBS i.e. Mortgage- Backed Security) for the world. Unlike ABS (Asset-Backed Security), MBS are predominantly home mortgages with a relatively small number of creditors. By selling them to investment banks, the securitisation of assets is successfully achieved. The total amount of MBS issued has continued to rise, with the balance of mortgage-backed bonds (MBS) reaching US\$649.2 billion across the US as of 2006 [4].

In order to make more profit, investment banks have upgraded the MBS packaging to Collateralized Debt Obligation (CDO) and graded them according to the qualification of the lenders. At the same time, the investment banks also added insurance to the CDOs, i.e., a CDS Credit

default swap (CDS). This allows the risk of a credit default to be transferred to the seller of the CDS. (According to CEIC data) Banks and insurance companies, who prefer to invest conservatively, frequently purchase high credit-grade CDOs, while purchasers of low credit-grade CDOs are mostly hedge funds [3]. During boom periods, the high returns on CDOs encourage purchasers to continue buying CDOs as loans from hedge funds to banks, creating a profit-driven chain. However, once the economy went into recession, house prices fell, monetary policy went from loose to tight, interest rates rose, subprime borrowers could not afford to repay their loans due to their low qualification income, and banks could not afford the huge amount. The whole chain of interest faced collapse, and the subprime mortgage crisis occurred.

### 3. Current State of China's Real Estate

#### 3.1. The Current State of China's Real Estate Problems

Since the reform and opening up of China, the demographic composition of the country has undergone significant changes, which have had a huge impact on house prices as well as the real estate sector. This paper will analyse both the age structure of the population and the urban-rural ratio of the population [1].

In terms of the age structure of the population, the age composition of the national population in the 7th National Census in 2021 was: 17.95% of the population aged 0-14; 63.35% aged 15-59; and 18.70% aged 60 and above, of which 13.50% were aged 65 and above. According to the criteria set out in the 1956 United Nations report on population aging and its socio-economic consequences, countries or regions with less than 4% of their population aged 65 and over are considered to be young societies, 4%-7% are considered to be adult societies, and those with more than 7% are considered to be older societies. In 2000, we officially entered an older society. In addition to this, the fertility rate in China is declining year on year, with a fertility rate of only 1.15 in 2021 and even below 1.1 in 2022. This is shown in Figure 1.

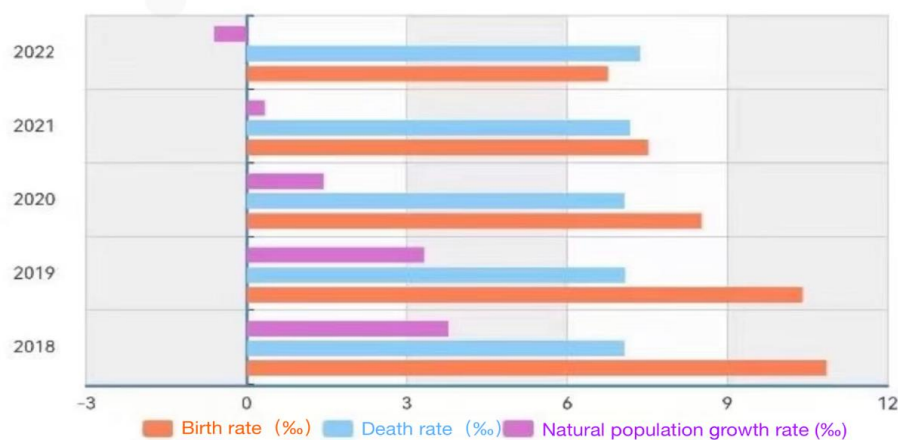


Figure 1: The fertility rate and death rate in China [5].

In terms of the urban-rural ratio of the population, the proportion of the urban population in China is increasing. China's urban population will grow from 172.45 million in 1978 to 92.71 million in 2022, an increase of 74.82 million people. The urbanisation rate of China's resident population was 17.92% in 1978 and 65.2% in 2022, an increase of more than 47 percentage points over 40 years [6]. The urbanisation rate of 30%-70% is generally considered to be the rapid development range of urbanisation, and the fact that China's urbanisation rate is already close to 70%

proves that China's urbanisation rate is about to peak, and that building too many houses will only result in an oversupply of property.

The contradiction between the continuing decline in population and the overbuilding of houses will be the trigger for a potential crisis. An aging population and a declining fertility rate year over year suggest a slowdown in overall future demand for housing, and a general decline in income levels and house price expectations under the impact of the epidemic could lead to a serious contraction in demand. From the supply side, the rapid development of real estate over the past decade, especially through the "12th Five-Year Plan" and "13th Five-Year Plan", the supply and demand side of the 10-year period is high, the supply of housing tends to saturate or even exceed, and there are even a large number of rotten buildings, and so on.

In addition to this, a large number of real estate companies and urban investment companies have burst into flames in the last two years. Evergrande, for example, has debts of \$1.97 trillion, overdue commercial paper of over \$210 billion and \$40 billion of financial products bursting into flames. The real estate developers, in order to make a high price difference, uncontrollably borrowed money from banks to buy land, and then sold the houses to the buyers to return the money earned to the banks to continue to borrow from them to buy land, thus forming a cycle, and the premise of this cycle is that housing prices should always rise. As house prices keep rising against the objective laws of the economy and society, such a cycle is bound to be broken. The state first put forward the concept of no speculation in house prices in 2016, and introduced the three red lines policy in 2020. The state tightened its property lending policy across the board, and Evergrande's debt crisis erupted. And if a large number of companies cannot afford to repay huge loans and banks cannot afford huge amounts, these potential risks may trigger a real estate crisis, and real estate is a pillar industry in China, which in turn threatens the security of the national economy.

### 3.2. Economic Factors Affecting the Price of Housing

In addition to the influence of population on housing prices, there are several other factors as follows.

#### 3.2.1. Housing Supply and Demand

According to economic theory, the intersection of the supply and demand lines is the equilibrium point, and the price at the equilibrium point is a reasonable price standard.

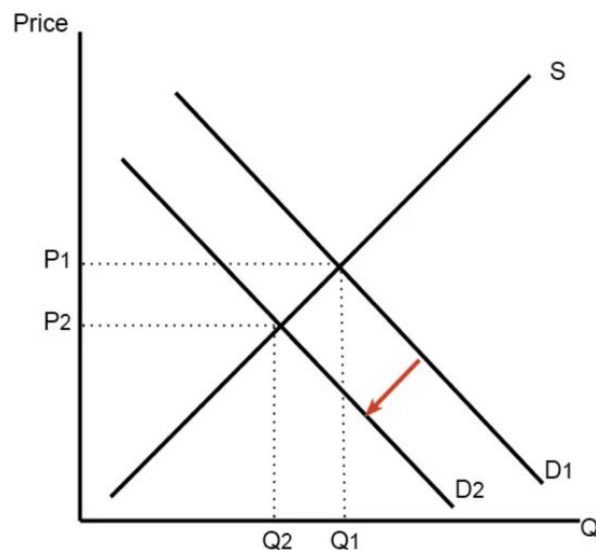


Figure 2: Impact of falling demand on price equilibrium point [7].

As shown in Figure 2: on the demand side, as the city develops, the faster the economy of the dominant city grows and the more the income of the residents increases, the greater the inflow of people will continue to increase, which will lead to an increase in house prices; the continued outflow of people will also lead to a decrease in house prices. With the same supply, the demand changes from  $D_1$  to  $D_2$ , and the corresponding price falls from  $P_1$  to  $P_2$ .

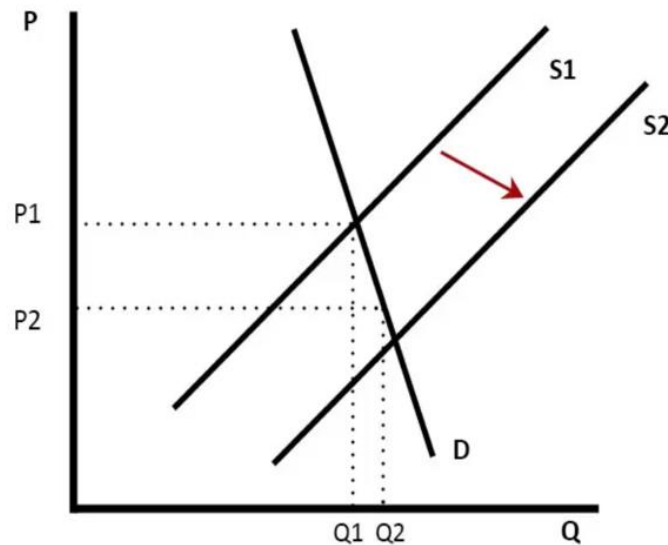


Figure 3: Impact of falling supply on price equilibrium point [7].

On the supply side, if the size of the built-up area of the city is larger, this means that the potential supply of real estate in the city is greater, and real estate prices will fall. As shown in Figure 3, if demand remains constant, the supply increases from  $S_1$  to  $S_2$  and the corresponding price falls from  $P_1$  to  $P_2$ ; however, if the growth rate is lower than the growth rate of the urban population, the real estate price increases.

### 3.2.2. Income Level and Price Expectations

Income levels can directly affect housing price expectations, and housing prices can also indirectly increase the income gap. Rising house prices are also an important driver, with fluctuations in house prices and property-related wealth transfers contributing to the widening income gap in China [8]. These effects are mainly through two channels: wealth and credit effects: first, rising house prices cause wealth transfers between different income classes, leading to a widening of the income gap; second, fluctuations in house prices trigger changes in credit, leading to a widening of the income gap between residents [9].

Housing price expectations generally fall into two categories, adaptive expectations and rational expectations. Homebuyers generally compare housing prices on a year-over-year basis, or form expectations of future housing prices based on past prices and the direction of their trends [1].

### 3.2.3. Inflation and Interest Rate Levels

There are two general types of inflation: demand-pull and cost-push. The former, as the name suggests, is a surplus of demand over supply, while the latter is a reduction in supply due to high costs. Both lead to higher market prices, a fall in the currency exchange rate leading to a depreciation of the currency, triggering foreign exchange outflows and a rise in the market's real interest rate. In such cases, the central bank will generally regulate market liquidity by cutting



interest rates or quotas to steer real market interest rates downwards in order to stabilise the economy. Changes in interest rates, in turn, affect housing prices in many ways. For home buyers, a fall in interest rates reduces repayment costs and to a certain extent stimulates consumer demand for housing; from the perspective of real estate developers, a fall in interest rates reduces construction costs and to a certain extent increases supply, thus affecting housing prices.

### 3.3. Insights from the US-Japan Crisis

The US sub-prime crisis and the Japanese real estate bubble, although they could be controlled in the short term, both economies experienced a prolonged economic depression. In the 1990s, the Japanese economy ended its golden period of rapid development as a result of the bursting of the Japanese real estate bubble, which saw housing prices plummet in a short period of time and enter a period of sustained decline for more than a decade. Home prices also fell sharply in the 2007 U.S. subprime mortgage crisis, even triggering a systemic financial crisis that led to nearly a decade of economic depression. The common denominator between the two crises was that during the boom phase, a large amount of capital assets were invested in the real estate market, and loans led to a continuous decline in housing prices, causing unhealthy economic development. Therefore, we should learn how to control the growth and fall of housing prices and control the rise of high domestic prices. Since 2016, in order to strengthen real estate regulation and control, the state has also continued to upgrade its means, introducing a series of initiatives and strategies based on restrictions on purchases and loans: "restrictions on sales, commercialization and bidding for self-owned area", prohibiting the implementation of real estate as a short-term economic stimulus measure, and the "de-stocking". The Central Economic Work Conference held in Beijing from December 14 to 16, 2016 proposed to promote the stable and healthy development of the real estate market. At the end of 2018, the National Housing and Urban-Rural Development Work Conference proposed the keynote of "stabilising land prices, stabilising house prices and stabilising expectations". The opening up of the three-child policy was also announced.

## 4. Recommendations

A number of regulations have been enacted and initiatives have been implemented to prevent the occurrence of crises like the two, but still fall short in some areas, and this paper will list a few suggestions:

On the basis of adhering to the "housing prices do not speculate", focusing on the combination of demand and supply of the real estate industry. Demand side to improve residents' ability to pay, reduce housing consumption expenditure; supply side to reduce the cost of housing supply. The most important thing is to stabilize housing prices, and housing is not speculative. Prevent prices in some first-tier cities from continuing to rise excessively, putting pressure on the lives of ordinary residents. The property of China's residents is mainly reflected in real estate. Due to the rapid aging of the population and the increasing negative population growth year by year, there is a risk of falling housing prices in third and fourth tier cities. A significant drop in housing prices will not only shrink the value of properties purchased by ordinary families with empty wallets, but will also lead to a large number of mortgage suspensions, which will directly lead to major bank problems and financial risks. For the real estate companies that have problems, we provide support to stop the bad properties and ensure that they can be delivered to avoid losses for ordinary residents..

Pay attention to the risks of the real estate market in some third and fourth tier cities and adopt city-specific policies. Despite the near saturation of the real estate market in first and second tier, with the opening of first and second tier cities for settlement and their advantages in employment, public health and transportation, it still leaves some third and fourth tier cities in a state of net

population outflow. Because of the shantytown policy, house prices in China's third and fourth tier cities have risen sharply, but the lack of a corresponding industrial and demographic base could create greater market risk. Therefore, we should separate first- and second-tier cities from third- and fourth-tier cities and adopt city-specific policies to prevent the risks in the real estate market.

In response to negative population growth, increase support for childbirth It is recommended that the government provide a certain amount of cash subsidy for new births until the age of three, and change the compulsory education stage to 3-18 years old to effectively reduce the burden of residents. Chai Liang suggested that a policy of tax incentives and financial subsidies be introduced to reduce the burden of childcare on families, such as adding a special surcharge for basic childcare and extending the age of coverage to eight years on top of the existing special surcharge for childcare for infants and toddlers under the age of three. At the same time, a national policy on childbirth subsidies should be introduced, with the states formulating regulations to support childbirth by means of cash subsidies.

## 5. Conclusion

After the reform of China's real estate market in 1998, the real estate industry has played a pivotal role in economic development, and the state even established the real estate industry as a pillar industry of the national economy in 2003, accounting for an important part of the economy, investment and consumption output. By reviewing the Japanese real estate bubble crisis and the US sub-prime mortgage crisis, this paper finds that there are similar problems in China at present: an excessive boom in the real estate industry during the economic boom, excessive bank lending, an imbalance in the financial chain and financing and a proliferation of people's excessive future expectations. Once the bubble of high house prices bursts, or the economy enters a recession, the cycle falls apart. So be wary of the pitfalls of excessive house prices and insist that house prices are not speculative, thus minimising the outbreak of an economic crisis.

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