

# The Current Situation and Differences of the Real Estate Bubble between China and the United States

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**Summary:** With the continuous expansion of real estate bubbles in China and the United States, the two countries' governments have introduced various policies according to their respective national conditions to prevent the bursting of the real estate bubbles. This article describes how the real estate bubbles in China and the United States formed, the status quo, and the differences between the real estate bubbles in China and the United States. Because the economic systems and management methods of China and the United States are very different, studying the differences in real estate bubbles between China and the United States has excellent enlightenment and significance for China.

## 1 Introduction

The real estate bubble refers to the prices from the basic market presenting a sustained, abnormal rising trend; the main cause of this phenomenon is real estate speculation, famous refers to land and house prices much higher than the tolerance of the people and the actual value, despite the alarming book value, but because is inconsistent with market foundation, so it is difficult to realize the value, it only presents a false image of superficial prosperity(3). American economist Kindleberger has a very vivid description of the "real estate bubble": the rising prices of commercial housing create a strong expectation that it will continue to rise. The profit from the transaction attracts new buyers and capital, whose main purpose is profiting from speculation. The real estate price that has been pushed up has now been much higher than the underlying value, which is the real estate bubble (8). From 1998 to 2007, after the end of the 40-year welfare housing system, China's real estate industry witnessed a milestone development, which aroused people's demand for house purchases and led to a gradual increase in real estate speculation (10). Since 2003, the CPC Central Committee and China's State Council have identified the real estate industry as a pillar industry to drive China's economic development. Since the end of 2014, China's housing price has experienced a rapid rise with the introduction of talents in first-tier and second-tier cities, the lifting of hukou restrictions, the introduction of a series of policies such as the central bank's RRR reduction and interest rate reduction, and the reform of currency shed. From 2008 to 2018, China's mortgage interest rate dropped from close to 8% to around 5%, extensively promoting the rapid expansion of the real estate industry as a capital-intensive industry (8). From 2005 to 2020, the outstanding real estate loans soared from 2.77 trillion yuan to 59.58 trillion yuan, and the proportion of real estate loans increased

from 14% to 29% (9). From 2017 to 2021, there will be one strong regulatory policy after another, from the "three red lines" of real estate financing to the concentration management of real estate loans and then to the detection of illegal credit funds flowing into real estate (2). This series of policies to unpack the bursting of the real estate bubble has been remarkably effective. Since August 2008, the share prices of Fannie Mae and Freddie MAC, America's two mortgage giants, have plunged, and financial institutions holding Fannie Mae and Freddie MAC bonds have suffered losses. On September 15, 2008, Lehman Brothers, the fourth-largest investment bank in the United States, declared bankruptcy protection. The Treasury Department and the Federal Reserve refused to rescue Lehman Brothers. It led to a collapse in confidence, a sharp drop in the stock market, and many companies suffering. This caused an incredible trauma to the US economy and then transmitted to Europe and other countries and regions, resulting in a global financial crisis. The median home sales price in America in 2021 was \$346,900, up 16.9% from 2020 and the highest since 1999. According to the data from Freddie MAC, the FEDERAL Housing mortgage company of the United States, the overall housing price increase in the United States in 2020 and 2021 was as high as 11.3% and 16.9%, respectively, driven by various factors (16). By 2020, China's real estate hoarded assets worth about 400 trillion yuan, twice China's M2 (currently 200 trillion yuan), and four times China's GDP (100 trillion yuan last year) (4). According to data from the National Association of Realtors, on Jan 20, 6.12 million homes had been sold in 2021, the highest level since 2006 and up 8.5% from the previous year. At the end of December 2021, the inventory of unsold existing homes fell to 910,000 units, a record low (16). This article will describe the current situation of China's real estate bubble, the current situation of the US real estate bubble, the differences between China and the US

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real estate, and future prospects to make predictions and provide reference suggestions for the future situation of China and the US real estate bubble.

## 2 The Current Situation of China's Real Estate Bubble

Since 1998, the financial industry's support for the real estate industry has changed from simple support for enterprise development loans to support both supply and demand. In 1998, China promulgated by the State Council on further deepening the reform of urban housing system to speed up the construction of housing notice, first proposed the "set up and improve the economy is applicable housing primarily the multi-level urban housing supply system," and announced that starting from the same year in the second half of a full cessation of housing material distribution, applies a system of housing assignment currency (14).

Since 1998, with the rapid development of China's real estate market, the growth rate of investment in real estate development showed a double-digit growth trend for seven consecutive years and surged to 20-30% after 2000. The proportion of investment in real estate development and the total investment in fixed assets in the whole society rose all the way up to 18% in 2004. The unprecedented prosperity of real estate has also led to the research and development of the real estate bubble in China. More and more scholars have begun to pay attention to the real estate bubble, and gradually become a diversified research topic. In 2008, the US subprime mortgage crisis broke out, and the global economy fell into tension, which caused a massive impact on the real estate industry, the pillar industry of China at that time (20). In order to alleviate the impact of the US subprime mortgage crisis on China's economy, the country has introduced several policies to rescue China's real estate market. With the overall recovery of the real estate market and the rapid rise of housing prices, many scholars began to call for vigilance against the real estate bubble.

From 2000 to 2018, the balance of individual housing loans increased by 28.27% annually, and its proportion in the balance of real estate loans increased from 56.23% to 68.01%. It has maintained an average level of 65% for a long time and reached 71.74% at its peak. This shows that residents rely more on banks for the funds needed to purchase houses (14), and the mortgage interest rate has dropped from close to 8% to around 5% from 2008 to 2018, significantly promoting the rapid expansion of the real estate industry as a capital-intensive industry (8). According to the data of National Data, the growth rate of M2 from 2009 to 2015 was much higher than that of GDP, indicating that there was a phenomenon of intensified investment in The Chinese market during this period. When the money supply is much higher than the GDP growth rate, there will be extra funds for investment, and real estate is an important area of capital inflow. The high growth rate of money issuance from 2009 to 2015 resulted in a high growth rate of capital flowing into real estate, which led to the intensification of the real estate bubble during this period (11).

According to the monetary policy implementation report of the first quarter of 2018, the real estate loan balance of major financial institutions (including foreign capital) in China was 34.1 trillion yuan, with a year-on-year growth of 20.3%, accounting for about 27.2% of the total loan balance, reflecting the strong interdependence between the real estate industry and the financial industry (13). In order to prevent systemic financial risks caused by risks in the real estate market, China has implemented the most severe real estate regulation in history since 2016, including purchase restrictions, sale restrictions, price restrictions, loan restrictions, land price restrictions, and a series of measures. Governments at all levels have issued as many as thousands of policies. The real estate loan concentration management introduced at the end of 2020 is the latest real estate regulation policy with far-reaching influence (9). By the end of 2017, the balance of real estate loans of major financial institutions in China was 32.2 trillion yuan, with a year-on-year increase of 20.9%. However, due to increasingly strict government regulation, the growth rate of the balance of real estate loans was 6.1 percentage points lower than that at the end of the previous year, and the balance of real estate loans accounted for 26.8% of the balance of all loans. The outstanding amount of personal housing loans was 21.9 trillion yuan, up 22.2% year on year, the outstanding amount of housing development loans was 5.6 trillion yuan, up 26.7% year on year, and the outstanding amount of real estate development loans was 1.3 trillion yuan, down 8.0% year on year, and the decline was 3.1 percentage points larger than the end of the previous year. However, the overall balance, personal mortgage loans, and housing development loans are still growing at a high rate (13).

From 2017 to 2021, there will be one strong regulatory policy after another, from the "three red lines" of real estate financing to the concentration management of real estate loans and then to the detection of illegal credit funds flowing into real estate (2). In 2018, the government work report put forward the positioning of "insisting that houses are for living in, not for speculation," and in 2019, it proposed "promoting the steady and healthy development of the real estate market." These policies aimed at stabilizing housing prices and preventing the bursting of the real estate bubble (1). From January to July of 2021, many central ministries and commissions issued real estate regulation policies and tightened credit policies, after which housing prices showed a downward trend (12). According to the National Bureau of Statistics, from January to November 2021, the commercial housing sales area in China reached 1.58 billion square meters, and the sales volume reached 16.2 trillion yuan, with year-on-year growth rates of 4.8 percent and 8.5%, respectively. In November, China's real estate market maintained a low temperature. The sales area and sales volume of commercial housing in China decreased by 14.0% and 16.3%, respectively, keeping declines double-digit for four consecutive months. However, the year-on-year declines narrowed by 7.7 and 6.3 percentage points, respectively, due to the marginal improvement of the credit environment and other factors.

### 3 The Current Situation of The U.S. housing bubble

After the bursting of the Internet bubble in 2000, the loose monetary policy, mortgage policy, and the issuance of a large number of subprime loans gave rise to the real estate bubble in the United States from 2001 to 2006 (14). In 2003, the U.S. economy gradually recovered. In order to avoid overheating and maintain price stability, the Federal Reserve raised the federal funds rate continuously. Due to the large proportion of adjustable interest rate loans in subprime loans, the loan repayment rate in the later period will rise with the rise of the benchmark interest rate, resulting in increased repayment pressure on subprime borrowers (14). Data show that since June 2004, the Federal Reserve has raised interest rates 17 times in two years, raising the federal funds rate from 1% to 5.25%. Since bond prices are negatively correlated with the risk-free rate, their price swings are approximately equal to the negative correlation duration times the change in interest rates. This means that if a bond had a correction duration of 5, such a significant increase in interest rates (a change of 425 basis points) would cause its price to fall by about 20%, or bond investors would suffer a huge loss. At the same time, the sharp interest rate increase also leads to the sharp rise of the monthly mortgage payment of floating rate mortgage lenders, leading to the rise of the default rate, resulting in a large number of buyers' houses to the bank, the bank's low price auction aggravated the decline of housing prices, the depreciation of bank loan collateral, resulting in a vicious circle, and finally triggered the financial crisis (10).

Before the subprime crisis, the total mortgage portfolio market in the United States accounted for as much as 70% of commercial banks' credit, and the excessive proportion of housing mortgage loans made the banking industry take excessive risks. Mortgage-backed securitization (MBS) is the sale (risk isolation) of a portfolio of mortgages by US banks to securitization institutions, which then sell them to investors in the form of bonds through guarantees or credit enhancement. Theoretically, through mortgage securitization, banks can transfer real estate loan risks and returns to institutional investors, obtaining needed liquidity and reducing industry concentration risk. However, a large number of subprime mortgages made MBS become toxic assets in the financial market. In March 2007, the outstanding amount of mortgage securities in the United States was \$8.41 trillion, 1.08 times of bank credit in the same period. In the end, many subprime bonds seriously defaulted, causing systematic financial risks and making it impossible for the banking industry to truly realize risk isolation (10). The Fed raised interest rates 17 times in a row, directly pricking bubbles in the bond and housing markets. In March 2008, when the subprime crisis broke out, the total value of the real estate mortgage portfolio market in the United States was \$6.06 trillion, accounting for 69.6% of bank credit. Later, with the outbreak of the subprime crisis, the banking industry

kept reducing the total value of the mortgage portfolio market through asset securitization (MBS) and other methods. By the end of 2020, this index had fallen to \$2.74 trillion, which reduced the total mortgage portfolio market share to 18.18%, and the housing loan risk borne by the banking industry significantly decreased (10).

In August 2008, shares of Fannie Mae and Freddie MAC plunged, leading to widespread losses at financial institutions that held debt from the two mortgage giants. On September 15, 2008, Lehman Brothers, the fourth largest investment bank in the United States, declared bankruptcy protection. The U.S. Treasury Department and the Federal Reserve refused to step in to save Lehman Brothers. This led to a collapse in market confidence and a sharp drop in the stock market, and many companies were affected. This caused significant damage to the US economy, which also affected other countries and regions in Europe and caused a global financial crisis (15).

According to the National Association of Realtors, inventory sales fell 1% in December 2012 due to seasonal adjustments and other factors but still reached 4.65 million units for the year, the highest level since 2007 and up 9.2% from 2011. The national average price of inventory across all home types was \$180,800 in December 2012, up 11.5% from a year earlier and the 10th consecutive month that inventory prices have climbed. In 2012, the median inventory price in the U.S. was \$176,600, up 6.3% from 2011 and the largest annual increase since 2005 (20).

According to the Standard & Poor's Case-Shiller home price Index, home prices in the 20 major cities in the United States rose 5.3% in November 2016 from a year earlier. The market is rising rapidly, and a large number of hot cities have emerged. The U.S. unemployment rate hit a post-crisis low of 4.6% at the end of 2016, and demand for housing surged. At the Federal Open Market Committee (FOMC) meeting held on December 15, 2016, the Federal Reserve announced that it would raise the benchmark Federal interest rate by 25 basis points to the level of 0.5% to 0.75% (19).

The Fed's ultra-loose monetary policy and several rounds of fiscal stimulus since the COVID-19 outbreak. It has not only pumped billions of dollars into the market but also helped push US house prices sharply higher. According to the National Association of Realtors, the number of new home listings fell 31% to 34% through April 5, 2020, and the median existing-home price for all home types in March of that year was \$320,000, up 3.8% even from March 2019 (18). According to the data from the National Association of Realtors, on January 20 last year, the median sales price of a home in the US in 2021 was \$346,900, up 16.9% from 2020 and the highest on record since 1999. Data from Freddie MAC, the US federal home loan mortgage Corporation, also showed that the overall US house price growth in 2020 and 2021 was 11.3% and 16.9%, respectively, driven by various factors (16). A total of 6.12 million properties were sold in the U.S. in 2021, the highest level since 2006 and an 8.5 percent increase from the previous year, according to Jan. 20 data from the National Association of Realtors. The inventory of unsold existing homes fell to a record low of 910,000 units at the end of December 2021 (16).

## 4 Real estate Bubble Difference Between China and America

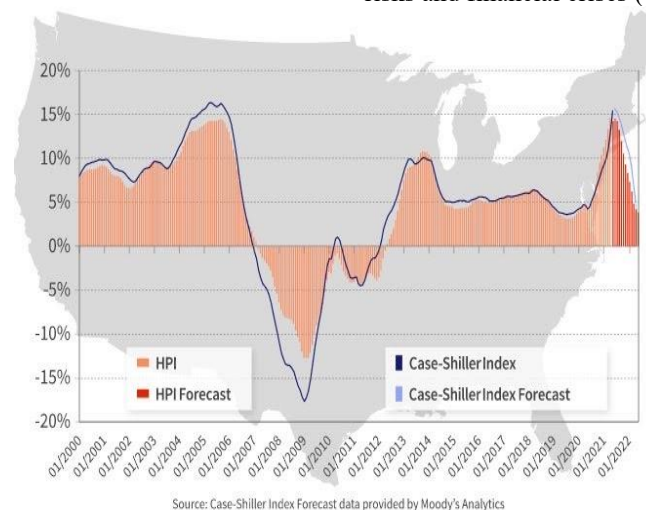
Since the outbreak of the pandemic, the housing supply in the United States has generally declined. From February 2020 to August 2020, the housing supply was much higher than the housing supply for all of 2019. But housing supply in January 2020, September 2020, and October 2020 was the same as that for the whole of 2019 (21). From April, when the pandemic hit, transaction prices soared till October of 2021. The crazy surge in housing prices and the layoffs caused by the pandemic has made it impossible for many ordinary people to afford mortgage loans. And according to the survey, millennials prefer to rent, which leads to the severe polarization of the real estate market, the rich own more houses, and the phenomenon of flipping houses has begun to emerge. As the housing bubble continues to expand, the U.S. government has introduced several policies to reduce housing prices, and now housing prices are slowly cooling.

Affected by the pandemic, real estate sales have been suspended; in the first five months of 2020, China's national real estate development investment growth rate experienced negative growth. With the epidemic's improvement, the real estate investment growth rate is picking up. In 2020, the national investment in real estate development was 14,144,295 billion yuan, up by 7.0% year on year, and the growth rate was 2.9 percentage points lower than that of the previous year. From January 2021 to June 2021, the funds in place for Chinese real estate development enterprises were 10,289.8 billion yuan, a year-on-year increase of 23.5%; an increase of

21.1% from January to June 2019, and an average increase of 10.0% for the two years (23). In fact, the Chinese government introduced various policies as early as 2016 to prevent the real estate bubble from bursting, but the real estate sector has already become an indispensable part of the country's economic system, and overly coercive policies will only cause more severe consequences. China Evergrande is a good example. The sudden collapse of Evergrande has made many employees unable to receive their arrears of wages, and the economic pressure is increasing. Therefore, in such an emerging situation, many problems in the real estate industry need to be better addressed.

The real estate industry in the United States was operated earlier. The participation of various types of financial institutions or individuals and other investment entities brought diversified financing channels to the real estate industry and formed a relatively perfect market system, legal system, and regulatory system. However, China's real estate financing model is not mature, so China should learn from the American model based on closely relating to China's national conditions, improve laws and regulations, and vigorously develop multi-channel financing (22).

From the perspective of the generation and spread of the American financial crisis, the real estate market played a crucial role in it. It was generated because of the expansion and collapse of the subprime mortgage, and its spread was due to the derivative transactions of asset packages based on the real estate subprime mortgage. Therefore, it is very important to control the real estate market's bubble and ensure that it will not expand further and not be punctured simultaneously to prevent financial risks and financial crises (17).



**Fig. 1.** HPI Case Shiller Home Price Chart <sup>27</sup>

The rising proportion of real estate loans will push up the housing price, but in the market economy, the loose low-interest rate policy pushes up the housing price. America's housing bubble formation process is accompanied by a rise in real estate loans accounted, but because of China's market economic system, so not only comes from bank loans, inflows into real estate, bonds, funds, trust the channel such as the stock market funds can

invest in real estate theoretically this alternative asset market, and whether the inflow depends on investment income, The key to investment returns is the difference between changes in housing prices, rental income, capital costs, and tax costs (property tax, property fee, etc.). Therefore, low-interest rates and low property taxes will stimulate real estate investment, and interest rate and tax increases may puncture the real estate bubble. Because the

United States did not control the proportion of real estate loans, the real estate bubble is expanding. Therefore, China should control the proportion of bank real estate loans, which will help prevent the risk of industrial concentration of banks and restrain the rapid rise of housing prices. However, the long-term mechanism of restraining housing prices depends on the balance between the capital cost of housing purchase, the expenditure of property holding taxes and fees, the expectation of housing price trend, and the rent income (9).

The subprime mortgage crisis in the United States reminds us that we should strengthen the supervision of financial innovation, especially the innovation of financial derivatives. The financial crisis in the United States was caused by the packaging, segmentation, packaging, and then selling of subprime mortgage loans, which led to the excessively long chain of derivatives, and the risks were hidden. Finally, problems occurred in the link between mortgage loans and the whole chain of financial derivatives. Therefore, once credit default occurs in the source real estate mortgage market, it will be transmitted to the whole transaction chain, thus causing a wide range of financial risks (17).

At the level of policy regulation, it is suggested to implement a prudent monetary policy. A very important reason for the bursting of the real estate bubble in the United States is that the central bank has sharply raised interest rates. The sharp ups and downs of monetary policy are not conducive to the stability of the real estate market. Under the pressure of economic overheating or asset bubbles, the US government tightened fiscal and monetary policies successively, which greatly increased the cost of leverage and made it impossible to maintain the original leverage. As a result, the demand for real estate investment and speculation collapsed, the housing price lost further momentum to rise, and many original floating interest loans also faced default. Therefore, the real estate bubble puts the policy into a dilemma. The loose policy promotes the further expansion of the bubble, but the contractionary policy pricks the real estate bubble and will have a huge negative impact on the economy. At present, China implements a prudent and neutral monetary policy, which is flexible and appropriate, and should be maintained (24).

In terms of coordination between administrative regulation and market regulation, it is suggested that China should develop the housing rental market. We will continue to build public rental housing to meet people's basic housing needs. At the same time, it can reduce rental taxes, encourage landlords to rent their empty houses, increase the effective supply of the real estate market, and adjust the relationship between market supply and demand by establishing a real estate fund. One of the reasons for the burst of the U.S. housing bubble was that policy was too aggressive in the short term, while market tools such as real estate funds were relatively mild. The Chinese government can purchase part of the housing resources through the established real estate fund and lease or sell them at an appropriate time according to the needs of policy regulation so as to maintain market stability on the basis of adjusting the relationship between supply and demand (24).

## 5 Conclusion

According to FannieMae, Americans' demand for new homes will likely outpace supply soon, which will be essential to keeping home prices and economic activity high through 2023. US house prices are expected to continue rising at a slower pace than recently, as higher mortgage rates dampen demand. Home prices are expected to grow 14.9% between March 2022 and March 2023, down from last month's 17.8% price increase forecasting (25), given rising mortgage rates, according to the latest forecast from online real estate companies Zillow.

Fitch Ratings expects a firm shift in government policy to boost sentiment in the new home market, while sales are still expected to fall 25 to 30 percent in 2022 as policies on the property market are gradually liberalized. But the current downturn won't derail long-term housing demand, which will continue to be driven by China's multiyear urbanization trend. The housing sales market is expected to return to slightly positive growth in 2023, supported by a low sales base in 2022 (26).

This paper analyzes the development process of real estate bubbles in China and the United States. Due to the different national conditions and economic systems of the two countries, the policies issued by the two countries to prevent real estate bubbles are slightly different, but the general means are the same. Through the analysis of the current real estate situation in China and the United States, it isn't concluded that the possibility of the bursting of the real estate bubbles in China and the United States is not strong. The Chinese and American governments have taken active policies to prevent the bursting of the real estate bubbles. Although the crisis will not disappear, it has been alleviated.

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