Cause and Impacts of Interrupted Fund Supply of Real Estates in China: A Comparative Analysis

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Abstract. In recent years, a trend of Interrupted fund supply of real estates, which was defined as a 'Loan cut-off tide', has been inspired in China among homebuyer as plenty of negative news of Chinese real estate's industry due to the COVID-19 since 2020. As a matter of fact, a 'Loan cut-off tide' referred to the phenomenon that homebuyer refuse to pay for their mortgage loans. With this in mind, this paper explores the causes of 'Loan cut-off tide' based on theoretical analysis and data analysis and compares the situation in China during the occurrence of 'Loan cut-off tide' with the situation of 1980s Japanese Economic Bubbles and Global Subprime Mortgage Crisis in early 21st century. According to the analysis, the inherit reasons are given and corresponding suggestions to handle the issue are presented and demonstrated. These results shed light on guiding further exploration of interrupted fund supply impacts on real estate industry.

Keywords: Loan cut-off tide; Japanese economic bubbles; global subprime mortgage crisis.

1. Introduction

The reduction of production activities in all industries to varying degrees, and the world economy suffered a serious setback. According to IMF statistics, the global GDP in 2020 decreased by 4.24%, and the GDP of the major economies in the world, such as the United States, Japan, Germany, was negative in 2020 [1]. In addition, the average GDP growth of the United States, Japan, and Germany from 2020 to 2022 was 1.4%, 0.1%, and -0.15%, respectively, The economic recession caused by the epidemic is still ongoing. In this round of economic downturn, the Chinese economy has also been severely affected, with an average three-year GDP growth rate of 4.7% and a GDP growth rate of 3.2% in 2022, lower than the target of 5.5% [2, 3].

On this occasion, China's real estate industry has been severely impacted. Firstly, real estate enterprises generally adopt a presale system. Once a certain link in the production process is disrupted by the epidemic or capital turnover issues, it will lead to a decrease in production quality. According to Jianwei Li and Huan Li statistics, from the end of 2021 to mid-2022, the proportion of short-term delayed or reduced allocation of real estate developers nationwide is as high as 80%, and the proportion of unlimited delayed delivery is as high as 10%. The phenomenon of real estate companies defaulting on contracts during the epidemic is extremely serious [4]. Secondly, there are many uncertain factors in the epidemic environment, so homebuyer are more cautious when consuming. The profitability of real estate enterprises has decreased, and cash flow has been negatively affected. Under the intersection of two factors, the problem of default by real estate enterprises continues to weaken the confidence of homebuyer. From the perspective of homebuyer, there are two main pressures when repaying housing loans: a decrease in income leading to a decrease in repayment ability, and a risk of default by real estate companies. Wang believes that the main reason for the "supply interruption wave" that began in 2022 is that a large number of real estate companies have defaulted, and homebuyer hope to attract the attention of banks and even public opinion by refusing to repay loans, thereby urging real estate companies to fulfill their obligations and deliver their properties. In addition, there are also theories that this round of "supply cut-off tide" has many
similarities with the Subprime mortgage crisis in the United States at the beginning of this century and the Economic bubble in Japan at the end of the 1980s [5].

This paper analyzes the wave of loan cut-off and its causes, while also speculating to some extent on potential methods to mitigate its impact. From the government's perspective, it should implement activities related to housing construction to enhance the trust and loyalty of homebuyer. This includes fully leveraging the intermediary role of banks in fund operation and housing handover, strengthening supervision of land management, and upgrading and improving relevant systems and policies for housing sales. From the perspective of homebuyer, the inflated housing prices and lower income levels have led to a large-scale inability to repay. Therefore, the government and relevant institutions have an obligation to adjust their systems to achieve a balance between the two, thereby reducing the occurrence of loan defaults.

2. Causes of Loan Cut-off Tide

The main reason for this ‘Loan cut-off tide’ is the widespread default of real estate enterprises, which is closely related to the presale system of real estate transactions. At present, presale is the main transaction method for housing transactions in China, accounting for 86.08% of all housing sales. Behind the presale system is the high turnover development model of real estate enterprises, with the main process shown in Fig. 1.

![Fig. 1 Process of real estate development](image)

It seems that the real estate enterprises will use the presale funds for the investment in the next round of development after receiving them, which is far shorter than the time interval from land purchase to housing delivery. On the other hand, the large amount of accounts payable generated reduces the capital occupation, which makes the Asset turnover of the real estate enterprises extremely high, which is also the core mechanism for the rapid expansion of the scale of the real estate enterprises. For example, Wanke has used the "5986" development model, that is, construction starts within 5 months after land purchase, sales starts within 9 months, and 80% of them are sold within the first month after sales, of which at least 60% are ordinary houses; Country Garden's "456" model further improved the turnover rate, that is, the sales started within 4 months after the purchase of land, the cash flow of the enterprise was positive within 5 months, and a new round of real estate development started within 6 months. This model was later upgraded to the "345" model.

The high turnover development model has led to a rapid increase in the market value of real estate enterprises, leading to a rise in corporate credit. For example, Evergrande's revenue increased 224 times from 2007 to 2020, and its credit rating was AAA in 2020. With the improvement of credit ratings, real estate companies can gain an advantage in transactions and pass on risks to homebuyers through credit sales. At the same time, due to the rigid demand for housing from a large number of homebuyers, real estate companies can view it as a low risk source of funding and continuously expand their scale. However, the short-term low risk is only for the real estate enterprises themselves, and the Systematic risk of the real estate industry will continue to accumulate in this process. In the long run, the risk transferred by the real estate enterprises will still affect themselves in turn, and this high turnover development model will also fall into a vicious circle under exogenous impact.
Under the impact of the COVID-19, the construction stoppage, widespread unemployment led to a decline in residents' income, and residents were more cautious in spending in the face of the epidemic. All three factors affected the operation of real estate enterprises. The construction interruption directly led to the default of real estate enterprises and affected their credit, while the decline in residents’ income and caution in consumption led to a decline in their willingness to buy houses, a decline in real estate enterprises’ income, and a shortage of funds. Banks are also more cautious when providing loans; Furthermore, the tight funding of real estate enterprises can lead to difficulties in debt repayment, which may lead to larger construction shutdowns and lead to more contracts and debt defaults. As shown in Fig. 2, bond defaults in China's real estate industry accounted for only 2.5% of the entire industry in 2018, 9.7% in 2020, and over 80% by 2022 [6].

The COVID-19 has not only disrupted the process of housing construction, but more importantly, exposed the risks of the presale housing system to homebuyer, greatly affecting their confidence in real estate enterprises and reducing their tolerance for default behaviors such as delayed delivery. From the perspective of Risk premium, first, the default risk of real estate enterprises increases; second, when the epidemic is serious and the economy is depressed, buyers will face more uncertainties, and the degree of Risk aversion increases. Therefore, compared with the expected value in the hearts of buyers, the value of these houses is gradually declining, and finally reaches a critical point lower than the loan they owe. Buyers will choose to give up waiting for the property to be delivered or refuse to accept lower quality properties to offset their debts [7-9].

In the long run, the current situation may be at a turning point in the real estate market. From the perspective of the real estate industry itself, although there is still a shortage of housing in first tier cities, other cities have already experienced supply-demand balance or even oversupply, and the real estate market is gradually differentiating. From other macro level factors, China's population fertility rate is gradually decreasing, and with the advancement of urbanization, the speed of urbanization is gradually slowing down, which will affect the overall demand for housing. At this turning point, some real estate companies may encounter supply problems due to inability to withstand pressure, which may trigger homebuyer to stop repaying their loans [10].

3. Comparable Analysis with 1980s Japanese Economic Bubble

In 1985, the ‘Plaza Accord’ was reached in New York by the five major economic powers (Britain, Germany, Japan and France). Due to the high exchange rate of the US dollar leading to a large trade deficit, the five major countries in economic crisis announced their intervention in the exchange rate market, resulting in a rapid appreciation of the Japanese yen. Therefore, a large amount of funds poured into the Japanese market in order to mitigate the negative impact of Foreign exchange risk, which also resulted in a large number of investment opportunities in Japan, but also led to negative impacts such as excess liquidity and serious obstruction of export trade [11].
In this context, there has been a wave of large-scale investment boom among Japanese enterprises and the public. Among them, the stock trading and land and housing trading markets are particularly prominent. The Japanese people firmly believe in the value preservation of land, which has led to large-scale land and property transactions aimed at resale and profit. Banks, on the other hand, use continuously appreciating land as collateral to issue large amounts of loans to debtors. It is similar to the economic collapse caused by mortgage in the subsequent US Subprime mortgage crisis. Many Japanese real estate companies have seen a significant decline in profits due to the rise in land prices. According to supply and demand theory, in order to maintain profitability, Japanese companies have adopted the method of calculating land value based on book value in accounting management, resulting in a significant difference between book value and fair value, laying the groundwork for future crashes [12]. There are many similarities in the causes of this round of supply interruption and the real estate crisis in Japan in the 1990s. Among them, the lack of awareness and misconception among the public about the future value of real estate and its associated risks have led to banks having to issue more loans. At the same time, the oversupply of real estate has led to inflated housing prices, and the increase in market circulation has also led to inflation, causing heavy pressure on the Chinese economy. As a result, people's income will further decrease, leading to a vicious cycle. In order to avoid the tragedy of Japan's Real-estate bubble, banks must strictly implement the regulatory system and avoid land and bond mortgage [12, 13]. The government, on the other hand, needs to increase publicity efforts, make the relevant financial knowledge and current situation of homebuyer more open and transparent, adjust monetary policy, and maintain stable economic development. As far as the current situation is concerned, government projects such as Affordable housing can well solve the problem of the shortage of real estate, but they still need to be improved.

4. Comparable Analysis with Subprime Mortgage Crisis

The Subprime mortgage crisis in the United States was a financial crisis caused by a variety of factors from 2007 to 2010, including the deregulation of the financial sector, the expansion of Subprime lending, and the use of complex financial instruments such as mortgage-backed securities. The most important factor was the aggressive lending behavior of banks and financial institutions. These institutions issue subprime mortgages to borrowers with poor credit and security them as mortgage-backed securities (MBS), packaged and sold to investors. When the real estate market collapsed, many homeowners found themselves in a predicament, with mortgages exceeding the value of their homes, triggering a wave of mortgage defaults and a sharp drop in the value of MBS, resulting in huge losses for investors and financial institutions who invested heavily. This crisis has led to a sharp decline in the real estate market and a contraction in the credit market, resulting in a global economic recession. On the surface, there are similarities between China's current ‘Loan cut-off tide’ and the Subprime mortgage crisis in the United States, both involving the default of housing mortgage loans. However, through in-depth analysis, we can find that there are some decisive differences between the two, including different causes, different non-performing rates of housing mortgage loans, different degrees of real estate financialization, different proportions of the real estate industry in GDP, and different regulatory efforts. These differences show that China's current ‘Loan cut-off tide’ will not evolve into a serious financial storm affecting the whole world, as the US Subprime mortgage crisis did.

5. Suggestions, Limitations and Prospects

Based on the cause analysis and comparative analysis results, this article provides the following suggestions. The current wave of supply disruptions in China has been severely affected by the epidemic, and the government should continue to urge real estate enterprises to complete the construction of unfinished buildings to protect the interests of homebuyers. At the same time, the financing of real estate enterprises should be appropriately relaxed, and the supply problem should
be alleviated by maintaining the normal turnover of enterprise cash flow, stabilizing the confidence of house buyers, and preventing large-scale default of real estate enterprises from aggravating Systematic risk in the short term. In the long term, gradually improve the housing pre-sale system and establish a post compensation mechanism to prevent the risks caused by high turnover.

It should be recognized that the growth of the real estate industry has slowed down, and there is a significant gap in the supply and demand relationship between different cities. Land resources should be reasonably allocated based on the population, income, industry, and other conditions of each city. At the same time, efforts should be made to increase the development of the housing rental market, improve the quality of rental housing and services, and regulate the rental market through legislation. In the long run, the imbalance in the development of the real estate industry reflects the imbalance in urban development, which is difficult to solve in the short term. Real estate enterprises can consider changing their business types, investing in industrial upgrading in third and fourth tier cities, and driving real estate demand through urban development.

The root cause of the Subprime mortgage crisis in the United States is the lack of supervision and the excessive prosperity of credit. The Chinese government should take a warning, adhere to the strict purchase and loan restriction policy, resolutely resist real estate speculation, and prevent the widening gap between the rich and the poor and social welfare losses caused by excessive housing prices. Banks should strengthen their qualification review when issuing housing loans and maintain a low non-performing loan rate; Adhere to the "three red lines" when financing real estate enterprises, screen out bad real estate enterprises to reduce Systematic risk; At the same time, banks should also improve their internal control mechanisms and prevent any involvement in real estate derivatives.

In terms of theoretical analysis, this article focuses on short-term factor analysis, with a particular focus on exploring the behavior of micro entities in the market during the epidemic, while in terms of long-term and macro analysis, it is relatively concise. In fact, this round of supply interruption is mainly caused by the supply side, and the deeper reason for the sluggish supply of real estate enterprises is macro factors. In addition to the population growth and urbanization construction factors mentioned in the text, factors such as slower GDP growth, urban construction level, and financial market development level may all have an impact on this. The mechanism by which these factors affect the development of the real estate industry still needs further exploration. In the aspect of comparative analysis, this paper selects five aspects of data, namely, the cause of formation, the non-performing loan rate, the degree of real estate financialization, the contribution of real estate to GDP, and the strength of supervision, and makes a comparative analysis of the differences between the ‘Loan cut-off tide’ and the Subprime mortgage crisis. However, in fact, there are still some differences that are difficult to quantify, such as different consumption habits caused by cultural differences, and different priorities of bank business objectives, These differences require more professional analysis. In terms of data collection, this article intends to collect data on the area of unfinished buildings to measure the severity of supply shortage, but there is too little relevant literature and public data to adopt.

6. Conclusion

To sum up, this paper explores the causes of the ‘Loan cut-off tide’ in China, and compares the difference between the ‘Loan cut-off tide’ and the Subprime mortgage crisis in the United States and the bubble economy in Japanese asset price bubble. The analysis shows that the main reason for China's ‘Loan cut-off tide’ is that the capital turnover of real estate enterprises is blocked, and the housing supply has problems, leading to buyers' dissatisfaction with real estate enterprises' default behavior and refusing to repay loans. At the same time, the analysis also shows that China's 'Loan cut-off tide' is less serious and less influential than the U.S. Subprime mortgage crisis and Japanese asset price bubble, which is not enough to form a financial crisis. This article studies the cutting-edge issue of supply interruption. In the current situation where research on this issue is relatively scarce,
this article has made some contributions to analyzing its principles and to some extent resolved the doubts about whether supply interruption will evolve into a financial crisis.

References