Research on the Causes and Countermeasures of China 's Real Estate Market Bubble

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Abstract—**In 2016, the Central Economic Working Conference of China pointed out that we must adhere to sound monetary policy and guard against economic and financial risks, while at the same time maintaining a reasonable and adequate liquidity. At present, the asset price bubble is mainly manifested in the real estate, the bond market, the stock market and the foreign exchange market. This paper uses the three indexes of house price income ratio, multiple linear regression method and local equilibrium method to measure whether there is a bubble in real estate price. Then it analyzes the causes of the bubble in the real estate market from the aspects of monetary policy, asset shortage, land finance and financial support. At last, it proposes normalizing shadow banking supervision, urging financial institutions to deleverage, reforming the land transfer system, implementing tight monetary policy, promoting tax reform and other measures to curb the real estate market bubble, in order to guide stable and healthy development of the real estate market.**

Keywords—real estate; bubble; deleveraging; land transfer system; taxation reforms

I.   INTRODUCTION

Although the term of asset price bubble is often seen in newspapers and periodicals, it is used to describe prices skyrocketed, yet now the term does not have a unified and accurate definition. Charles Kindleer Burke defines the asset price bubble as follows. "The asset price bubble is one or a series of assets that rises suddenly in a continuous process, and then the rising prices will lead to higher expectations, attractting new buyers who generally want to make a profit from the spread and are not interested in the use and profitability of these assets. With the price increasing, often the expected reversal, there is the price of the crash and finally ended with the financial crisis." An asset price bubble will have its price in short term soaring or crash in process of formation, but not all boom or a slump in asset prices in the short term is a bubble. If it can be explained by fundamentals, the price fluctuation is not the bubble. The real estate market of China has entered the fast-rising channel since 2003. Its price is rising and the ratio of house price to income is increasing. According to the National Bureau of Statistics data, in 2015, the per capital disposable income of urban residents increased by 8.2% over the previous year (nominal) by 0.8 percentage points over the nominal growth in 2014. After deducting the price factor, the actual growth rate was 6.6%.New commodity housing price rose 9.1%, an increase of 7.7 percentage points over

2014.House prices rose pretty obvious. In October 2016, 31 provincial cities in 29 cities prices rose year on year, of which more than 30% of the provincial capital city has 9. Cities of high prices or soaring housing prices concentrated in the first-tier cities, economically developed second-tier cities and part of the ring-tier cities. January to September 2016, there were 15585 cases of land transactions in 300 cities nationwide, and the total amount of land transfer was 1926.2 billion yuan, an increase of 40% over the same period of last year. Among them, the total amount of residential land transfer was 1502.1 billion yuan, an increase of 56%. In addition, this paper uses the price data of the 2004-2013 China Statistical Yearbook and the National Bureau of Statistics of China. Through the house price income ratio, multiple linear regression method and local equilibrium method to measure the price bubbles, presented in "Table I", the three methods of measures obtained by the regional real estate price bubble shows a certain degree of difference, but basically consistent trend. In the region with low house price income, the degree of bubble calculated based on the multiple regression method and the local equilibrium method is relatively low, that is, the three methods show that the higher the price of the price bubble is also more serious. Through the above analysis, it shows that there is a bubble in the real estate market in China, and it is of practical significance to study the causes and countermeasures of the real estate market bubble under the new economic development.

TABLE I. THREE METHODS OF MEASURING THE DEGREE OF HOUSING PRICES IN CHINA IN 2013

	House price income ratio	multiple linear regression method (%)	local equilibrium method (%)	House prices
Beijing	13.56	83.45	119.72	18553.00
Shanghai	11.12	12	63.35	16420.00
Zhejiang	8.86	27.33	42.59	11041.06
Guangdong	8.24	9.31	13.75	9089.76
Fujian	8.97	22.8	41.04	9050.25
Tianjin	8.12	14.93	49.26	8745.98
Hainan	11.51	42.88	6.59	8668.99
Jiangsu	6.51	-25.19	-2.14	6908.63
Chongqing	6.86	-19.53	-10.36	5568.66
Sichuan	7.62	9.43	4.96	5497.58
Shaanxi	7.25	0.2	-4.72	5279.94
Hubei	6.92	-6.31	-10.05	5266.25
Jiangxi	7.5	-15.52	-1.67	5203.18
Liaoning	6.08	-18.78	-9.7	5121.67
Anhui	6.72	6.61	-9.74	5080.06
Shandong	5.46	-30.33	-10.62	5048.62
Hebei	6.71	-14.31	-2.67	4897.36
Heilongjiang	7.41	5.38	-10.1	4737.54
Guangxi	6.07	-15.47	-18.17	4592.7
Yunnan	6.02	-8.51	-17.62	4494.12
Jilin	6.3	-13.01	-6.42	4483.25
Shanxi	6.11	-5.68	-23.45	4433.04
Neimenggu	5.28	-38.57	-21.75	4300.54
Guizhou	6.64	-9.95	-10.64	4295.29
Xinjiang	6.31	5.44	-19.99	4268.47
Hunan	5.7	-17.89	-23.58	4243.06
Ningxia	5.89	-19.88	-9.47	4232.57
Henan	5.88	-15.41	-5.82	4205.27
Qinghai	6.23	-3.9	-21.46	4162.91
Gansu	6.38	-12.84	-14.49	3885.82

II. LITERATURE REVIEW

In the study of the theory of asset bubbles, there are rational bubble theory and irrational bubble theory. Blanchard and Watson argue that under the rational expectation of investors, the solution of the asset price equation may be the component of the bubble. Rational expectation of the resulting foam is collectively referred to as "rational bubble" [2]. In the formation of asset bubbles, summers acknowledged the impact of investor psychology on the asset bubble. He believes that the deviation of the actual price of the asset from the asset base value is caused by investor sentiments or changing trends in fashion. Froot thinks that under the premise of a general short-term trading, the transaction may be gathered in some information that has nothing to do with the Fundamental value, which will lead to unreasonable allocation of information resources, and thus easily lead to "herding", so that asset prices deviate from their basic values producing estate bubble.

Chenhui Liu (2015) based on the price analysis method of China's real estate prices in the basic value and speculative bubble and conducted an empirical analysis on the relationship between monetary policy and real estate price bubble. He thought as long as the real estate market can maintain a moderate state of operation, quantitative tools and price-based tools could play a greater role. In addition to introducing the Shanghai Composite Index variable, he used the broad money supply and interest rates widely applied to the literature as a variable to explain the impact of monetary policy on China's housing prices to create a VAR model. In contrast to previous research findings, it was considered that the interbank offered rate in Shanghai was more affected by fluctuations in house prices during the sample period than in the case of money supply. After optimizing the local equilibrium model, Chunqing Xu(2012) measured the real estate bubble in China and considered that the current bubble was not lower than that in 1993, but below the level of 1997 in Hong Kong.

III. THE FORMATION OF REAL ESTATE BUBBLE FORMATION ANALYSIS

A. Shadow Bank and Real Estate Bubble

Similar to the traditional bank credit creation, the shadow banking system to create credit also includes the original deposit and derivative deposits. For the former, the original deposit of the Chinese shadow banking system includes discounted bank acceptance bills, entrusted loans, trust loans corporate bonds and so on. As we all know, the expansion of the real estate bubble leads to credit risk. In order to avoid the financial regulation, the traditional banks use the off-balance sheet business, through bank acceptance bills, entrusted loans and trust loans to the real estate sector to provide credit. At the same time, the shadow bank is parasitic on the traditional banks to Bank's Acceptance Bill, trust loans or entrusted loans to earn spreads. As a result, shadow banks have increased the total credit in the real estate sector, leading to blind expansion and vacancy, exacerbating systemic financial risks. According to the statistics of the People's Bank of China, the scale of financing of China's shadow banks has increased from 47.5 billion yuan in 2002 to 6122.9 billion yuan in 2012, reaching 4202.1 billion yuan in the first half of 2013 when the domestic equity financing of entrusted loans, trust loans, discounted bank acceptance bills, corporate bonds and non-financial enterprises increased by 130.82%, 267,16%, -15.29%, 49.15% and 24.68% respectively. The lack of supervision of the shadow bank increases the total amount of funds in the real estate industry, fueling the real estate market bubble.

B. Excessive Financial Support and the Real Estate Bubble

In order to enrich and develop the existing real estate bubble theory, we use excessive financial support hypothesis to explain this phenomenon. With financial liberalization and derivatives diversifying, we provide a summary of financial product supporting for real estate purchases, by expanding the scale of credit and lower interest rates and other preferential financing to allow more house buyers debt to buy, with the real estate market bubble growing. Asset securitization of mortgage loans will be traded, increasing virtual assets and growing the bubble. As an independent economic man, the financial institutions are driven by the pursuit of maximizing profits. They are often confused by the irrationality of the booming market and conduct irrational speculation in some high-risk industries, such as real estate. In order to avoid irrational lending behavior in financial institutions, the functions of PBC(People's Bank of China) are very important. However, PBC is a regulator, not a main participant in the market, whose market judgments often do not match the facts and control decisions enhance the uncertainty of financial institutions' loans. Real estate supply is proportional to the amount of loans.

With real estate prices rising, Investors increase their investment, real estate developers increase their supply and home buyers to buy real estate in order to obtain re-sale of excess profits. Real estate financial deepening is very high, most of the investment amount comes from the bank, so their investment leads to the increasing of bank loans, while the amount of bank loans are not bound, which further promotes the real estate supply growth, that is when financial institutions loan and the real estate investor's income are uncertain, positive feedback effect of real estate prices encourage investors excessive borrowing, resulting in excessive financial support.

C. Land Finance and Real Estate Bubble

In large and medium-sized cities, housing prices had been in a rally in 2015. For Example, the four First-tier cities of Beijing, Shanghai, Shenzhen and Guangzhou had risen more than 20% year on year within several months. House prices rose ferocious, because restricting land transactions leads to an imbalance between supply and demand of land market, making unit price and total price of land plots high, increasing income of land transfer, creating expectations that housing prices may rise to the outside world, and then in the process of economic development the local government has more relaxing space for maneuvers. High land prices increases a variety of property taxes and construction tax, making further increase in revenue. All in all, the local finance for the operation of land finance plays a great role in rising house prices. Land price is the most basic elements of real estate, driving the various costs rising in the entire real estate industry, causing house prices continue to rise. At the same time, the expectations of rising house prices lead to form the psychological of large scale purchase home to buy high and sell low, and in the expected self-realization process, also promotes the rise in house price.

IV. COUNTERMEASURES OF INHIBITING THE REAL ESTATE MARKET BUBBLE

Through the analysis of the article above, in the new economic development there are shadow banking, land finance, asset shortage and other aspects contribute to the real estate market bubble. We should take corresponding measures to curb the real estate market bubble.

A. To Regulate the Supervision of Shadow Banks

In the regulatory scope, in addition to trust companies and other non-bank financial institutions, the private credit, underground banks, pawn shops and asset management companies should be included in the regulatory areas. In the regulatory mechanism, we must promote the "one line and three meetings" which cooperates with the local government at all levels effectively to explore financial regulatory coordination mechanism and joint meeting system. Cutting off the source of excessive expansion effectively is an important means of preventing systemic financial risks. To strengthen supervision of the shadow bank, China Banking Regulatory Commission needs to innovate regulatory means to avoid creating a large scale of credit, focusing on the prevention of credit tools into the real estate field, in order to prevent the real estate price bubble and curb systemic financial risks. PBC not only should do a prudent supervision and the final lender, but also need to build a financial safety net covering it.

B. The Deleveraging of the Financial Industry to Curb the Real Estate Market Bubble

In addition to the supervision of shadow banks, suppression of the asset bubble in the real estate market, needs to decrease leverage of the financial sector. The financial industry is a highly leveraged industry essentially, such as commercial banks and investment banks, with higher financial leverage ratios than ordinary industrial and commercial enterpris-high asset-liability ratios. underground banks, pawn shops and asset management companies should be included in the regulatory areas. This is determined by the characteristics of financial enterprise operating product. High leverage leads to high internal vulnerabilities in the financial statements of financial institutions. Once the asset price reversal, the asset is impaired. When the impairment loss is more than the security boundary, financial institutions face the risk of bankruptcy. The first quarter of this year, with the stock market and the property market picking up, part of banks and the Internet financial platform began to enlarge the lever of capital support. It is reported that margin trading through the channel of financing or securities lending in the securities company is a 1: 1 leverage ratio, while the proportion of high-leveraged financing through illegal means is 1: 3 to 1: 5, the network with the highest proportion of funding 15 times. Especially the stock of illegal financing, the down payment and the "private equity fund + P2P" can dock with any financial products and financial needs, boosting the funds estate into the real estate market. Therefore, to speed up the deleveraging of the financial industry, in particular, to reduce the proportion of mortgage loans and increase the amount of margin to eliminate the leverage ratio real estate price leverage.

C. To Play the Role of Monetary Policy on the Regulation of Real Estate Prices

Real estate price bubble is a manifestation of market failure and boosted by the loose monetary environment in a great extent, which needs the appropriate government intervention to suppress. Early in the rising of estate prices, the fact of investors making some profit and the publicity of asset providers under the information asymmetry, attracting investors to join, promote asset prices further rise and lead to the formation of a bubble. However, regardless of whether the rising price is out of its basic value, a large number of capital flows into the real estate market resulting in the price increase. During the rise in asset prices, the financial system is driven by interest and tends to loosen credit conditions. When bubble assets for the mortgage loans burst, it often form a great destructive on the entire financial system. Therefore, we can inhibit the formation speed of the bubble by controlling of the money supply and strengthening the regulation of the financial system to provide the real estate credit.

V. CONCLUSION

The article uses three indicators to measure the real estate's bubbles, the results show that the development China's real estate market is full of bubbles, which is mainly because of excessive financial innovation and financial support lead to make a lot of money into the real estate market and promote real estate prices. Meanwhile the real estate market bubbles vary from city to city, that is the more developed region is the

much bubble. In order to standardize the development of the real estate market, this needs to improve the financial supervision system, reduce the shadow bank to the real estate market financing scale, and gradually deleverage the financial services for real estate market, mainly to improve the initial payment ratio and mortgage ratio. Policy to reduce the money supply to remove the real estate market bubble is also necessary. In the context of China's economic development into the new normal, through the improvement of land circulation and property rights reform to build the land transfer system, increase the supply of effective housing to guide the healthy development of the China's real estate market.

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