

Chapter 1

Introduction

1.1 Background and significance of the study

After the global financial crisis in 2008, it is now common knowledge that the housing bubble is the one of the major causes of that crisis, which has increased attention for policy maker to take into account the situation of the housing market in their policy assessment. The sign of the housing bubble is defined as a rapidly rising property prices. When the property price increases to a level that most people cannot afford, it means that the housing bubble had been created. Once bubbles burst, the property market will collapse and affect the economy.

Real estate is an important sector of China's economy, with property investment accounting for 12 percent of gross domestic product (GDP) and 25 percent of total fixed asset investment. However, the housing market became overheated in recent years. The property prices in nine major cities rose by 10 percent in 2009 to 21.5 percent in 2010. According to Huang and Wang (2011), Zeng and Li (2011) and Gao et al. (2012), the rapid increase of property prices already built a bubble in China's real estate market.

To control the rapid increase of housing prices and bubbles, the Chinese government implemented a series of real estate policies in 2010. The Chinese

Treasury published a notice in January 2010 to state that the houses held less than 5 years will be collected a higher tax when selling. Later, the State Council issued “Countries Article 11” which stated that the down payment of second-house mortgage should not be less than 40 percent. In the same month, the Ministry of Land and Resources issued the “notice of adjusting the declaration and implementation of urban construction land”. It stated that when the real estate firms develop the land, the proportion of affordable housing, low-rent housing and low price small and medium size business housing should not be less than 70 percent of the total project.

In March, 2010, the Ministry of Land and Resources issued “notice of real estate land supply and regulation”. It stated 19 declarations including deposit money for bidding of developers should be at least 20 percent; the 50 percent land price should be paid in one month; freezing developers who reserve land and so on. Also, the State-owned Assets Supervision and Administration Commission required 78 state-owned enterprises whose major works is not real estate to leave the housing market after finishing their self-owned land development project.

In April the same year, the State Council set the rules that banks should raise the minimum down payment for second-home purchases from 40 percent to 50 percent, while requiring mortgage rates to be no less than 1.1 times benchmark rates.

The State Council also set a 30 percent minimum down payment for purchases of the first homes that are larger than 90 square meters and required that the commercial bank should stop offering housing loans for purchases of third house in the region

where has tension supply of business housing and stop issuing mortgages to nonresidents who have not paid local taxes or welfare-benefit fees for more than a year.

At the beginning of August, the China Banking Regulatory Commission checked 1457 idle lands, and approximately 80 percent of them have been taken back.

In September the same year, the Ministry of Land and Resources and Ministry of Housing and Urban-Rural Development jointly issued “notice of management of real estate land and construction”. It stated the bidders and its controlling shareholders who have unused land more than one year will be forbidden to get new land.

During November 10th and December 25th 2010, the People’s Bank of China had adjusted the deposit reserve ratio for three times to limit the rise of real estate prices. On 10th, November, 2010, the deposit reserve ratio of financial institution was increased by 0.5 percent to 17.50 percent. Then, the People’s Bank of China increases the deposit reserve ratio twice by 0.5 percent on 19th, November, 2010 and 11th, December, 2010.

To standardize the housing purchase management of foreign institutions and individuals, in November 2010, the Ministry of Housing and Urban-Rural Development and State Administration of Foreign Exchange claimed that individuals from overseas could only buy one house in China.

In 2011, the Chinese government continued staying the course on property tightening. Premier Wen Jiabao has repeatedly said Beijing will strict to the policies

of controlling housing prices until home prices fall to "a reasonable level." The series of real estate policies are shown in the below table.

Table 1.1 Authorities policies in 2011

Department	Date	Main content
China Banking Regulatory Commission	January 17 th , 2011	Implementing differentiation house loan policy.
People's Bank of China	January 20 th to May 18 th , 2011	The reserve requirement ratio is increased by 0.5 percent five times.
State Council	January 26 th , 2011	Raising the minimum down payment for second-home purchases to 60 percent.
State Council	January 27 th , 2011	Chongqing and Shanghai launched property taxes.
Ministry of Housing and Urban-Rural Development	February 9 th , 2011	Increasing individual housing fund loan rate.
People's Bank of China	April 6 th to July 7 th , 2011	The base rate is increased by 0.25 percent twice.
Ministry of Land and Resources	April 20 th , 2011	Increasing the supply of residential land.

Table 1.1 Authorities policies in 2011 (Continued)

Department	Date	Main content
State Council	May 1 st , 2011	Implementing “one-room price” policy around the country.
State Council	July 12 th , 2011	To apply housing purchase restrictions in second and third-tier cities.
State Council	July 21 st , 2011	Strengthen land control.
People's Bank of China	December 25 th , 2011	The deposit requirement ratio is decreased by 0.5 percent.

Source: Official websites of each department

In summary, the Chinese policies related to real estate market can be classified into four main groups:

The first is land policy which can be categorized into two groups: one is increasing the supply of land by reclaiming development land and the other is reducing speculation of land by increasing the security money and access threshold. The main purpose of land policy is to stable land price so that the housing price will not be raised due to the rising land price.

The second policy is monetary policy with an objective to reduce the availability of loans by reducing commercial banks' amount of credit and increases

costs of loans. Monetary policy has been used frequently by People's Bank of China in a way that changes the deposit reserve ratio and the base rate.

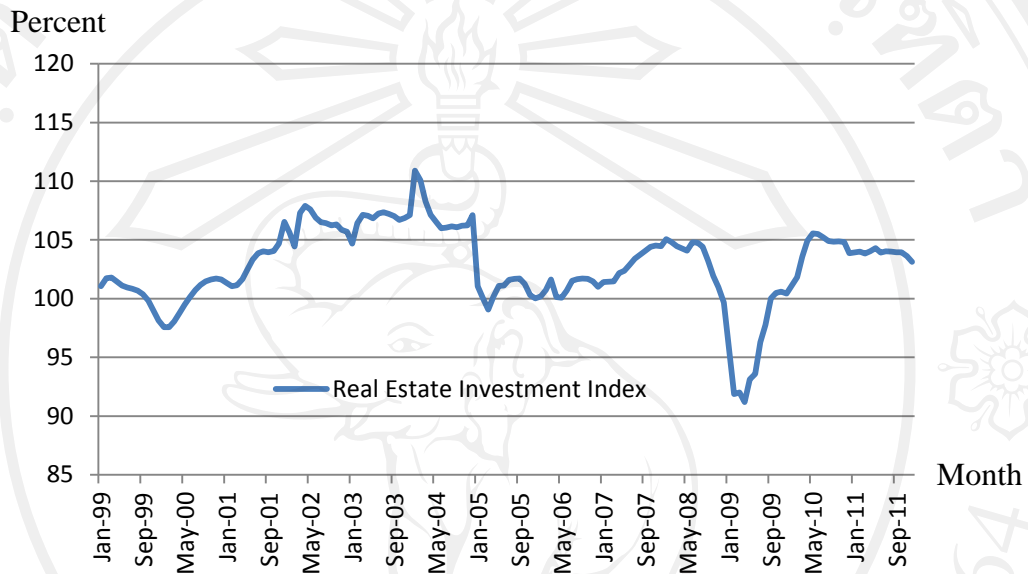
The third policy is property tax policy which aims to increase the cost of holding real estates. This housing tax is a new concept in China. Since the degree and horizon of the effect are unknown, the property tax is still in the pilot phase, and has only been tested in two cities.

The last one is an affordable housing policy, which is implemented by government that invest in the housing sector to provide more affordable housing or control its scale.

The purpose of the four main policies is to reduce the housing prices and keep the housing market stable. Decreasing house price is a main way to eliminate potential bubbles. Meanwhile, a stable housing market will guarantee that when housing prices fall, the bubble will not burst in the future and cause economic crisis.

Figure 1.1 shows the real estate investment index which represents the development of the real estate market over the period of 1999 to 2011. From the figure, it can be seen that the index keeps rising until peak at 110 points in February 2004. Then it begins to drop and reach a bottom point in January 2005. After that, the index kept rising and peaked at 105 points in January 2008. Affected by the financial crisis, the index drops almost 15 points and reached a historic low point (91.2) in April 2009. But with the help of the stimulus package, the index back to its pre-crisis level quickly and reached a new peak at 105.5 points in May 2010. Due to the tighten

policies, the index begins to decrease. Note that, the housing market is less impacted by the real estate policy, since the index just drops less than 3 points in 19 months.

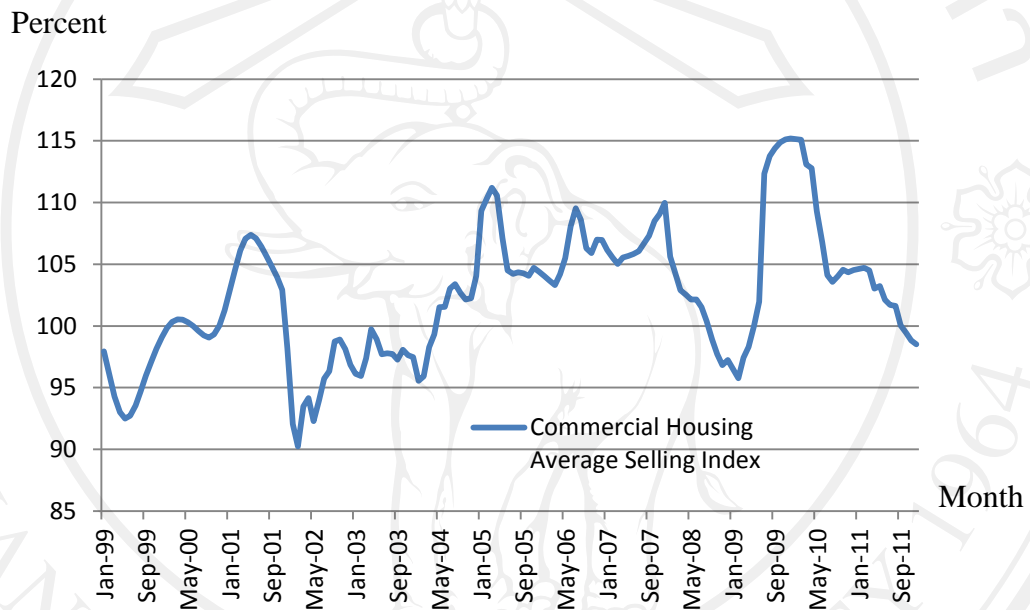


Source: Statistics Bureau of China

Figure 1.1 Real Estate Investment Index

Figure 1.2 shows the business housing average selling index which can tell the housing price level. It can be seen that, during 1999 and 2002, the index experiences a rapid increase for the rise of the real estate market and a big drop. After that, there is a stable increase in housing price between February 2002 and November 2007, later in 2009, the housing selling index drops to 95.76 points due to the financial crisis. But after the crisis, the real estate as a way to preserve value become even hotter, the index rises rapidly and reaches a peak at 114.88 points in 10

months, which means the housing price is becoming very high. After that, due to the impact of the tighten measures, the index begins to decrease. Note that, the effect of real estate policy on house price is large, because the index drops more than 15 points in one year.



Source: Statistics Bureau of China

Figure 1.2 Commercial Housing Average Selling Index

Overall, after the implementation of those policies, the house price decreases quickly, and the housing market is stable. From the effect of four policies shown in those two figures is a total effect of four policies, the net impact of each policy is still unknown, for instance which policy can stabilize the housing market better and which one is good at controlling house prices.

From the above mentioned problem, this paper attempts to assess the effect of each policy related to real estate market using a dynamic stochastic general equilibrium (DSGE) model with housing sector and policy mechanism. There are three reasons to select a DSGE framework as a potential tool for policy analysis: First, DSGE models are built on microeconomic foundations and emphasize agents' intertemporal choice. The dependence of current choices on future uncertain outcomes makes the models dynamic and assigns a central role to agents' expectations in the determination of current macroeconomic outcomes. Second, the models' general equilibrium nature can capture the interaction between policy actions and agents' behavior. Third, a more detailed specification of the stochastic shocks that cause economic fluctuations allows one to trace more clearly the shocks' transmission to the economy (Sbordone et al., 2010).

1.2 Purposes of the study

The main objective of this study is to examine the influence of affordable housing policy shock, land policy shock, property tax policy shock and monetary policy shock to the Chinese economy.

1.3 Advantage of the study

The result might be useful for the policy makers in China for making policy on regulating the property market. According to the result, the policy makers can figure out a better way to control housing prices or stabilize the real estate market.

1.4 Organization of the study

This thesis has five chapters. The first chapter provides the introduction and purpose of the study. Chapter 2 presents the related theories and literature reviews. Chapter 3 introduces the methodology. The data and empirical results are presented in chapter 4. Chapter 5 concludes the paper.