A Study on the Chinese Housing Policy During Social Transition: Practice and Development¹

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China has undergone tremendous economic reforms since 1978 which also included housing. The housing market only began to emerge after 1987 when land and housing reform were carried out in full force. Land and housing was no longer granted

free of charge to government organs and state-owned enterprises. The housing market boom started in 1998. And this sector has grown at an incredible pace (see Figure 1). The paper will survey housing reforms since 1978 and then will in greater

detail look at housing policy with regard to land, finance, public finance and social security. Finally, the paper will set forth the problems and difficulties encountered during the reform and the challenges ahead.

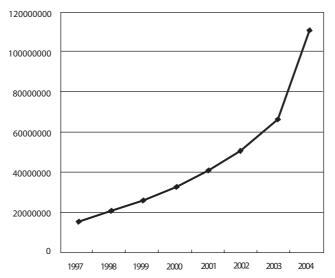


Figure 1: Housing Investment (ten thousands RMB)

Sources: China Statistical Yearbooks

Due to the existence of dualist urban-rural structure in China, rural land, including rural housing, belongs to the Rural Economic Collectivity. As a result, in the rural area, unlike in the cities, farmers still build their own houses. There is not a real housing market in rural areas. Thus, housing policy in this paper denotes urban housing policy.

I. The practice of housing policy during social transition

1. The command economy period (1949-1978)

The Chinese Communist Party came to power in 1949 and the Party established its goal of rapid development of heavy industry as a strategy in the hope of reaching development levels comparable to Western industrialized countries. China entered into an era of the planned economy. Under such a system, the "market" was not in operation and China operated and controlled the supply of consumer goods including

houses. Housing allocation during this stage was characterized by "low salary, low rent plus subsidy and provision of goods in kind". All houses were uniformly built by the government; and funding for these constructions came from the National Construction Fund which was funded by the Ministry of Finance, thereby excluding any non-governmental resources from taking part. The shortcomings of such housing policy lies in the heavy financial burdens it imposed on China's public finances, the irrationality of low rent policy and the lack of a healthy market for housing transactions. At the same time, the government emphasized a "Production First, Living

Secondary" slogan. Housing construction had to give way to other forms of production. Only 1.8 billion RMB per year was allocated to the construction of housing during that period; the share of residential housing construction funding was only 7.4% of the total construction fund (See Figure 2) and was only 1.5% of Gross National Product (GNP). Moreover, the annual construction of new houses was less than 50million m². Consequently, the living area per person decreased from 4.5m² in 1950 to 3.6m² in 1978. The housing policies of this period triggered off a severe housing shortage.

Figure 2: Housing Investment as a Percentage of Construction Fund (%)

Sources: Calculated China from Statistical Yearbooks

The transition to a market economy

(1) Double-track system period (1979-1997)

Housing system reform went hand in hand with the reform of the Chinese economic system and was in fact a major part of the reform. During this period, there was a gradual transition from welfare housing to the provision of housing subject to market forces. The policy of this period was characterized by the trial of housing, and by the parallel existence of welfare housing and a market mechanism of housing distribution. The reform went through several phases: the sale of state-owned housing²; encouragement of housing construction by private sector; an increase in the rent of state-owned housing while increasing state housing subsidy for tenant. The government's role as the sole provider of housing gradually diminished and funds from multiple sources became available for

housing construction. Private ownership increased during this period. Housing finance also diversified -- mortgage loans were offered by banks. From 1979 to 1997. average annual investment in housing construction was 91.8 billion RMB. In 1996, housing investment was 26.6% of total fixed asset investment and was 9.06% of GNP. In 1997, the average building area per person reached 17.66 m², whole-unit occupancy (ie a whole house) reached 63%, private purchase of housing reached 59%. As the housing reform deepened, housing allocation by the government was gradually replaced by a new stage of housing. However, at the initial stage of housing. house prices and rents were low and government could not recuperate the cost of construction, thus causing losses to state assets (at that stage most houses were still being built by the government). In addition, the parallel existence of low rent stateowned housing and comparatively high prices of market value housing attenuated people's desire for the commercialization of the housing sector. As long as people were able to benefit from state-owned housing schemes, the demand for other forms of housing was sluggish. Welfare housing still existed. For example, some organizations bought market housing and then sold it to its employees at a very low price. Despite the defects of some reforms in this period, it represented a "great leap forward" in China's housing policy reform and laid the foundations for the monetization of housing allocation and the transfer of property rights.

(2) The complete transition to the provision of market based housing (from 1998 to today)

In July 1998, China's housing policy reform entered a new era, characterized by monetization of housing allocation and the establishment of multiple housing supply systems as well as the standardization of

² With the sales of these houses, the government did not aim to make a profit.

housing transaction market. From 2000 to 2004, average annual investment in real estate reached 745.8 billion RMB and achieved an annual growth rate of 24.9%. This investment was 15.7% of total investment in fixed asset and was 6.9% of GDP. Starting from this period onwards, the housing industry has become a new engine of growth for the economy. Nowadays, total housing area has reached 44 billion m² in cities and towns of which urban residents occupy 16 billion m2. In 2004, newly completed construction projects of urban housing reached 0.55 billion m². Urban residents' living area increased from 18.7 m² in 1998 to 24.97 m2 in 2004. Further, the whole-unit occupancy rate exceeded 82.44% and ownership rate was 80.77% in cities and towns.

2. Summary: the evolution of China's housing policy

(1) The transition from welfare housing to partial welfare housing.

Before the reform, housing allocation as a welfare benefit could not satisfy the needs of ordinary citizens. As reform took place, welfare housing began to target mediumand low-income families. Those families that could afford housing had to get their houses through the market.

(2) The transition from noncommercialized to market based housing.

Before the reform, houses were non-tradable goods on the market; thus, they could not be regarded as commercial goods. After the reform, houses were traded on the market and many service agencies came into existence.

(3) The transition from unitary to multiple and comprehensive policy measures.

Before the reform, public finance was the only policy measure in the realm of housing but after reform, with the appearance of real estate finance, the Housing Provident Fund, and consumer credit, multiple policy measures have been introduced in the

housing sector to allow for financing of housing purposes.

II. China housing policy in the current stage

After twenty years of reform, China now has more or less a complete set of policy systems covering land management, investment, circulation, transaction and property management, public finance, taxation, planning, construction, sales, etc.

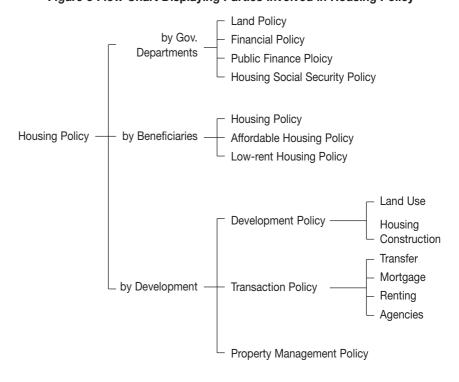
The parties involved include the government, enterprises, service agencies, consumers and socially vulnerable groups. Therefore, it could be said with no exaggeration that housing policy is one of the most basic yet complex policies that concerns the livelihood of everyone. The policy can be divided into the following broad categories (see figure 3):

In the following, the paper will discuss land policy, financial, public finance and social security policies with regard to housing in more detail.

1. Land policy

Land in China falls into two categories: state-owned and rural collectivity owned. Land in cities belongs to the state while land in the rural area, which is primarily used for farm production and rural housing construction. belongs to peasant collectives. Our focus here is state-owned urban land for which the government exerts three levels of administration: the central government is in charge of setting up nationwide laws and policies; provincial level governments are in charge of monitoring and evaluating implementation of these laws and polices by local level governments; local governments execute these laws and manage the land by carrying out planning, development, land reserve, land sale and land registration. The state has the right of ownership of the land. Thus it can sell the land-use right based on certain conditions. Some conditions include: according to land usage, the terms of land use are 40, 50 and 70 years; plot ratio and density must be determined by government's planning; land

Figure 3 Flow Chart Displaying Parties Involved in Housing Policy



for business purposes must be obtained through bidding, listing or auction. Moreover, China implemented a land bank system: being the sole land supplier, the Government adjusts land supply in accordance with planning and market demand. The income received from land sale is used for infrastructure construction. China's land band system now operates on a fair, open and impartial basis. Land supply policy is used as an important tool of macroeconomic control by varying the amount of land available on the market. establishing auditing systems for land of construction purpose and adjusting land tax and establishing monitoring and forecasting measures.

2. Financial policy

Currently, two financial policies operate in China: the Housing Provident Fund and housing credit policy. Since the 1990s, the Housing Provident Fund system has been in operation. This system can be seen as a compulsory saving system operated by the government in order to protect the interest of salaried worker and as a society-wide social security. Employers and employees each put the same ratio of their share of commitment to the bank for the employee to be saved as Housing Provident Fund so as to help employees' future house purchases or provide a stipulated amount of loan at a low interest rate. To date, there have been about 61.385 million employees who have participated in this scheme, covering about 58.4% of the salaried workers population. In most cities, the amount of reserve that has to be deposited in the bank has increased from 5% to 10% of an employee's salary. By 2004, the total Housing Provident Fund had reached 740 billion RMB, and the amount in account after loans have been paid out from this reserve is still 250.68 billion RMB. More than 30 million employees are currently benefiting from this scheme in their house purchases.

Housing credit refers to bank loans to potential house buyers who provide the house in question as a mortgage. At the moment, four state-owned commercial banks provide financial services3. According to national policy, the down payment is 30% and borrowers can take out a loan for the remaining 70%. In March 2005, in a move to avoid financial risks arising from real estate activity, the Central Bank of China increased the loan rate from the previous 5.31% to 5.51%. Housing credit has grown by leaps and bounds in China - at an annual growth rate of 100%. By 2003, the total credit amount had reached 11.78 billion RMB which was 62 times of the amount in 1997. However, this figure is only 8.9% of the total loans given to the real estate sector (which includes loan to housing developers, etc.). This demonstrates that there is still great potential for consumer credit service in China

3. Tax policy

Tax from real estate has become an important source of public finance for the government. There are a variety of taxes, including business operation tax, city construction tax, income tax, land valueadded tax, stamp duty, contract fee, etc. Taxation has also become an important tool for macroeconomic control. The 1998 Asian Financial Crisis hit the newly germinated Chinese real estate market. To encourage the development of the real estate sector, tax policies were adjusted. Favorable tax polices, in business operation tax, land value-added tax, personal income tax, contract tax and stamp duty, were offered. In 2005, the real estate industry was overheated. The government again used tax as a tool for macroeconomic control: any transaction for ordinary housing within two years of purchase no longer enjoys favorable business operation tax; luxurious houses no longer enjoy partial favorable tax if a transaction takes place after two years of purchase, while ordinary houses enjoy full preferential terms if a transaction takes place after two years. This measure is aimed at preventing the overheating of the economy caused by speculative investment. Real estate taxes take place in the realm of real estate development and transaction in China. However, there is still no property tax yet.

4. Housing social security policy

Experience from many countries has shown that the market could not solve society's housing problem which is both of economic and social concern. Besides the further improvement of the market mechanisms, the government has the responsibility of solving housing problems for low-income families. Therefore housing policy is an important component of social policy. The government provides affordable housing (such housing is known as Economical Housing) to those families that have difficulty in buying houses, and low-rent houses for urban residents with very low income. Economical/affordable housing is constructed in three ways: construction by local government; construction by real estate developers; and construction by the employees' Work Unit (which is usually a state-owned factory or company). The land for construction is provided by the government free of charge and government provides preferential administration fees and loans. Only families eligible for such houses are entitled to buy (eg in Bejing the family income may not exceed RMB 60,000 per year). The prices, which are strictly controlled by the pricing department, are not allowed to have a profit margin of more than 3%. Also, the area for such houses hovers around 60-80 m². Consequently, the price of such houses is much cheaper than that of commodity housing. Cheap-rent houses target the widowed, the old, the sick, the disabled and the very poor. The Government hands out rent subsidies or charges tenants a low rent. The area of such houses normally does not exceed 60% of the local average living area.

³These are Bank of China, Construction Bank of China, Agriculture Bank of China and Commercial Bank of China

III. Problems of housing policy

1. The ambiguity of housing policy principles. In most societies, housing distribution falls into two general categories: commodity houses for relatively highincome families and housing provided by government as a measure of social security for low-income families. These two spheres usually do not overlap. Although these two spheres exist in China, there is a certain policy ambiguity and confusion within each sphere. The government has established commodity housing as a mainstay for economic development. However, the government has underestimated the overheating of the economy due to the rapid development of the housing sector. This is also attributable to the government's lack of

sufficient knowledge of cycles in the real estate industry. Therefore many policy measures introduced lack pertinence. A series of economic control measures, covering land supply, monetary policy, tax policy etc were introduced to curb overheating. Due to a mistaken judgment of the market, these measures had reverse effects than were originally expected: they caused panic among buyers and drove up demand. Prices for commodity housing rose by 10.1% in the first half of 2005. High house prices forced ordinary citizens to demand affordable housing from the government. (In some cities e.g. Shanghai, Beijing and Guangzhou the price-earnings (P/E) ratio has reached over 12.) See Figure 4 for a graphic presentation of income and house price. On the one hand, the government has a monopoly over land supply, thus the monopoly right to reap profits on the land. On the other hand, the government put the blame of overheating on real estate developers. Apparently, the government is shirking off responsibility. The number of affordable housing set up by the government is decreasing (See Figure 5). From Jan. to May in 2005, the total investment in housing construction reached 310.4 billion RMB, an increase of 21.8%; but the investment in affordable housing was only 14.5 billion RMB, a decrease of 16.7%. The government lacks long-term planning and farsightedness. The rules and affordable housing procedures for construction have yet to be standardized. There are also flaws in the process of construction of affordable housing. Some

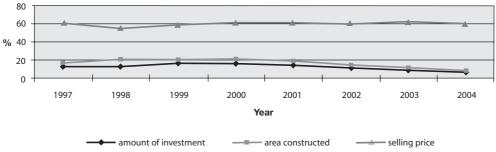
20
15
% 10
5
0 1998 1999 2000 2001 2002 2003 2004
Year

Housing Price Increase (%) Urban Residents Income Increase (%)

Figure 4: A Comparison of Housing Price Increase and Income Increase (%)

Sources: China Statistical Yearbook 2004





Sources: China Statistical Yearbook 2004

local governments contract out affordable housing construction to real estate developers, thus withdrawing its monitoring ability. In addition, developers built houses whose living areas exceed the 60-80 m² principle. As a result, many people can no longer afford "affordable housing" of such a big area while the relatively well-off can buy them with great ease. This results not only in abnormality in the housing market but also intensifies social conflicts.

2. Administrative intervention in housing policy. China is in a social and economic transition stage. In a centralized political government like China's. system intervention is inevitable. Problems in China's real estate market include excessive investment, house price hikes, market disorder etc. However, the government still uses administrative control, such as controlling a house's area and price as its main tool. In many instances, a local government's achievement is measured by its ability to control and adjust house prices. Unfortunately, a misjudged policy can cause great disturbance to the market. For example, at the outset of the 2005 real estate market adjustment, due to the government's tight supply of land, there was imbalance between supply and demand and caused price hikes in real estate. Only after the government increased land supply, a short-term equilibrium was restored.

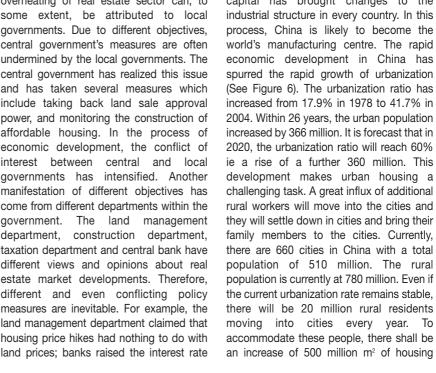
3. Inconsistent policy goals. Inconsistent goals are manifested by the different objectives of housing development held by

the central and local governments. From the viewpoint of the central government, the development of the real estate sector should go hand in hand with the national economic development in order to achieve stable growth and harmonious social development and avoid any economic fluctuation. But, from the perspective of local governments, they wish to see a booming real estate market not only because they can reap profits from land sale but also a booming scene looks good for their political record. Therefore, the current overheating of real estate sector can, to some extent, be attributed to local governments. Due to different objectives, central government's measures are often undermined by the local governments. The central government has realized this issue and has taken several measures which include taking back land sale approval power, and monitoring the construction of affordable housing. In the process of economic development, the conflict of interest between central and local governments has intensified. Another manifestation of different objectives has come from different departments within the government. The land management department, construction department, taxation department and central bank have different views and opinions about real estate market developments. Therefore, different and even conflicting policy measures are inevitable. For example, the land management department claimed that housing price hikes had nothing to do with

for housing loans to protect themselves from financial risks while ignoring the increased financial burden of house buyers. The partition of administration zones caused chaos in housing development.

IV. The challenges of China's housing policy

1. The challenges of globalization. Our world has entered into an age of globalization and the flow of international capital has brought changes to the



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Figure 6: Urbanization Process Since 1978

Sources: China Statistical Yearbook 2004

every year. Although this represents a great potential for the development of the housing sector it also represents a challenge for policymakers as how to effectively satisfy market demands and ensure the stable growth of housing sector and realize the goal of urbanization in a context of scare resources.

2. The challenges of pluralistic social interests As economic reforms deepen in China, more and more people begin to share the fruits of economic growth. However, here is no such case as equality of opportunities. Many people get rich while many others remain poor. As a result, many interest groups began to emerge. These groups stratify the society. According to the study of Chinese sociologists, there are ten social classes in China, with the entrepreneurs and managerial class at the top and workers and jobless people at the bottom. Furthermore, China's Gini Coefficient has reached 0.45. China is entering into a stage of high social development cost. The main social cost is the maintenance of society's harmonious and stable development. Housing policy plays a pivotal role in maintaining healthy social development. The most poignant issue in housing policy is high housing prices and low income for the vast majority of the people. Most houses are occupied by the wealthy class while the poor - the jobless, low-income group and rural migrant workers - could not even afford a house with their lifelong savings. These groups are being marginalized in the society. There are still no slums in China yet thanks to the possibility and opportunity that rural migrant workers can return to their farmland in the rural area if they cannot settle down in cities. But this does not mean that their need and desire for housing in the cities can and should be neglected. China has 99 million migrant workers. Even if we make their living area 60% of their urban counterparts, there should be 1.43 billion m² of housing for them. The government is the only provider for such housing. Therefore it is a challenge to ensure social justice and maintain social stability.

3. The challenges from the natural endowment of land If we take into account the current urbanization rate, it will result in a growth of 20 million new dwellings in cities each year. In addition, assuming that the average construction area needed for each person is 100 m², 2,000 km² of construction land is needed every year. To put it in a more graphic description, every year 3 cities of the size of Beijing have to be created. The above estimates are very conservative. If we take into consideration the increase of living standards, the construction area needed will be much larger. Thus China's naturally endowed resources could hardly support such a demanding land need. This explains why China has the most stringent land protection law in the world.4 But the current average area of land used for construction per person is at 130 m² (far higher than in developed the countries where this ratio stands at 83.3 m²). The area of economic development zones set up by local governments has reached 37,500km². This area, which has exceeded the current 31,500km2 of land for cities and town development, has not been utilized efficiently. In 2004, the total area of development zones repealed by the government was 22,100 km². In the same vein, land that has been bought but not developed by developers who are waiting for an appreciation in land value which is about 47.000 km². Extensive use of land is not the way for sustainable development. The rural population is about 1.5 times of city population, but rural residential land occupies 6 times that of urban residential land. For policymakers, how to use and manage land efficiently in accordance with the reality of housing development is a great challenge.

V. Suggestion for China's Housing Development

1. The Principle of Housing Policy: Efficiency, Equity and Sociality. The policy that government adopts for the real estate market should sufficiently utilize the effective deployment of housing resources through the market mechanism, including land supply, housing investment,

construction, circulation and consumption etc. The standardization of ownership modalities, protection of right-to-use right, housing financing and housing price can greatly improve the land-use efficiency of real estate.

Apart from the efficiency of housing policies, the principle of equity has to be maintained. Under a market economy, the allocation of housing is realized through exchanges and is closely related to personal income. Therefore while the rich can afford big and comfortable houses the poor could rent only small and uncomfortable ones, or even become homeless. In view of the need for social stability and social welfare, the government should find the targeted population and assist them in solving their housing difficulties.

To achieve harmonious social development, every social class should harmoniously coexist. The strong can improve their living standards through their own work while the weak reach the same goal with certain social assistance. Experiences from other countries have shown that the housing problem for low-income groups is both an economic and social problem, thus high on the agenda of economic and social policies. The housing problem for low-income families cannot be solved by "the invisible hand" alone and social security policies must be formulated to solve it.

- **2.** The objectives of housing policy The basic goals of China's housing policy are: satisfying market demands, increasing the pace of construction, and increasing the quality and standard of living. In the near future, the following goals should be fulfilled:
- (1) Establishment of moderate government intervention mechanisms. In almost any country, intervention in housing sector is aimed at realising two objectives: the first is to regulate the allocation of housing resources and correct market failures and ensure equilibrium between supply and demand; the second is to redistribute social resources for the sake of social justice by allocating homes to low-income groups.

⁴ China has only 0.106 hectare of arable land per capita which is 43 % of the world's average.

- (2) The promotion of pluralistic housing ownership, creating the parallel existence of a buying and selling and leasing market. The Chinese ownership rate was 80.77% in 2004. This figure is higher than in many developed countries, thus evidencing China's achievement in housing development. On the downside, this shows a one-side housing consumption structure: although the owner-occupied housing market has been fairly developed, the rental housing market still lags behind. This structure has something to do with traditional Chinese concept of owning one's own house and also has something to do with the lack of fluidity between cities' economic activity and residence. This structure can cause distortions in the market and is one of the reasons for recent house price hikes. The government should help create a leasing market for houses, especially for the 30-40% medium- and low-income population.
- (3) Perfect housing social security system. In almost all countries the provision of housing for the low-income population is a main target of housing policy which is sought to be achieved through housing financing policies and housing allocation measures. China should attempt to provide basic housing for groups that cannot afford housing on their own. For example, the government could step in by providing land at discounted prices.
- (4) Housing construction should adapt to economic development. The housing sector is a barometer of the health of the national economy. The booming housing industry has sustained the rapid economic growth. But in recent years, the economy has become too heavily dependent on the housing sector which has become too overheated. Once the housing boom fades, a financial crisis and economic problems may emerge. Therefore one of the most important objectives is to ensure the stable development of housing sector and avoid any disturbing fluctuations in the market.
- 3. The implementation of housing policies (1) Improving supply systems and the development of economical/affordable housing. The construction of

- economical/affordable housing seriously lags behind the need for social security provision. The local governments should decide on the number economical/affordable houses that should be built and the criteria for applying for these houses based on local housing prices and local residents' incomes. In areas where house prices are high, local government should put more efforts into construction of economical homes. Moreover, government should play the principal role in ensuring the implementation of economical housing construction. Funding for construction should come from the income of land sales. The standard of houses built should be lower than average living standard so that high-income group will not have the incentive to buy. The Government's assistance to low-income groups should be done by renting houses at a very low price. But this type of cheap-rent houses cannot be sublet or transferred. Construction of economical and cheap-rent housing should become a part of government's annual work report and budget which should be open to the general public.
- (2) Increasing the pace of tax reform ie using tax as a lever to adjust market demand. In view of increasing speculative investments in the housing market, the government should increase the pace of tax reform and increase tax for multiple house owners in the transaction of houses, especially high taxes for transactions within a short period of owning. Using tax policy should seek to avoid speculative investments and protect genuine home buyers.
- (3) Minimizing banks' risk in housing finance. The narrow financing channel for real estate in China and the outdated operating system of banks have resulted in a high level of bad loans. The high risk of mortgage loans for the banking sector poses a threat to the national economy. The government should loosen its grip on the control of financing and allow banks to use credit standing and assessment of a project's potential risk as criteria to decide on loan interest rate. The secondary mortgage market should also be developed.
- (4) Establishment of credit standing system

- (in order facilitate risk management and underwriting practices of the banks). The ineffective implementation of many housing policies can be attributed partially to the lack of credit standing system. For example, without a credit standing system, it is very difficult to know if a person is genuinely eligible for government-subsidized economical housing; a bank's risk in giving out loans increases considerably without knowing the history of a person's credit standing.
- (5) Improving land management system and sticking to intensive land-use policy. Policy measures during land consolidation, land holding and land circulation are crucial in ensuring an orderly supply of land. In cities where there are rapid house price hikes, the government can control prices by providing more land and controlling the ratio of land that is to be auctioned. At the same time, the government can also limit business activities of a speculative nature that aims to reap profits from the increase in land value.
- (6) Standardization of real estate market transactions. A chaotic market condition endangers the healthy development of the real estate market. The government should strictly examine and verify the necessary qualifications of real estate developers and professional service agencies as well as appraisers and remove those carrying out unlawful activities, such as giving out false information, deliberately stocking up houses in the hope of gaining profits from future house price increases. With the help of internet technology, real estate information should be made public online.

References

- Chen, Bogeng, Gu,Zhimin, and Lu, Kaihe, China Urban Housing Reform----Theory and Practice, Shanghai People's Publishing House, 2003. (in Chinese)
- Cheng, Siwei (ed.). China Urban Housing Reform----Goals and Implementation Difficulties, Democracy and Construction Publishing House, 1999. (in Chinese)

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- Li, Yining (ed.) An Analysis of China Housing Market Development and Policy, Pricing Publishing House, 1999. (in Chinese)
- Yao, Lingzhen, Research on the Pattern of Public Housing in China, Shanghai Finance and Economic University Publishing Company, 2003. (in Chinese)
- Ye, Jianping, Xie, Jinrong, Research on Theory and Policies of Coordinating Real Estate Industrial Development with Society and National Economy, Renmin University Publishing House 2005(in Chinese)
- Zhang, Xingquan, Privatization: A Study of Housing Policy in Urban China, New York: Nova Science Publishers Inc., 1998.