

Housing Policy in China

By

Lu Gao

BA of Public Affairs
Fudan University (2001)
Master of Public Affairs (MPA)
Indiana University-Bloomington (2005)

Submitted to the Department of Urban Studies and Planning
in partial fulfillment of the requirements for the degree of

Master of Science

at the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

September 2011

© 2011 Lu Gao. All Rights Reserved

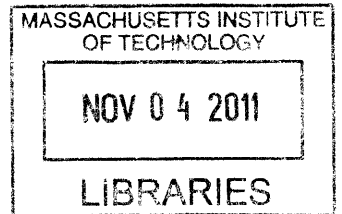
The author here by grants to MIT the permission to reproduce and to distribute
publicly paper and electronic copies of the thesis document in whole or in part.

Author _____
Department of Urban Studies and Planning
(08/01/2011)

Certified by _____
Professor Tunney Lee
Department of Urban Studies and Planning
Thesis Supervisor

Accepted by _____
Professor Joseph Ferreira
Chair, DUSP Committee
Department of Urban Studies and Planning

ARCHIVES



Housing Policy in China

Lu Gao

Submitted to the Department of Urban Studies and Planning
On August 1, 2011 in Partial Fulfillment of the Requirements for the Degree of
Master of Science

Abstract:

In the last three decades, the People's Republic of China (PRC) has managed to replace its welfare-based urban housing system with a market-based housing provision scheme. With such significant housing policy changes, the PRC has successfully expanded urban home ownership and impressively increased per capita housing consumption. The housing market has become one of the major pillar industries in the country's economic boom. However, affordable housing development has been greatly lagging behind the ever-increasing housing needs of a large lower-income population in the country, while housing price bubbles cast a shadow on sustainable economic development in the PRC. The main reasons for such challenges include the inefficiency of financial tools to regulate the housing market; and the discrete interests among the central government, local governments, and real estate developers. Within the context of the ongoing global economic recession after the financial crisis in 2008, it is even more critical to balance the PRC's housing development, both to address the people's housing needs, and to maintain sustainable growth.

Keywords: Housing, China

Thesis Supervisors: Tunney Lee

Titles: Professor of Architecture and Urban Studies and Planning, Emeritus

Acknowledgements

I thank Prof. Tunney Lee, who has been generously sharing his wisdom with me. He is the best mentor I could ever have. He has given me the most valuable advice and generous help during the development of this thesis.

I thank my family, especially my husband, who loves me deeply with strong support.

I thank my friends, who prove “friends in need, friends indeed.” I’d like to name a few of them and look forward to our reunion: Chen Yang, Chen Zhiyu, Diao Mi, Ge Wenjun, Huang Ying-Zong, Jia Xiaoting, Jiang Shan, Li Weifeng, Liao Xiongjiu, Wu Ning, Zhang Xin and Zhu Yi.

I thank Sandy Wellford, the guardian angel of every DUSPer.

I am also grateful for all the experiences at MIT that have made me a mature and strong person.

Housing Policy in China

Contents

Chapter 1. Introduction

Chapter 2. Overview of the PRC's Housing Reform

2.1. Background

2.2. Time Frame

Chapter 3. Reform Efforts and Achievements

3.1. Home Ownership

3.2. Per Capita Housing Consumption

3.3. Real Estate Investments

3.4. Housing Completion and Housing Sales

Chapter 4. Problems

4.1. Insufficient Affordable Housing Development

4.2. Messy Market: Price Bubbles, Speculation, and Volatility

4.3. Central-Local Government: Principal-Agent Problem

4.4. Inequity

4.5. Lack of Systematic Financial System: Property Tax versus Land Leasing Fee

Chapter 5. The PRC's Housing Boom and the Global Economic Recession

5.1. The PRC's Housing Policy Dilemma under the Current Global Recession

5.2. Housing Prices and Efforts to Stimulate Private Consumption

5.3. High Housing Prices Lead to Unbalanced Economic Growth in the PRC

5.4. Housing Bubbles Increase the Potential Risks in the PRC's Financial Sectors

Chapter 6. Policy Recommendations

6.1. Annualize the Lump-Sum Land Transfer Fee Payments into a Long-Term Cash Flow

6.2. Develop More Financing Options and Contain Speculative Transactions

6.3. Enhance the Management of Land Supply

6.4. Government Provision of Public Housing

Chapter 7. Conclusion and Future Study

Abbreviations:

MLR, Ministry of Land and Resources;

MOC, Ministry of Construction;

MOHURD, Ministry of Housing and Urban-Rural Development;

NBSC, National Bureau of Statistics of China;

PRC, People's Republic of China.

Chapter 1. Introduction

The People's Republic of China's (PRC) real estate boom has become one of the major factors promoting economic growth in the country. Unlike the mature real estate markets in most western countries, however, the real estate market in the PRC is still in its infancy and lacks efficient self-control and government regulations. This is an outcome of urban land reform in the PRC that has been advanced by the government in a stepwise manner of "trial and learn." Investigating the PRC's dramatic land and housing reform measures over the past 30 years is the first step in understanding the current housing system and real estate market development in the country.

This thesis attempts to review the PRC's housing reform measures in the past three decades, to comment on the problems in its housing development process, to analyze the impact of the ongoing global financial crisis on the PRC's housing policy, to comment on the rounds of governmental interventions, and to recommend housing policy changes to support sustainable development in the country. This thesis is divided into seven sections including this introduction. Chapter 2 provides an overview of the major policy shifts during the three decades of the PRC's housing reforms. Chapter 3 summarizes the achievements since the initiation of the reforms. Chapter 4 details the problems that have arisen and analyzes possible causes. Chapter 5 examines the PRC's housing boom and the concerns it raises in the context of the global economic Recession following the financial crisis. Chapter 6 focuses on policy recommendations based upon the research, and Chapter 7 concludes with suggestions for future studies.

Chapter 2. Overview of the PRC's Housing Reform

2.1. Background

The PRC's urban housing system before market reforms was a government-funded and government-run welfare housing system, in which no privilege in land could be granted or transferred. While laws in the PRC regard ownership of buildings as separate from land, buildings normally could not be sold or bought before the reforms. In other words, there was no normal real estate market, since all land and housing resources were entirely owned, produced, and delivered by the state or state agents, such as local public entities and work units. Public housing fell into two categories during the planned economy era: directly managed housing implemented by the local government housing administration; and self-managed housing built, distributed, and managed by state-owned enterprises and institutions for their employees and families (Fan 1999). Urban housing supply and conditions before the reforms largely relied on either state investment or the financial situation of individual work units.

Until 1990, under this socialist housing policy most urban families in the PRC spent only 1–3% of their total income on rent, with the average rent being only 6.5% of the actual housing expenses by the government. Consequently, state investment in housing was virtually nonrecoverable (Tang 1989). Furthermore, the maintenance and management burden was also permanently cast on the state. Therefore, funding for construction and maintenance had always been tight and insufficient (Lee 1988, Fong 1989). Over the years, the housing welfare system in the PRC's urban population has experienced severe problems, including housing shortages (Fan 1999); heavy government financial burdens (Wang and Murie 1996); urban zoning issues (Wang and Murie 2000); unfair distribution wherein privileged households manipulated the allocation system (Chiu 1996); and corruption in the process of distribution and allocation (Wang and Murie 1996).

Since the market reforms, the central government has gradually realized that the socialist housing approach did not result in the desired goal of “housing for all.” To implement a new market-based housing system, the PRC began implementing laws and regulations to permit transferring, leasing, and mortgaging private rights to property, including housing.

2.2. Time Frame

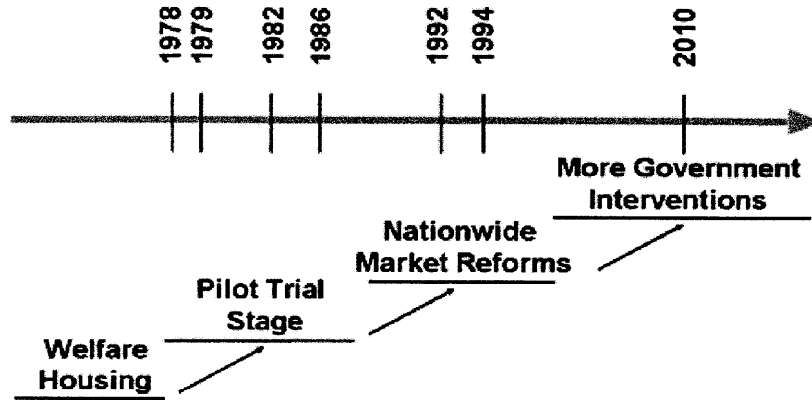
The goal of the PRC’s housing reform was to gradually reduce the socialist nature of the housing system while expanding home ownership. In addition, governments at all levels were to be freed from the housing finance burden, while alleviating the housing shortage problem.

Since 1978, the PRC’s economic structure has been transformed from a planned economy, first to a planned commodity economy, then eventually to a socialist market economy. In parallel, the housing system in the cities also underwent the transition from a centrally directed, welfare-oriented system to a more decentralized, market-based paradigm (Tang et al. 2006). Therefore, housing system reform, as part of the overall economic system reform, bears transitional characteristics (Cao and Gao 2002). By nature, this reform involves numerous trial-and-error episodes, and the PRC is still in the middle of such experimentation. Therefore, a historical review is necessary to better understand the formation of the PRC’s housing policies and the current situation of the PRC’s real estate development.

The first housing reform experiments began in 1978 as consequences of Deng Xiaoping’s speeches on the need and direction for urban housing reform. Such experiments have been documented by many scholars (Tang 1989, Lee 1993, Wang and Murie 1996), and this paper will concisely summarize the major measures. As presented in Figure 1, the PRC’s urban housing reform can be divided into two stages: the pilot trial stage from 1978 to 1991, and the real estate market development stage

from 1992 to the present.

Figure 1: Time Frame of the PRC's Major Housing Policy Changes



During the trial stage, pilot housing reforms at the local levels first focused on rent increases and sales of public housing, and then turned to the land allocation and use system, in which land users were charged on the basis of land grade (land lot locations and geological conditions) (Cao and Gao 2002). Various reform measures emphasized the commoditization of the housing sector. In other words, the housing reforms mainly emphasized shifting housing from a “free good,” to a “subsidized good”, and eventually to a “commodity,” the price of which (i.e., sale price or rent) reflects true production costs and a market profit margin (Chiu 1996).

In 1979, Xi’an and Nanning started selling homes at full production cost, an attempt that failed later because of the lack of affordability and the coexistence of low rental costs. Later on, between 1982 and 1985, the second wave of experiments were implemented in Changzhou, Siping, Shashi, and Zhengzhou, aiming at selling housing to households at one-third of the production cost, with the other two-thirds being subsidized by the buyers’ employers and local governments. Installments were introduced to address the affordability problem. However, through such experiments,

the financial burden on employers was actually increased. Consequently, between 1986 and 1988, a third wave of experiments was initiated through a comprehensive reform strategy guided by the newly established Housing Reform Steering Group at the central government level. This wave of experiments emphasized reducing the cost difference between rental and home purchase by raising rent (with the aid of increased housing subsidies in salaries), while selling housing at production cost. After the successful trials in Yantai, the first nationwide housing reform was carried out in 1988. The basic features of the housing reform programs in different cities included increasing rent (by different increments and times); selling existing units either by the government or the work units at discounted prices; introducing housing allowance into the salary structure to allow wage-earners to pay off the increased rent; and establishing development companies to build housing for sale to non-state-owned work units and individuals at market prices (Chiu 1996). In 1988, constitutional amendments abolished the original ban on land transfers, stating that "land use rights may be transferred according to law." The Land Administration Law was amended correspondingly. The introduction of state-owned land use rights laid the foundation for the PRC's real estate market.

Following Singapore's experience, Shanghai took the first step to establish a public Housing Provident Fund (HPF) system in 1991, and this experience was shared nationwide soon after (Chua 1997). By 1994, the HPF was implemented in cities throughout China. Basically, all employees and employers are required to contribute a proportion of their salaries to HPF for housing development. Construction Bank of China is responsible for managing the accounts for individual workers, who are allowed to withdraw their HPF savings when they retire, or when they need to use their HPF savings to purchase homes.

The year 1992 was a turning point in the PRC's real estate market development. Strictly speaking, the nationwide real estate market was not formed until that year. The real estate industry developed rapidly afterward under favorable political and

economic environments. Meanwhile, the rapid expansion of the market also resulted in many problems in the real estate sector, including but not limited to: the out-of-control scale of real estate development, the imbalanced structure of the real estate industry, and the prevalence of irregular market practices (Cao and Gao 2002). After 1992, the PRC central government gradually shifted the welfare housing distribution system to distribution of pecuniary subsidies as part of the salary. Along with the maturation and development of the real estate market for high-income families and the affordable housing system for low-income households, an accumulated provident housing fund system was set up. Housing finance and insurance systems were also established.

In 1994, the central government initiated more reform measures whose main task was to match housing service with household income levels. Through its “Decision on the Deepening of Urban Housing System Reform”, the government diversified the housing supply system into three parts: high-income families are expected to purchase housing at market prices; mid- to low-income families are qualified to purchase affordable housing at “full-cost price” or “standard price”, defined as “the summation of three times the average annual income of double-earner families and the estimated total housing superannuation contribution made by the work unit to the household” (Chiu 1996); and for low-income families, rental price would further increase to about 15% of average household income in 2000. In 1998, the State Council announced the termination of housing allocation in kind. The Ministry of Construction further clarified in 1999 that all existing public housing shall be sold to current qualified residents who are willing to purchase. In 2006, the General Office of the State Council announced the Regulatory Opinions of Nine Ministries and Departments (including the Ministry of Construction), which emphasized the need to construct middle-and small-sized commodity houses for sale at low or intermediate prices. These policies are widely regarded as the government response to the widening gap in household incomes and housing needs across the urban residents, while the actual

effect will be discussed later.

After more than two decades of urban housing system reform, there appears to be in place a design for an urban housing system under which high-income families purchase commodity housing; middle-income and low-income households purchase affordable housing; while low-rent housing is supposed to serve the needs of the lowest-income population. However, reality did not match the good intention very well, as will be seen from the following analysis. The PRC's housing market and regulatory systems are still going through rapid and constant changes.

Chapter 3. Reform Efforts and Achievements

Through three decades of effort, the PRC's housing reforms have achieved significant progress in the following areas.

3.1. Home Ownership

After 30 years of housing reforms, home ownership has increased dramatically. In 2005, 81.62% of urban *hukou* holders (people with official registration at cities of residence) became homeowners (MOC 2006). In 2007, this number further increased to 82.3% (NBSC 2008). In comparison, there were virtually no private property owners when the reform trial started in 1979. Home ownership occurred from two major sources: purchasing existing public housing, or purchasing newly constructed commercial housing. For public housing, over 4.5 billion square meters (m²) (accounting for nearly 80% of public housing) were sold to existing tenants.

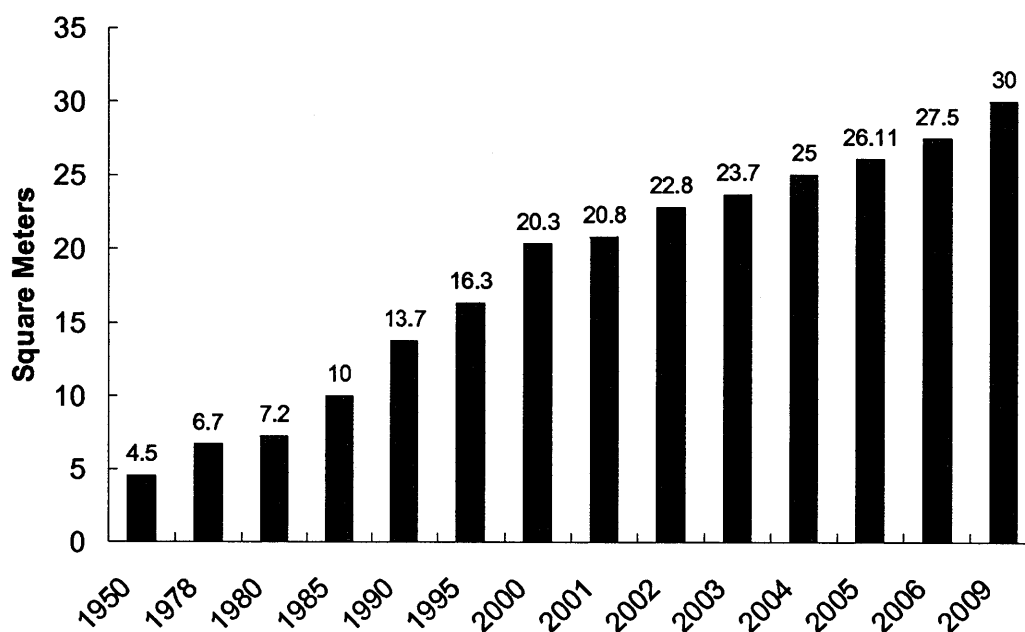
3.2. Per Capita Housing Consumption

As mentioned above, from the inauguration of the Communist government in 1949 until recently, urban housing in the PRC was regarded as a consumption item in the nation's general welfare provision. It was provided at a nominal cost to the users through their employers, and distribution was by administrative means based on need and rank at work. Over the years, due to the emphasis placed on the productive sector in state investment, the dead-end nature of housing expenditure, and the burgeoning population size, housing has been in great shortage and the average housing space standard only increased slightly from 4.5 m² per capita in the early 1950s to 6.7 m² in 1978. The poor situation of available housing started to change with the introduction of housing reform.

The national average space standard was raised to 10 m² per capita in 1985, despite the fact that 26.5% of the urban population was still either homeless or suffered from overcrowding (Tang 1989). The population of urban residents was only 190 million in

1980, but had skyrocketed to 577 million in 2006 (NBSC 2007). Meanwhile, the living space per capita continued rising, as shown in Figure 2. In 1990, the average living space was increased to 13.7 m² per capita. By 2001, the national average living space per capita had reached 20.8 m². This number grew to 26.11 m² in 2005, and to 27.5 m² in 2006. At the end of 2010, the minister of the Ministry of Housing and Rural-Urban Development announced that the urban housing space per capita had reached 30 m² in 2009, while the figure was higher at 33 m² per capita in China's rural areas. This is a significant achievement in the provision of housing. It should be noted that such improvement was not easy to achieve since the PRC had been experiencing rapid urbanization during the same period.

Figure 2: Changes in the PRC's Average Housing Space per Capita (square meters)



Source: MOHURD (2010).

3.3. Real Estate Investments

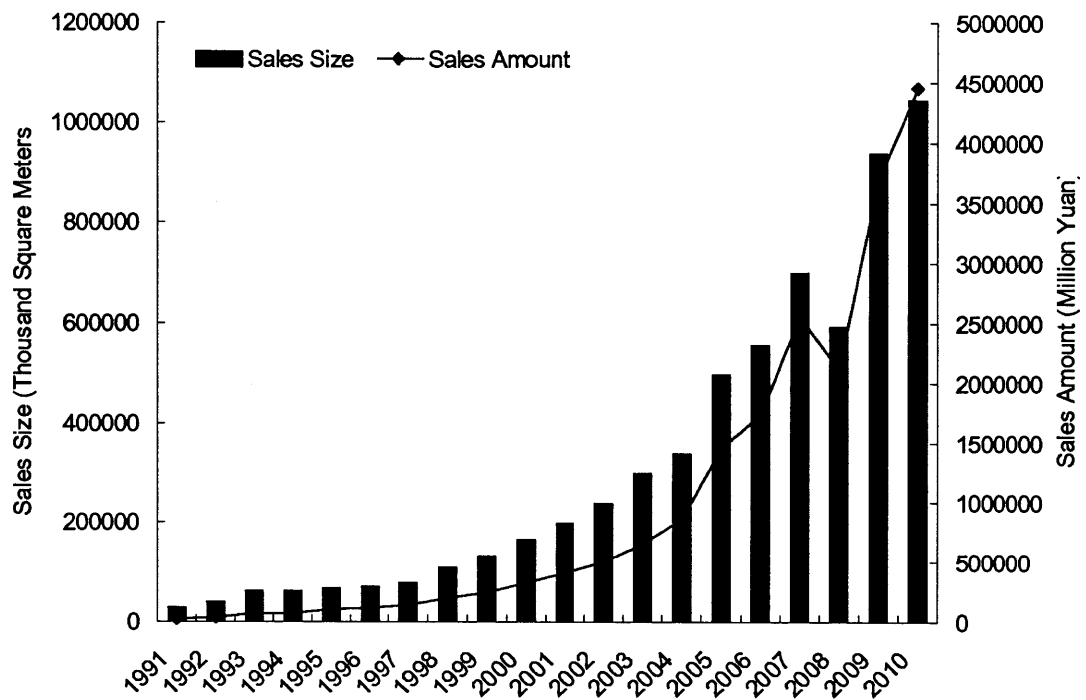
Real estate investment (measured as a percentage of gross domestic product [GDP]) is

widely regarded as an important indicator of economic health (Case et al. 2003). Following the adoption of more liberal economic policies and the pledge to raise living standards, since 1979, state investment in the housing sector has increased by leaps and bounds. Housing investment as a proportion of gross national product and gross fixed asset formation increased from 3.7% and 14.8% in 1979, to 6.8% and 25.8% in 1989, respectively (World Bank 1992). Based on the latest statistical data from the National Bureau of Statistics of China (NBSC), in 2010, real estate investment climbed to 4826.7 billion yuan, accounting for 12.1% of GDP and 20.0% of gross fixed asset formation in the year. At the provincial level, for example, investment in new housing construction in the province of Guangdong increased two-thousand-fold from Rmb 182 million in 1978 to Rmb 366 billion in 2010 (Tang et al. 2006; China Yearbook 2010).

3.4. Housing Completion and Housing Sales

Rising household incomes, rapid economic growth, and massive rural-to-urban migration are expected to continuously fuel the demand for housing in mainland cities. In 2003, the State Development Planning Commission announced that it would be government policy to achieve an urbanization rate of over 50% by 2020, and the annual demand for urban housing space is projected to increase to about 300 million m² when the urban population reaches 650 million in 2010 (Xie and Liu 2004). The dramatic increase in the supply side was matched well by the demand side in the housing market. As shown in Figure 3, total sales climbed continuously in the past decade, indicating a rising demand in the market. The sales gap in 2008 will be further discussed later.

Figure 3: Annual Housing Sales in the PRC



Source: China Year Book 2010 (NBSC 2010).

Chapter 4. Problems

4.1. Insufficient Affordable Housing Development

Although provision of affordable housing to mid- to low-income households is one of the major goals of housing reforms in the PRC, in reality the annual production of affordable housing is far behind the actual housing needs. The major reason for insufficient affordable housing is the lack of incentives for real estate developers to develop and the lack of local governments' support to encourage development in this sector.

Actually, the PRC central government has budgeted and spent huge amounts over the past decade to fund affordable housing projects (an ju gong cheng). In 1998, the government spent a total of 80.6 billion yuan, which was about 0.99% of GDP, to build affordable housing. In 2003, the government expenditure on affordable housing construction increased to 157.8 billion yuan, which was 1.35% of annual GDP (Jin 2006). The central government also encouraged real estate developers to get involved by allowing them to acquire land at a much lower cost on condition that a certain percentage of the acquired land was to be developed for price-limited housing projects (land-for-housing approach). Other subsidies include the reduction of 21 different taxes, development costs, and fees paid to local governments.

However, the results of these measures have not been satisfactory. The quantity of government-funded affordable housing projects completed each year is insufficient to meet the needs of such large middle- to low-income populations. As for the land-for-housing approach, real estate developers often find ways to replace the proposed "affordable housing" on lower-cost land with other projects such as luxurious apartments and mansions for the elite. To make matters worse, such cheating in affordable housing development is often supported by local governments, mainly because the sales of high-priced housing can increase local GDP growth, which will in turn enable the government heads to get promoted more easily. Additionally, the

housing prices will be reflected in land prices, and selling the right to use land has been the main channel to gain local revenues. Therefore, commercial housing with the highest possible price will serve the interests of local governments the best. The developers' reluctance to provide affordable housing is evidenced by the fact that while the total construction size has been skyrocketing, the percentage of affordable housing construction has been decreasing, as shown in Table 1 (NBSC 2009).

Table 1: Total Building Space of Newly Built-Up Residential Houses for Middle- and Low-Wage Earners in the PRC

Year	Initiated Construction Floor Space (10,000 square meters)	Initiated Construction for Affordable Housing Floor Space (10,000 square meters)	Affordable Housing Construction Rate (%)
1997	10,996.60	1,720.60	15.6
1998	16,637.50	3,466.40	20.8
1999	18,797.90	3,970.40	21.1
2000	24,401.20	5,313.30	21.8
2001	30,532.70	5,796.00	19
2002	34,719.40	5,279.70	15.2
2003	43,853.90	5,330.60	12.2
2004	47,949.00	4,257.50	8.9
2005	55,185.10	3,513.50	6.4
2006	64,403.80	4,379.03	6.8
2007	78,795.51	4,810.26	6.1
2008	83,642.12	4,336.97	5.2

Source: NBSC (2009).

Additionally, to free affordable housing projects from scandals, a clear definition of middle- and low-income families is necessary. Numerous news reports have disclosed

that some local officials or owners of luxury cars occupied affordable housing units, while those in real need were deprived of such opportunity.

As part of the affordable housing strategy design, the low-rental homes program is not in a good position, either. Understandably, the projects of low-rental units need a direct commitment of public investment. However, local governments do not have available funds to support such projects, as the allocation is not yet institutionalized (Xu and Reingold 2011). To reduce cost, local governments choose urban fringes where the land cost can be much cheaper. However, without convenient transportation or good access to employment, the low-income population is unwilling to move in. An extreme case is the Mingdemen District, Xi'an. 6 blocks of low-rental units were constructed in 2001, and 5 of them were still empty by 2007 (China Youth Daily 2007)

To better understand why the relative amounts of high-end housing and affordable housing are greatly out of proportion compared to their individual market population bases, a case analysis is presented in Box 1. The major incentive for real estate developers is always to maximize the return on their capital investment in land acquisition and building construction by selling housing units at the highest possible prices. So they tend not to build low-priced housing units for the middle- to low-income customers, a bold action that aligns closely with local governments' interests, but is clearly against the central government's major objective in the housing sector of fulfilling the housing needs of the majority of the PRC's urban population.

Box 1: Cost and Profit Comparison across Different Housing Projects of Vanke

Box Table 1. Cost and Profit Analysis of Vanke's Typical Housing Project Types

Project	Type	Space Occupancy Rate	Sales price (yuan/m ²)	Construction Cost (yuan/m ²)	Profit (yuan/m ²)
Lan Qiao	Single family house	30%	40,000	2,000-3,000	37,000
Hong Du	Townhouse	86%	20,000	3,000	17,000
Hong Qiao	Affordable housing	92%	4,200	4,000	200

Vanke is the biggest Chinese real estate developer. A few representative examples of their housing projects in Shanghai include Lan Qiao (Orchid Woods) that hosts single family houses of around 280 to 480 square meters in lot size, Hong Du (Red Capital) center that is home to townhouses and multifamily houses, and Hong Qiao (Rainbow Bridge) affordable housing project. Considering the space occupancy rate for each project, the single family house Lan Qiao project has the highest land waste rate, while the affordable housing Hong Qiao project has the lowest. However, considering the huge difference in sales price per square meter lot size, and in building costs per square meter lot size, in 2006, Vanke actually made the highest profit from the most land-wasting Lan Qiao project, and the least profit from the affordable housing Hong Qiao project.

Source: Author's interview with Vanke in 2006.

Based on the cost and profit analysis shown in the box, from the perspective of developers, it is easy to realize how much more profitable – in particular, the return on capital invested – the bigger single family houses and town/multifamily houses are, compared to affordable housing units.

In response to unsatisfactory affordable housing development progress and to address in particular the unwillingness of real estate developers to build affordable housing projects, the PRC's central government tried to make newer and stricter regulations. One example of such strict regulations is the "90-70" policy (see Box 2). However, as can be seen in Box 2, multiple factors, including the unwillingness of real estate developers and local governments to cooperate and the lack of market sense, combined to cause the policy to fail. In fact, based on all these observations, it is apparent that sometimes improper policies can cause unexpected (most of the time, malignant) consequences, although they may sound ideal and be supportive of the lower-income population in the beginning.

Box 2: Failure of the “90-70” Policy in Encouraging Affordable Housing Development

In 2006 the Chinese central government declared that real estate developers have to complete 70% of each of their housing projects as “affordable housing” that is smaller than 90 square meters per unit (thus the nickname “90-70” units).

The intent of the 90-70 policy is to meet the housing needs of middle-to-low income households in the country. However, according to an anonymous official source, in the first five months of 2007, “90-70” projects made up only 17.2% of all invested real estate housing projects all over China.

Real estate developers found ways to minimize the impacts of the “90-70” policy.

The huge difference in revenue between affordable housing and luxury housing provides a strong motivation for developers to seek ways around the “90-70” policy.

- Build walls surrounding their acquired low-cost land to wait for opportunities to switch land usage in the near future.
- Alter construction plans to allow combining multiple neighboring “90-70” small units into luxurious spacious larger units for homebuyers not falling into the low-income group.
- Enlarge the space of balcony, which is only counted as half of the living area by China’s national construction standard, so that the end products can still be sold as luxurious units with sizeable living area and spacious balconies.

Local governments backed real estate developers to deflect the intention of the “90-70” policy to build more affordable housing for the lower-income group.

Local governments were behind the developers, since the local heads need to generate higher government revenue and to stimulate local economic development by pushing the upscale housing market instead of fulfilling the housing needs of the lower-income population.

- Many local governments encouraged real estate developers to accumulate inventory of vacant lots intended for affordable housing development to wait for policy changes in the near future.
- Shanghai municipal government requires developers to maintain 70% of their project portfolios, instead of each project, under construction to be affordable housing projects (that are complying with the 90-square-meter rules). Therefore developers are now allowed to maintain 100% large-unit portfolios as they prefer in regions with expensive housing prices (therefore higher profits) such as the downtown area while keeping the small units with lower prices in suburban areas.
- Other local governments also adapted the “90-70” to minimize its effects.

The strict “90-70” policy also caused housing prices to rise even more.

When the few new housing projects according to such strict “90-70” rules were brought into the market starting from early 2007, not surprisingly, these intentionally designed small units even led a new round of price increases.

One example is the “Shanghai Olympic Garden” in Songjiang (a suburban town close to Shanghai). The previously existing units in the project were sold at around 8000 yuan/m² in early 2007. With its third phase construction completed, about 266 “90-70” units were released in July 2007. However, the unit price is even higher, at slightly below 10000 yuan/m². In the meantime, because only 30% of newly-completed units will have areas bigger than 90 square meters, the price for such bigger units soared even higher on the market in different cities. In short, the new regulation is pushing housing prices higher rather than providing an increase in low-price housing supply.

The failure of the “90-70” policy clearly demonstrates the ineffectiveness of simply using administrative orders from the central government in the housing market.

The good intention of the central government to apply the strict “90-70” rules to housing development did not result in more convenient and affordable housing units that suit people’s housing needs.

4.2. Messy Market: Price Bubbles, Speculation, and Volatility

Housing affordability is essential to sustainable economic development and political stability. In other words, a society without sufficient affordable housing to accommodate its population will be challenged as to its stability and the legitimacy of its ruling authority, a situation that Chinese leaders are currently very concerned about.

Since the 1990s housing reform, urban housing prices in the PRC have increased significantly. Housing units are developed by private developers, with generally unaffordable prices for the middle- to low- income group (Ding and Song 2005). As in many other East Asian countries, demographic changes, rising income, and in particular housing aspirations, all contributed to inflation of housing prices in the PRC (Renaud et al. 1997). Renting is not a popular option for people with a stable job. Cultural influence can be an explanation of this preference for ownership, as the Chinese people, especially young couples, tend to regard owning property as a precondition for establishing a family. To facilitate the marriage of their son or daughter, Chinese parents are willing to devote all their savings to real estate. Consequently, income and savings from two generations and three families (bride's parents, groom's parents, and the young couple themselves) are all combined to purchase a single apartment, which drives the already unbearable housing price to an even higher level. Other factors, such as the desire for long-term investment, limited investment channels, and even speculation, also contribute to the high housing price-to-rent ratios.

According to a survey in 2005, the ratio between housing prices and household annual incomes in China's big cities was around 20:1 (Ma 2005). This ratio is significantly higher than the value of 2:1 to 5:1 recommended by the World Bank (World Bank 1996). Table 2 compares the ratio between housing prices and household annual incomes in the top 10 cities of the PRC to that of the top 10 cities of four other

countries. It is obvious that the PRC cities exceed their counterparts greatly, indicating a serious affordability problem.

Table 2: Cities with High Housing Price to Income Ratio Values

Rank	PRC*		United States**		Australia**		United Kingdom**		Canada**	
	City	PI	City	PI	City	PI	City	PI	City	PI
1	Xiamen	27.0	San Francisco, CA	8.0	Sunshine Coast	9.6	London	6.9	Vancouver, BC	8.4
2	Beijing	25.4	San Jose, CA	7.4	Gold Coast	8.7	Belfast	6.9	Victoria, BC	7.4
3	Shanghai	24.9	Los Angeles, CA	7.2	Sydney	8.3	Southwest Region	6.8	Kelowna, BC	6.8
4	Tsingtao	24.0	New York, NY-NJ-PA	7.0	Bundaberg	7.2	London Exurbs	6.7	Abbotsford, BC	6.5
5	Hangzhou	23.8	San Diego, CA	5.9	Adelaide	7.1	Aberdeen	5.9	Toronto, ON	4.8
6	Dalian	23.3	Miami, FL	5.6	Melbourne	7.1	Edinburgh	5.5	Calgary, AB	4.8
7	Tianjin	23.2	Boston, MA-NH	5.3	Mandurah	7.0	Wales	5.4	Montreal, QC	4.6
8	Wenzhou	22.5	Seattle, WA	5.2	Wollongong	6.8	West Midlands Region	5.2	Saskatoon, SK	4.6
9	Ningbo	21.4	Portland, OR-WA	4.9	Newcastle	6.6	East Midlands region	5.1	Edmonton, AB	4.2
10	Wuhan	20.0	Providence, RI-MA	4.4	Perth	6.4	Perth	5.1	Hamilton, ON	4.0

* Based on 2007 per capita net income (three individuals per household) and 2007 average unit housing price (China 2008 Year Book); housing price was calculated assuming 90m² 2-bedroom apartment.

** Based on median household income and median house price data in 2008 3rd quarter (5th Annual Demographia International Housing Affordability Survey (available: www.demographia.com/dhi.pdf)).

The PRC's urban housing markets contributed to economic volatility. Hui and Shen (2006) employed various econometric methods, including Granger causality tests and generalized impulse approach, to demonstrate that there was a bubble in Shanghai's housing markets in 2003. Similarly, Xie (2004) analyzed market irrationality in Beijing, Shanghai, and Hangzhou based on their local price-rent ratios. As revealed by their studies, housing markets in Shanghai and Hangzhou have been in strong speculative mode since 2003 (Xie and Liu 2004). Many homeowners purchased housing simply to speculate (Wu 2008). Such housing market bubbles are potentially dangerous for the PRC's social and economic stability. For instance, with the recent global financial crisis, housing prices in major cities, including Shanghai, Hangzhou, and Shenzhen, have started to show signs of significant decline in 2008 (Chen and Shi 2008). Angry homeowners reacted to such price drops by protesting against

developers and local governments, in hopes of preventing further market corrections. Volatility and irrationality in such immature housing markets can lead to substantial social and political instability. Effective policy mechanisms are urgently needed to achieve stable yet effective housing market development.

Since the housing markets in the major urban areas are typical seller's markets, with insufficient housing units to fill the demands of a huge population, a limited number of authorized real estate developers (in oligopoly positions) are responding to the market mechanism by increasing housing prices without worrying about losing housing sales volume. An oligopoly is a market that is dominated by a limited number of sellers with imperfect competition and interdependence among them (Vives 1999). Although in developed countries oligopoly also exists in certain industries such as communication, transportation, etc., the market rules and regulations are more complete and effective in restricting the oligopolistic firms. In the PRC's housing system, most real estate developers are active only in certain local areas (often within the areas where they have good government connections for land acquisition). Such local environments restrict free market competition among real estate developers from different areas and often cause oligopolies to form in local housing markets. Since market regulations in the PRC are incomplete or sometimes even nonexistent in many aspects, real estate developers are able to collude to set prices. It is also not unusual to notice illegal practices from the developers, including misleading advertisements, intentional stockpiling to push up prices, etc. Such behavior seeks to take advantage of the immature market system and results in even more price volatility.

4.3. Central-Local Government: Principal-Agent Problem

The PRC's political landscape is composed of both the central government and local governments from townships up to the provincial level. Housing policies and regulations from different levels of government are often found to be inconsistent. As discussed above, this policy inconsistency is mainly caused by distinct self-interests

among the different levels of government. The central government faces two objectives: on one hand, a high rate of economic development is its long-term goal; on the other hand, it has to respond to social needs from a majority of the population to ensure a stable social and political environment for sustainable economic development. The central government addresses both governing objectives through provincial- and lower-level governments. In this scenario, the local governments act as agents to achieve the goals proposed by their principal, the central government. However, in terms of housing market development and regulations, apparently the local governments care much more about housing market development rather than the housing needs of the lower-income population.

Revenue is the big motivation for local governments to encourage real estate development. In 1998, local government revenue from land allocation was 6.7 billion yuan. From 2001 to 2003, with the rapid real estate development, the same income source skyrocketed to 910 billion yuan (Jin 2006). More often than not, local governments themselves become capital investors of real estate developers to directly benefit from the huge profit that the real estate market has brought. It has been a popular practice to establish “Chengtou” (City Investment) firms backed by municipal governments. The staffs of such firms are the same people in the city departments of construction, planning, and/or land development. One prominent local government-based real estate developer is the Shanghai Land Group, which was established in 1992 and which has 88% of its shares belonging to the Shanghai municipal government. The group directly owns three real estate companies and is the biggest shareholder of another seven real estate companies. It is the owner of many land lots to be auctioned and developed as well. Local governments use increased local financial income to improve urban development and the environment, which in turn further promotes real estate development in these urban areas.

The state and local governments in this market economy encounter a typical dilemma: many tight central government regulations end up having little or no effect. Take the

90-70 policy as an example. As could be seen in Box 2, failures of the 90-70 policy and many previous regulations highlight the mismatch of interests between the central government and local governments. As discussed previously, local governments would prefer unlimited real estate development for the purpose of obtaining the maximum government revenue through leasing out local lands and collecting land transaction taxes and fees.

Such an eagerness for revenue did not come from nowhere. Since the 1994 tax reforms, local governments have received specified portions of government tax revenue and operate on budgets based on such revenue. In 1998, bank reforms detached local governments from local branches of the central bank. Although these financial reforms, hailed by some Chinese economists as the “Chinese financial federation”, have stimulated local economic development since the mid-1990s, they are in part responsible for local governments’ high motivation to promote real estate development without regulation. The central government often assigns heavy tasks to local governments without considering financial funding sources and feasibility. The fulfillment of these “political tasks” is often directly linked to the likelihood of promotion of local officials. Such political pressure on local government officials forces them to expand revenue sources through local economic development. The real estate market with its huge profit potential becomes one of the officials’ favorite fields of gold to generate more government revenue for assigned tasks without much consideration of long-term sustainable social and economic development. To some extent, the central government tolerates local governments collecting lump-sum land leasing fees, as a way to compensate them for the financial resources required in order to implement local infrastructure construction.

Local governments can increase local financial income through land and housing development (including land allocation fees and construction and sales taxes and fees) to improve urban development and environment, which in turn further promote real estate development in these urban areas. From the perspective of housing market

development, such exploitation of limited land resources through land allocation and auction further carries housing prices beyond the range that mid- to low-income households can afford. As a matter of fact, land leasing fees have been a major source of local revenue to support necessary public services. Funding sources related to land transfers and real estate development also greatly contribute to local GDP growth, the goal that local officials care the most about (Table 3).

Table 3: Percentage of Land Transfer Fee in Local GDP and Revenue, 2006

Rank	Province	Land Transfer in GDP (%)	Province	Land Transfer in Revenue (%)
1	Chongqing	6.97	Fujian	96.05
2	Fujian	6.83	Zhejiang	77.82
3	Zhejiang	6.42	Sichuan	77.44
4	Jiangsu	5.53	Chongqing	76.62
5	Sichuan	5.45	Anhui	73.29
6	Anhui	5.10	Jiangsu	72.26
7	Liaoning	4.09	Jiangxi	57.54
8	Tianjin	3.82	Hubei	57.08
9	Jiangxi	3.76	Shandong	51.77
10	Shanghai	3.65	Liaoning	46.24
11	Hubei	3.58	Xizang	41.14
12	Guizhou	3.29	Jilin	40.66
13	Shandong	3.18	Tianjin	39.94
14	Ningxia	2.96	Hebei	37.67
15	Guangxi	2.64	Guangxi	37.23
16	Shaanxi	2.63	Hunan	35.88
17	Beijing	2.48	Gansu	34.61
18	Yunnan	2.43	Ningxia	34.32

19	Guangdong	2.35	Guizhou	33.07
20	Jilin	2.33	Shaanxi	32.87
21	Hunan	2.27	Henan	30.26
22	Gansu	2.15	Guangdong	28.26
23	Hainan	2.10	Hainan	26.97
24	Xizang	2.06	Yunnan	25.66
25	Hebei	2.00	Shanghai	24.03
26	Henan	1.64	Beijing	17.47
			Inner	
27	Shanxi	1.23	Mongolia	16.75
	Inner			
28	Mongolia	1.20	Xinjiang	16.21
29	Xinjiang	1.17	Heilongjiang	14.75
30	Heilongjiang	0.92	Shanxi	9.98
31	Qinghai	0.40	Qinghai	6.04
	Average	3.12		40.96

Sources: China Year Book 2007 (NBSC 2007), China Land Resource Year Book 2007 (MLR 2007).

In addition to financial advantages that real estate market development has brought to local governments, the real estate market has gradually become a strong engine for local economic output. Meanwhile, since the mid-1990s, GDP growth has been regarded as an important evaluation factor where promotion of local officials is concerned. From this perspective, it is understandable that local officials regard real estate development as an important political tool to enhance their own political power and reputation within the governing system. In interviews with this author, Shanghai municipal officials revealed that in Shanghai alone, the direct and indirect GDP contribution by the real estate industry was estimated at around 20% of GDP in 2004. In other big cities around the Yangtze River delta region such as Hangzhou, Ningbo,

and Nanjing, as much as one-fourth or even one-third of local GDP is contributed by real estate development.

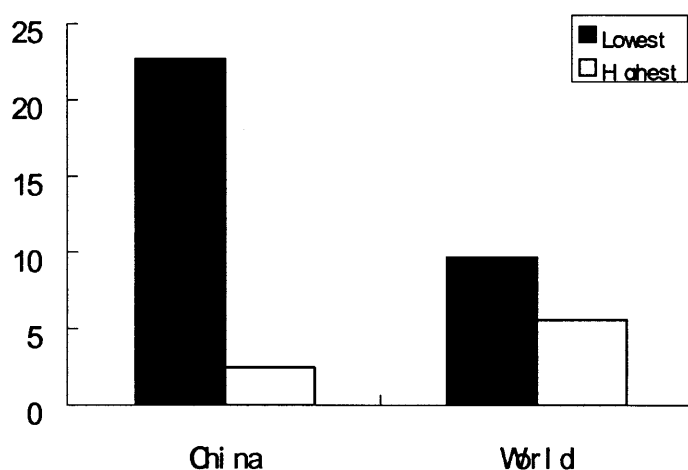
As a consequence, the partial self-interest of the central government to maintain social stability, and the self-interest of the local governments to promote rapid economic growth, are not completely aligned. This situation indicates the existence of the classic principal-agent problem as one model described in game theory (Eisenhardt 1989). This problem arises when the employer (or “principal”) tries to motivate its employees (or “agents”) to work on its behalf while the agents have their own self-interests that are not completely aligned with the objectives of the principal. In the housing sector, the profits obtainable to local governments through real estate market development are not yet counterweighted by central government regulations to encourage public affordable housing development. It is unlikely that these agents will voluntarily place building affordable housing projects among their highest priorities.

4.4. Inequity

Housing reforms in the PRC have made substantial progress in the area of privatization, effectively increasing living space and relieving governments of the heavy housing financial burden. Although the housing shortage has been partially addressed through the privatization process, the income gap between the rich and the poor has expanded among urban residents (Zhao and Bourassa 2003). According to the National Statistics Yearbooks (NBSC 2009, MLR 2007), citizens in the biggest cities in the PRC often find the ratio between housing price and their household annual income to be around 20. This ratio is significantly higher than the range of 2–5 recommended by the World Bank (World Bank 1996). Even in western countries such as the United States, the median house-price-to-income ratio is rarely over 8 in most regions. But in most major cities in the PRC, the ratios between the average housing price and the lower- to middle-income households’ incomes are much higher than those in developed countries. Jin (2006) found that, in 2005, the average housing price

was 22.69 times the lowest-income household's (the bottom 20% income households) annual income, while the housing price was only 2.45 times of the highest-income household's annual income (the top 20% income households). They also calculated the global average ratios to be 9.7 and 5.6 for these two values, respectively. Furthermore, Jin (2006) observed that the difference between housing price and annual income has been enlarged for the low/middle income family, while being reduced for high-income families.

Figure 4: Comparison of Ratio of Average Housing Price to Lowest (bottom 20%) Household Income and to Highest (top 20%) Household Income, 2005



Source: Jin (2006).

Without proper housing policies to meet the need for affordable housing, the soaring housing prices may undermine social and political stability in the PRC's urban regions. Housing inequities have become one of the major sources of social unrest in many areas of the PRC. In recent urban redevelopment projects from big cities across the country, many urban residents felt reluctant to move out of their old subpar-condition residences for fear of not being able to afford new housing even with government compensation. The current residents are understandably dissatisfied with the low compensation and sometimes refuse to move out. Some extreme conflicts with such

causes have made national headlines, wherein residents refused to move out of their old dwellings despite their water and power supply being cut off, and all neighboring buildings emptied and demolished long ago. Developers paid extra compensation in some cases to satisfy residents moving out, while other incidents led to violent confrontations (Xiao and Yang 2008).

Based on the PRC's housing system design, as can be seen in the above discussion of its housing reform efforts, it seems that the affordable housing and low-rent systems should address the housing demands of middle- and low-income groups. However, since the commercial real estate market appears so much more profitable, most newly developed housing projects in the PRC's cities have been targeted at the high-income population rather than the mid- to low-income groups, while there is insufficient government supply in place to meet the social equity needs. Therefore, the housing provision system does not correlate well with the PRC's income distribution: on one side, high-income families own many more housing units than needed at costs acceptable given their income levels; on the other hand, a majority of the population cannot afford the housing units available in the market and have to rely on the affordable housing system, which is not sufficiently supplied yet. The original purpose of affordable housing projects is only to supplement the housing market and to comprise only a small portion of the housing supply. However, more and more middle- to low-income consumers were driven into the application pool of affordable housing units, due to the unbearable prices in real estate market.

4.5. Lack of Systematic Financial System: Property Tax versus Land Leasing Fee

One of the major reasons why housing prices in the PRC are high is that the actual cost for real estate developers to acquire lands for residential housing construction has always been high. However, the high cost of land acquisition apparently can be overcome by even higher profit afterward. Therefore developers tend to ally

themselves with the local governments to ensure that their housing development privileges will be maintained. In the early years following the termination of the state-owned housing allocation system and the initiation of a housing market, the nominal land use fee was low for developers upon signing land use contracts with local governments through negotiation. However, more often than not, it was the developers who paid extra costs to local officials to ensure acquisition of certain lands. Therefore the de facto land acquisition cost was high and a risk of corruption existed. After the central government realized such defects in the land allocation system, new regulations were promulgated in 2002, mandating that all new land allocations for residential/industrial/business uses occur through public declaration and auctions. The local governments attempted to counteract the new regulations by coming up with “complementary instructions” to leave certain loopholes in the system. The central government was quick to respond, and by 2003, more strict and explicit regulations to forbid such loopholes were enforced. This continuous move to push transparent land use transactions effectively reduced behind-the-scenes land-right exchanges. However, the nominal land use fee that real estate developers have to pay remains high.

Some researchers relate the PRC’s high housing prices to the heavy land leasing fee that the local governments charge when real estate enterprises acquire lands for housing development (Sun et al. 2006). As revealed by one anonymous real estate developer in Guangdong province, only 20% of the total housing price can be attributed to construction cost, with the local governments obtaining about 40% of the total cost and the developers taking the other 40%. Recent studies have implied that the lump-sum land lease payment, along with all other fees and costs related to land acquisition and development, can be one of the major causes of high housing costs in Shanghai (Hong 2003). Other studies have shown that the land leasing fee can take up to 50% of the total building cost (Shao 2005, Sun et al. 2006, Zhang and Peng 2007). The Ministry of Land and Resources announced the percentage of the land leasing fees in total real estate development cost as 23.2% based on its May 2009 survey. Although no explicit result has been agreed on yet, many researchers have

hypothesized that a possible way to moderate the rapid increases in housing prices is to replace the one-time land leasing fee with annualized land rent (the payment to the government for leasing land rights to land users) and property tax (the payment for received public services and local infrastructure). Researchers and government officials are still pondering the detailed implementation to replace land leasing fees: whether to utilize a combination of both land rent and property tax, or to rely solely on just one type of levy.

No matter which method is finally adopted, to annualize the leasehold payment into a long-term cash flow will definitely be a move in the right direction. There is a “property tax” item in governments’ financial reports, with totally different meaning from the western definition. In China, the current “property tax” only occurs at the transaction stage and is just a trivial part of total income of the local governments. Take Beijing and Shanghai as examples: in financial years 2001–2004, the property tax (transaction only) revenue was only 10–15% of the municipalities’ total budget revenues (Deng 2006). To make things worse, the major portion of real estate-related taxation in the PRC’s current system is levied during the transaction stages only, while totally ignoring the possible revenue sources during the property possession stage. This means that the appreciation of property values on the leased-out lands could never be efficiently captured under the current system, which focuses on the transaction rather than the possession stage. Some policy makers have proposed to control the current skyrocketing housing prices by increasing real estate-related taxes. However, without the proper tax system, such attempts will be doomed to fail. Feng (2008) reported that the effort by the local government in Hangzhou to levy a 20% high transaction tax for the used housing market did not slow down housing price increases in the city in the past 2 years. He (2008) pointed out that due to the relatively low elasticity of housing demand in cities, taxation during the housing transaction stages can be easily transferred to home buyers. He goes on to hypothesize that housing demand elasticity will increase when taxation is mainly levied at the property possession stage. Therefore replacing the housing transaction tax with a

property tax could slow down housing price increases, prevent overheating speculation, and stabilize the housing market in the PRC (He 2008).

On January 28, 2011, the pilot trials of real-estate tax were introduced in Shanghai and Chongqing. While all newly-purchased non-primary properties in Shanghai will be taxed (at the rate of 0.6% of house values), the tax base in Chongqing focuses on single family houses only affordable to the high-income population (0.9-1.2% of house values). Besides, the two municipalities are both trying to deter speculation by imposing taxes on any housing purchased by non-residents with no *hukou*. The impacts of the real-estate tax on the housing market remain to be determined.

Chapter 5. The PRC's Housing Boom and the Global Economic Recession

5.1. The PRC's Housing Policy Dilemma under the Current Global Recession

Since 1998, housing and real estate development has been recognized as one of the major growth propellers by the central government. The importance of housing development to the PRC's economic development is understandable since the real estate industry directly impacts the market of construction materials, the market of home appliances, and even automobile production, depending on the location of the residence. Meanwhile, land leasing fees for land acquisition provided by real estate developers have been a major funding source for local governments. Such revenue has been used to support local economic development such as infrastructure construction. Consequently, more jobs can be secured and satisfactory economic growth can be expected with a booming real estate market.

In particular, under the current global economic recession following the financial crisis in 2008, the PRC government finds itself in a difficult position of choosing appropriate housing development policies to reflect the situation. As discussed above, compared to local income levels, relative housing prices in the PRC are much higher than those in other countries. If housing prices continue to rise, there is a risk that the housing bubble might expand and even explode. Therefore, the necessary governmental intervention is required, with carefully designed measures at the right times. The outbreak of the global financial crisis interrupted the previous efforts at housing price moderation.

Before the global financial crisis, in response to the skyrocketing housing prices, the PRC central government planned to squeeze out the bubble in the housing sector using policy and financial tools such as increasing mortgage interest rates, restricting

investing in the housing sector, or even simply controlling housing prices. Beginning in October 2007, the number of new development projects started to decrease while investments in the real estate sector shrank. However, since the middle of 2008, upon the onset of the global financial crisis, such policies have been replaced with new ones aimed at stabilizing the current housing market, and steadying high housing prices for the moment.

In response to the global financial crisis in 2008, the PRC government declared a stupendous stimulus package of \$586 billion, around 17.8% of the PRC's GDP. In order to promote real estate lending and development to boost growth, the stimulus package was combined with policy measures emphasizing the importance of stimulating domestic demand by encouraging more housing investment. On 27 October 2008, mortgage down payments for residential housing purchases were reduced to 20%. Taxes on land value increase and housing transaction have been exempted since 1 November 2008. Mortgage criteria for buyers of a second property requiring mortgage lending were loosened. The holding period was reduced from 5 years to 2 years to receive transaction tax exemption for residential housing sales, beginning 1 January 2009. The local real estate tax was temporarily removed as well. In May 2009, the funding reservation required for real estate developers was also lowered to 20%. Meanwhile, some of the huge increases in bank lending to support the government's economic stimulus efforts also found their way to property speculators, contributing to the boom in home buying and property values. As a consequence, both speculative investment and foreign hot money dramatically flowed into the PRC to take advantage of the new housing boom. A list of major housing policies after the 2008 financial crisis can be found in Table 4.

Table 4: The PRC's Major Housing Regulatory Policies in Response to the Global Financial Crisis

Date Effective	Government Agency	Policy
2009-01-01	Ministry of Finance and	From 2009-01-01 to 2009-12-31:

	State Administration of Taxation	No sales income tax for sales of residential units owned for more than two years; Sales income tax was based on only the difference between sales price and original cost for residential units owned for less than two years and luxury houses owned for more than two years; Sales income tax was based on whole sales amounts for luxury houses owned for less than two years.
2008-12-20	State Council	Reduced mortgage interest rates for buyers of second residential housing units; Local real estate tax was removed.
2008-11-01	Ministry of Finance and State Administration of Taxation	Reduced transaction tax to 1% from 1.5%; Waived stamp tax and land add-value tax.
2008-10-27	People's Bank (Central Bank)	Minimal down-payment for residential housing purchase is reduced to 20%; The lower limit for personal mortgage loan interest rate was loosened to 0.7 times the basic interest rate.

As a result of the PRC's stimulus measures, the real estate market has experienced dramatic change since March 2009. The total sold areas and prices rose rapidly, especially in big cities such as Beijing, Guangzhou, Shanghai, and Shenzhen. As shown in Figure 5, since late 2008, monthly housing sales prices have been on an upward trend and particularly accelerated in the final months of 2009 and in the first half of 2010. In Figure 6, the year-on-year housing sales upward price trend started in March 2009 in a few cities and spread nationwide, reversing the negative price movement since December 2008.

Figure 5: Average Housing Sales Price Trend in PRC (month-to-month changes)

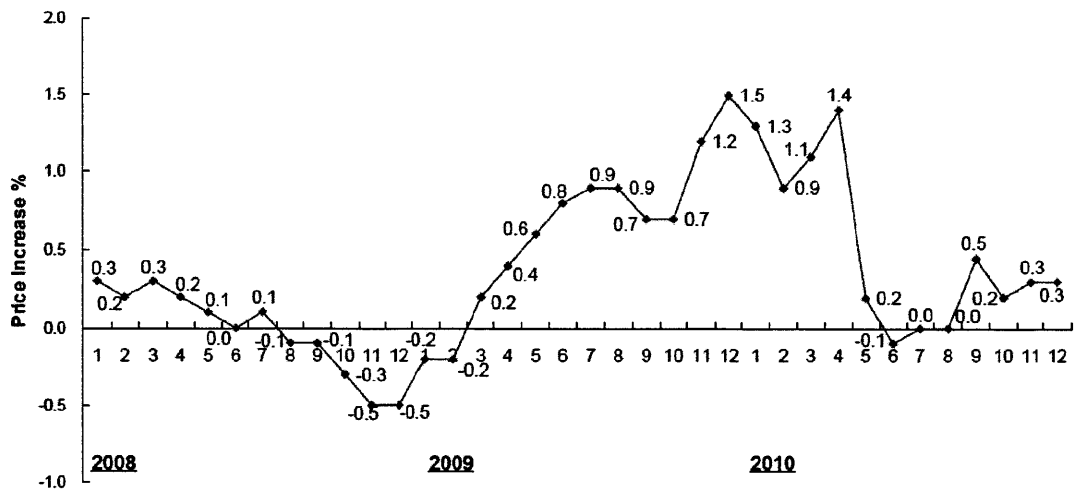
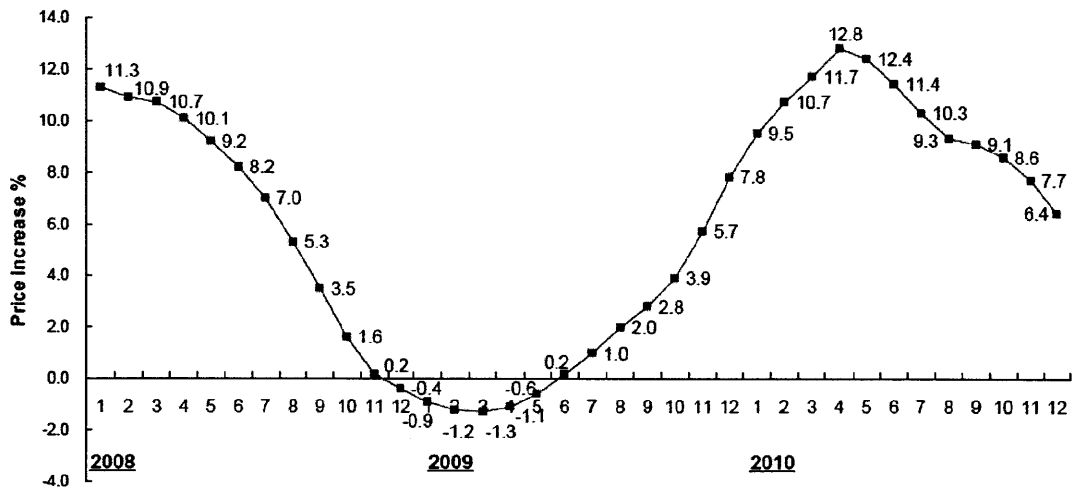


Figure 6: Average Housing Prices in PRC (year-to-year changes: comparing the price in month X of Year Y with the same month in previous year (Y-1))



Source: National Bureau of Statistics of China.

According to the 2010 China Yearbook, the nationwide housing sales space reached 947.55 million m² in 2009, a 43.6% increase from 2008, while the total sales amount reached 4.44 trillion yuan, a 76.9% increase from 2008 (NBSC 2010). Meanwhile, GDP grew only 8.4% while the average income of urban residents grew 11.6% in 2009, both of which lagged behind the increase in housing sales (NBSC 2010). In addition, the NBSC reported that newly initiated real estate construction surged to

1164.22 million m² in 2009, a 13.5% hike from 2008. The PRC central bank also reported that new home mortgage loans quadrupled in 2009. As a consequence, the already booming housing markets in major urban centers grew further in 2009. Shanghai, which already has one of the country's most expensive housing markets, has seen a 20% housing price spike in 1 year. Its Pudong district experienced an even higher 57% rise in a matter of months. Such rapid price hikes serve as an undeniable sign of a housing bubble.

Since 2009, the Chinese government announced newer policies of tightening loans again to discourage real estate speculation. The reason for such big policy swings is rooted in the ever-rising housing prices, which are quite controversial against the current global recession backdrop. During the newest round of housing boom in the PRC, the price hike was at least partially due to one new policy in the PRC's stimulation package—to loosen loan restrictions in support of real estate investment. The banks started to issue high levels of lending to the real estate sector, while people took advantage of such easy money to purchase housing as an investment to hedge against possible inflation. Consequently, housing prices were driven upward as a reflection of increased demand. However, increasing the banking sector's exposure to housing-related debt will place the financial sector under the threat of greater instability and potential collapse, as happened in Hong Kong during the Asian financial crisis (Fung and Forrest 2002). Fearing that the housing market was becoming out of control, eventually the PRC government decided that the housing boom had exceeded the goal of driving domestic demand to counteract falling export demand during the financial crisis. Therefore the policies were reversed.

Signs of inflation have been so obvious that the central government has realized its potential threat to the country's economic development. However, the government was reluctant to start the fight fiercely, worrying that plunging prices will negatively impact economic growth, especially when the property markets had been key drivers of the country's economic recovery. Such hesitation is evident from its recent policy

zigzagging. On 7 December 2009, government officials still claimed during a Central Economic Work Conference that real estate would continue to be a key driver of growth, as construction, steel, cement, furniture, and other sectors are directly tied to growth in real estate. In November, for example, retail sales of furniture and construction materials jumped more than 40%. However, a dramatic policy swing happened just two days later. On 9 December, the cabinet, the State Council, decided that starting 2010, sales of homes by individuals will be exempt from tax only after at least 5 years of ownership, instead of 2 years as declared in January 2009. On 17 December, five ministries announced that the down payment requirement for developers to acquire land was to be increased to at least 50% of the total price. Other measures to restrict speculative housing demand were also taken. On 11 January 2010, the State Council issued guidelines that raised the down payment requirement to no less than 40% for families applying to take out mortgage loans for any property beyond their primary residence; and mortgage rates were required to be strictly settled on the basis of loan risks. In the guidelines, the nation's cabinet, citing "excessively rising house prices" in some cities, said it will monitor capital flows to "stop overseas speculative funds from jeopardizing China's property market." The government also renewed its pledge to stabilize home prices by providing more affordable housing and cracking down on speculation.

Last but not least, financial leverage also came into play. On 12 January 2010, the People's Bank of China, the country's central bank, announced that it will raise the deposit reserve requirement ratio for banks by one-half of a percentage point effective 18 January 2010. This policy has been well regarded as another move to cool down the property market. The central bank later issued more specific directions to limit mortgage loans for purchasing non-primary houses. In addition, tax leverages were also used, as the purchase and sales tax waivers were tightly restricted to increase the cost of speculative housing transactions.

As can be seen in Table 5, the series of tightening policies in the housing market were

enhanced through 2010 and are still in place in 2011. The most noticeable new policy is the housing purchase restriction order in more than 48 cities nationwide, designed to directly fight against speculation on the local housing markets. The impacts of these policies remain to be investigated.

Table 5. The PRC's Major Housing Regulatory Policies to fight against housing price hikes after 2009

Date Effective	Government Agency	Policy
2011-07-15	State Council	Non-primary and non-local housing purchase restriction expanded to 48 cities nation-wide.
2011-01-26	State Council	Local governments need to set target increase rates of local housing prices; sales tax is based on whole sales amount for housing sales within five years of purchasing; minimal down-payment for the second housing is increased to 60%; more than 70% of nation-wide housing land supply will be used for affordable housing and small housing (< 90m ²) development; restrict non-primary housing and non-local housing purchases in more than 20 cities nation-wide;
2010-10-01	People's Bank (central bank) and Banking Regulatory Commission	Stop mortgage loans to purchase the third (and up) houses in a household; minimal down-payment to purchase a primary housing is 30% of the house value; minimal down-payment to purchase a secondary housing is 50%, and the interest rate is 110% of the base rate; no loans to developers stocking land supply.
2010-10-01	Ministry of Finance, Ministry of Housing and Urban-Rural Development, State Administration of Taxation	50% reduction of stamp tax for purchasing of the primary housing in a household; stamp tax rate at 1% for purchasing of the primary housing smaller than 90m ² in a household; no tax benefits for purchasing of the primary housing within one year of selling the previous housing.

2010-10-01	Ministry of Land and Resources and Ministry of Housing and Urban-Rural Development	Developers stocking land supply will be banned for land acquisition for one year.
2010-04-18	State Council	Banks should be extremely cautious to mortgage loans to purchase the third (and up) houses in a household; no mortgage loans to non-local residents without local tax and social security records.
2010-04-15	Ministry of Land and Resources	The nation-wide land supply for housing development in 2010 was increased to 130% of the amount in 2009.
2010-04-15	State Council	For mortgage loans to purchase non-primary housing, down-payment has to be higher than 50% of the house value and the loan interest rate is higher than 110% of the base rate; for mortgage loans to purchase primary housing, down-payment has to be higher than 30% of the house value.
2010-04-02	Ministry of Finance	Sales and stamp taxes are not waived for shared buyers of small housing units (less than 90m ²), as long as any of the shared buyers has bought any housing before.
2010-03-18	State-owned Assets Supervision and Administration Commission	78 biggest State-owned enterprises not in the real-estate sector are no longer allowed to invest in real estate business.
2010-03-10	Ministry of Land and Resources	Down payment for land acquisition by real estate developers set at 20%; at least 50% of land acquisition needs to be paid within one month of acquisition.
2010-01-21	Ministry of Land and Resources	Improved land acquisition procedure and tightened land use follow-up investigations to discourage real estate developers from holding land without housing development.
2010-01-18	People's Bank (Central Bank)	Deposit reserve rate was increased by 0.5%.
2010-01-11	State Council	Mortgage down payment for households of second residential housing units was increased to 40%; mortgage rates

		qualification for second housing buying homes was also tightened.
2010-01-01	Ministry of Finance and State Administration of Taxation	The holding requirement for waiving sales income tax of residential units was resumed to five years from two years set one year ago.
2009-11-18	Ministry of Finance, Ministry of Land and Resources, People's Bank (Central Bank), Ministry of Supervision, National Audit Office	Minimal down payment for land acquisition by real estate developers was increased to 50% of total price.
2009-06-19	Banking Regulatory Commission	Tightened up mortgage loan qualification to buyers of second housing units.
2009-05-25	State Council	Minimal cash reserve for residential housing and affordable housing projects increased to 20%; Minimal cash reserve for other real estate projects increased to 30%.

Based on the above observations, the housing bubble in the PRC is like a sword of Damocles, threatening balanced and sustainable economic development. The government is in a difficult situation as it tries to strike a balance between encouraging housing development to avoid economic recession, and constraining the housing bubble for the social welfare of the public. This is indeed one of the big challenges that a transition country could face.

5.2. Housing Prices and Efforts to Stimulate Private Consumption

Economic growth in the PRC used to heavily rely on exports. Such an unbalanced economic structure has been severely challenged in the current crisis. As shown in Table 6, the NBSC announced that the export sector accounted for -44.8% of economic growth and slowed down GDP growth by 3.9% in 2009. In comparison, investment contributed 92.3% to economic growth and to the 8.0% growth of GDP, while domestic consumption contributed 52.5% and 4.6%, respectively. Therefore, one of the major tasks for the central government during the crisis is to stimulate

investment and domestic demand while exports are failing to improve the country's economic recovery.

Table 6: Sector Contributions to Economic Growth and GDP Growth, 2009 (percent)

	Economic Contribution %	Growth GDP Contribution%	Growth
Investment	92.3	8.0	
Domestic Consumption	52.5	4.6	
Exports	-44.8	-3.9	
Total	100	8.7	

Source: National Bureau of Statistics of China.

As described above, one of the initial measures by the government was to encourage investment in the real estate market. While it was hoped that booming housing markets and rising housing prices could attract more investment into regional development and economic growth, domestic demand has actually been negatively affected during the same time period. High housing prices obviously squeeze out other consumption while significantly changing consumer behavior, and such unaffordable prices have become major obstacles to increasing domestic consumption. This is because most home buyers have to restrain their consumption in other areas to save money for their loan and mortgage payments. According to a poll conducted in 50 cities on June 2009 by the People's Bank of China, urban residents felt that their actual income, when compared to commodity prices, had fallen to its lowest level since 1999, even though the average annual income of the PRC's urban employees increased at an annual rate of 12.9%. The biggest concern from consumers is the ever-increasing housing prices in the country. This poll found that over 60% of residents felt that the housing prices are beyond their affordability, while 47% chose "add saving" as their top priority among their expenses, the highest historical ratio. The threat posed by skyrocketing housing prices to domestic demand has caught the attention of the government. Meanwhile, on its official website, the NBSC pointed out

that the PRC still lacks a solid foundation to support economic recovery, and emphasized that along with education costs and health care costs, high housing prices are one of the biggest obstacles to an increase in consumption.

5.3. High Housing Prices Lead to Unbalanced Economic Growth in the PRC

As discussed above, in principle a booming real estate market is thought to contribute to development in industries ranging from construction materials and home appliances to automobile manufacturing. However, against the global financial crisis backdrop, the PRC's booming housing market has actually hampered the development of other industries in the country. New evidence suggests that the high profitability of the PRC's housing market has attracted huge money flows from other industries, which leads to an unbalanced economic structure in growth. This trend has been more prevalent since the global financial crisis, presumably due to the difficulty for the PRC's conventional export-oriented enterprises to survive amid plummeting global demand. As reported by the PRC's media, in 2009, an increasing number of Chinese entrepreneurs participated in the country's bidding process to claim land use rights (ownership for long periods such as 70 years). In May 2009, some 553 transactions occurred in the 60 surveyed cities, a 73% increase compared to the previous year. In addition, the total transacted area was 26.86 million m², an increase of 89% from the last year. Among the bidders many were large state-owned enterprises, including manufacturing, electronic, and pharmaceutical firms. When such firms all start to switch their investment priorities into the real estate sector, the national industrial structure for sustainable economic growth becomes of great concern.

The switch of investment interest into the housing sector is a rational choice by enterprises from other industries in the PRC. Government regulations require initial development to commence in a timely fashion, or the land will be taken back. However, the large state-owned firms can get around such regulations via their strong

networks with government officials. Especially, under pressure from the ongoing financial crisis, some firms tend to secure their money to hedge against possible inflation and loss in the export sector. Chinese consumers favor real estate as a safe and rewarding investment option so they have pursued property ever more aggressively. Lured by the quick return from real estate appreciation, Chinese companies in most traditional industries such as chemical, steel, textile, and shoe industries, have opened up property divisions. Even global brands such as Haier (appliance manufacturer) and Lenovo (computer maker) also set up their real estate departments during this wave. Therefore, although real estate's liquidity is not that high, it is comparatively safe for maintaining the value of money. Unsurprisingly, part of the money that large state-owned firms received from the government's 4000 billion yuan stimulus plan was infused immediately into land bidding. Such a trend will likely hurt economic recovery, and the unbalanced economic structure could further hamper sustainable development as well. The government is challenged in directing the investment to achieve a balanced economic structure. In response to such problems, the latest regulations demanded that state-owned firms withdraw from real estate investment (Table 5). Except some traditional real estate developing firms, the newcomers have been pushed out the door and shut outside. However, the real result is uncertain.

5.4. Housing Bubbles Increase the Potential Risks in the PRC's Financial Sectors

The PRC should learn from the causes of the recent global financial crisis. There are multiple reasons that contributed to that crisis. Among them, however, the decisive trigger was the unexpected downturn of the United States (U.S.) housing market (Mizen 2008). In the U.S., a small portion of all the mortgage loans were considered "subprime loans" extended mainly to borrowers with poor credit histories. The ease in obtaining financing was one of the major factors that pushed the U.S. housing market higher. From 2001 to 2007 the U.S. housing market had seen a dramatic increase.

Housing prices in many cities had more than doubled during the period (Aalbers 2009). Bank originators packaged these subprime loans and sold them as asset-backed securities (known as collateralized debt obligations or CDOs), CDOs of CDOs (dubbed CDO-squared), and CDO-cubed. The mortgage paper (backed by houses or dwellings they funded) was the collateral backing these exotic securities (Morris 2008). With improper risk prediction methods, all these securities were rated with high safety standards. These securities did provide higher-than-normal yields when the U.S. housing market continued to climb. However, when the housing prices started to drop in 2006 and 2007, elevated default rates of subprime mortgage loans triggered a credit crunch through losses on these securities in the global financial markets, and dramatically reduced liquidity in the system (Mizen 2008).

So far the PRC's financial sector has not been greatly affected by the global financial crisis. However, the PRC's booming housing market could pose a greater threat to the country's immature financial system. Chinese real estate developers do not have sufficient funding reserves. Rather, they rely heavily on bank loans. As shown in Table 7, 50% of the investment in real estate is supplied by banks at the national level, while this number can reach 80% in some big cities. In particular, based on the earlier stimulus plan of the government, even higher loans flowed into the real estate sector. According to the NBSC, in the first half of 2009, bank loans contributed 538.1 billion yuan in developer funding, a 32.6% increase from the previous year; in addition, bank loans also contributed 282.9 billion yuan to individual mortgages in the same period, a 63.1% increase from 2008.

On the other hand, it is quite obvious that the current increase in demand did not have much to do with resident income or economic growth; rather, it was an illusion created by borrowed money. As shown in Table 8, around 50% of new bank loans in the PRC every year went to mortgage residential housing loans. In comparison, financial institutions in the U.S. saw only around 20% loan exposure to mortgage residential housing loans in the 1980s. That ratio jumped to around 40% for big banks

in 2008 before the housing sector-driven financial crisis started (Krainer 2009). Therefore, the even higher mortgage residential housing loan percentage in the PRC is a warning sign of the potential risk that the PRC's banks may face when housing prices start to drop. Similar to the case of the U.S. housing market drop, a devastating financial crisis in the PRC looms if the PRC banks cease to function effectively in such a situation.

Table 7: Bank Loans as a Percentage of Real Estate Investment Funding Sources

Year	Bank Loans (100 million yuan)	Total Investment Fund (100million yuan)	Loan (%)	Adjusted Bank Loan % *
2000	1385.08	5997.63	23.09	55.90
2001	1692.20	7696.39	21.99	53.58
2002	2220.34	9749.95	22.77	53.71
2003	3138.27	13196.92	23.78	53.92
2004	3158.41	17168.77	18.40	48.61
2005	3918.08	21397.84	18.31	60.00
2006	5356.98	27135.55	19.74	58.67
2007	7015.64	37477.96	18.72	58.41
2008	7605.69	39619.36	19.20	50.57
2009	11292.69	57127.63	19.77	48.33

* Adjustment method: besides the domestic loans as reported by the National Bureau of Statistics of China, other funding sources of real estate developers may also partially originate from bank loans via various ways. Therefore the adjusted bank loan percentage in total real estate development funding is estimated as: domestic loans + 50% x housing sales amount (CASS 2010).

Sources: China Year Book 2010 (NBSC 2010)

Table 8: Percentage of Personal Mortgage Loans in New Loans

Year	2003	2004	2005	2006	2007	2008
New Loans (Billion Yuan)		1879.46	1827.29	3144.13	3946.67	4238.2
Mortgage (Billion Yuan)	711.61	834.62	1270.62	1576.98	2176.3	1746.86
Mortgage/New Loans (%)		44.41	69.54	50.16	55.14	41.22

Source: China Banking Regulatory Commission Annual Reports.

Chapter 6. Policy Recommendations

East Asian countries have shown a strong tendency to use housing policy to boost economic growth (Forrest and Lee 2003). As many Asian countries are at similar development stages, lessons from the PRC can be helpful for the rest of Asia to recognize their own problems.

6.1. Annualize the Lump-Sum Land Transfer Fee Payments into a Long-Term Cash Flow

The 1994 tax reform centralized the flow of tax revenue to Beijing while local governments continued to be assigned tasks without enough funding. As a way of compensating, the central government permitted lower-level governments to collect the land leasing fee as a convenient way of generating quick revenue for local uses. However, cities have limited land reserves, and selling land use rights once-for-all cannot provide sustainable support for future development. While the land-finance seems to work well at the current stage to finance the nationwide infrastructure construction, for a big country like the PRC, “sustainability” should always be at the top of the priority agenda. From this perspective, heavily relying on huge land leasing fees is not feasible over the long run and should be replaced by more consistent funding options. Moreover, the reliance of local governments on land leasing fees has resulted in increasing housing prices, which threatens the economic and political stability of the whole country. Therefore, it is time for the PRC to think beyond administrative controls, which have proven to be inadequate (as with the “90-70” policy), and to focus on using more economic and financial methods to tackle the skyrocketing housing prices.

Volatility in the urban housing market in the PRC may be lessened by switching the land leasehold payment method from one lump-sum leasehold fee to annualized installments of land rents plus property tax. Currently, the central government, through local authorities, sells the right of land development to real estate developers,

which in turn develop housing projects and sell the “using rights” of the units, set to expire after 40-70 years (Walker and Li 1994), to home buyers. The lump-sum land transfer fees contribute significantly to housing development cost, as developers readily pass along the land acquisition cost to their customers. Due to the high housing prices, home buyers often find they cannot afford the down payment, even though their income can handle the monthly installments with ease (Shen 2006). One possible policy change is to introduce high property taxes for non-primary residences. In that case, the real estate developers would then no longer need to transfer the cost burden to their customers. The consumers would have to pay an annual tax for their residence, which would supply the government budget for the future years to come. Furthermore, speculators who stockpiled housing resources would have to pay high property taxes every year, which might in turn force them to release their housing units and/or much of their land and other resources into development of affordable housing.

In addition, with the one-time land transfer fees, the governments find themselves with unsustainable income from the housing sector over the long term, which will certainly affect the consistency of public policies and plans (Zeng and Wang 2005). Therefore it is also necessary, from the perspective of public finance, to introduce the annual land and property tax installments, which will be a three-way win situation for the government, the developers, and the home buyers. However, it is also noticeable that such tax policies could introduce multiple impacts on the real estate market, which explains why land and property taxes are still at their early pilot stages after decades of discussion.

The long-awaited property tax was finally unveiled in Chongqing and Shanghai on the night of January 27, 2011. These two cities adopted two types of taxation: tax the richer, or tax the newcomers. Under Chongqing's detailed plan, taxes apply to owners of existing villas and villas to be purchased after March 27. The taxes also apply to apartments that are at least twice as large as the average apartments sold in the

southwestern city. In Shanghai, the property tax applies only to new housing, including villas, purchased after March 27. Such pilot programs will provide important data to test whether the property tax will be an effective way to curb runaway housing prices and provide sustainable local revenue. The differences between them should also be considered when designing China's future tax structure.

6.2. Develop More Financing Options and Contain Speculative Transactions

Besides considering annualizing the lump-sum land transfer fees, additional financial policies to contain speculative transactions and profitability should be included in government regulations to reduce housing market volatility. Combining changes in the leasehold payment methods with additional financial instruments, it is possible for the government to stabilize the housing markets to allow long-term sustainable economic and social development in the PRC.

One important area where more financial tools should be utilized is in affordable housing development. As discussed in Chapter 4, strict and rigid administrative rules such as the "90-70" policy cannot efficiently encourage developers to focus on affordable housing projects, while local governments tend to create loopholes in such housing policies to protect their self-interest. The central government should instead devise financial policies to direct the private sector's behavior. For example, in developed countries, one useful lever is to offer tax rebates or exemptions to developers who build a higher percentage of lower-priced housing projects, as in the "90-70" model. Imposing the requirement on financial institutions to provide low- to no-interest loans to help developers build low-priced housing projects is another example of a successful policy.

Financial options can be used to curb speculative purchases in the housing market as well. With housing prices continuing to increase due to speculative pressure, financial

instruments, such as a capital gains tax, should be introduced to reduce incentives for holding extra housing possessions solely for appreciation speculation. Meanwhile, higher real estate transaction taxes can discourage people from speculative purchases and sales. In addition, progressive tax rates based on the total size of the house can be levied to transfer money from high-end luxury home owners to other people with much lower incomes. Currently, the PRC officials have realized the importance of employing financial measures and are trying to restrict the loan amount and interest rate when people purchase more than one property.

An alternative way to ease the pressure on the housing market is to encourage people to rent. The house rental market in China is not fully developed yet, as people with jobs tend to buy instead of renting, due to the culture influence and peer pressure discussed in Chapter 4. If appropriate reduction or exemption in personal income tax can be applied to benefit home renters, the desire to own a house at a young age can be counteracted to some extent.

6.3. Enhance the Management of Land Supply

Similar to Hong Kong, China, the PRC adopted a land supply system using the land lease method. In this system, the government has ownership of all the land and has absolute control over new land. Ideally, such absolute ownership makes it possible for the government to actively regulate housing prices and housing market conditions by controlling land that is made available to developers. Owning the land also enables the government to have direct control of land for subsidized public housing projects (Tse 1998). However, in reality, major real estate developers in the PRC have substantial land banks, which are lands acquired and still undeveloped. The existence of such land banks significantly limits the capacity of the government to influence house prices by controlling the land supply. In such a scenario, a land value tax can be an important policy tool to encourage developers to reduce the scale of their land banks so that the government can more accurately regulate available land for housing

development at any time.

In market economies, urban land values reflect directly the present and expected future surplus (or residual) generated by economic activity that uses land as a factor input (Pasquale and Wheaton 1996). Therefore, a land value tax can be expected to curb speculation and encourage the development of sites needed for urban use. In practice, as the Taipei, China, experience shows, the PRC government can adopt a series of progressive tax rates, which are intended to levy higher taxes on lower-valued land with potential development value along with urban growth and expansion, such as agricultural land, urban fringe areas, and mountainous areas, so as to curb speculation by developers (Grange et al. 2006).

On the other hand, effective long-term macroeconomic policies are crucial to real estate market expectations, which in turn influence land demand in the market. For example, developers were reluctant to acquire land in 2008, when the Ministry of Land and Resources announced new policies imposing tight controls on higher-level luxury housing development. As a consequence, some land could not even be sold at the base price. However, such a depressed period was completely terminated in 2009, when the PRC government issued a set of new policies to stimulate real estate development in response to the global financial crisis. As a result, developers zealously joined in the bidding process for land. New “land kings” (buyers of land lots with the highest per square meter prices) appeared in news headlines repeatedly, indicating positive market expectancy and speculation. However, the enthusiasm in 2009 cooled down again in 2010, when new policies were announced. With the lower market expectancy, some developers even chose to default on land acquisition installments to avoid higher future loss. A recent case was the confiscation of land acquired by Dalong Estate, a publicly listed real estate developer, which failed to pay the down payment of the land leasing fee and lost its 200 million yuan deposit (Dalong 2010). Therefore, clear and consistent macroeconomic policies are necessary to ensure long-term stable land supply.

Another issue that is linked to land value is that governments frequently use land as collateral for infrastructure project financing. Therefore, the locals will be under huge threat of debt if land values start to decrease. This fact partially explains the resistance to controlling housing prices at the local level, as the real estate value will be eventually reflected in the land value.

6.4. Government Provision of Public Housing

The PRC central government is facing two major tasks in the housing sector: on one hand, the government needs to sustain real estate market development to help secure long-term stable economic development, as benchmarked by increases in annual GDP; on the other hand, it is also the government's responsibility to make sure that the majority of the PRC's urban population can fulfill their housing needs at affordable costs. This latter goal is important to the PRC's long-term development since an extremely wide income and housing gap could potentially deteriorate into social and political instability. Using the principal-agent model, it is clear that the central government (the principal) does not provide sufficient incentives to its agents, namely local governments and real estate developers (in their provision of affordable housing), to invest and construct affordable housing projects. The profits obtainable through high-end real estate market development are not carefully counterweighted by government regulations to encourage affordable public housing by local governments and real estate developers. It is unlikely that these agents will voluntarily make building affordable housing projects their highest priorities.

Based on the above reasoning, it is clear that there will not be sufficient affordable housing supply under the current circumstances, so that the housing needs of middle- and low-income classes will have to be taken up by the public sector. With the majority of residents forced into the commercial housing market, the housing supply at affordable prices is anything but sufficient. In 2007, the central government

declared a series of new housing policies to address the housing needs of urban low-income families. Provision of low-cost public housing is the major component of these new policies. To make public housing development and delivery more efficient, it is helpful to study the successful experience of other East Asian countries and regions.

Provision of public housing is also an important part of efficient housing policy. Proper public housing policy has been closely linked to a country's economic performance (Kemeny 2001). Castells et al. (1990) argued that much of Hong Kong's socioeconomic success since the 1950s has been made possible through its public housing policy. Through their qualitative studies, Lee and Yip (2006) identify the following functions of public housing in support of economic growth: (i) public housing is a form of social wage to facilitate the reproduction of labor power; (ii) public housing induces social capital formation; (iii) public housing allows for more education opportunities; and (iv) public housing facilitates domestic production and economic opportunities (Lee and Yip 2006). In addition, a mature public housing system can serve as a cushion in an unstable housing market (Forrest and Lee 2003). In this regard, Singapore and Hong Kong have been quite successful.

The public housing scheme in Hong Kong is focused on public rental units. The housing authority manages about 710,000 public rental flats, which house about half of the population (Lee 2006). The authority sets strict eligibility requirements for its applicants, including legal residency, maximum household income, and nonownership of any property (HKHA 2010).

The Singapore Housing and Development Board (HDB) has managed to increase ownership of public housing. The public housing units in rental occupancy fell from 100% in the early 1960s, to 76% by the end of 1970s, to 38% in 1981, and to 16% in 1989 (SSC 2000). The HDB employed a series of innovative measures to ensure that public housing units are sold at affordable prices: (i) compulsory land acquisition at

fixed low prices; (ii) maximizing construction project scale and tight control over building contracts to reduce construction costs; and (iii) establishment of a central provident fund and provision of government subsidies and loans to home buyers. In particular, the HDB is a public-funded developer that operates in normal business mode. It develops not only public housing projects but also commercial and industrial estates. The broad spectrum of projects undertaken by the HDB allows the agency to derive ample income from the latter projects to finance the continuous development of public housing units (Chua 1997). For public housing purchasers in Singapore, there are also eligibility requirements that are similar to those in Hong Kong (SHDB 2010).

Besides government-funded public housing development and provision, an alternative way to provide public housing is through nonprofit organizations. Currently the government still forbids any other organization except those in the government and private sectors from entering the housing development system. In comparison, public housing subsidies in Taipei, China take four major forms: public housing constructed by the government (nearly all for sale to eligible households), loans for self-built units, developer subsidies, and home purchase loans. According to game theory, more players in the game may ensure transparent communication and reduce oligopoly in the market. However, it turns out that there are too few players currently involved in the PRC's housing market development, with real estate developers as the singular provider. Potential new players include nongovernment organizations, private housing funding agencies such as community-development committees, and independent housing development supervisory committees whose members are composed of both government and public representatives. More players representing economic and political interests from different interest groups could release some of the political and social pressure built up by skyrocketing housing prices. Also, the presence of more players can contribute to the stability of the system, and it would be less likely that any individual player will be the major beneficiary to the detriment of the common interest. Currently institutional restrictions discourage different groups from competing with developers in the provision of housing, enabling the developers to

reap huge profits by using their oligopoly position to restrict the number of affordable housing units demanded by the majority of the urban population. Urban residents have exhibited eagerness to raise funds to construct their own homes, and some organizations and enterprises have also shown interest in providing housing. If governments could make more supply channels available, a competitive market system with reasonable prices could be established.

Chapter 7. Conclusion and Future Study

The current measures taken by the central government could not address its major goal in the housing sector, which is to fulfill the housing needs of the majority of the PRC's population. Based on game theory analysis, more efficient incentives are needed for local governments and real estate developers to be encouraged to build affordable instead of expensive housing projects. In addition, the government should consider following the examples of Singapore and Hong Kong to provide more public rental housing to the low-income population. Also, allowing more players such as nongovernment, nonprofit development committees into the housing market could potentially bring more competition to current developers, and thereby promote affordable housing development.

As a developing country, the PRC's housing problems are rooted in its rapid urbanization when the necessary game rules (such as property tax, mature financial system) were not in place yet. On the other hand, all the game players, including governments at different levels, real estate developers, and home buyers, were still learning by practice about the housing market. Temporary chaos in the housing market is not surprising for a newly industrializing nation such as the PRC, and improvements are forthcoming. The housing issue has become such a hot topic in the PRC that over half of the bills proposed during the ongoing congress gathering are focused on it. The central government has recognized the severity of the housing problem, as the current Premier Wen, on behalf of the central government, has repeatedly expressed the determination on various occasions to regulate housing prices in the PRC. These facts indicate that we are witnessing a historic period in the PRC that is geared toward its long-term sustainable economic growth.

References

- Aalbers, M. 2009. "Geographies of the Financial Crisis." *Area* 41(1):34–42.
- Cao, Z. L., and X. H. Gao. 2002. *The Development and Management of Chinese Real Estate Market*. Beijing: Peking University Press.
- Case, K. E., J. M. Quigley, and R. J. Shiller. 2003. "Home-Buyers, Housing and the Macroeconomy." In A. Richards and T. Robinson, *Asset Prices and Monetary Policy*. Reserve Bank of Australia, Canberra.
- CASS. 2010. *China Housing Development Report 2009-2010*. Chinese Academy of Social Sciences, Beijing.
- Castells, M., et al. 1990. *The Shek Kip Mei Syndrome*. London: Pion Press.
- CBRC. 2009. *Annual Report 2009*. China Banking Regulatory Commission, Beijing.
- Chen, F., and M. Shi. 2008. "Concepts of Housing Bubbles and Its Examination." *Construction Economy* 7:32–5.
- China Youth Daily. 2007. Why Xi'an's low rental housing was not allocated six years after the construction, February 8
- Chiu, R. L. H. 1996. "Housing Affordability in Shenzhen Special Economic Zone: A Forerunner of China's Housing Reform." *Housing Studies* 11(4).
- Chua, B.-H. 1997. *Political Legitimacy and Housing - Stakeholding in Singapore*. London and New York: Routledge.
- Dalong. 2010. "Dalong Estates Inc. Public Disclosure Statement on February 1st 2010." Available: www.dldc.com.cn/dldc/page/show.asp?id=1087.
- Ding, C., and Song. Y. 2005. *Emerging Land and Housing Market in China*. MA: Lincoln Institute of Land Policy
- Eisenhardt, K. 1989. "Agency Theory: An Assessment and Review." *Academy of Management Review* 14(1):57–74.
- Fan, H. S., ed. 1999. *Chinese Real Estate Market*. Wuhan: Hu Bei People's Publishing House.
- Feng, J. 2008. "The Influence of Real Estate Taxation on Housing Prices." *Journal of Hebei Energy Institute of Vocation and Technology* 2:48–50.

- Fong, P. K. W. 1989. "Housing Reforms in China." *Habitat International* 13(4):29–41.
- Forrest, R., and J. Lee. 2003. *Housing and Social Change*. London: Routledge.
- Fung, K. K., and R. Forrest. 2002. "Institutional Mediation, The Hong Kong Residential Housing Market and the Asian Financial Crisis." *Housing Studies* 17(2):189–207.
- Grange, A. L., C. O. Chang, and N. M. Yip. 2006. "Commodification and Urban Development: A Case Study of Taiwan." *Housing Studies* 21(1):53–76.
- He, H. 2008. "Research on Influences of the Real Estate Tax on the Price of Commercial Housing." *Economy and Management* 22(9):38–40.
- HKHA. 2010. "Housing for Families." Hong Kong Housing Authority. Available: www.housingauthority.gov.hk/en/residential/prh/housingfamilies/0,,00.html.
- Hong, Y. H. 2003. *The Last Straw: Reforming Local Property Taxes in the People's Republic of China*. Lincoln Institute for Land Policy Draft. Cambridge, MA.
- Hui, E. C. M., and Y. Shen. 2006. "Housing Price Bubbles in Hong Kong, Beijing and Shanghai: A Comparative Study." *Journal of Real Estate Finance Economics* 33:299–27.
- Jin, S. L. 2006. "Housing Problems in the Context of Harmonious Society (cong he xie she hui kan wo guo de zhu fang wen ti)." *Study Times (xue xi shi bao)*, 27 November.
- Kemeny, J. 2001. "Comparative Housing and Welfare: Theorizing the Relationship." *Journal of Housing and Built Environment* 16:53–70.
- Krainer, J. 2009. "House Prices and Bank Loan Performance." *FRBSF Economic Letter* 6.
- Lee, P. N.-S. 1993. "Editor's Introduction." *Chinese Law and Government* 26(1):3–24.
- Lee, Y. F. 1988. "The Urban Housing Problems in China." *The China Quarterly* 115:387–407.
- Lee, J., and N. M. Yip. 2006. "Public Housing and Family Life in East Asia: Housing History and Social Change in Hong Kong, 1953-1990." *Journal of Family History* 31:66–82.

Ma, Y. Q. E. 2005. "Housing Price Bubbles in 37 Major Cities." Xinhua News Fortune Channel, 24 March.

Mizen, P. 2008. "The Credit Crunch of 2007-2008: A Discussion of the Background, Market Reactions, and Policy Responses." Federal Reserve Bank of St. Louis Review 90(5):531-67.

MLR. 2007. China Land Resource Year Book 2007. Ministry of Land and Resources of China, Beijing.

MOC. 2006. 2005 Urban Housing Census Report. Ministry of Construction, Beijing.

MOHURD. 2009. Review of Urban Housing Development in Six Decades. Ministry of Housing and Urban-Rural Development, Beijing.

Morris, C. R. 2008. "The Trillion Dollar Meltdown: Easy Money, High Rollers, and the Great Credit Crash." Public Affairs 75-9.

NBSC. 2007. China Year Book 2007. National Bureau of Statistics of China, Beijing.

———. 2008. 2007 National Urban Housing Sampling Survey Report. National Bureau of Statistics of China, Beijing.

———. 2009. China Yearbook 2009. National Bureau of Statistics of China, Beijing.

———. 2010. China Monthly Macro-Economics Statics. Available: www.stats.gov.cn/tjsj/.

Pasquale, D., and W. C. Wheaton. 1996. Urban Economics and Real Estate Markets. Englewood Cliffs, NJ: Prentice Hall.

Renaud, B., F. Pretorius, and B. Pasadilla. 1997. Market at Work: Dynamics of the Residential Real Estate Market in Hong Kong. Hong Kong, China: Hong Kong University Press.

Shao, F. 2005. "Property Tax Reform and the Development of Chinese Cities." Urban Studies 12(2).

SHDB. 2010. "Eligibility to Buy New HDB Flat: Buying A New Flat." Singapore Housing and Development Board. Available: www.hdb.gov.sg/fi10/fi10321p.nsf/w/BuyingNewFlatEligibilitytobuynewHDBflat?O

penDocument.

Shen, H. 2006. "Problem Analysis and Solutions to the Chinese Urban Land Use System (wo guo cheng shi tu di shi yong zhi du cun zai de zhu yao wen ti yuan yin ji dui ce)." *Theory Front (li lun qian yan)* 5:37–8.

SSC. 2000. "Provision of Public Housing in Singapore." In *Examples of Good Practices in Social Policies, Indigenous and Traditional Knowledge, and Appropriate Technology in the South*. Vol. 4. Special Unit for South-South Cooperation and Third World Network. Available:
ssc.undp.org/Examples-of-Good-Practices-in-Social-Pol.160.0.html.

Sun, J. F., X. L., Yang, and W. Li. 2006. "Discussing the Effects of Opening Property Tax on Different Benefits Entity." *Journal of Hebei University (Philosophy and Social Science)* 31(3).

Tang, B. S., S. W. Wong, and S. C. Liu. 2006. "Property Agents, Housing Markets and Housing Services in Transitional Urban China" *Housing Studies* 21(6):799–823.

Tang, G. 1989. "Urban Housing System Reform in China." Paper presented at the Joint Seminar of Housing System Reform in China, Beijing.

Tse, R. Y. C. 1998. "Housing Price, Land Supply and Revenue from Land Sales." *Urban Studies* 35(8):1377–92.

Vives, X. 1999. *Oligopoly Pricing*. Cambridge: MIT Press.

Walker, A., and L. H. Li. 1994. "Land Use Rights Reform and the Real Estate Market in China." *Journal of Real Estate Literature* 2:199–211.

Wang, Y. P., and A. Murie. 1996. "The Process of Commercialization of Urban Housing in China." *Urban Studies* 33(6):971–89.

———. 2000. "Social And Spacial Implications of Housing Reform in China." *International Journal of Urban and Regional Research* 24(2):397–417.

World Bank. 1992. *China: Implication Options for Urban Housing Reform*. Washington, DC.

———. 1996. *Sectoral and Project Performance Indicators in Bank-Financed Urban Development Operations*. Washington, DC.

- Wu, J. 2008. "Analysis of Causal Relationship between Housing Price Rising and Demand Increasing in China." *Journal of Graduate School of Chinese Academy of Social Sciences* 5:57-61.
- Xiao, P., and J. Yang. 2008. "A Study on China's Urban Housing Demolition Compensation System: The Case about the Urban Housing Demolition's 'Tough Households'." *Journal of Nanchang University* 39(4):61-6.
- Xie, Y., and H. Liu. 2004. "Price-Rent Ratio in China's Housing Market: Proper Interval, Measurement and an Empirical Study." *International Journal of Strategic Property Management* 8(2):73-86.
- Xu, L. and D. Reingold. 2011. "Public Housing in China and the United States: A Policy Primer." *China's Housing Reform and Outcomes*. Lincoln Institute for Land Policy. Cambridge, MA
- Zeng, Y. H., and N. Wang. 2005. "Property Tax is Going on Effect Soon (di chan shui shi xing zai ji)." *Xinhua News House Channel*, 28 February.
- Zhang, Q., and X. F. Peng. 2007. "On Pros and Cons of Incorporating Rent of Land into Property Tax." *Journal of Wuhan Institute of Technology* 6.
- Zhao, Y. S., and S. C. Bourassa. 2003. "China's Urban Housing Reform: Recent Achievements and New Inequities." *Housing Studies* 18(5):721-44.