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Achievements and Challenges: 30 Years of Housing Reforms in the People's Republic of China

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ADB Economics Working Paper Series



Achievements and Challenges: 30 Years of Housing Reforms in the People's Republic of China

Lu Gao

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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 financial crisis, 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.

I. 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 market development in the country.

This paper 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, and to recommend policy changes to support sustainable development in the country.

This paper is divided into seven sections including this introduction. Section II provides an overview of the major policy shifts during the three decades of the PRC's housing reforms. Section III summarizes the achievements since the initiation of the reforms. Section IV details the problems that have arisen and analyzes possible causes. Section V examines the PRC's housing boom and the concerns it raises in the context of the global financial crisis. Section VI focuses on policy recommendations based upon the research, and Section VII concludes.

II. Overview of the PRC's Housing Reform

A. Background

The PRC's urban housing system before market reforms was a government-funded and government-run welfare housing system, in which no interest 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 socialistic 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 full-cost rent. 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).

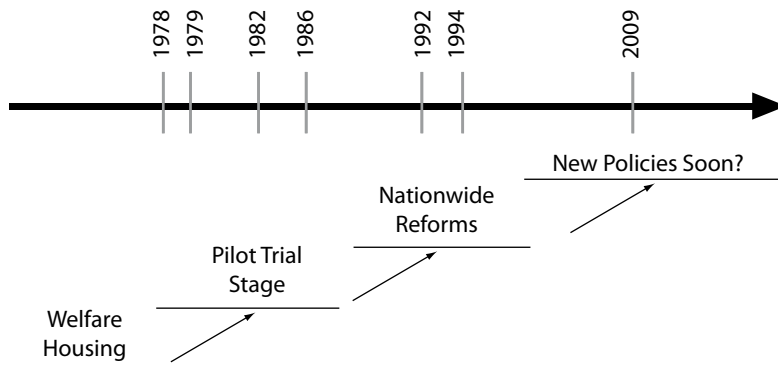
Since the market reforms, the central government has gradually realized that the housing socialistic approach did not result in the desired goal of “housing for all.” To implement a new market-based housing system, the PRC began implementing laws and regulations to permit transferring, leasing, and mortgaging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

B. Time Frame

The goal of the PRC's housing reform was to gradually reduce the socialistic nature of the housing system while expanding home ownership. In addition, governments in 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 bears numerous trial-and-error patterns.

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, 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 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.

The first housing reform experiments began in 1978 as consequences of Deng Xiaoping’s speeches on the need and direction for urban housing reform (for details of the experiments, see Tang 1989, Lee 1993, Wang and Murie 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 in the central government. 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 nonstate-owned work units and individuals at market prices (Chiu 1996). Following Singapore's experience, Shanghai took the first step to establish a public housing accumulation fund system in 1991, and this experience was shared nationwide soon after (Chua 1997).

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). Since 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 all be sold to current qualified residents who are willing to purchase. In 2006, the General Office of the State Council passed the 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 household 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.

III. Reform Efforts and Achievements

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

A. Home Ownership

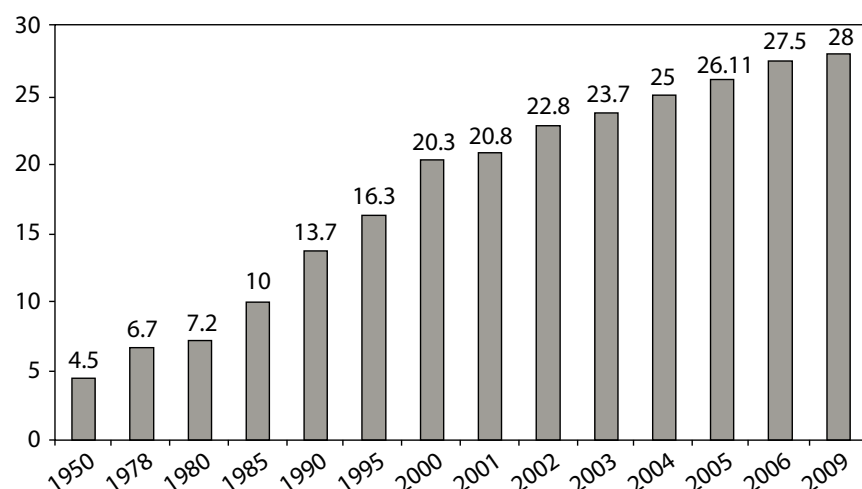
After 30 years of housing reforms, home ownership has increased dramatically. In 2005, 81.62% of urban *hukou* holders (people with official registration at cities of residence) became homeowners (MOC 2006). In 2007, this number further increased to 82.3% (NBSC 2008). In comparison, there were virtually 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. In the sale of public housing, over 4.5 billion square meters (m^2) (accounting for nearly 80% of public housing) were to existing tenants.

B. Per Capita Housing Consumption

As mentioned above, since 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 m^2 per capita in the early 1950s to 6.7 m^2 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 m^2 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 m^2 per capita. By 2001, the national average living space per capita had reached 20.8 m^2 . This number grew to 26.11 m^2 in 2005, and to 27.5 m^2 in 2006. The vice minister of the Ministry of Housing and Rural-Urban

Development has announced that the living space per capita had reached 28 m² in 2009, a significant achievement in the provision of housing. However, the actual number would be revised to only 22 m² if migrant workers who do not have the registration (*hukou*) are also counted in. It should be noted that such improvement is 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 (2009).

C. Real Estate Investments

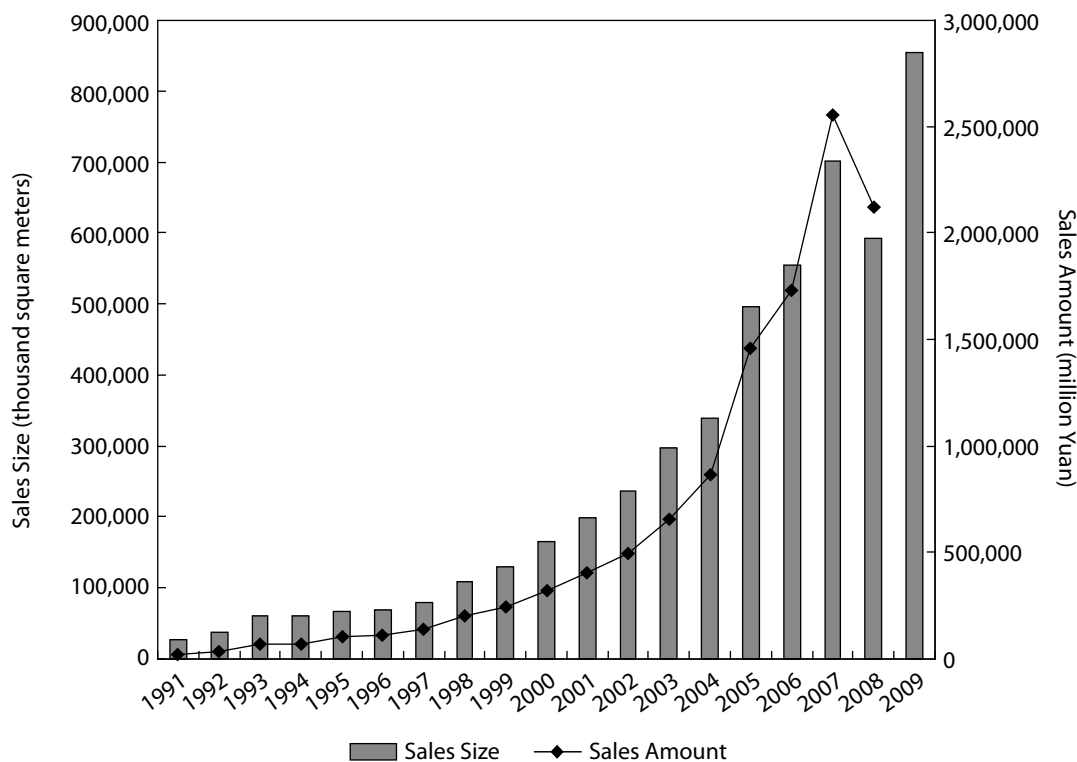
Real estate investment (measured as a percentage of gross domestic product [GDP]) is widely regarded as an important indicator of economical health (Case et al. 2003). Following the adoption of more liberal economic policies and the pledge to raise living standards, since 1979, state investment in the 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 2009, real estate investment climbed 362.31 billion yuan, accounting for 10.8% of GDP and 18.6% 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 ten-fold from Rmb 182 million in 1978 to Rmb 2.1 billion in 1991 (Tang et al. 2006).

D. 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 interesting rise and fall during 2008–2009 will be further discussed later.

Figure 3: Annual Housing Sales in the PRC



Note: No sales amount data for 2009 yet.

Source: *China Year Book 2009* (NBSC 2009).

IV. Problems

A. 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 completion 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 such projects.

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 lands 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).

However, the results of these measures have not been satisfactory. The summation 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 lands 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. 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 (NBSC 2009).

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-price 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 majority of the PRC’s urban population.

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	19.0
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).

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.

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

Vanke is the biggest real estate developer in the PRC. A few representative examples of their housing projects in Shanghai include Lan Qiao (Orchid Woods), which hosts single family houses of around 280–480 m² in lot size; Hong Du (Red Capital) center, which is home to townhouses and multifamily houses; and Hong Qiao (Rainbow Bridge), an affordable housing project. Considering the space occupancy rate for each project, the 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 selling 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.

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

Source: Author's interview with Vanke in 2006.

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 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 PRC central government declared that real estate developers have to allocate 70% of the total area in each of their new housing projects to “affordable housing”, i.e., smaller than 90 m² 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 took only 17.2% of all invested real estate housing projects all over the PRC.

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 home buyers not falling within the low-income group.
- Enlarge the space of the balcony, which is only counted as half of the living area by the PRC's national construction standard. Hence, end products can still be sold as luxury units with sizeable living area and spacious balconies.

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

Local governments were behind the developers, since the local heads are eager 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.
- The Shanghai municipal government required developers to maintain 70% of their project portfolios under construction as affordable housing projects (in compliance with the 90 m² rule). 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.
- Other local governments also adapted the “90-70” to minimize its effects.

continued.

Box 2. continued.**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, surprisingly, these intentionally designed small units even led to 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 newly constructed “90-70” units were released in July 2007. To the biggest surprise of home buyers, the unit price was even higher at slightly below 10,000 yuan/m². Meanwhile, due to the fact that only 30% of newly-completed units were bigger than 90 m², the price for such bigger units skyrocketed 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 intent by 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.

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

Housing affordability is essential to sustainable economic development and political stability in every country. Since the 1990s housing reform, urban housing prices in the PRC have increased significantly. 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). 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. Renting is not a popular option for people with a stable job. To facilitate the marriage of their son or daughter, Chinese parents are willing to devote all their savings to real estate. Consequently, income and saving from two generations and three families (bride's parents, groom's parents, and the young couple themselves) all influx 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 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 to household annual incomes in the top 10

cities of the PRC to that of the top 10 cities of four countries. It is obvious that the PRC cities exceed their counterparts greatly, indicating a serious affordability problem.

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 home owners 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.

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

PRC*			United States**		Australia**		United Kingdom**		Canada**	
Rank	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

PI = price to income ratio.

* 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)).

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 volumes. 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 often 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.

C. 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 discrete 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 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. One prominent local government-

based real estate developer is the Shanghai Land Group, which was established on the Shanghai Municipal Land Reserve Center in 2002 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 with little or no effect. Take the 90-70 policy as an example. As can 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 land transaction taxes and fees. Such an eagerness for revenue did not come from nowhere. Since the 1994 tax reforms, local governments receive specified portions of government tax revenue and operate on budgets based on such revenue. In 1998, bank reforms detached local governments to 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 and 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.

Local governments can increase local financial income through land and housing development (including land allocation fee, 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, a goal that local officials care most about (Table 3).

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

Rank	Province	Land Transfer as a Percentage of GDP	Province	Land Transfer as a Percentage of 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	Yunan	25.66
25	Hebei	2.00	Shanghai	24.03
26	Henan	1.64	Beijing	17.47
27	Shanxi	1.23	Inner Mongolia	16.75
28	Inner 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 taken 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 by 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 high-end 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 make building affordable housing projects among their highest priorities. To some extent, the central government tolerates local governments collecting lump-sum land leasing fees, as a way to compensate them for the required financial resources in order to implement local infrastructure construction.

D. Inequity

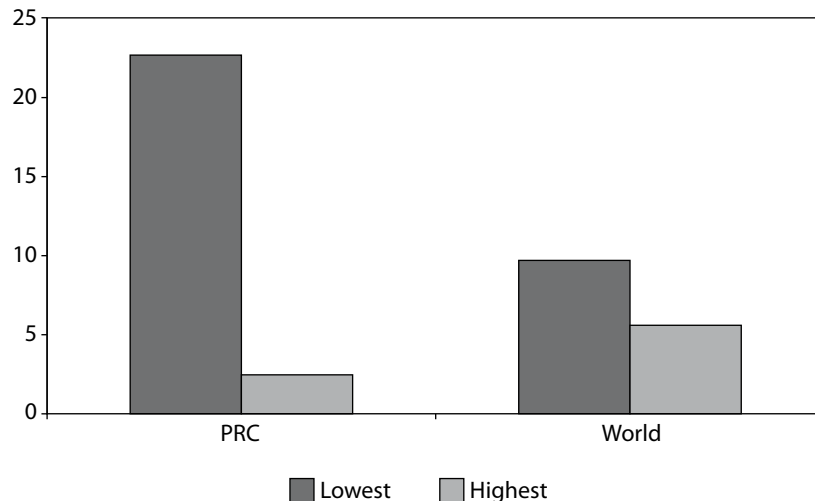
Housing reforms in the PRC have made substantial progress in the area of privatization, effectively increasing living space and relieving governments of the heavy housing financial burden. Although the housing shortage has been partially addressed through the privatization process, the income gap between the rich and the poor has expanded among urban residents (Zhao and Bourassa 2003). According to the *National Statistics Yearbooks* (NBSC 2009, MLF 2007), citizens in the biggest cities in the PRC often find the ratio between housing price and their household annual income at around 20. This ratio is significantly higher than the recommended range of 2–5 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.

In particular, in most major cities in the PRC, the ratios between the average housing price and the lower- to middle-income households are much higher than those in developed countries. In 2005, the average housing price was 22.69 times of 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). Compared to the global average ratios, these two values for middle/low-income and high-income households are 9.7 and 5.6, respectively. Furthermore, in recent years, it has been 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 (Jin 2006). Without proper housing policies to meet the need for affordable housing, the skyrocketing housing prices may deteriorate 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-conditioned residences for fear of not being able to afford new housing even with government compensation. Some extreme cases 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 for a long time. Developers paid extra compensation to satisfy moving-out residents in some cases, while other incidents led to violent confrontations (Xiao and Yang 2008).

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).

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 high-level (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 system structure does not correlate well with the PRC's income distribution: on one side, high-income families own much more than needed housing units at costs acceptable given their income levels; on the other hand, majority of the population cannot afford the housing units available in the market and have to rely on the affordable housing system, whose original purpose is only to supplement the housing market and which comprises only a small portion of the housing supply.

E. 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 stand alongside 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. 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. After the central government realized such defects in the land allocation system, new regulations were promulgated in 2002 ruling all new land allocations for residential/industrial/business uses to go thorough 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-scene land-versus-right exchanges. However, the nominal land use fee that real estate developers have to pay remains high. 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%.

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). 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 mediate 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 in the right direction. Currently, the property tax revenue collected by the local governments is just a trivial part of their total income. Take Beijing and Shanghai as examples: in financial years 2001–2004, the property tax revenue was only 10–15% of the municipalities' total revenues (Deng 2006). On the other hand, 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. 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 housing transaction tax with property tax could slow down housing price increases, prevent overheating speculation, and stabilize the housing market in the PRC (He 2008).

V. The PRC's Housing Boom and the Global Financial Crisis

A. The PRC's Housing Policy Dilemma under the Current Financial Crisis

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 by real estate developers have been a major funding source for local governments. Such revenue has been used for 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 financial crisis, 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.

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. Since 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 has 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 stamp have been exempted since 1 November 2008. Mortgage criteria for buyers of a second property requiring mortgage lending were loosened. The holding requirement for residential housing sales tax free term was reduced from 5 years to 2 years beginning 1 January 2009. The local real estate tax was temporarily removed as well. In May 2009, the case reserve requirement 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 has also found its 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.

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. 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 long-term negative price movement since December 2008.

Figure 5: Average Housing Sales Price Trend in 70 Major Cities in the PRC (month-to-month changes)

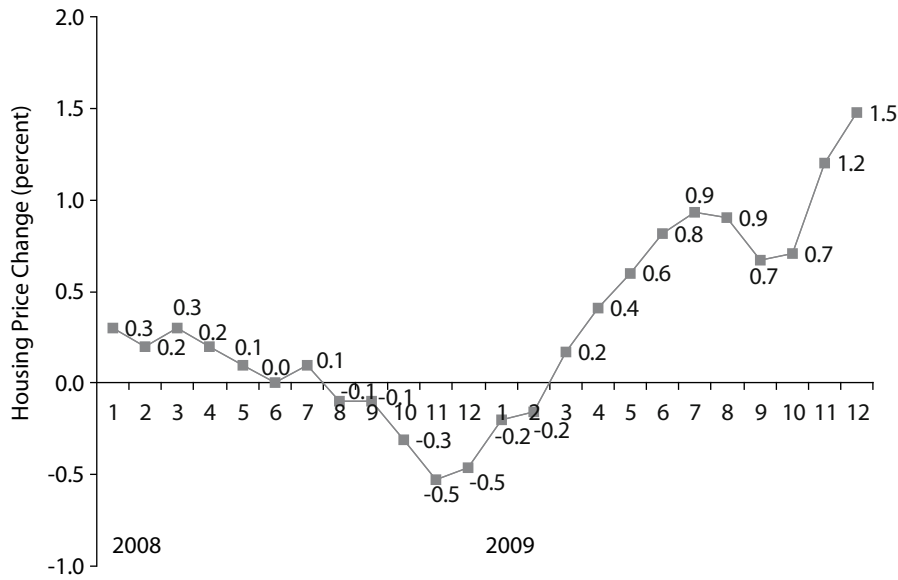
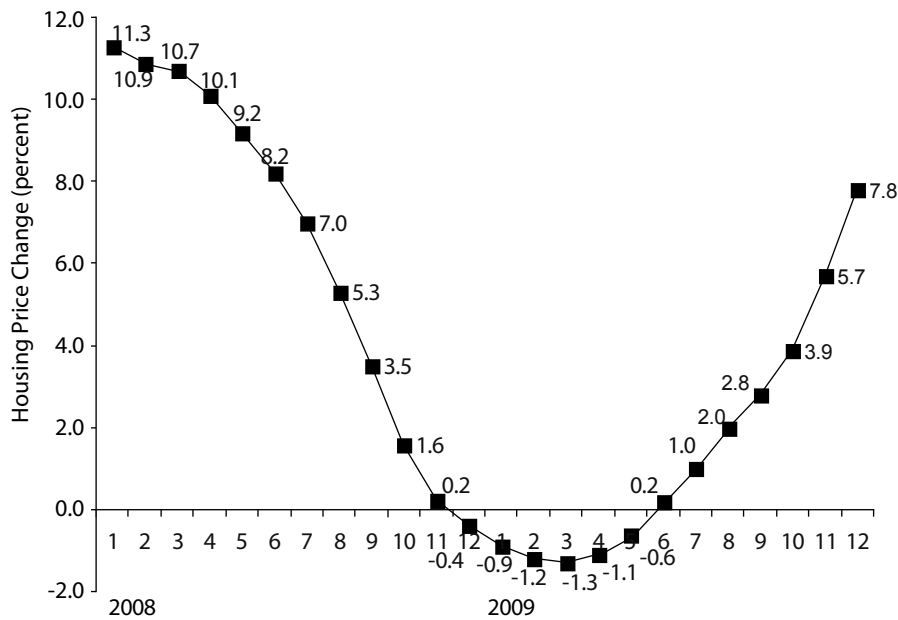


Figure 6: Housing Prices in 70 Chinese Cities (year-to-year changes: comparing the price in month x of 2009 with the same month in 2008)



Source: National Bureau of Statistics of China.

The NBSC recently announced that from January to June 2009, the units sold nationwide reached 341.09 million m², an increase of 31.7% from the previous year, while total sales reached 1.58 trillion yuan, a 53% increase. Meanwhile, GDP grew only 7.1% while the income of urban residents grew 11.2%, both of which are far behind the increase in housing prices. According to the NBSC, investment in real-estate development, one of the main forms of private investment in the PRC, rose 17.8% to 3.13 trillion yuan (\$458.5 billion) in the January–November period from a year earlier in 2009. Newly started real estate construction surged 15.8% in the January–November period to 976 million m² from a year earlier. Nationwide property sales in January–November totaled 752 million m², up 53% from the earlier year. The PRC central bank also reported that new home mortgage loans quadrupled in the first nine months of 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, newer policies were announced again to tighten loans 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 financial crisis backdrop. During the current round of housing boom in the PRC, the price hike was at least partially due to one 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, China 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 the least, financial leverage also came into play. On 12 January 2010, the People's Bank of China, the central bank, announced that it will raise the deposit reserve requirement ratio 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. Some local branches have suspended loans to prepare for newer policy changes, and everyone knows that cheap credit will be history soon, which means developers will not be able to refinance their loans; consumers will no longer take out mortgages as easily; local banks' property portfolios will sour; and industrial companies that relied on real estate for a chunk of profits will suffer. A quick policy summary is in Table 4.

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

Date Effective	Government Agency	Policy
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 5 years from 2 years set the previous year.
2009-11-18	Ministry of Finance, Ministry of Land and Resources, People's Bank (Central Bank), Ministry of Supervision, National Audit Office	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 is 20%; minimal cash reserve for other real estate projects is 30%.
2009-01-01	Ministry of Finance and State Administration of Taxation	From 1 January to 31 December 2009: No sales income tax for sales of residential units owned for more than two years; sales income tax was based only on the difference between sales price and original cost for residential units owned for less than 2 years and luxury houses owned for more than 2 years; sales income tax was based on wholesale amount for luxury houses owned for less than 2 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 reduced to 20%; the lower limit for personal mortgage loan interest rate was loosened to 0.7 times of basic interest rate.

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 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.

B. Housing Prices and Efforts to Stimulate Private Consumption

Economic growth in the PRC used to heavily rely on export. Such an unbalanced economic structure has been severely challenged in the current crisis. As shown in Table 5, the NBSC announced on 2 February 2010 that during 2009, the export sector accounted for –44.8% of economic growth and slowed down GDP growth by 3.9%. 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 5: Sector Contributions to Economic Growth and GDP Growth, 2009 (percent)

	Economic Growth Contribution	GDP Growth Contribution
Investment	92.3	8.0
Domestic Consumption	52.5	4.6
Export	–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 been actually negatively affected during the same time period. High housing prices obviously squeeze out other consumption while significantly changing customer behavior, and becoming a major obstacle to increasing consumption. This is because most home buyers have to restrain their consumption in other areas to save money for their loan and mortgage payments. The average annual income of the PRC's urban employees was 14638 yuan as of the first half of 2009. Even though such figure has increased 1674 yuan (or 12.9%) from the same period in 2008, according to a poll conducted by the People's Bank of China, urban residents feel that their actual income, when compared to commodity prices, has fallen to its lowest level since 1999. The biggest concern from consumers is the ever-increasing housing prices in the country. According to this poll, which was conducted in 50 cities and was announced on 12 June 2009, over 60% of residents feel that the current housing prices are beyond their affordability, while 47% choose “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. The NBSC first announced such concern on its official website on 4 August 2009. 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 is one of the biggest obstacles to an increase in consumption.

C. 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 unbalanced economic 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 demands. 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 is 26.86 million m², an increase of 89% from the last year. Among the bidders many are even 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 go 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 in this wave. Therefore, although real estate's liquidity is not that high, it is comparatively safe to maintain the value of money. No doubt 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 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.

D. 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 the global financial crisis. Among them, however, the decisive trigger is the unexpected downturn of the United States (US) housing market (Mizen 2008). In the US, 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 US housing market higher. From 2001 to 2007 the US 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) were 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 US housing market continued to climb. However, when the housing prices started to drop between 2006 to 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 6, 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 last 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 7, around 50% of new bank loans in the PRC every year went to mortgage residential housing loans. In comparison, financial institutions in the US saw only around 20% loan exposure to mortgage residential housing loans in the 1980s. Such 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 US housing market drop, a devastating financial crisis in the PRC looms if the PRC banks stop to function effectively in such a situation.

Table 6: Bank Loans as a Percentage of Real Estate Investment Funding Sources

Year	Bank Loans (100 million yuan)	Total Investment Fund (100 million 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 publicized 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: 2000-2008 data from *China Year Book 2009* (NBSC 2009); 2009 data from *China Monthly Macro-Economics Statistics*.

Table 7: Percentage of Personal Mortgage Loans in New Loans

	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.

Another threat to economic security is from foreign investment speculation. The central government recognized the problem and has attempted to restrict foreign organizations from purchasing multiple properties since 2006. However, such rule failed to limit foreign investors from infusing huge sums of money into the PRC's real estate market. As a consequence of the financial crisis, foreign funds were withdrawn from the PRC in 2008, which temporarily pushed the real estate market lower.

VI. 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 developing stages, lessons from the PRC can be helpful for the rest of Asia to recognize their own problems.

The PRC central government is facing two major tasks in the housing sector: on one hand, sustaining real estate market development to help secure long-term stable economic development, as benchmarked by increases in annual GDP; on the other hand, making 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. Therefore there will be no sufficient affordable housing supply under the current circumstances.

A. 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. Therefore, it can be assumed that the central government tolerated lower-level governments that exploited the land leasing fee as a convenient way of generating quick revenue. However, cities have limitations and limited land reserves, and selling land use rights cannot provide sustainable support for future development. Moreover, the reliance of local governments on land leasing fees resulted in increasing housing prices, threatening the economic and political stability of the whole PRC society. Therefore, it is time for the PRC to think beyond administrative controls, which have proven to be inadequate such as the "90-70" policy, but to focus on more economic and financial methods.

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 installment of land rents plus property tax. Additional policy mechanisms are needed to curb excessive speculative investment activities in the housing markets. With excessive speculation in the housing markets, converting land transfer fees to annualized installments may not be sufficient to stabilize the housing market. Currently, the central government, through local authorities, sells the right of land development to real estate developers, which in turn construct housing projects and sell the "using rights" of the units to consumers. Yet it is not clear what the government will do after the preset 40–70 years (Walker and Li 1994) before the using right of the land/housing expires. Such land acquisition cost of land transfer fee, which contributes significantly to housing development cost, is readily passed by developers 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). With housing prices continuing to increase due to speculative pressure, developers will be the major beneficiary from the reduced development cost. Therefore, financial instruments, such as a capital gains tax, should be introduced to reduce incentives for holding extra housing possessions solely for appreciation speculation. One possible policy is to introduce high property taxes for nonprimary lodging real estate. 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 not in place after decades of discussion.

On the other hand, with the one-time land transfer fee instead of annual land and property tax installments, 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, a possible answer to the current situation is to introduce a mature property tax system instead of solely replaying the current one-time land transfer fee. 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 a long time to come. In addition, those speculators who stockpiled housing resources will have to pay high property taxes every year, which may in turn force them to release much of their land and other resources into development of affordable housing. This is therefore a three-way win situation for the government, the developers, and the home buyers.

Infrastructure construction requires huge down payments in the initial stage, and the PRC has been picking up rapidly in sectors such as transportation and communication in recent years to meet its needs of an increasingly modernized economy. Meanwhile, since it takes a long time to establish a mature public financial system to accumulate the necessary funding, exploiting the land leasing fee indeed serves as an efficient shortcut during the current transition. However, 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 sustainable over the long run and should be replaced by more consistent funding options.

B. 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. With changes in the leasehold payment methods combined with additional financial instruments, the housing markets may be stabilized to allow long-term sustainable economic and social development in the PRC.

More financial tools should be utilized to encourage the involvement of real estate developers in affordable housing projects. Strict and rigid administrative rules such as the “90-70” policy described previously cannot efficiently encourage developers to focus on affordable housing projects. Even without official announcement, local governments had already started to carry out such a policy in their own way. It is a pity to notice that the PRC still lacks sufficient 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-price housing projects, like the “90-70” model. Imposing the requirement on financial institutions to provide low- to no-interest loans to help developers build low-price housing projects is another example of a successful policy.

Financial options can be used to curb speculative purchases in the housing market as well. The leasing market is not standardized yet. If tax reduction or exemption, such as personal income tax, can be applied only to qualified leasers, the culture influence and peer pressure of owning a house at a young age can be counteracted in some sense. Meanwhile, the real estate transaction tax can discourage people from speculative purchases and sales. Progressive tax rates based on the total size of the house can be levied to transfer money from high-end luxury owners. Currently, the PRC officials have realized the importance of employing financial measures and try to restrict the loan amount and interest rate when people purchase more than one property.

C. 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. The ownership of 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 all 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, 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 anytime.

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, 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 lands. New “land kings” (land lot with the highest per square meter price) appeared on news headlines repetitively, 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.

D. Government Provision of Public Housing

Profit-seeking can motivate developers to develop high-end luxury housing. It is a pity the needs of middle- and low-income classes have not been addressed sufficiently, a task that should be taken up by the public sector. With the majority of residents forced into the commercial housing market, the housing supply 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, China’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, China have been quite successful.

The public housing scheme in Hong Kong, China is focused on public rental units. The housing authority manages about 710,000 public rental flats, which houses about half of the population (Lee 2006). The authority set 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 central provident fund and provision of government subsidies and loans to home buyers. In particular, the HDB is a public-funded developer that operates on 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, China (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 can be established.

VII. Conclusion

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 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 high-end expensive housing projects. In addition, the government should consider following Singapore and Hong Kong, China's examples of providing 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 therefore 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 rational consumers, 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. Premier Wen has expressed his determination in various occasions to regulate housing prices in the PRC. Through all this, we are witnessing a historical moment in the PRC that is geared toward its long-term sustainable economic growth.

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About the Paper

Lu Gao reviews the People's Republic of China's (PRC) housing reform measures and their impacts since 1978. While the housing reforms dramatically alleviated the housing shortage in the PRC, there are many problems that have led to concerns about housing affordability and sustainability of economic growth in the country, especially within the context of the current global financial crisis. Based on the analysis of the major causes of these problems in the PRC's housing reforms, this paper presents housing policy recommendations to support long-term economic growth sustainability and political stability.

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