The Shanghai housing and mortgage markets: a preliminary assessment

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Abstract

Since the late 1990s, the Chinese urban housing system has been transformed by one dominated by welfare-orientated housing to one dominated by home ownership. Whilst owner-occupation was boosted by the sale of welfare housing to tenants, China’s residential mortgage market has experienced tremendous growth and it has become the primary funding source for urban residents’ home purchases. But the market in residential property has also become volatile. The Government (State Council and central bank) have become concerned about both the social issue of housing affordability and the economic consequences of a property crash. Consequently, the authorities have taken active measures to manage the housing cycle. One of the key interventions is the regulation of the availability of mortgage finance. Yet how the development of home mortgage business is related to the boom in China’s real estate market has not received much empirical examination. This paper utilizes the most recent data in Shanghai to examine this relationship. In this paper the impact of mortgage loans on the evolution of real estate markets will be studied through both documental review and statistical analysis. Particular attention will be paid to how the market functioned during 2008 to 2009, when the global financial crisis hit, and how the availability of mortgage credit played a significant role in the quick recovery of the Shanghai real estate market in 2009. This paper presents some preliminary findings from on-going work.

Introduction. The Shanghai housing and mortgage markets

Some Fast Facts

- Housing prices in Shanghai declined by 2% in 2008 but soared to a record rate of 52% in 2009.
- In the first decade of the 21st century, increases in housing prices in Shanghai exceeded the rise in income by around 130% (housing prices grew by 270% vs. income which grew by 146%).
- In the first decade of the 21st century, the value of home mortgage loans in Shanghai increased by 10 times.
- In 2009, banks lent 200 billion RMB in new mortgage loans to home buyers in Shanghai, recording a phenomenal increase of 250% from levels in 2008.
- Since 1998, real estate investment has contributed to over 10% of Shanghai’s GDP and the added value from real estate industry currently comprises around 5% of Shanghai’s GDP.
Since the onset of the credit crunch and subsequent global financial crisis, the relationship between mortgage credit and real estate price dynamics once again attracted extensive attention (Coleman, et al., 2008; Duca et al., 2009). It is still unclear what emerging economies, such as China, can learn from mortgage markets in developed countries. Sustained growth in China’s house prices has coincided with a surge in mortgage lending. As a result, the possibility of a reinforcing relationship between mortgage lending and house prices has received increasing attention.

Notably in the last few years there are persistent controversies in China regarding whether a rapidly growing speculative bubble is emerging in the real estate market.¹ The residential sector constitutes the biggest segment of China’s real estate industry. Statistical data suggests that residential real estate prices have soared with a double-digit annual growth rate in nearly all major Chinese cities for almost an entire decade, while urban residents’ average incomes are increasing at a much slower rate. Housing affordability issues in urban China have become a top priority in the government’s political agenda (Chen et al., 2010). Given China’s growing role in the global economy, the topic has also received worldwide attention.²

The Chinese government has intervened since the creation of a residential property market from the late 1990s in an attempt to manage the property cycle: to stimulate it in downturns and to cool it when it appears in danger of overheating. Amid fears of a devastating real estate crash, in early January 2010 the State Council (China’s cabinet) attempted to cool the real estate market by instructing banks that the down-payment ratio for second home mortgages should be no less than 40% (GOSC, 2010a)³. Nonetheless, this policy appeared to have little impact on the market since property prices continued to increase at a furious pace. Under great pressure from society and to maintain economic stability, in early April 2010 the State Council issued a new series of radical policy measures to curb speculation in the property market. A central element of this policy package was to raise the down payment ratio for people buying their second homes from a minimum of 40 percent to at least 50 percent (GOSC, 2010b). Moreover, in areas with soaring property prices, the government intervened to limit mortgage credit being used to finance speculative property acquisition. It instructed banks to reject mortgage loan applications from people buying their third houses and also to cease to issue mortgages to those who cannot prove they have lived and paid taxes for at least one year in the city where the property is sought. Based on these observations, it would be easy for policymakers to blame the growth in mortgage finance for the surge in property prices. However, the problem is, there is little known about how much the availability of mortgage credit affects house price inflation in China.

Existing literature has analyzed a set of institutional and economic factors that may contribute to the escalating dynamics of Chinese property prices during the last decade, including: a sustained economic boom, limited land availability, stringent land control, increasing urbanization, massive infrastructure projects that have increased the value of land, local governments’ heavy fiscal dependence on land sales, investment from abroad, price speculation, and household investment demands on assets (Eddie and Shen, 2006; Chen et al., 2010). There are also studies that shed light on the operation of the home mortgage business in China, for instance, the risk factors of loan default, the personal characteristics of the users and the possibility of securitization of mortgages (Deng et al. 2005; Li and Yi, 2007). Until now, research on the relationship between real estate dynamics and

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¹China Daily, “China Real Estate Time Bomb Ticking”, April 19, 2010; Financial Times “China acts to prevent bubble in property market”, April 16, 2010
³This order in effect rescinded the policy announced in late 2008 that second-home mortgage applicants could get preferential terms and rates as first-home buyers as long as they could prove their home purchase was to upgrade their living conditions (GOSC, 2008). Interestingly, the policy enacted in 2008 was delivered with the clear purpose of stimulating the depressed level of housing demand at a time of global financial turmoil.
mortgage supply in China is limited, partly because there is little data available regarding the Chinese mortgage market.

Using data on the real estate market and home finance in Shanghai, the biggest city and industrial hub of China, this paper makes a preliminary analysis of how the development of the real estate market and home finance shows a correlation over the past decade and the focus is their association during the period of global financial turmoil. The long-run trend and policy suggestions thereof are also discussed. The rest of the paper is organized as follows. The next section reviews the existing literature. Section 3 introduces the background of the Shanghai real estate market and home finance business. Section 4 discusses the correlation of the two sectors during the global financial crisis. Section 5 concludes this paper.

**Literature Review**

Although theoretical and empirical studies of house price dynamics typically emphasize the importance of income and interest rates, there is little evidence that house prices can be explained by fluctuations in these two variables alone. For example, Muellbauer and Murphy (1997) stress that credit constraints are as relevant to the home price function as income, so too are the housing stock and the real user cost of housing. Further, using the ratio of home price-to-rent approach to model home prices, Kim (2007) shows theoretically that down-payment constraints can significantly affect home prices.

Empirically, the coincidence of cycles in bank credit and property prices has been widely documented in policy-oriented literature (e.g. IMF, 2000; BIS, 2001). Thus, the inclusion of a measure of mortgage credit as a fundamental determinant of fluctuations in house prices has become a common approach in international studies. For example, Egert and Mihaljek (2007) include credit growth as a potential determinant of house prices alongside the typical fundamentals to explain the differences in housing price dynamics between central and eastern European and OECD countries. When a specific measure of credit growth is used, namely the growth rate of home loans, the statistical relationship between house price appreciation and credit growth is positive and highly significant for all countries, in both developing countries and OECD members.

Tsatsaronis and Zhu’s (2004) examination on the importance of mortgage credit for house price fluctuations in 17 countries, finds that fundamentals relating to mortgage finance, including bank credit and real interest rates, could explain approximately one-third of the long-run variations in house prices. Gerlach and Peng (2005) suggest that there exists a long-term relationship between house prices, bank credit and GDP in Hong Kong. In the short run, they believe that the relationship is one-way; a change in house price causes changes in bank credit. Collyns and Senhadji (2002) find that credit growth has a significant contemporaneous effect on residential property prices in a number of Asian economies. Using the U.S. national data, McGibany and Nourzad (2004) find mortgage credit affects the demand for houses through the transmission mechanism of interest rates. Their results show a significant negative relationship between house prices and mortgage interest rates in the long run; however, when income and new home sales are included, the relationship is not significant in the short run.

However, Berlinghieri (2008) used inflation-adjusted U.S. national data and found that house price growth responds immediately to a change in mortgage credit and mortgage credit responds contemporaneously to the change in house prices, suggesting the relationship is bi-directional. It was also found that the response of mortgage credit growth to a change in house price lasts approximately four quarters. In addition, there is evidence that the relationship is reinforcing in the short run. These findings of a two-way relationship between mortgage credit and house prices in the U.S. parallels what Fitzpatrick and McQuinn (2007) suggested for the property market in Ireland.
In summary, the existing literature indicates that housing prices and mortgage credit are linked in the long run. In addition, there is also some evidence of a short-run relationship between housing price changes and credit growth, although the direction of the relationship is still not completely clear. However, the lack of good-quality data on mortgage availability and housing dynamics at regional levels raises concerns that previous regression models of home price and credit models may suffer from omitted variable bias.

**Background**

*The real estate market in Shanghai*

Shanghai is probably the most famous city in mainland China, and its profile has been raised still further through the recent Expo 2010. Shanghai is a municipality with a similar status to a province. The municipality has a population of more than 23 million people, approaching 40 per cent of whom are migrants from other parts of China. For more than 150 years, Shanghai has been the most prosperous city in mainland China. In 2009, Shanghai’s GDP comprised 4.4% of the national total even though it only accounts for 1.42% of the population of mainland China. Although Shanghai has been a magnet for people seeking opportunities from all over China for more than one century, over the last decade it has become increasingly difficult for newcomers to purchase a home within the municipality. The characteristics defined by Gyourko et al. (2006) for “superstar cities” are clearly visible in Shanghai. These include high mean but unequally distributed incomes, and in the housing market high and escalating price-to-income ratios and price-to-rent ratios.

Before 1978, residential dwellings were considered to be welfare goods and not commodities in urban China. The clear majority of urban residents lived under the welfare housing regime in which the government produced and allocated public dwellings at very low costs. However, this housing system was unsustainable in economic terms as it depended so heavily on state funding (Zhang, 2000). Under the welfare housing system, like all other major cities in China, investment in residential dwellings was scarce in Shanghai: between 1952 and 1977 housing investment accounted for only 5.8% of total fixed investment and 0.38% of GDP (cf. Figure 1). In accordance with inadequacies in housing investment, the annual average of newly completed residential construction space in Shanghai was only 0.61 million square meters or 0.06 square meters per inhabitant over this period (cf. Figure 2). Consequently, the basic housing conditions of urban residents in Shanghai experienced little improvement during this period: the living space floor per capita was only 4.5 square meters in 1977, a minimal increase when compared to 3.4 square meters in 1952 (cf. Figure 3).

Under pressure from both housing shortages and budgetary burdens, China initiated a market-oriented housing reform in 1978. In the 1980s, there was a small-scale but concentrated program of selling off public housing. Since the 1990s, a huge wave of privatization in public housing swept across urban China. Revenue from households and enterprises injected new funding into the housing sector (Zhang, 2006). The enthusiasm for housing construction in Shanghai was astonishing after the reform: between 1978 and 1997, housing investment contributed to 18.72% of total fixed investment and 7.15% of GDP (cf. Figure 1), the annual average of newly completed residential construction space soared by 20 fold to 14.3 million square meters or 1.12 square meters per inhabitant (cf. Figure 2), and the living space per capita doubled within 20 years (cf. Figure 3).

Alongside reforms in urban land and the housing sector, the Chinese real estate industry emerged in the early 1980s and most industrial and commercial office properties have been supplied through the market since then (Zhang, 2006). Commodity housing built for sale appeared in Shanghai in the late 1980s but most of them were sold to either overseas Chinese or domestic firms and institutions. It was

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4For a similar period, the world average of housing investment as a percentage of total fixed investment and GDP was 20% and 6%, respectively (World Bank, 1993).
still very rare for Shanghai households to purchase homes from the market. Nonetheless, the share of newly constructed housing accounted for by commodity housing rose steadily from 8.1% in 1992 to 54% in 1997. Moreover, in 1997, 72.9% of investment on residential housing was bought with intent to sell.\(^5\)

Nonetheless, until 1998 the traditional welfare housing regime continued to prevail in the Chinese urban housing sector and most employees in SOE (State-Owned Enterprises) and government agencies still received housing with only nominal rents from their employers (Zhao and Bourassa, 2003). Consequently, real estate developers had little incentive to build residential housing as the market was small and the returns were low. The shortage of residential dwellings remained an acute issue in Shanghai and the improvement of urban residents’ living conditions lagged behind achievements in economic and income growth.\(^6\)

In the summer of 1998, as a key measure to counter the negative effects of the 1997 Asian financial crisis on economic growth in mainland China, the welfare housing regime was formally terminated (GOSC, 1998). Through a series of policy reforms (Zhang, 2006), the most significant of which included the prohibition of building by SOEs, the residential real estate industry was completely liberalized in the years following 1998. It quickly became one of most profitable businesses in China and funding poured into promising markets across China at a dazzling rate.

Indisputably, with its massive population, top-ranked prosperity and well-developed legal system, Shanghai has always been the number one hotspot for property investors searching for an opportunity in China. By 2003, the majority of new residential dwellings were supplied through the market and the segment of welfare housing constituted only a small margin in Shanghai: less than 7% of new construction space and less than 3% of investment (cf. Figure 2). The construction rate of new housing in Shanghai increased considerably: from 1998 to 2009, investment in housing constituted 22.98% of total fixed investment and 9.33% of GDP (cf. Figure 1), the average annual output of residential dwellings was 22.6 million square meters or 1.34 square meters per inhabitant (cf. Figure 2), and the living space per capita doubled within twelve years and rose to 17.2 square meters by the end of 2009 (cf. Figure 3).

By winding down the welfare housing system, the 1998 reform paved the way for the development of a free-wheeling, market-oriented real estate market. As a consequence of these reforms, the vast majority of welfare housing was sold to tenants at low prices, tradable property rights were widely established and a regulated mortgage market was created\(^7\) (Stephens, 2010). However, as home purchasing was still a novelty to most urban residents, a real estate boom did not occur in Shanghai immediately after the reform. Instead, there was only a moderate expansion of trade volume and changes in real estate prices were stagnant between 1998 and 1999, lagging behind income growth (cf. Figure 4-6). The Shanghai municipal government had to try hard to stimulate enthusiasm for home purchases by employing a variety of favourable policies, including tax breaks and granting migrant homebuyers permanent Shanghai household status or **Houkou** (Chen, 2009).\(^8\)

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\(^5\)Until 2000, the commodity housing market in Shanghai was operated through a two-track system that were isolated from each other: one was high-standard dwellings targeted at overseas Chinese and the other was ordinary dwellings reserved for only domestic buyers. Among the latter group, prior to the 1998 reform the majority of buyers were institutions and firms and individual buyers comprised only a small part but it grew from 5.6% in 1988 to 46.3% in 1996 (Chen and Hao, 2006). The two tracks of the commodity housing market merged in 2001.

\(^6\)Between 1979 and 1997, the average annual salary of a worker in Shanghai achieved a three-fold increase (after taking inflation into account) (784 RMB in 1979 vs. 11425 RMB in 1997).

\(^7\)The terms on which mortgages are available are subject to regulation. These cover the interest rate, maximum loan-to-value ratio, maximum payment-to-income ratio, and maximum term of the mortgage.

\(^8\)This policy was removed in Shanghai in 2002. It has been applied elsewhere, e.g. Tianjng in the early 21\(^{st}\) century.
The residential market showed a considerable growth in 2000 as both prices and trading volume grew at a steady pace, but it was not until 2002 that a turning point for the Shanghai real estate market was reached. The growth is mostly attributable to foreign direct investment arising from China’s accession to the World Trade Organisation in 2001 and to general economic growth, rather than to specific measures aimed at stimulating the housing market. Between 2002 and spring 2005, the market could be described as booming. The trade value of first-hand residential property experienced a steep increase of 50% in 2003 and continued to soar to 86% in 2004 (cf. Figure 5). Based on official data, the mean prices of first-hand residential property grew 19% in 2003 and 28% in 2004, much faster than income growth for the same period (cf. Figure 6). But according to CREI (China Real Estate Institute), the average price of residential property in the downtown area of Shanghai doubled between May 2002 and May 2005 (cf. Figure 7).

The skyrocketing real estate prices in Shanghai and other major cities in China appeared to be out of control in early 2005. This imposed a severe threat to the financial stability and growth potential of the Chinese economy. The State Council, issued a series of policies aimed at cooling down the apparently over-heated real estate market. On the 26th of March 2005, the GOSC (General Office of the State Council) circulated a notification to all government agencies and expressed their concerns about property speculation and for the first time prioritised the stability of real estate prices above the development of the real estate industry (GOSC, 2005a). This document was usually referred to as the so-called ‘lao guo ba tiao’ (old State Council’s eight points). On April 27 2005, the standing committee of the State Council (SCSC) announced the so-called ‘xin guo ba tiao’ (new State Council’s eight points) to reinforce the government’s bid to crack down on property speculation (Xinhua News, 2005-4-27). On the 9th of May 2005, by approving and circulating the real estate market regulation policies suggested by seven ministries including the Ministry of Construction (MoC) and the People’s Bank of China (PBC), GOSC stressed again the importance of curbing the rise in housing prices (GOSC, 2005b). During this process, the PBC increased interest rates twice and tightened rules regarding down payments and mortgage terms. Further, since the 1st of June 2005 a transaction tax was imposed at the effective rate of 5.5% of the gross resale price for sellers who have owned the property being sold for less than two years.

After this series of regulatory changes the Shanghai real estate market was quickly cooled and the escalating price growth was brought to a sharp halt in the spring of 2005. Between May 2005 and July 2007, mean residential property prices decreased consecutively for eight months with an accumulated fall of 13% and took 17 months to return back the original levels (cf. Figure 7). The trading space and selling value of first-hand housing also dropped in 2005, for the first time since 1998. The counter-cyclical measures taken do appear have played a major role in slowing down the housing market as the general economy was performing well at the time.

Despite the government’s various attempts to stabilize the market, an unprecedented real estate boom unexpectedly hit Shanghai and most other major cities in the second half of 2007. Between August and December of 2007, property prices in Shanghai surged at an astounding speed, growing at least 5% higher than in previous months. According to official data, the trading value of first-hand residential property in 2007 increased 47% from the previous year, while the trading space expanded only 25%. Thus, the mean price grew by 17% in 2007. However, the CREI data suggests that, at the end of 2007, the mean residential property price in the downtown area of Shanghai was 40% higher than one year previously (cf. Figure 7). It is worth noting that, in 2007 the aggregate economic and financial conditions in Shanghai and other major cities in mainland China did not have any substantial changes relative to the previous few years and thus the real estate boom was a real surprise to all

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9 On March 17 2005, PBC lifted the preferential treatment for mortgage interest rates for the first time since 1999 and unified it with the benchmark long-term loan interest rate: for mortgages older than 5 years, the rate increased from 5.31% to 6.12%. But at the same time PBC allowed commercial banks to give borrowers a maximum discounted rate of 10% of the benchmark rate. The minimum ratio of down payments was also increased from 20% to 30% in cities with rapidly growth of property prices.
market participants.\textsuperscript{10} Even now the unexpected 2007 real estate boom remains a mystery to industry observers and researchers.

The State Council did not intervene directly this time but once again the People’s Bank of China acted as a safeguard. Spiralling prices finally spurred new rigid rules on lending. On the 27th of September 2007, PBC again tightened the terms for mortgages: requiring a minimum down payment ratio of 40\% and setting the mortgage interest rate to 1.1 times the benchmark loan rate (PBC, 2007a).\textsuperscript{11} As it was for the first time the term “the number of loans by borrowers” was used, commercial banks were confused as to whether this meant loans per household or loans per individual.\textsuperscript{12} On the 5th of December 2007, PBC issued a supplementary directive clarifying that the number of loans to a borrower shall be determined on the basis of loans made by the borrower’s family (including the borrower, his/her spouse and his/her underage children) (PBC, 2007b).

After this announcement, commercial banks began to seriously reduce lending for home mortgages. At the same time, the Chinese government started to rigidly control bank loans to real estate developers. Further, to curb the threat of economic over-heating and inflation, the Central Economic Work Conference held in December 2007 decided to shift from a “prudent” monetary policy, enforced for nearly a decade, to a “tighter” policy. The monetary authority even checked the amount banks could lend with monthly quota limitations.\textsuperscript{13}

The property market in Shanghai and other major cities rapidly lost vigour in early 2008. In retrospect, it was very fortunate that the Chinese government happened to cool down the property market before the onset of the global financial crisis in 2008. Otherwise the market might have experienced a collapse with a more much more devastating impact on the Chinese economy. Even so, the Shanghai property market did encounter a severe crash during the second half of 2008 and in early 2009. The trading space as well as the trading value of first-hand property over the whole of 2008 plummeted 40\% compared to 2007, but although transactions fell, the fall in the mean price was negligible at less than 1\% (cf. Figure 4-6).

In summary, the real estate market in Shanghai had experienced large swings before 2008, with at least two booms and two slumps in the market. On the other hand, the real estate industry played a significant role in Shanghai’s economy. Between 1978 and 1998, the added value from the real estate industry contributed only 1.2\% to Shanghai’s GDP but between 1999 and 2007, the contribution dramatically rose to 6.8\%. Further, a large chain of industries are closely associated with the real estate industry. Therefore, it is imperative to pursue a stable property market. But to do this, we need a good understanding of the causes of fluctuation in the Shanghai property market. Besides movements in fundamentals, changes in mortgage credit have been identified as a key driving force behind property cycles.

\textit{Housing stock and housing conditions in Shanghai}

The last three decades witnessed a massive wave of construction in Shanghai. At the end of 2008, the construction space for all housing in Shanghai was 810 million square meters, which was 10 times the level of 1978, 4 times that of 1990, and 2.5 times that of 2000.

Through the privatisation of welfare housing in the 1990s and the market-oriented development of the housing industry in the early 2000s, a large number of residents in Shanghai were able to purchase their own homes. Table 2 shows that, by 2008, the home-ownership rate had risen to more than 77 per

\textsuperscript{11}First-home buyers can get preference and are only required to pay 20\% of the down payment when buying homes smaller than 90 square meters; otherwise they need to pay at least a 30\% down payment.
cent among Shanghai’s permanent residents, with these households split almost evenly between those who purchased welfare housing (and therefore enjoy very low housing costs) and those who purchased housing from the market. The data does not indicate the proportions of the latter group who had mortgages, but clearly those who did will have experienced much higher housing costs than those who benefited from privatisation. It is worth noting that from 2004 to 2008, the proportion of residents having become home-owners through privatisation fell by 5.1 percent, whilst the proportion having purchased housing from the market rose rapidly by more than 10 percent. By 2008 more residents had become home-owners through purchasing housing from the market than had had done so through privatisation. This suggests that the question of affordability is likely to become more acute as the home-ownership sector matures into one that is dominated by open-market housing (Chen et al. 2010).

Further, nearly half of all residential housing stock was previously public housing that was built before the 1998 reform and the construction quality of these dwellings is generally poor. For example, according to a recent survey conducted by the Shanghai municipal government, the average home size of public rental housing was only 42.65 square meters and the average size of privatised public housing was only marginally larger, at 53.94 square meters. Considering the two kinds of housing, for more than half of the 15 million permanent residents of Shanghai (cf. Table 2) the challenge to meet the demand for new housing among Shanghai local households is substantial.

In the first decade of the 21st century, increases in housing prices in Shanghai had exceeded the rise in income by 130%; housing prices grew by 270% vs. income which grew by 146%. A recent study carefully assesses the extent in which housing prices in Shanghai are excessive when compared to local income and the results are stunning: the average HIR (House price to Income Ratio) persistently exceeded 10:1, and at most 20% of local households can afford a standard apartment in Shanghai (Chen et al. 2010). In such markets, housing affordability has become a major social issue and the provision of affordable housing to low-and middle income households is admittedly one of biggest challenges faced by the Shanghai municipal government (GOSC, 2008).

Table 1. The Construction Space of Housing Stock in Shanghai (10,000 m²)

<table>
<thead>
<tr>
<th>Year</th>
<th>All Housing (10,000 m²)</th>
<th>Residential Housing (10,000 m²)</th>
<th>Residential share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>8653</td>
<td>4117</td>
<td>47.58%</td>
</tr>
<tr>
<td>1990</td>
<td>17256</td>
<td>8901</td>
<td>51.58%</td>
</tr>
<tr>
<td>1995</td>
<td>22094</td>
<td>11906</td>
<td>53.89%</td>
</tr>
<tr>
<td>2000</td>
<td>34206</td>
<td>20865</td>
<td>61.00%</td>
</tr>
<tr>
<td>2005</td>
<td>64198</td>
<td>37997</td>
<td>59.19%</td>
</tr>
<tr>
<td>2008</td>
<td>81121</td>
<td>47195</td>
<td>58.18%</td>
</tr>
</tbody>
</table>


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14 *Wenhui Daily*, “Care for the housing difficulties among the middle-income class” July 30, 2010.
Table 2. Housing Tenure in Shanghai (permanent residents) 2004-2008 (%)

<table>
<thead>
<tr>
<th>Tenure type</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rental</td>
<td>26.6</td>
<td>26.6</td>
<td>25.1</td>
<td>22.0</td>
<td>21.6</td>
</tr>
<tr>
<td>-- Public rental</td>
<td>25.9</td>
<td>25.5</td>
<td>23.8</td>
<td>20.4</td>
<td>17.4</td>
</tr>
<tr>
<td>-- Private rental</td>
<td>0.7</td>
<td>1.1</td>
<td>1.3</td>
<td>1.6</td>
<td>4.2</td>
</tr>
<tr>
<td>Home Ownership</td>
<td>72.9</td>
<td>73.3</td>
<td>74.1</td>
<td>77.6</td>
<td>77.6</td>
</tr>
<tr>
<td>-- Owned: inherited from pre-reform era</td>
<td>2.2</td>
<td>2.4</td>
<td>1.3</td>
<td>0.9</td>
<td>0.7</td>
</tr>
<tr>
<td>-- Owned: from public housing privatization</td>
<td>42.9</td>
<td>40.4</td>
<td>40.4</td>
<td>37.3</td>
<td>37.8</td>
</tr>
<tr>
<td>-- Owned: purchased from market</td>
<td>27.8</td>
<td>30.5</td>
<td>32.4</td>
<td>39.4</td>
<td>39.1</td>
</tr>
<tr>
<td>Other</td>
<td>0.5</td>
<td>0.1</td>
<td>0.8</td>
<td>0.4</td>
<td>0.8</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>


Figure 1. Housing Investment in Shanghai, 1952-2009

Note: HI-Housing Investment, TFI-Total Fixed Investment, GDP-Gross Domestic Product.
‘Mixité’: an urban and housing issue?

Figure 2. Newly Completed Housing in Shanghai, 1952-2009 (unit: 10,000 m²)


Figure 3. The Living Conditions of Shanghai residents, 1952-2009


Figure 4. The Selling Space of First-hand Real Estate in Shanghai, 1995-2009 (unit: 10,000 m²)

Figure 5. The Selling Value of First-hand Real Estate in Shanghai, 1995-2009 (unit: 0.1 billion RMB)


Figure 6. The Annual Growth of First-hand Residential Property Prices in Comparison with Income in Shanghai, 1995-2009 (%)


Figure 7. The ZF Monthly Real Estate Price Index for Shanghai, 1999.03-2010.04

Note: The ZF (ZhongFang) real estate price index is complied by CREI (China Real Estate Institute) and has been computed for the Shanghai property market since February 1995. It is currently well-recognized as a leading indicator in the China real estate market, although it is not quality-adjusted.
The residential mortgage business in Shanghai

The first residential mortgage in China was issued in 1986 (Chen, 2009), but until 1997 this business was tightly constrained by regulations and grew very slowly (PBC, 1995; 1997). It is only since the 1998 housing reform that the mortgage market has grown significantly. To provide the necessary financial preparation for the State Council’s plan on the abolition of the urban welfare housing system in the summer of 1998, the People’s Bank of China liberated the home mortgage business in April 1998 (PBC, 1998). Since 1998, in order to spur households’ housing demand and mobilize their home purchasing power, home mortgage loans have been promoted fervently by the banks to ordinary urban households and have quickly become the primary financing tool for Chinese households’ home purchases.

The growth of the Chinese mortgage business since 1997 has been truly spectacular. According to the People’s Bank of China, the outstanding balance of home mortgage has multiplied more than 250 times between 1997 and 2009, soaring from 19 billion RMB to 4,760 billion RMB. At the end of March 2010, home mortgage loans constituted 12.52% of all banking loan balances issued in RMB and its share in the long-term banking loan was 21%. On the other hand, home mortgages have become one of most lucrative businesses in the eyes of commercial banks. In the early 2000s, the non-performing rate of home mortgage was around 0.15%, substantially lower than the non-performing rate of other loan services (People’s Bank of China, 2005).

The residential mortgage market in Shanghai has developed much earlier than any other city in China (Chen, 2009). For this reason, the scale of its expansion since 1997 has been lower than the national level, although its outstanding value still multiplied 125-fold between 1997 and 2009 and comprises a significant share of the national total (cf. Figure 8). At the end of 2009, the outstanding balance of residential mortgages in Shanghai was 391 billion RMB, constituting 13% of all bank loans issued in RMB and 28% of all long-term bank loans (cf. Figure 8).

In the literature, the ratio of the stock of mortgage debt to GDP, is often employed to assess the risk status of the residential mortgage business. Alternatively, the ratio of mortgages in relation to household savings or total loans is also a useful indicator for mortgage development. At the end of 2009, mortgage debt in Shanghai was 26% of GDP, which was in sharp contrast to only 0.91% in 1997 (cf. Figure 9). However, compared to advanced economies that have an average mortgage: GDP ratio of 50% (cf. Figure 11), the mortgage market in Shanghai still has room to develop. In addition, taking into account the low ratio of mortgages compared to household savings (deposits), the mortgage business in Shanghai is fairly safe (cf. Figure 9).

The terms of mortgage loans are currently regulated as follows: the maximum loan-to-value ratio is 80% (of the of the appraisal value or purchase price) (Deng, et al., 2005), and the maximum mortgage term is 30 years. Mortgage interest rates are controlled and set to track central bank rates (ibid.). While new products are emerging, the self-amortizing mortgage remains the most common.

Since the opening of the mortgage business, with funding coming mainly through retail deposits, commercial banks dominate the primary home mortgage market in China and the four major State-owned banks, “the big four”16, are the largest market leaders. In 2004, the total amount of home mortgages provided by the four state-owned banks was 1.27 trillion RMB, accounting for 80% of total

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15For example, by 1995 the maximum length for mortgages was only 10 years, and the regulations asked borrowers to supply a double guarantee when applying for a home mortgage and deposited no less than 30% of the amount that they planned to borrow (PBC, 1995). The 1997 regulations lifted the first two requirements but home mortgages were still restricted to only the purchase of housing financed by government subsidies (PBC, 1997). The restriction of only using mortgages to buy subsidised dwellings was dropped no later than 1998.

16The Big Four includes: ICBC (Industrial and Commercial Bank of China), AB China (Agriculture Bank of China), BOC (Bank of China) and CCB (China Construction Bank). All major banks have now been listed on the stock market, but the non-government share is usually less than 10-15%.
residential mortgages in China (People’s Bank of China, 2005). However, the mortgage market in Shanghai is much more competitive. The Big Four altogether take up only slightly more than 60% of the market share, and they are facing fierce competition from other national banks as well as local banks (cf. Figure 10).17 Nonetheless, CCB, one of the Big Four, leads the Shanghai mortgage market with a clear margin and has enjoyed at least a 20% market share since 1999.

Housing Provident Fund in Shanghai

In addition to the western-style commercial home mortgage business, China’s home finance system is complemented with the Housing Provident Finance (HPF) scheme, which was first introduced in Shanghai in 1991 and spread nationwide within a few years. Since 1994 the implementation of HPF to all urban employees has been adopted as a national policy (Yeung et al. 2006).

The HPF scheme is based on the Singapore Central Provident Fund and operates in a very similar manner (Duda et al. 2005). Basically, it is a compulsory saving plan with social security purposes, requiring both employees and employers to provide equal contributions of a certain percentage of the employee’s salary on a monthly basis. In Shanghai, the compulsory contribution rate was initially 5% and has been fixed at 7% since 1999 but employees and employers are encouraged to contribute additional savings—complementary HPF with a rate ranging from 1% to 8%.18 The HPF savings are deposited in the participating employee’s personal account with interest and all the funds belong to the employee. But before the employee retires or dies, the use of funds is strictly restricted to only housing-related needs i.e. home purchases, self-construction, major housing repairs and renovation, and paying rent under certain conditions.

Within the HPF scheme, participants are entitled to home loans with a preferential interest rate. Indeed, until 1998, the HPF home loan was the dominant and maybe the virtually only funding source for personal home purchases in urban China and its development proceeded much earlier than commercial home mortgages. In some sense, the advancement of HPF home loans in the 1990s paved the road and helped much to accumulate experience and expertise for the later development of commercial home mortgages. The business of HPF home loans developed much earlier in Shanghai than in any other city in China. Until early 2000, the HPF loan in Shanghai still constituted one third of the national total stock.19 In recent years the ratio has dropped to around 10%. After the People’s Bank of China liberated the commercial home mortgage business in 1998 (PBC, 1998), the expansion of HPF home loans, although significant in itself, is lagging behind that of the commercial residential mortgages. Currently the outstanding balance of HPF loans in Shanghai is only one fifth of that of commercial residential mortgages (cf. Figure 12).

There are several factors that restrict HPF home loans from achieving the same growth as commercial mortgages. First, the HPF scheme is implemented among large firms and the public sector, but has little enrolment among small private firms and migrant workers. Even in Shanghai, the city with the most developed HPF system, the participation rate among all salaried employees is just around 70%. Second, the HPF home loan that one can borrow from is based on a certain multiple of the savings in his/her HPF account, for example, 20 times in Shanghai. Therefore, young employees usually have limited HPF credit to borrow. Third, there is a cap on the amount of HPF home loans that one household can apply for, which varies substantially across cities. In 2009, the cap for HPF loans was 600,000 RMB in Shanghai but can be extended to 800,000 RMB if the borrower has sufficient complementary HPF savings. HPF also has strict limitations on loans for second home purchases. Given the soaring increase in home prices, the credit from HPF loans is often insufficient to cover a

17 These are jointly owned by local governments and state-owned enterprises.
18 As the HPF savings are tax-exempt, both employees and employers have incentives to deposit complementary HPF savings.
household’s entire mortgage requirement (cf. Figure 13). Therefore, most households apply for HPF loans and commercial mortgages simultaneously to finance their home purchase. Fourth, since 1998, the interest rates for HPF home loans do not offer many advantages compared to commercial mortgages (cf. Figure 14).

Figure 8. Home Mortgages in Shanghai and their national share, 1997-2009

![Graph showing home mortgages in Shanghai and their national share, 1997-2009.](image)


Figure 9: The Mortgage Debt in Shanghai, 1997-2009

![Graph showing the mortgage debt in Shanghai, 1997-2009.](image)

Figure 10. The Market Structure of Home Mortgages in Shanghai, 2005-2007

Note: SRB-Shanghai Rural Cooperative Bank
Source: The People’s Bank of China, Shanghai Head Office

Figure 11. The Mortgage Debt of Selected OECD countries in 2006

Source: Chart 3.1, World Economic Outlook: Housing and Business Cycle, IMF 2008

Figure 12: The Size of HPF home loans in Shanghai, 1992-2009

Source: The Shanghai Housing Provident Fund Management Center
Note: “HPF/Mortgage” refers to the ratio of the outstanding balance of HPF home loans relative to commercial mortgages
‘Mixité’: an urban and housing issue?

Figure 13: The average amount and number of borrowers of HPF home loans in Shanghai, 1992-2009

Source: The Shanghai Housing Provident Fund Management Center

Note: Both average HPF loan amount and average home prices are measured in 10,000 RMB blocks (left Y-axis). The number of borrowers is measured in terms of households (right Y-axis).

Figure 14: The comparison of interest rates for HPF home loans and commercial mortgages, 1998-2009 (unit: %)

Source: People’s Bank of China

Note: Before November 2007, nearly all borrowers could get mortgages at preferential interest rates, as long as their credit risks were assessed low by issuing banks. After November 2007, banks could issue mortgages at preferential rates only if the borrowers were buying their first-home (PBC, 2007).

Home mortgage and real estate in Shanghai during the financial crisis

Who came first? A Chicken and Egg Puzzle

It is widely accepted that there exists a positive statistical relationship between housing prices and mortgage credit. As in other countries, mortgage lending in China is assessed on market-based
collateral values. Therefore, the amount of mortgage credit available to borrowers is likely to increase in response to escalating house prices. But lenders’ willingness to provide mortgage credit is dependent on their liquidity, the level of mortgage interest rates relative to other types of loan, and their own assessment of the financial risks of the housing market. Raising prices, by sending positive signals of asset value, is likely to promote the supply of mortgage credit. Therefore, an increase in the amount of credit available, either exogenous or endogenous, has the potential to spur the demand for housing, causing house prices to increase further. Therefore, the causality relationship between home mortgage credit and house price is akin to a “chicken and egg” puzzle, as it is very hard to tell the direction of causality (Gerlach and Peng, 2005).

However, during the global financial crisis the Chinese government introduced a series of emergency attempts to bolster housing demand through the relaxation of mortgage regulations. This event constitutes a social experiment and thus provided us with a good opportunity to identify the causal relationship between mortgage and housing prices in the short run. Thus, this paper utilizes monthly data for mortgage loans and property sales in Shanghai during 2008-2009 to explore how the property market is affected by mortgage supply.

The impacts of global downturn on the real estate market in Shanghai

In 2009, with FDI fell 22.3% and exports stumbled by -17.4%, Shanghai’s GDP grew at a speed of only 8.2%. Although such growth may be regarded outstanding in any other country at any time, for Shanghai it is a record low in 20 years and for the first time since 1991 it has been lower than the national average, the year which the development of Pudong New Area was initiated. This was admitted officially by the Shanghai municipal government in the 2009 social-economic statistical report, which stated that “2009 was the hardest year since 1991.”

Figure 15: The Growth Rate of Industrial Output in China and Shanghai, 2007.02-2010.05 (% change year-on-year)

Source: Online Database of National Bureau of Statistics of China

Pudong New Area is a district in eastern Shanghai along the Huangpu River and its development since 1991 signals the revival in Shanghai’s role as the economic centre of China.
Figure 16: The Growth Rate of Trading Value of First-hand Housing in China and Shanghai, 2007.02-2010.04 (% change year-on-year)

Source: Online Database of National Bureau of Statistics of China

Figure 17: The Growth Rate of Trading Space of First-hand Housing in China and Shanghai, 2007.02-2010.04 (% change year-on-year)

Source: Online Database of National Bureau of Statistics of China

From Figure 15, it is clear that, in line with the evolution of the global financial crisis, the industrial outputs of both China and Shanghai were performing very well in 2007, but they suddenly experienced severe difficulties in the second half of 2008 and the first half of 2009. They both gradually recovered in the second half of 2009.

In accordance with the aggregate economic trend, after the zeal in the second half of 2007, the real estate market in Shanghai plunged into deep recession in 2008 (cf. Figure 7 and 16-17). The latter half of 2008 saw a deep dampening in the sales of property as well as housing investment across all major cities in China. In Shanghai, the trading value of first-hand residential property in the third quarter of 2008 slumped to only one third of that one year earlier, a record low since 2005. In the fall of 2008, a research team of the Standard Chartered Bank (China) predicted that China's property prices in 2009 might drop by about 20% from their 2007 level. This assertion was supported by Professor Guo.
Tianyong, a leading economist at the Central University of Finance and Economics. Further, a highly-influential household questionnaire survey regularly conducted by the People’s Bank of China hinted that housing demand was bleak and the real estate market would continue to be sluggish for a certain period. This survey suggested that only 13.3% of those polled intended to purchase houses in the last quarter of 2008, a record low since 1999. Further, several experts insisted that, in this round of macro-control measures, the government should stick to its previous policy of containing the rise in housing prices until they returned to reasonable levels. Until early October 2008, the market outlook still looked very gloomy.

*Chinese Government’s Policy to boost housing demand*

Nonetheless, by the fourth quarter of 2008, the global financial turmoil that was hitting China’s export-oriented economy hard was still evolving and expected to damage further the Chinese economy. Under immense pressure from massive job losses, the Chinese central government chose to accept the opinion that the revival of real estate sales and a quick recovery in housing investment were central to shoring up the national economy amid the global and domestic economic slowdown. To combat the economic crisis and to raise domestic demand, the central government reversed the housing policies it implemented in late 2007.

In October 2008, the State Council stepped in to bolster the sagging real estate market by lowering transaction taxes, reducing minimum down payments and lowering mortgage interest rates (GOSC, 2008).

First, from November 1 2008, the property purchase tax was lowered from 3% to 1% for people buying their first home provided that it was smaller than 90 square meters. For those buying houses larger than 90 square meters, but smaller than 140, the rate was reduced to 1.5%.

Second, for people buying their first home, the down payment ratio was lowered to 20%, and banks would be allowed to charge as little as 70% of the benchmark lending rate for such mortgages. Both measures would be effective from the Monday following the announcement. Previously, the down payment ratio was 30%, or higher, for those buying large luxury houses in areas where property prices were deemed to be rising too fast.

The Shanghai municipal government promptly enforced this policy (SMGO, 2008). In addition, the HPF center in Shanghai increased the maximum for HPF home loans from 400,000 RMB to 600,000 RMB. Following the government’s instructions, Chinese banks loosened their purse strings for mortgage finance and prepared to create ample liquidity. Immediately, the property market in Shanghai reacted to the policy changes with a slight but clear rebound in sales in the last two months of 2008. The growth of real estate sales measured over four quarters turned positive in January 2009, for the first time since January 2008. But with the looming uncertainty of further economic downturn, the property market in Shanghai was still sluggish in the spring of 2009.

Things soon changed. The effects of a 4 trillion RMB economic stimulus package seeped into the economy and several leading indicators of economic outlook gradually turned from red to green. In May 2009, the year-on-year growth rate of industrial output in Shanghai became positive, for the first time since November 2008. In addition, a significant portion of banking loans to other sectors found its way into the real estate sector. Since April 2009, house prices in Shanghai started to climb unabated and the real estate sector began attracting investment at a frenetic pace. The second quarter of 2009 observed a moderate increase of 5% in housing prices but the third quarter witnessed an unprecedented surge of 18% in three months, followed by another spectacular soar of 17% in the

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22 *China Daily*, “Govt should not rush in to aid housing market”, October 20, 2008.
Meanwhile, the rapid rise in property prices spurred demand as further increases were anticipated. It also clearly prompted renewed speculation: according to PBC's Shanghai Head Office, in the latter half of 2009, about 35% of new mortgages in Shanghai were issued to non-local home buyers and another 10% were used by foreign buyers. Thus, the trading volume of housing soared in line with the surge in prices; the selling value and transaction space of new housing in the latter half of 2009 was 240 billion RMB and 18.03 million square meters, respectively. These figures were about 2.69 times and 1.65 times of those one year earlier, respectively. The fever spread to the second-hand housing market too. There was no data on the transaction values of second-hand housing in Shanghai available then, but according to the mortgage data, for the whole of 2009, the new mortgages used to finance the purchase of second-hand housing increased at the same speed as that for first-hand housing (cf. Figure 18). Within a few months, the downward trend of the real estate sector was completely reversed and an upward spiral was clearly emerging in the market at the end of 2009 and extended until the spring of 2010.

The quick recovery and new explosion of the real estate market in Shanghai and other major cities in mainland China surprised almost everyone. Almost nobody had predicted it and all market forecasts made in 2008 were completely in the opposite direction. How much the unexpected resurgence of the real estate market in 2009 could be attributed to the government rescue in late 2008, particularly, changes in regulations of mortgage supply?

Gauging the Importance of Mortgages in Real Estate Revival

Limited by the short history of the intervention and data availability, it is not possible to perform rigorous econometric regressions on the impacts of mortgage credit on real estate prices in Shanghai. Instead, we try our best to explore the statistical association between both.

The buyers’ dependence on of mortgage credit in financing home purchases can be assessed by the ratio of newly-issued mortgages relative to the expenditure on home purchases of the same period (‘leverage ratio’).

The figure below suggests that, households in Shanghai are conservative with borrowing and rely moderately on mortgages when buying homes (cf. Figure 19). For first-hand housing, the leverage ratio, defined by the share of new mortgages relative to home purchases, was on average 29% during 2008-2009. Interestingly, it is also evident that, the leverage ratio for first-hand housing was higher in 2009 than 2008: 30% vs. 27%. Particularly, the average leverage ratio in the latter half of 2009 reached as high as 37%, compared to 27% one year earlier.

For the whole of 2009, total new mortgages issued for all-types of home buyers in Shanghai amounted to 200 billion RMB, which was 2.5 times of that in 2008 (cf. Figure 18). When only comparing the numbers in the latter half of the year, the expansion of home credit is more remarkable: the new mortgage issued in the latter half of 2009 was 3.4 times that of one year earlier. Further, mortgages issued in the latter half of 2009 comprised 64% of mortgages for that year. Evidently, the evolution

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24 For the whole year of 2009, the selling value and transaction space of new housing were 360.2 billion RMB and 29.28 million square meters, respectively. These figures were about 2.22 times and 1.46 times of those in 2008, respectively.


26 It is possible that the figure for Shanghai residents is higher than this as institutional and foreign investment will be included in the value of new mortgages.

27 It would be ideal to compare whether this figure is significantly larger than historical average levels. But the problem is we did not have mortgage data that distinguished first-hand and second-hand housing before 2008. There is also no data on the selling value of second-hand housing in Shanghai for any year.
patterns of new mortgage credit perfectly mirrored the trading trends of residential housing between 2008 and 2009.

From these observations, it is tempting to draw a quick conclusion that the easy money from mortgage credit helped to first boost the recovery and further drive the incredible exuberance of the Shanghai housing market in 2009. While such assertion certainly makes certain, one should be cautious about its implications. Note that it was in October 2008 that the Chinese State Council loosened the regulation of mortgage credit, together with a series of other measures designed to bolster housing demand. But the last quarter of 2008 did not observe an immediate rise in new mortgage loans in Shanghai. Instead, the new lending of this quarter was at a record two-year low. The leverage ratio of first-hand home purchases did not increase in response to the government’s favorable policy measures, but rather declined from the average level of 27% in August and September to 20% in the 4th quarter (Figure 19).

The proportion of house purchase value supported by mortgage finance in the first half of 2009 was quite volatile but generally remained low at 24% and only since June did it rise to an average of 36%.

In an attempt to investigate the causality between newly issued mortgages and property prices, the time-series movements of both (for first-hand residential housing) between 2008 and 2009 are plotted in Figure 20. 28 It can be seen that from December 2008 till May 2009 both the value of new lending and house prices moved together. From May 2009 August 2009 the month-to-month price growth appears to “lead” the year-to-year growth in mortgages, but from September 2009 to December 2009 the growth in mortgages appears to “lead” prices, although this cannot be solely attributed to government regulations since there was no tightening of lending criteria during this period.

Interestingly, the figure also suggests that 1% higher housing prices over previous months in Shanghai may be associated with a doubling of new mortgages compared to earlier in the year. 29 However, as our data is currently drawn from a very short and very specific period, at a time of rapid market recovery with a flush of ample liquidity, such this observation is of course only an intuitive interpretation. A robust estimate about the elasticity of new mortgages with respect to home price growth is left for further research.

**Discussions and policy implications**

From a theoretic point of view, a finding of simultaneous short-run movement between new mortgages and home prices makes sense. Increases in home prices positively affect mortgage borrowing via various wealth effects (Hofmann, 2004; Gerlach and Peng, 2005). First, due to asymmetric information in credit markets, both the borrowing capacity and credit demand of households are positively affected by changes in house prices. Second, the upward-trend in house prices cause households to raise their perception of their life-time wealth and to expand their borrowing with purpose of improving their consumption over the life cycle. Third, rising house prices will cause more optimistic expectations about future economic prospects and then induce more demand in borrowing.

On the other hand, rising prices positively affect banks’ capital positions, risk-taking capacity and credit availability, and induce them to be willing to lend more. Therefore, additional mortgages from banks will be used to buy more homes, pushing house prices even further, and then inducing more demand for mortgages among households and at the same time more supply of credit from banks.

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28 As potential home buyers usually compare the home price with the latest one, it is reasonable to depict the price movement by using month-on-month changes. But for new mortgage, which is governed by home purchases that have a strong seasonal pattern, it makes more sense to use year-on-year changes rather than month-on-month changes. Another option is to compare the month-on-month changes in mortgage balances with month-on-month changes in home price, but the problem in doing so is the unexplained role of mortgage repayment in the relationship between the two. Further, the latter option reaches similar conclusion to that in Figure 20.

29 This was established by running a simple regression between the two series.
Thus, the mutually reinforcing cycles in banking loans and the home market may evolve in the long run due to the two-way causality between mortgage credit and home prices.

Figure 18: Newly-Issued Mortgages in Shanghai, 2007.12-2009.12

Source: The People’s Bank of China, Shanghai Head Office

Figure 19: New Mortgages and Housing Sales in Shanghai, 2007.12-2009.12

Source: The People’s Bank of China, Shanghai Head Office

Note: Due to the lack of monthly-level data, the newly-issued HPF home loan is not included in this measure of mortgages. But considering HPF home loans constitute only 20% of total home credit in Shanghai, this omission should not be a big problem.
Figure 20: The Growth Rates of Mortgage and Housing Prices in Shanghai, 2008.12-2009.12

Source: The People’s Bank of China, Shanghai Head Office; CREI
Note: The year-on-year growth rate of new mortgages is scaled on the left-Y axis and the right-Y axis refers to the month-to-month growth in price. Both refer to only first-hand residential housing. To control for the measurement error, the monthly price series is using the CREI Shanghai Housing Price Index, which reflects a mean transaction price with some control for quality, rather than the average sale price computed from diving the selling value by selling space.

Conclusion

The development of the Chinese real estate market has its roots in the process of economic growth as well as fast-paced urbanization, set into motion in 1978. During the last three decades, the real estate market in Shanghai has experienced several large swings. The most recent round of rising property prices in this city and other major cities since late 2009 prompted the central government to issue new regulation policies in April 2010 to rein in the escalating prices and guard against a devastating housing collapse. Again, tighter control of mortgage credit was the key tool, although these have been supplemented by experiments in property taxation in Shanghai and Chongqing which are aimed at tackling speculation in particular.31

While there are numerous studies in house price dynamics in China, few of them considered the direct role of mortgage lending. This analysis first introduces the historical development of the real estate sector and mortgage business in Shanghai, and then uses the monthly data of mortgage and housing sales during 2008-2009 to examine how mortgage credit affects the real estate market in this city. It is clear that the availability of mortgage credit plays a significant role in explaining fluctuations in housing prices in Shanghai. Further, the evidence seems to suggest that, in the short run, the causality between mortgage credit and house prices is running in both directions. But we are still at a preliminary stage in our work, and have not yet reached firm conclusions.

31 Financial Times “Chinese cities to pilot property tax”, 27 January, 2011. Whilst property taxes are widely supported by economists as a counter-cyclical measure, Professor Li Daokui who is a member of the PCB’s monetary policy committee has argued that they should instead be employed cautiously as a source of revenue to pay for local services. See Financial Times, “China property risk is worse than in US”, 31 May 2010.
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References


