CHINA: BEYOND THE MIRACLE

Part 3 – Bubble deflation, Chinese style

- Chinese property markets already exhibit significant risks of a bubble, according to various conventional measures.
- Past property booms were supported by strong income growth, steady urbanization, favourable demography, limited investment alternatives and healthy household balance sheets.
- These factors, however, may turn into negatives in the coming years, generating significant risks of a bubble bursting.
- Restrictions on housing purchases are only a second-best policy option. But they have been effective in lowering property prices and reducing future risks of a bubble bursting.
- We expect property prices to decline by 10-30% during the current cycle, which should not lead to systemic crisis or collapse.
- Households are not likely to be forced to sell, while large developers could survive the downturn. But small developers will probably suffer from significant financial stresses.
- Policy may be adjusted if the average price decline approaches 20%. And the longer-term agenda is set to replace restrictions on housing purchases with property taxes.
- Weakening property markets should slow investment significantly, impacting the global commodity market. But Chinese consumers are likely to stay relatively more resilient.

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China: Beyond the miracle series

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Policy-induced correction

"Pessimists are more scholarly, but optimists are often right"

Australian economist Ross Garnaut once commented on predictions about the Chinese economy: "Pessimists are more scholarly, but optimists are often right". He noted that there had been continuous calls for collapse or stagnation of the Chinese economy since the beginning of economic reform. Meanwhile, more upbeat predictions by Dwight Perkins of Harvard University, Justin Lin of Peking University and himself had been repeatedly beaten by the actual performance of the economy.

The 2009 GDP forecast is a case in point

Forecasts of GDP growth during the global financial crisis provided a good case study. At the beginning of 2009, most market economists forecasted full-year GDP growth at well below 8%. Those who stuck to above 8% forecasts were under pressure from their colleagues and the market. The actual GDP growth in that year was 9.2%, revised up from the initial print of 9.1%.

Is this time different?

We do not underestimate the value of pessimistic calls since they help focus investors' and policymakers' attention on important risk factors. But if pessimistic expectations have not materialized for decades, there might be something unique about the Chinese economy that does not fit the conventional analytical framework. After all, China is not a typical market economy. Given China's underdeveloped legal system, widespread distortions in incentive structure and state intervention in economic activities, who would have predicted the thirty-year economic miracle?

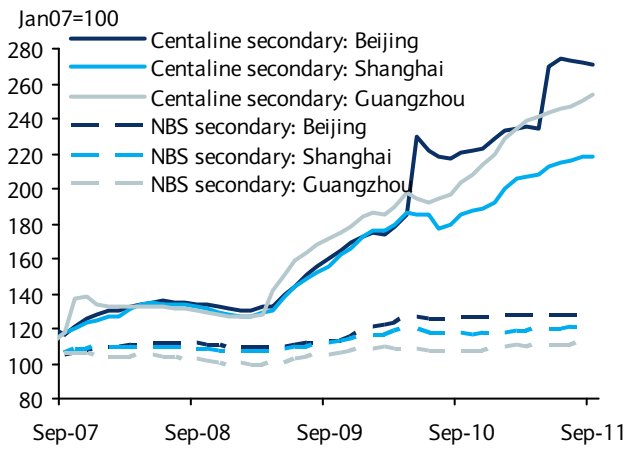
A collapse of China's property market could happen, but the key for investors is when?

There is probably disproportionate incentive for analysts to make pessimistic calls, since they make it easier to get investors' attention. And sooner or later these pessimistic calls, such as the collapse of a housing bubble, will turn out to be true. The trouble, however, is that waiting for that to happen might prove to be very costly for short-sellers. If investors had positioned for 4.5% GDP in China in 2009, for instance, they probably would have recorded significant losses. Again, some commentators have been calling for a collapse of China's property markets since 2004. Investors would again have lost significantly had they followed such investment advice.

The bubbles seem to have reached extraordinary levels

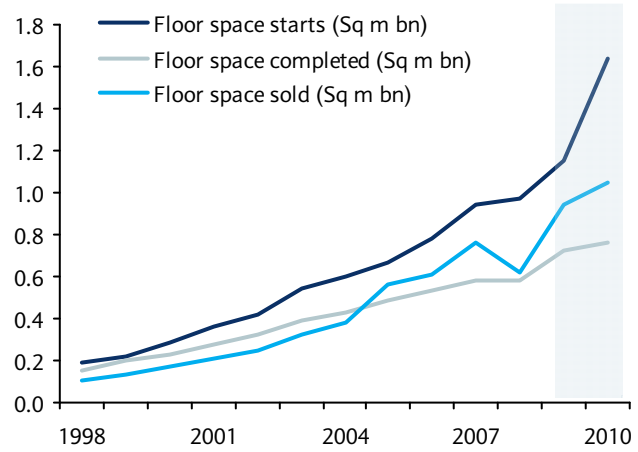
Recently, worries about China's real estate risks have gathered new momentum. Housing prices have started to decline in an increasing number of Chinese cities during the past few months. There are also media reports about property developers running into significant

Figure 1: Property prices surged again since Q1 2009…



Source: Wind, Barclays Capital

Figure 2: …followed by a construction boom



Source: CEIC, Barclays Capital

financial difficulties given tighter liquidity conditions, higher costs of capital, declining housing prices and slower flows of property transactions. And, most importantly, China's housing bubble has already reached extraordinary levels according to conventional measures such as affordability, vacancy and rental yields. Some commentators describe it as the bubble of the century (Figure 1 and Figure 2).

Why hasn't the bubble burst?

Bubbles all burst in the end. This is probably why international investors are often skeptical about arguments that "this time it is different". But the critical question really is "when" and "how" such bubble corrections will occur. We do not pretend that we know exact answers to these questions. But if, as some suggest, China's house price/income ratio is already three or more times that of other bubble economies, why hasn't China's property bubble burst?

China's property bubble has been sustained by some unique features

Perhaps there are some unique features of the Chinese property markets that have been sustaining growth in property prices? Here are several possible candidates to consider:

- It is possible that Chinese household incomes have been underestimated and, therefore, the bubble might not be as big;
- Given a lack of alternative investment opportunities, property is the only meaningful form of Chinese household wealth;
- Demographic change, urbanization and housing upgrading all underscore continued strong fundamental demand for properties (Figure 3); and
- Even when housing prices are under downward pressure, Chinese households are often not forced to sell given their low leverage ratios (Figure 4).

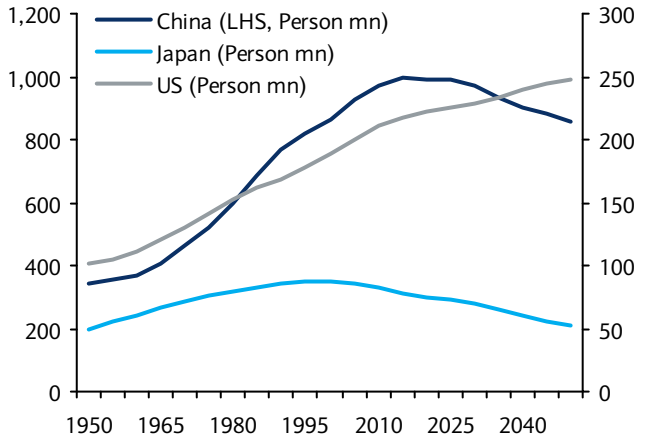
The current difficulties are policy-driven. We expect adjustment but not meltdown

Without a doubt, the Chinese housing market is entering a difficult period. But such difficulties so far have almost been completely caused by government policies – tightening of monetary policies and restrictions on housing purchase. We cannot rule out the possibility of housing prices declining by 10-30% during the current cycle, depending on the persistence of policy restrictions and responsiveness of the market to policy adjustment. Such a decline would likely lead to adjustment, but not meltdown, in the housing market.

Factors that underscore strong prices could soon turn negative

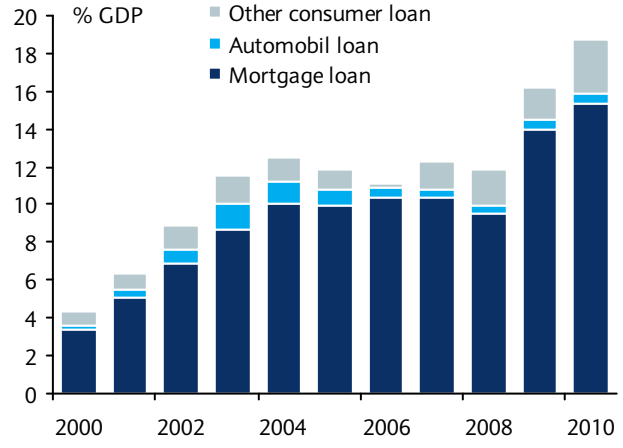
Risks of a bubble bursting might rise significantly over the coming years, as Chinese households lever up, alternative investment opportunities grow, fundamental housing

Figure 3: A shift of demographic trend



Source: CEIC, Barclays Capital

Figure 4: Households leverage increased but remained low



Source: CEIC, Barclays Capital

demand weakens and income growth slows. In other words, those factors that underscore strong housing prices at the moment could soon turn negative, adding structural downward pressures on prices.

Purchase restrictions have been effective in cooling the market

Government restrictions on housing purchase, based on individuals' household registration, are often criticized by economists as unfair, inefficient and unscientific. We share that assessment. But they have obviously been effective in cooling down the market, evidenced by stabilization and decline of housing prices across the country. There have been pressures at the local government level to readjust restrictions on housing purchases but the central government position appears to be clear, wanting to continue with the policy.

The policy objective is to stabilize, not collapse

Our takeaways are that, one, the government will not sit idle and watch the free fall of housing prices. After all, the policy objective is to stabilize, not to collapse, the housing market. And, two, the government may accelerate the transition of housing policy toward property taxes, to raise revenues and curtail demand, in the coming years.

Current action reduces probability of a future meltdown

To us, the fact that the government is dealing with the property bubbles now and housing prices are already declining is an encouraging sign. The government's actions actually reduce the probability of a housing market meltdown in the future, in our view.

Our key views are summarized

Our views about the Chinese property market can be summarized as follows.

- China's property sector already suffers from a significant bubble, according to conventional criteria, especially in major metropolitan cities.
- Bubbles have not burst so far because the market has been supported by strong income growth, high savings but limited investment opportunities, continued urbanization and low household leverage.
- But all these positive factors could turn to negatives, as income growth slows, investment opportunities diversify, leverage ratios rise and demographic supports weaken.
- The market will likely experience policy-induced correction by 10-30% in the coming year, which should impact economic growth but is unlikely to lead to financial meltdown.
- Restrictions on housing purchase are probably a second-best choice and may be replaced by property taxes. But interventions now actually reduce the probability of an uglier bursting of the bubble in the future.

Making of property bubbles

China's fast property price rise is reminiscent of earlier bubbles

There is no question that China's high property prices are a serious concern for policymakers and investors. The housing price index has risen by at least 70% since 2000. Such a price increase almost paralleled the property bubbles which developed in Japan in 1982-1991 and in the US in 1996-2006 (Figure 5). In both the US and Japan, however, those periods of bubble building were immediately followed by painful adjustments, the subprime crisis in the US and the "lost decade" in Japan. These raise important questions about the next step for China's property prices, leading some China bears to call for imminent collapse of the Chinese housing market.

There are common factors contributing to a housing bubble

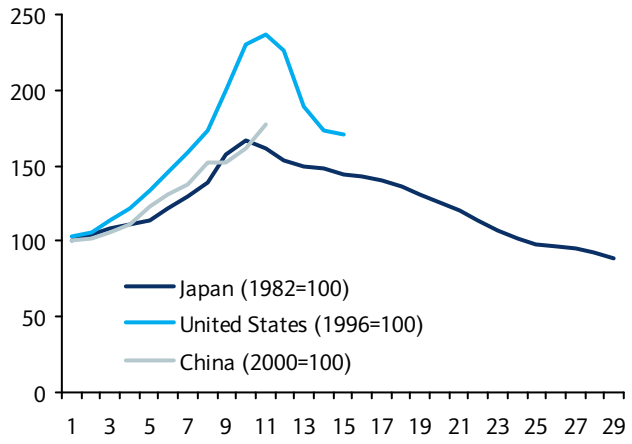
A housing bubble has been a common phenomenon in both developed and emerging market economies. While there are probably unique factors contributing to property bubbles in each country, most such factors fall into three broad categories:

- The first is strong economic growth, which usually pushes up prices of non-tradable goods, such as housing, disproportionately;
- The second is loose monetary policy conditions, such as low interest rates and abundant credit, which almost always fuel growth in property prices; and
- The third includes some other policy and economic variables, such as demographics and property taxes.

Strong economic growth often pushes up non-tradable prices

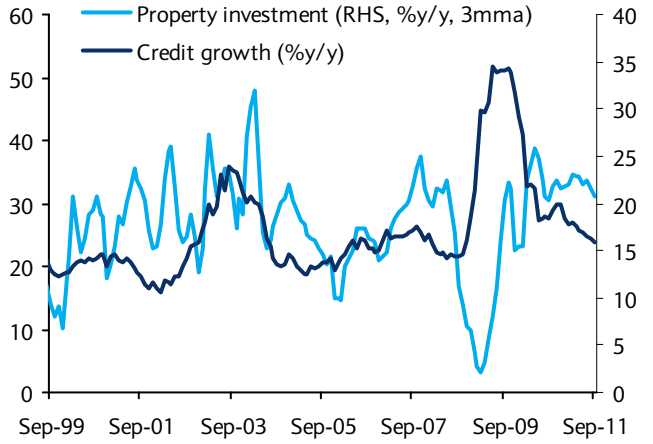
Rapid increases in property prices are often associated with strong economic growth. This is mainly because properties are non-tradable goods and supply responses are more constrained. For instance, in an economy which is growing by 10%, its aggregate demand, including demand for tradable and non-tradable goods, would probably also expand by 10% a year, assuming uniform income elasticity of 1. Price responses, however, would be very different for tradable and non-tradable goods. Prices for tradable goods should stay unchanged since additional demand can be satisfied by imports if there is excess demand in the domestic market. In the meantime, supply of non-tradable, such as housing, normally is less elastic. Therefore, additional demand should push up prices of non-tradables. And expectation of such price increase should encourage investment or speculative demand.

Figure 5: Property bubbles: US, Japan and China



Note: China's official price statistics underestimates the actual price increases as show in Figure 1.Source: CEIC, Bloomberg, Barclays Capital

Figure 6: Credit growth drives property investment



Source: CEIC, Barclays Capital

Easy and cheap money almost always precedes a bubble

Property bubbles, however, are almost always accompanied by relatively loose monetary policy conditions. In all three cases of property bubbles building in China, Japan and the US, easy money was clearly evident.

A loose monetary policy and financial deregulation in the US

In the US, it began with the bursting of the Internet bubble. In order to mitigate the adverse effects, the Federal Reserve Bank maintained a loose monetary policy, including historically low interest rates. Some commentators have criticized the Fed for creating one bubble (housing) to counter the negative impact of the bursting of another bubble (the Internet). Some other factors also facilitated housing demand during those years. For instance, the Bush administration continued to encourage home ownership. Deregulation also promoted financial innovation, such as the development of subprime mortgages and subprime debt, which created millions of homebuyers who would otherwise not have qualified under normal circumstances.

Loose monetary policy was used to offset strong currency in Japan

In Japan, it all started with the Plaza Accord. However, currency appreciation, which probably encouraged capital inflows into the Japanese asset markets, was only part of the cause. A more fundamental contributing factor was the extraordinarily loose domestic monetary policy condition. Fearing the negative consequences of currency appreciation, the Bank of Japan (BoJ) cut rates and increased credit. At that time, easing of monetary policy was viewed by officials as killing two birds with one stone: it was expected to offset some of the tightening effects of a stronger currency and, at the same time, discourage capital inflows and thus reduce pressures for further appreciation.

Plaza Accord not the root cause for Japan's property bubble

Many singled out the Plaza Accord for causing property bubbles and the following consequences in Japan. Such blame, however, is at least inaccurate. A quick comparison of the German and Japanese experiences in the post-Plaza Accord period reveals several important findings (see Figure 7):

- While property bubbles are common in steadily growing economies, they are not inevitable;
- What contributed to the rapid build-up of the property bubble in Japan was not the Plaza Accord, but domestic policies responding to it;
- Some other policies, such as rental regulation, mortgage requirements and property taxes helped Germany avoid a serious property bubble.

Monetary policy and prudential regulations make a huge difference

Indeed, in the period following implementation of the Plaza Accord, both Japan and Germany experienced similar currency appreciation, GDP growth and CPI inflation. But Japan developed a serious property bubble, while Germany's property prices were much more stable. In addition to less accommodative monetary policies, Germany also introduced policies in three areas to discourage property investment: 1) a fairly conservative mortgage policy, which requires households to have high deposits at the bank (around 50% of the mortgage) before borrowing; 2) the German government effectively regulates the housing rental market, which limited returns on property investment; and 3) differentiated tax policy in Germany on property purchased for investment reasons.

Figure 7: Property markets in Germany and Japan

	Japan	Germany
Currency appreciation, 1985-1991	50%	52%
Macro indicators, 1985-1991	GDP 4.4%; CPI 1.7%	GDP 4.6%; CPI 1.8%
Home ownership rate, 1988	60%	40%
Square meters/person, 1988	16	40
Mortgage policies	Accommodative	Conservative: a fairly high deposit (around 50% of the mortgage) is required first, and mortgage loan-to-value ratio is 60-70%
Rental regulation	No	House renting market is effectively regulated by the government, and increases in rents have to be in line with "market conditions".
Property taxes	Around effective 0.15% fixed asset tax, and 85% "transaction tax" on property bought within 2 years	Around 1.5% land tax, 3-5% "purchasing tax" and 15-25% capital gain tax on property sales for those who bought it within 10 years or lived less than 3 years

Source: Housing demand in Germany and Japan, paper in memoriam of Stephen Mayo, Axel Borsch-Supan, Miki Seko, Aug 2002, Comparison across the international experience on property market regulation, Li Li, 2010. CMB, Barclays Capital

China saw its first property bubble in 1988-92

China's first encounter with a property bubble occurred in 1988-1992 in Hainan Island. In 1988, when the island was upgraded into a province to experiment with the "open door" policy, a large number of property developers quickly emerged. Housing prices went from CNY300 per square meter in 1989 to CNY7500 in 1992. When tightening policies started in 1993, the prices collapsed to CNY1000 immediately and then stayed below that level for the following eight years. As late as 2002, the Hainan government was still cleaning up the messes created with the bursting of that bubble.

Rapid growth in private housing market despite a short history

Development of China's commodity/private housing market started in 1998[1]. While the sector has a short history of a little over 10 years, it has been growing very rapidly, contributing to expansion of real economic activities. Currently, real estate investment and construction is about a quarter of total fixed asset investment, or 12% of GDP. Its overall impact on GDP growth is significantly greater given the upstream links with steel, and construction material etc, and downstream links with furniture, electronics and service industries. Exposure of economic agents, including the banks, households, corporate and local governments, to real estate markets has also increased significantly.

China's recent experiences clearly resemble those in the bubble economies

Like in the US and Japan, there was an extraordinary credit boom in China in recent years, as a policy response to the global financial crisis. Easy credit and low mortgage rates boosted real and investment demand for housing. Property prices recovered and rose rapidly from early 2009. Mortgage financing was introduced in 1998, helping to facilitate household borrowing, and real estate investment trusts (REITs), officially launched in December 2008, have been a popular means for developers to obtain financing as credit has again tightened significantly since 2010. Evidence of investment or speculative property purchases is pervasive, as suggested by the widely reported high vacancy rates and low rental yields. Until recently, the general belief remains that house prices will continue to increase, despite the significant policy tightening in both the property sector and the macro-economy that began from the second half of 2010. Moreover, the Chinese economy has constantly experienced over-heating, with property investment being a main driver in the past decade (Figure 6). The total investment/GDP ratio reached an alarming 48.5% in 2010.

[1] In the 1998 reform, the government ended the state-provided welfare housing system and started to promote private real estate development. Residential housing built by private developers for sale to the public are called commodity housing.

How serious are property bubbles in China?

Based on some commonly applied measures …

While property bubbles are commonly observed, it is extremely difficult to quantify a bubble. To a certain extent, "property bubble" is a relative term. In practice, analysts and investors often look at various indicators to gauge potential degrees or risks of property bubbles. The most commonly applied indicators include the following.

- Price/income ratio: This is essentially an affordability indicator. If the ratio is too high, housing becomes beyond the reach of the majority of the population. This can be regarded as a sign of a bubble.
- Rental yield (rental/property value): This is effectively an investment return index. If the yield is too low, then investors are paying too much for property, implying that there is a bubble.
- Vacancy ratio: This is really a speculation measure. If a high proportion of properties are vacant, then many investors are buying them for potential capital gains. A high degree of speculation also means a bubble.

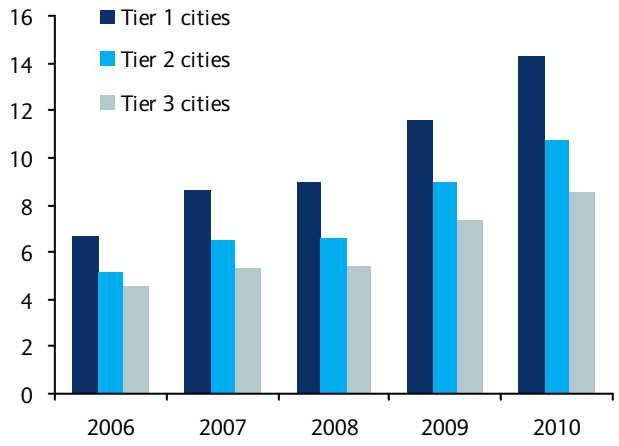
…China's property market exhibits significant bubble risks

Obviously, these indicators only suggest the possible risk, not the exact extent, of a bubble. Application of these measures, especially the price/income ratio, suggests that China's property market already exhibits significant risks of a bubble, especially in large metropolitan cities such as Beijing, Shanghai and Guangzhou.

House prices increased rapidly across the nation since 2009…

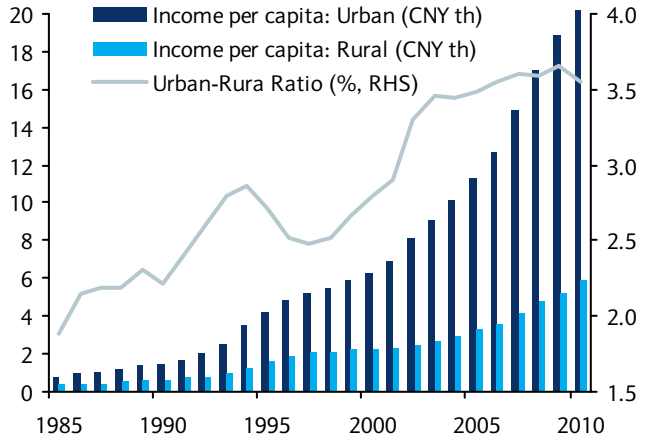
An extended period of rapid house price increases could be an alarming sign of a bubble. However, historical house price statistics do not give a clear picture of price movement. The official National Bureau of Statistics (NBS) house price data often underestimate the extent of the actual price increase, sometimes by a large margin[2] (Figure 1). Several agencies also report house price data, such as Centaline, a major realtor which compiles house price levels based on the firm's secondary market home sales. But the sample is short and only data for larger cities are available. Figure 1 shows that following a very mild correction in mid-2008, existing home prices surged further, more than doubling in Beijing and Guangzhou from the bottom in February 2009, while rising by more than 70% in Shanghai and Shenzhen.

Figure 8: Affordability deteriorated nationwide



Source: Wind, Barclays Capital

Figure 9: Income disparity stabilized but wealth gap widened



Source: CEIC, Barclays Capital

[2] Mounting public complaints have prompted the NBS to start compiling a new set of data series since January 2011.

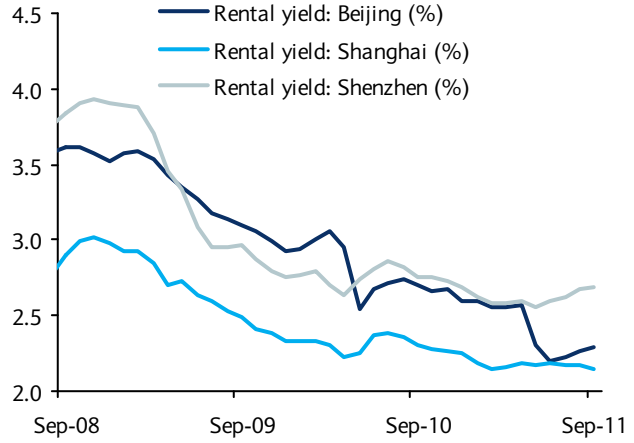
…leading to significant deterioration in affordability

A popular affordability indicator is price/income ratio, calculated by dividing the average house price by household disposable income. Based on 2006–2010 data from 25 cities , we estimated an average affordability for first-, second-, and third-tier cities by dividing the available data into three groups. Several observations can be made from Figure 8. First, housing affordability was low and has deteriorated significantly over 2006-2010. The ratio rose above 8 in 2010 for all three groups, while it is typically at 3-5 in developed economies and 6 in Korea and Taiwan. Second, the pain was felt most acutely in first-tier cities such as Shanghai and Beijing, which have seen a continued surge in prices during most of the reporting period. Prices in Shanghai reached 21 times household income in 2011. Third, the rapid house price increases spread to the second- and third-tier cities over 2009-10, with second-tier cities seeing accelerating and faster price increases after the government imposed stricter property market tightening measures in the first-tier cities.

Rising wealth gap exacerbated the affordability and social issues

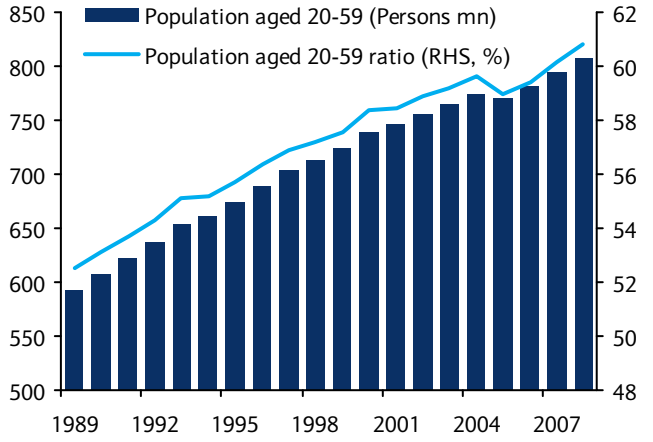
Despite some caveats[3], there should be general agreement that affordability is a serious issue for average households in China. Surging house prices have led to a widening of the wealth gap in recent years, exacerbating the affordability issue and its socio-political consequences (Figure 9). High-income groups who bought housing units earlier, particularly high quality commodity housing (residential housing built by developers for sale to the public), enjoyed rapid home price increases. To some extent, the luxury apartments in Beijing and Shanghai should be still affordable for the wealthy. The elder generation, who most likely own or bought apartments at cheaper prices from the government in the 1990s, also benefited from home price appreciation, though to a lesser extent. In contrast, the average apartments in Beijing and Shanghai are hardly affordable for the average local households. The average/low-income urban households and younger generations have been largely priced out of the urban commodity housing market. Families who wish to upgrade their apartments to larger sized and higher quality ones have also suffered.

Figure 10: Rental yields have been low and falling



Source: Wind, Barclays Capital

Figure 11: Population growth underpinned housing demand



Source: CEIC, Barclays Capital

[3] Arguments are sometimes rightly made for greater affordability than the above data show, given the underestimation of Chinese household income by official data, eg 26% GDP in 2005 data as reported by Wang Xiaolu a reputable scholar, in "Gray income and the household income gap" 2010, National Economic Research Institute, China Reform Foundation. Also, top-tier cities, with its better public resources such as education and health care system attract "well-off" property buyers from around the country whose income and wealth are much higher than the local average population. Finally, if we use income levels of households which actually bought commodity housing, the price/income ratio should turn out to be much lower. But we don't think these are strong enough reasons to change the picture.

Rental yields have been low and declining in major cities

Rental yield is often used to identify a bubble from an investment perspective. Low and declining rental yields offer evidence of excessive house price increases and suggest investors seek return on property holdings mainly from expected price appreciation. This is apparent in the Chinese data. Rental yields have been low and falling from over 5% in early 2000s, as house price increases outpaced rentals. Figure 10 shows that in Beijing and Shanghai, the rental yield has come down to close to 2% in 2011 while in Shenzhen, with a relatively better developed rental market, the ratio is below 3%.

Anecdotal evidence and surveys suggest high vacancy rates

The vacancy rate measures the percentage of unoccupied housing units[4] of the total available housing. A high vacancy rate in a stable economy often implies speculative demand and possible over-construction. China bears often cite scary stories about ghost towns, empty buildings, and lightless housing districts at night as evidence of the huge property bubble in the making. Last year's media report of 64mn residential units having zero meter reading for six consecutive months (later disregarded as false) has drawn wide attention. While an accurate estimate of the percentage of sold but unoccupied residential units is not possible, anecdotal evidence and surveys do suggest that high vacancy rates exist in some high-end properties in first- and some second-tier cities and costal cities.

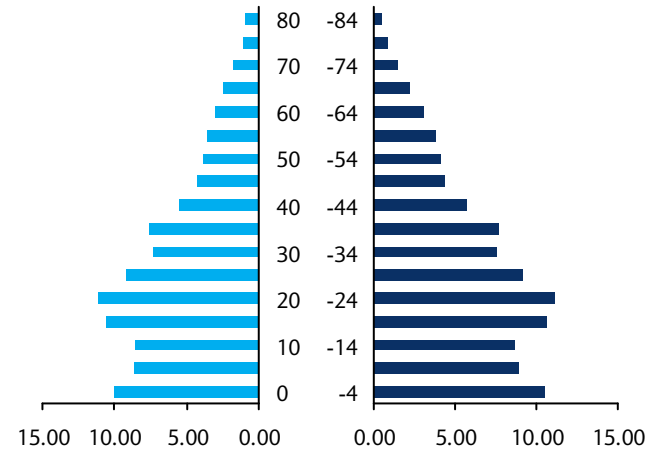
Why hasn't the Chinese 'bubble' burst?

Four key factors supporting rising property prices

If China's property bubbles are already quite serious by international standards, at least in some large metropolitan cities, why were they able to continue to grow? Had no policy restrictions on house purchases been introduced from early 2011 in a large number of cities, Chinese property prices would probably have been rising even today. In short, we see four key factors supporting sustained growth of property prices in China:

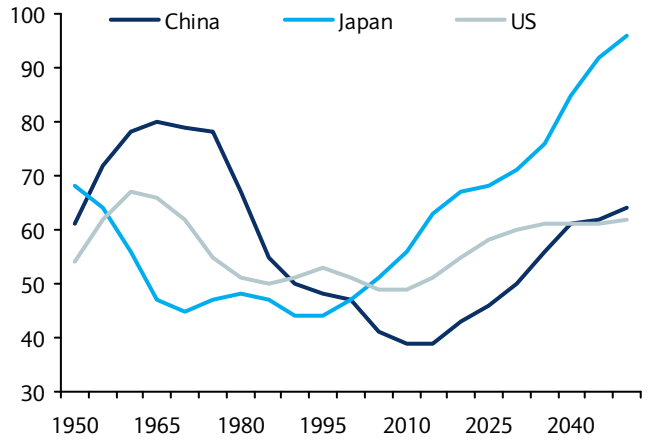
- Strong income growth;
- Urbanization, home upgrading and favorable demographic change;
- Limited investment alternatives;
- Households' strong balance sheets.

Figure 12: A bottom-heavy population age pyramid in 1999



Source: CEIC, Barclays Capital

Figure 13: Dependency ratio posted a sharp decline



Source: CEIC, Barclays Capital

[4] This could be sold but unoccupied or built but not yet sold units. Vacancy rates discussed here refers to the former.

As commodity housing is a relatively new market, its strong fundamental demand has been underscored by rapid income growth, steady urbanization, favorable demographic change and home upgrading demand. As discussed, income expectation is often a key factor supporting housing demand. And the Chinese economy has been growing by 10% a year for the past thirty years, and households have accumulated large amount of savings.

Favourable demographics led to a rapid rise in the working age population

Favourable demographic trends have been a major driving force for China's housing demand. The working-age population, defined as the population aged above 15 and below 65 years old, has increased dramatically in the past three decades (Figure 3). In particular, the population aged between 20 and 59, the group that is most likely to buy housing units, increased rapidly to 820mn or 61.5% of the total population in 2009, up from 600mn or 53% in 1990 (Figure 11). The Population Age Pyramids shows that until 1990, China's population age structure was largely a bottom-heavy one, characteristic of a young and growing population (Figure 12). Moreover, a shrinking in household size, from 3.4 in 1990s to 2.9 in 2010, has also expanded demand for housing.

Rising income growth made private housing market possible

Demographic developments have also been behind China's impressive economic and income growth. China has posted one of the largest declines in the dependency ratio in the past 30 years (Figure 13), with the share of the working age population rising from 60% in 1980 to 71% in 2009. Studies have shown that the age structure shift accounts for more than a quarter of China's per capita GDP growth since the mid-1970s. Improvement in living standards made it possible for households to participate in the private housing market following the 1998 housing reform.

China benefited greatly from the so-called demographic dividend

Figure 3 also shows that China's fundamental housing demand is strong as suggested by the greater demographic gains compared with the US and Japan during their bubble periods. While Japan also experienced a period of working age population growth before the property bubble burst in 1991, and the US has and will continue to enjoy the benefits of a relatively young population, their growth was at a more moderate pace. Working age population growth has been 4% and 38%, respectively, in Japan and the US since 1980, compared with 63% in China.

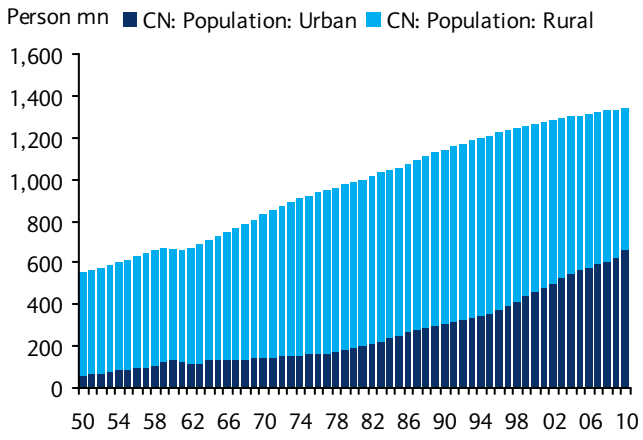
The accelerating urbanization boosted housing demand

Urbanization has been an important driving force for housing demand in urban areas. Fast urbanization has resulted in rapid growth in the number of urban households, despite the one-child policy being more stringently implemented in cities. The urbanization ratio, measured as urban area population as a percentage of the total population, has risen from around 20% in the early 1980s to 50% in 2010 (Figure 14). It is estimated that about 150 million people migrated from rural to urban areas in the past decade. This is in contrast to the US and Japan during the bubble periods, where urbanization was already very advanced.

High saving and fewer options to invest boost investment demand

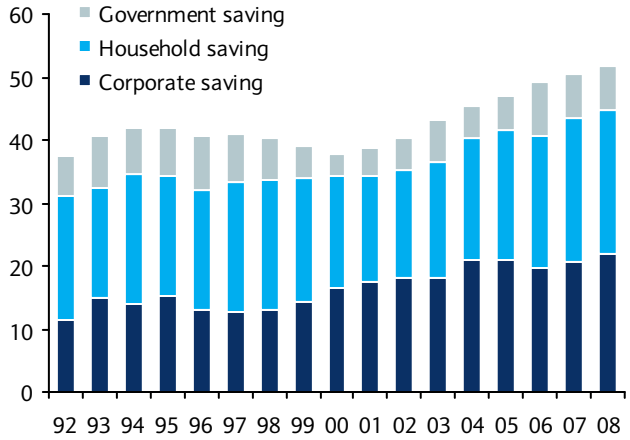
Investment demand for housing from both the regular middle class and the very wealthy has been strong in recent years. This partly reflects China's unique situation characterised by a large amount of household savings having limited investment opportunities. On one hand, a combination of factors – including demographic trends, the rise in the working age population, rapid income growth, widening income disparity, and an underdeveloped social safety net – have boosted household savings, which have remained high at about 20% of GDP (Figure 15). On the other hand, given the closed capital account and under-developed domestic financial markets, Chinese households have limited investment options. Return on bank deposits is low given the deposit rate ceiling set by the central bank and has often been significantly negative. The domestic bond market is small and the equity market is highly volatile. Properties therefore have become a favoured instrument for wealth accumulation. This is exacerbated by the strong upward trend in housing, which fosters a notion that housing prices can only go up.

Figure 14: Accelerating urbanization in the past decade



Source: CEIC, Barclays Capital

Figure 15: Household and national savings are high



Source: CEIC, Barclays Capital

Real estate remains the top choice for asset allocation

A good illustration of this is the September 2011 PBoC urban depositor survey. Figure 16 shows that housing property remains the most favored asset class by Chinese households, chosen by 23.6% respondents, followed by 21.3% for wealth management products, 14.2% for bonds and 9.2% for equities. It is worth noting that this is despite 75.6% of the respondents believing that property prices are "too high and hard to accept". This shows the strength of investment demand, especially in an era with negative real interest rates and expectations of rising property prices. While property as a wealth management tool was a luxury enjoyed only by a small group of those who "got rich early", and by foreign capital (given the rapid RMB appreciation), it has become more of a national 'hobby' since 2009.

Strong household balance sheets are a key stabilizing factor

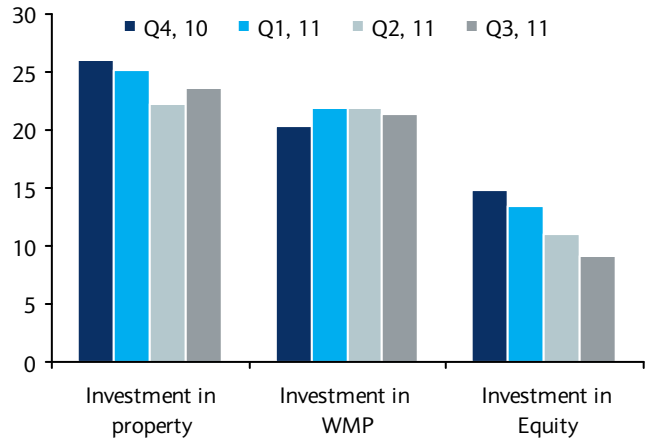
Finally, Chinese households have very strong balance sheets. Consumer lending is a new development in China. Households have traditionally not borrowed to consume or buy property until very recently. Consumer loans are roughly about 16% of total outstanding loans, which are, again, about 19% of GDP (Figure 4). This is roughly equivalent to the value of one year's household savings. Mortgage loans are about 13% of outstanding loans or 15% of GDP. The low leverage ratio provides ample room for future housing demand. At the same time, it helps avoid forced deleveraging, or forced sale of houses, when housing prices decline. This is an important factor supporting stability of the housing market.

Long-term fundamentals suggest less over-valuation

Hence, it is probably not surprising that when linking prices to long-term fundamentals, a 2010 IMF-HKMA research paper[5] found that house prices are not significantly overvalued in China as a whole as of mid-2010. Their panel regression across 35 Chinese cities did find the mass-market segment in some coastal cities (in particular in Shanghai and Shenzhen as well as a few inland cities) may be in the early stages of excessive price growth (Figure 17). To identify the long-term equilibrium house prices, the paper includes real interest rates, population density, real GDP per capita to capture demand factors, land prices for supply/costs factor, and stock prices to capture the potential co-movement of land prices.

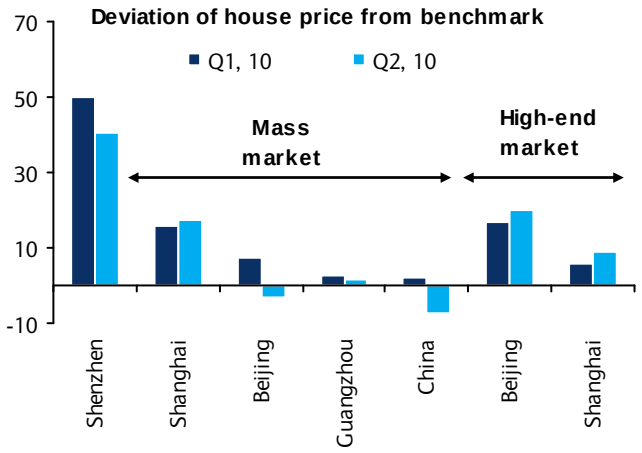
[5] *Are house prices rising too fast in China?*, by Ashvin Ahuja, Lillian Cheung, Gaofeng Han, Nathan Porter, and Wenlang Zhang IMF WP/10/274, 2010 and HKMA WP 08/2010. This thereafter refers to as IMF-HKMA (2010).

Figure 16: Households' top picks for asset allocation



Source: PBoC Urban Depositor Survey, Barclays Capital

Figure 17: Estimated over-valuation of house prices



Source: "Are house prices rising too fast in China, IMF, 2010?", Barclays Capital

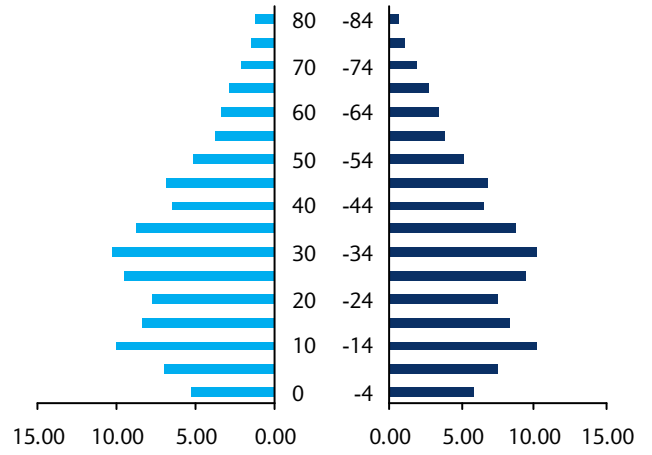
These favourable conditions could turn negative soon

Favourable factors likely to turn negative in the next five years

The bad news is that the favourable factors discussed above are likely to turn negative in the next five years, in our view, creating significant risks of the bursting of property bubbles. One fundamental change is driven by the transition from economic miracle to normal development, which is likely to slow economic growth, lower the national saving rate and increase the cost of capital[6], specifically:

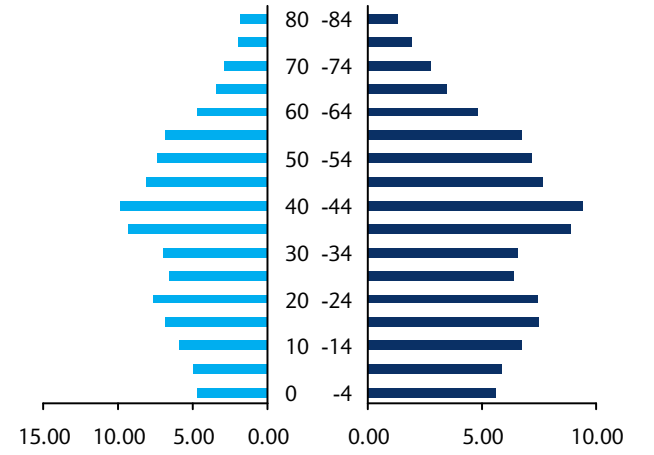
- Economic growth may moderate from 10% to around 8%;
- Demographic change may become less favorable for housing demand as the proportion of working age population declines;
- Expectations of financial liberalization may create investment opportunities other than property;
- Over time, households' leverage ratio may also rise.

Figure 18: A maturing population age structure in 2000



Source: CEIC, Barclays Capital

Figure 19: Rapid aging as seen from the 2009 data



Source: CEIC, Barclays Capital

[6] China: Beyond the miracle, Part 1- China's next transition, Yiping Huang, Jian Chang, Lingxiu Yang, 5 October, 2011

The only positive trend is continued steady urbanization

The only positive trend that we think may continue is the steady pace of urbanization. But the positive impact of urbanization might be offset by unfavourable demographic change in the medium term. Also, in the short-term, new rural migrants' demand for urban commodity housing may be restricted due to their limited income (Figure 9).

In such an environment, if housing prices continue to rise further, which means even greater property bubbles, then a housing meltdown may become increasingly likely.

China at the threshold of an irreversible demographic transformation

As a result of the one-child policy that started in 1978 and the government's hesitation/reluctance to phase it out despite suggestions from demographic experts, China is now standing on the threshold of an irreversible demographic transformation. In contrast to Figure 13, the 2000 population age data already show a rapidly maturing structure, with the largest shares being the working age group (Figure 18). The trend of a fast aging population has become more visible, to some extent alarming, as seen in the 2009 pyramid, with the structure turning to a top-heavy one (Figure 19). The 2010 Census reports that birth rate fell to 0.57% over the past decade, compared with 1.1% in the previous decade.

Working age population will likely peak around 2015

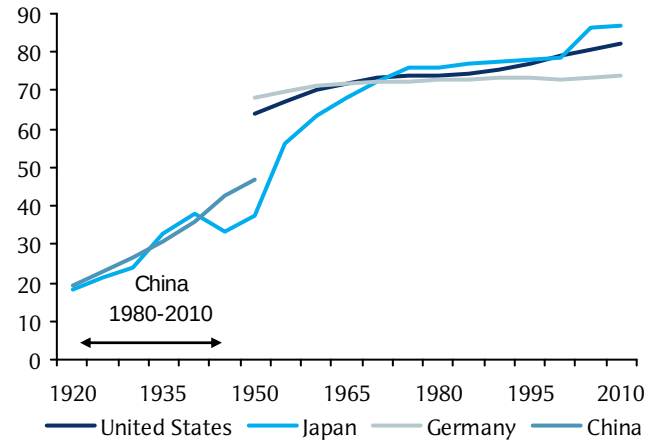
While the exact timing is uncertain, one thing for sure is that China's demographic dividend will disappear within the next decade. China's working age population will probably peak around 2015. According to the United Nations, the elderly (age 65 and older) share of the population, which was 8% in 2010, will double to 16% by 2030 and more than triple to 30% by 2050. This will have important implications for economic growth and social and political stability. China will face significant development challenges associated with an aging population, at a time when the society is still relatively poor with an underdeveloped social welfare system.

Figure 20: China's Demographic Indicators

Year	1975	1980	1990	2000	2010	2020	2030	2040	2050
Total dependency ratio	113	103	81	68	55	53	58	72	78
Working-age share (%)	57	59	66	67	71	70	67	60	57
Elderly share (%)	5.3	5.9	6.4	6.9	7.8	9.8	15.5	24.2	30.1

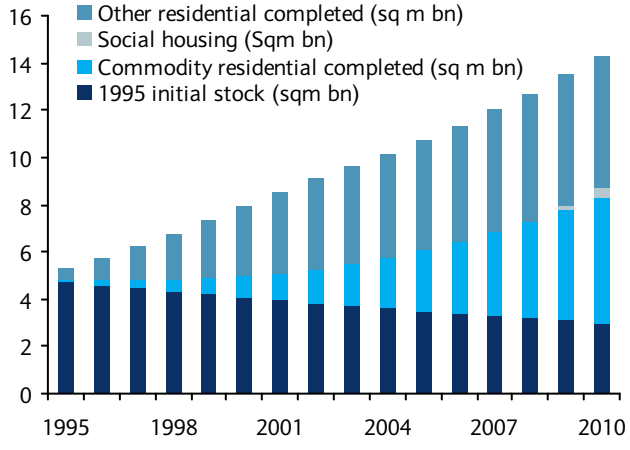
Source: UN Population Division (2010)

Figure 21: Urbanisation still has a long way to go



Source: UN, Barclays Capital

Figure 22: Estimated total housing stock



Source: MOHURD, CEIC, Barclays Capital

Dependency ratio to bottom out, reducing housing demand

After the disappearance of the demographic dividend, the total dependency ratio will bottom out and the working-age population will begin to decline (Figure 13), reversing the positive economic effects of the demographic transition. Economic growth is set to slow, savings and investment rates to decline. Fundamental demand for housing from the newly increased population, as well as investment demand based on high savings and low dependency, will face significant downward pressures starting from 2015-2020.

Financial liberalization to diversify investment choices

Some medium/longer-term development trends in the financial market (see *China: Beyond the Miracle part 2: The Upcoming Financial Revolution*, 6 October 2011) will also add pressure to demand for housing property. Domestic financial/bond market development and an opening up of the capital account will provide more investment options for households. The government plans to allow for 'basic convertibility' of the capital account in the next five years, as written in the 12th FYP. Outward investment, including portfolio investment, will be encouraged as a means for households to diversify their assets, although restrictions will likely still be placed on cross-border portfolio flows. Liberalisation of interest rates, another important reform to be expected in the next five years, and an expected decline in the savings rates will likely make deposits more attractive and lending rates more expensive as the underpricing of capital is gradually normalised.

Urbanization will provide some offset

On the other hand, nationwide property demand will still have some support in the next few years despite a more negative longer-term outlook. First, with 50% of the population living in cities now, urbanization will continue to be a driver for urban housing demand in the next two decades. This is in contrast to the US and Japan, whose urbanization rates were already above 75% when their property bubbles burst, and were thus unlikely to provide strong underlying housing demand (Figure 21). The pace of the urbanization, however, will likely slow from the surge in the past decade. The government has in recent years taken policy measures to facilitate rural migrants' integration to urban living to sustain a rapid urbanization. Policies to further liberalise the household registration system, provide a better social safety net for migrant workers and their children, and develop public housing, will help to speed up the process. The government target is to increase the urbanization ratio by 1% per year in the 12th FYP, equivalent to 12mn new urban residents per year.

So will the upgrading needs

Moreover, demand to upgrade to larger sized, higher quality commodity housing remains significant in China. This is despite a very high home ownership rate, reportedly exceeding 89%, compared with 68% in the US, 60% in Japan and 40% in Germany. A survey by the NBS found that as of 2005, 82% of urban households in China have owned/purchased their housing. A significant portion of the properties are those that were developed by the government and SOEs, as opposed to commodity housing, which refers to residential housing built by private developers for sale to the public. Our estimated existing housing stock shows that despite rapid development, private commodity housing still accounts for less than 40% of the total housing stock[7] (Figure 22).

How might bubble deflation play out in China?

Corrections often triggered by common developments

A brief examination of international experiences suggests that significant correction of housing prices could be triggered by one or a combination of the following changes:

- Significant slowdown of economic growth, which lowers households' income expectations and, therefore, lowers demand for housing;

[7] Estimations on both physical housing stock and value of the stock could vary significantly, depending on assumptions about initial stock, depreciation and housing values to name a few. Available data are poor and limited.

- Substantial tightening of monetary policy, which dries up liquidity and, therefore, constrains financing for home buying;
- Oversupply of properties, at least in the short term, which is normally a result of policies supplying large areas of land or restricting purchase.

The government's constant intervention has reduced the risks of a near-term hard landing

The Chinese government has been actively monitoring and, sometimes, intervening in the housing market, learning from its own experiences and those of other countries. While it is arguable whether this is healthy for the medium term, this intervention has been shown to have reduced the risks of a hard lending in the short term. The IMF-HKMA (2010) research found that over the past decade, when misalignments in house prices have occurred in China, they have been corrected relatively quickly. This is in contrast to the situation in, for example, the US, where misalignments tend to persist for much longer, ending in a large correction[8].

Policy measures until recently have not been effective in curbing prices

Following significant housing price spikes during the second quarter of 2009, the State Council introduced a number of measures to discourage housing demand, including restricting purchase of second or third apartments by individual households and raising down-payment requirements. These measures were not effective, however. In part, this was because the government did not have a central information system, which makes it difficult to verify whether a household was buying more than one apartment.

Strict home purchase restrictions have been expanded nationwide

From April 2011, more than 40 cities introduced administrative restrictions on housing purchases. Taking Beijing as an example, the policy dictates that each household with household registration in Beijing can only buy one new apartment. Migrants living in Beijing are not allowed to buy an apartment unless they can provide documents to prove payment of taxes and social security contributions for the previous five consecutive years. Despite pressures from property developers and local governments to revoke the restrictions as property prices started to decline across the country, the central government made it clear that restrictions should continue and might be extended to other second- and third-tier cities. In November 2011, Zhuhai city of Guangdong province joined the other cities in restricting housing purchases (and prices). This took the total number of cities implementing restriction policies to 47.

It was highly controversial when first introduced

The restriction policy was highly controversial when it was first introduced in early 2011. Most economists criticized the policy for its unfairness, discriminating against migrants and deepening the rural-urban divide, and for its administrative nature. Others also questioned its likely effectiveness, since it might encourage expectations for future price increases. There were reports about real estate agencies helping to prepare fraudulent documents for tax and social security payment. If such practices were to become popular, then the restriction policy might not have any impact.

But has appeared to be effective

The actual impact, however, is now quite clear. Prices have already started to decline in an increasing number of cities. Since the purpose is to stabilize housing prices, it looks as though the policy has indeed been quite effective, leaving aside issues about fairness, efficiency and accuracy.

An orderly price adjustment or sharp correction?

The key question now is whether this bubble deflation will be limited to price adjustment or will lead to systemic meltdown. Pessimists worry about a housing price correction causing widespread problems in consumption, investment and, most importantly, the financial system.

[8] They found "deviation from benchmark prices appears not to be persistent, with a half-life of around 1 quarter on average for China overall; less than the cases of Hong Kong (2–4 quarters) and Singapore (5 quarters). This constant correction of house prices is unlike the behavior observed in several industrial economies before 2008—especially the U.S., New Zealand, and France—where deviations from benchmark prices tended to persist far longer, allowing for an accumulation in vulnerabilities, ending in a large and abrupt adjustment".

China's case is different from Asia prior to the 1997 crisis

Before we get into that discussion, however, it is worthwhile pointing out that the Chinese situation today is very different from conditions in the Asian economies leading up to the Asian financial crisis in 1997 (Figure 23). While China's property bubbles today might be comparable to those in Malaysia and Thailand before the crisis, there is no sign of a stock market bubble, and a banking crisis and exchange crisis look highly unlikely. So we probably should not expect a full-blown crisis in China.

Figure 23: Incidence of Asset Price bubbles and banking and exchange rate crises during the Asian Financial Crisis*

	Capital inflow surge	Real credit growth	Property price bubble	Stock market bubble	Banking crisis	Exchange crisis
Indonesia	√ √	√	√	√ √	√ √	√ √
Korea	√	√	√	√ √	√ √	√ √
Malaysia	√	√ √	√ √	√ √	√	√ √
Philippines	√ √	√	√	√	√	√
Thailand	√ √	√ √	√ √	√ √	√ √	√ √
Hong Kong	√ √	-	√	√	-	√
Singapore	√	√	√	√	-	-
Taiwan	-	√	√ √	√	√	-
China**	-	√ √	√ √	-	-	-

*Note: the single √ indicates a moderate capital inflow or a bubble/crisis, a double √ indicates important capital inflows or a severe bubble/crisis, and a – indicates minimal bubble/crisis. ** China's data refers to the current situtation. Source: IMF and Barclays Capital. The original table is from "Lending booms, real estate bubbles and the Asian crisis, Charles Collyns and Abdelhak Senhadji", IMF WP02/20, January 2002.

In order to understand how the property bubble correction in China will likely play out, we need to answer the following questions:

- How much downward price adjustment would the government tolerate?
- Would price declines force deleveraging among households?
- Would the property sector suffer significant financial losses?
- Would these changes add an unbearable amount of nonperforming loans to the financial system?
- Finally, what are the likely macroeconomic consequences?

Some 10-20% price decline may be tolerated by the government

The government has never published a range for the expected decline of housing prices as a result of housing purchase restrictions. Our best guess, however, is that the government wanted to see declines averaging 10-20%. Prices are likely to correct more in large cities, where they went up more sharply during the past two years (70-110%). But it is also important to remember that the government's purpose is not to crash the housing market, since that would cause devastating consequences for the economy at large. After all, the property sector has already become a key driver of economic growth in China. Therefore, we do not expect the government to sit idle and watch the free fall of property prices.

Our base case is a 10-30% house price correction

If 20% is the government's psychological limit, then we should expect it to micro-adjust or even reverse the policy restrictions. However, the market would probably respond with some time lag. It is a common phenomenon that homebuyers do not buy when prices are declining rapidly. So investors would come in only after a certain period. This means that prices may fall further in the short term even if the government aims at 20%. Therefore, our base case is that housing prices could fall by 10-30%. An average decline of 30% would likely bring Chinese housing prices to the levels before the 2009 rally.

We don't expect forced deleveraging to happen in China

But even if a significant 10-30% price decline occurs, it will not lead to forced deleveraging among Chinese households. In the US, falling house prices after the peak in 2006 have resulted in negative home equity (outstanding mortgage debt exceeds the property value). Home refinancing based on the earlier assumption of price appreciation is no longer an option. Unable to pay for the debt, default and the subsequent foreclosure became unavoidable. Forced sales of properties have added to the inventory for sales, placing downward pressures on home prices, which further lowers home equity. Such vicious cycle has spread from the subprime mortgage market to the national property market, and the household deleveraging was exacerbated by the deleveraging in the financial system.

Chinese households have strong balance sheets

Chinese households have strong balance sheets, in contrast to the savings-short but debt-heavy US households. The outstanding consumer loan (83% home mortgage loan) is at 19% of GDP or around 40% of household disposable income in 2010 (Figure 4), while the US household debt to personal disposable income reached its all-time high of 133% in 2007[9]. This reflects a short history of mortgage financing (since 1998) in China, low leverage for home purchase, and an under-developed consumer credit market. Chinese households have also not levered up further and borrowed against home values, unlike in the US. Moreover, Chinese households' savings have been at 20% GDP per year, and close to 30% of disposable income. Total savings deposits have exceeded CNY30trn in 2010.

Leverage for home purchase is low by rule and culture

Households' leverage for property purchase is low despite some increase in 2009. A high down payment of 30-50% is usually paid upfront. This is partly due to regulation and partly due to culture. The government has minimum down payment requirements of 20-60% against home value[10], compared to 5-10% in some other countries (zero was seen in the US in the period of lax lending conditions). Chinese households also prefer to avoid debt and usually: 1) try to increase down payments to minimize interest payments; 2) tend to pay back their loan ahead of schedules, eg, in 4-5 years. All-cash payments, especially for third and above homes, is common (as high as 50% in various markets according to anecdotal evidences[11]) given the existence of a very rich group – small in percentage of total population but large enough in importance – to support certain segments of the market.

Households will not walk away from their properties

As a result, the situation of negative home equity would not be common in China, even in the case of a 30-40% price decline, hence we don't expect significant default or forced deleveraging, which would add substantial NPLs to the banks. Negative equity due to falling house prices would be more likely to happen to first-home buyers given the above discussions, but they are the least likely group to walk away from their homes. During the 2008 price correction, when Shanghai and Shenzhen saw an average 20-30% y/y price decline, defaults and foreclosures were very few. There has indeed been a degree of "rush-for-sale" observed by private house owners in recent months, eg, WenZhou SME owners due to their financing difficulties, but their impact looks small and local.

Multiple home owners will unlikely rush to sell now

Under current market conditions, with expectations of prices falling, multiple home owners are unlikely to rush to put their homes for sale as this would worsen the supply-demand dynamics. At the beginning of the price decline cycle, potential home buyers, including first-time buyers, will likely wait instead of rush-to-enter. Multiple home owners will then be unwilling to sell and suffer a big loss, especially given that the majority of them don't have payment constraints as discussed. They are most likely to wait for prices to recover.

[9] See **"U.S. Household Deleveraging and Future Consumption Growth", FRBSF Economic Letter, 2009-16**

[10] The government requires 20% down payment against the property value (30% for size above 90sqm) for first-home buyers. In November 2011, this was raised to 30% for all sizes. The down payment for second home mortgage was raised to 50% from 40% in April 2010, and to 60% in January 2011. Banks were advised to stop lending to mortgages for third home and above since April 2010.

[11] Anecdotal evidence show that the ratio increased after the government has strictly enforced purchase restrictions. Home loan and sales data suggest some 45% of homes purchased in Shanghai in H2 2010 were likely paid by cash.

Facing increasing financial difficulties, developers started to cut prices

What about property developers? Developers cutting prices after facing a severe liquidity squeeze is a key potential trigger for a meaningful price decline in China, in our view. This had been the case during price corrections in 2005 and 2008. It has been anticipated that continued sluggish property sales would lead to the same sooner or later. In the past few weeks, several major developers have been seen to offer 10-15% discount for new home sales in Shanghai as well as other cities nationwide. While this reflects companies' near-term sales strategy as developers ultimately care more about sales/profits than some price decline, it has become evident that developers are increasingly facing liquidity difficulties given weak sales following the home purchase restrictions and tight credit conditions[12].

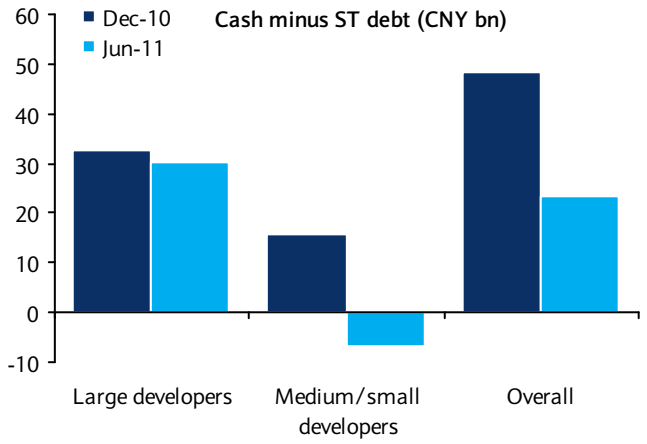
Large developers have held up

Overall, we think large developers could survive the downturn, but small developers will probably suffer from significant financial stresses. Large developers are relatively cash rich, given solid sales over 2009-10. They have in fact posted strong sales so far in 2011 as they've expanded to second-third tier cities which were less affected by government tightening policies. In particular, Wanke saw 40% y/y and 36% increases in sales volumes and revenue, respectively, year to September, and COLI posted 22% and 55% increases, respectively. They could also tap alternative sources of financing, such as offshore financing and domestic trust loans, though the non-bank financing sources have recently been restricted or shut down due to the stricter domestic regulations and European debt crisis.

Smaller ones are in bigger trouble

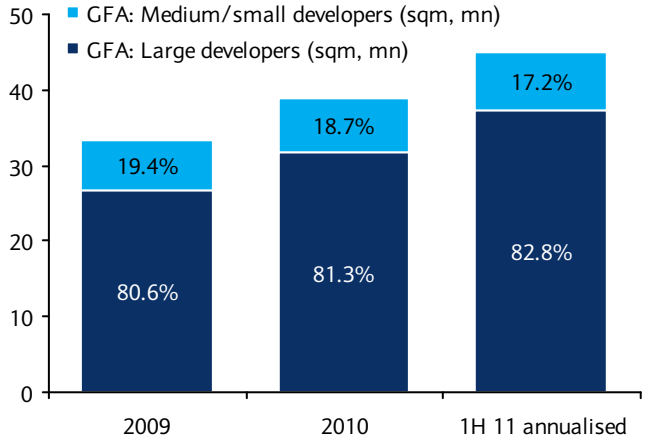
Small developers are running into greater difficulties. First, they also face greater sales pressures, with their market share being taken by large and cash-rich developers in the current tightening cycle (Figure 24). Second, they face greater financing difficulties. Figure 25 shows that the smaller-medium property developers have already seen their cash minus short-term debt turn negative by H1 2011. Further deteriorating market conditions could cause some panic sales by small developers, which could weaken sentiment and push down prices more significantly. But a more likely case is that deteriorating market conditions would accelerate the consolidation in China's highly fragmented property industry (estimated some 50,000 developers).

Figure 24: Smaller developers face greater liquidity pressure



Note: Based on a sample of bond issuers. Large developers include Agile, Cogard, COLI, CRL, Evergrande, Guangzhou R&F, Longfor and Shimao. Source: Company data, Barclays Capital, contributed by our property credit analyst, Christina Chiow

Figure 25: Larger developer gaining market share



Source: Company data, Barclays Capital , chart contributed by our property credit analyst, Christina Chiow

[12] Speculations about potential property developer insolvency have intensified since September, after a large and highly leveraged developer Greentown was reportedly singled out under regulator's check and a smaller one Dalian Rightway reportedly failed to repay a CNY447mn loan.

Banks' indirect exposures could be significant

A concern most frequently raised by investors is the exposure of banks to the property sector. Along with the booming property market, the banking sector's exposure to the property sector has increased over time, especially in 2009, but it is from a low base. The direct exposure, including mortgages and loans to developers, stood at about 20% of total loans in Q3 2011 (Figure 26, 27). The indirect exposure to the property sector, however, is likely to be significant. Loans to the sectors that are closely linked with the property sector, including construction, metal smelting, chemical, are substantial (Figure 28). Moreover, during the lending boom in 2009-1010, total new on- and off-balance-sheet lending amounting to CNY12trn in 2009 and 2010. Loans to local government investment vehicles and the corporate sector use land and commercial properties as collateral; thus, falling property values will have significant bearing on the banking system. According to the "Chinese Bankers Survey 2011" released by PricewaterhouseCoopers and the China Banking Association in October, 67.2% of bankers view a sharp property market correction as the biggest potential risk (Figure 29).

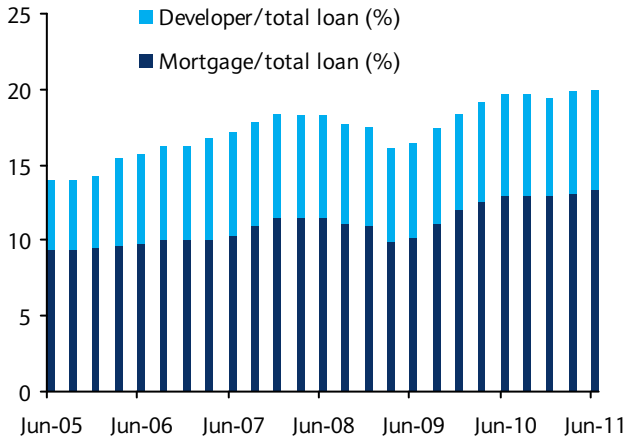
But a banking crisis is less likely

A significant drop in housing prices and a slowdown in property transactions would likely worsen banks' asset quality via the impact on mortgage delinquencies and loans to developers. NPLs (currently at 3%) will increase following a sharp property price correction. Figure 30 based on an IMF research compares the exposure of Asia countries' banking system to the real estate sector during the Asian financial crisis. It shows that NPLs in many countries doubled or nearly doubled one year after the 1997 crisis. However, we believe a banking crisis is unlikely in China even in the event of a collapse in property prices.

No massive household or corporate deleveraging expected

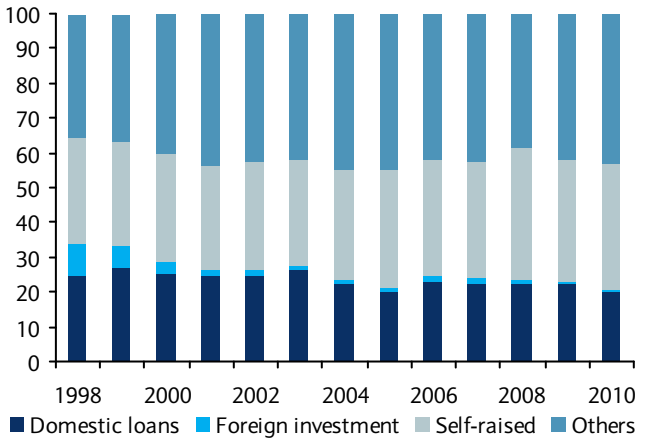
First, as discussed, China's case is different from the US (2007)/Japan (1991) or EM Asia (1997) where a real estate boom-bust cycle often leads to or reinforces a banking/financial crisis. Without massive deleveraging expected in China, the overall bank exposure to the property sector should still be manageable, compared with its total CNY100trn banking assets. According to the China Banking Regulatory Committee Chairman in October, stress testing results show that a 40% property price decline will not likely cause financial meltdown, be it from a household leverage or developer leverage perspective. Moreover, the repayment capacity of borrowers depends more on their cash flows than on changes in values of the collateral. Hence as long as the economy will not be trapped into a prolonged period of low growth, the concern is unlikely to be of systematic importance.

Figure 26: Banks' direct exposure to property loans



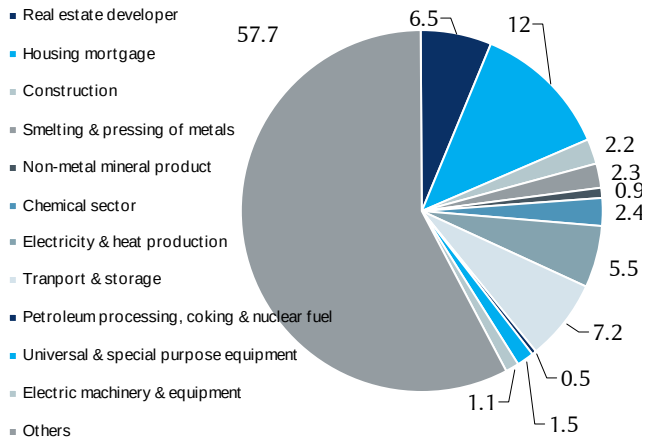
Source: CEIC, Barclays Capital

Figure 27: Property investment by source of fund



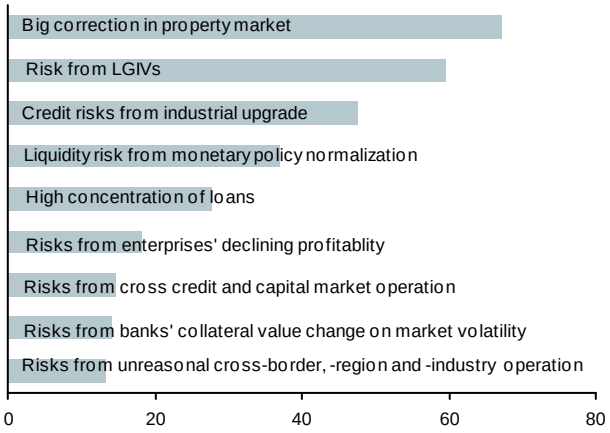
Source: CEIC, Barclays Capital

Figure 28: Loan exposures to property-related sectors



Source: CEIC, Barclays Capital

Figure 29: Bankers view property correction as biggest risk



Source: China Banking Association, PwC, Barclays Capital

China is not vulnerable to a sudden stop in external financing

Second, China does not rely on external financing and hence is not vulnerable to a sudden stop in external financing flows. A common feature of the financial crises in many emerging market economies in recent history is that external financing was involved to a significant degree in the boom period, and a sudden stop in such financing often triggered a crisis. China has been a significant net exporter of capital, and capital inflows are mostly in the form of foreign direct investment while external investment is mostly in liquid instruments such as foreign government bonds.

Bank lending to the non-bank sector is unlikely to stop

Third, in our view, it is hard to imagine that a wiping out of banks' capital position due to loan losses would lead to a sudden stop in bank lending to the non-bank sector, which is often an important accelerator of a financial crisis. The Chinese banking system has large liquidity locked in the required reserves, which can be released in times of need. Moreover, banks are majority owned by the state, so as long as the public does not lose confidence in the state, a bank run is unlikely in China and a significant credit crunch is not foreseen.[13]

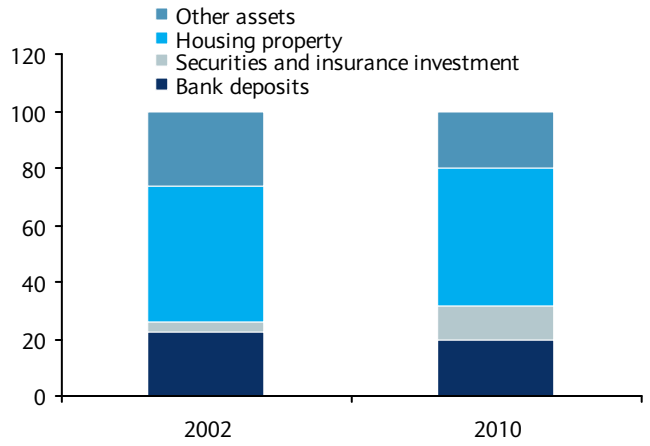
Figure 30: Exposure of Asian countries banking system to real estate sector

	Property exposure	Collateral valuation	Non-performing loans		Capital-asset ratio
Year	1997	1997	1997	1998	1997
Korea	15-25	80-100	16	22.5	6-10
Indonesia	25-30	80-100	11	20	8-10
Malaysia	30-40	80-100	7.5	15	8-14
Philippines	15-20	70-80	5.5	7	15-18
Thailand	30-40	80-100	15	25	6-10
Hong Kong SAR	40-55	50-70	1.5	3	15-20
Singapore	30-40	70-80	2	3.5	18-22
Year	2010	2010	2010	2011	2010
China	11	~ 80	2.4	3	12

Source: IMF and Barclays Capital. The original table is from "Lending booms, real estate bubbles and the asian crisis, IMF WP02/20, Charles Collyns and Abdelhak Senhadji, January 2002". China's data are added by authors.

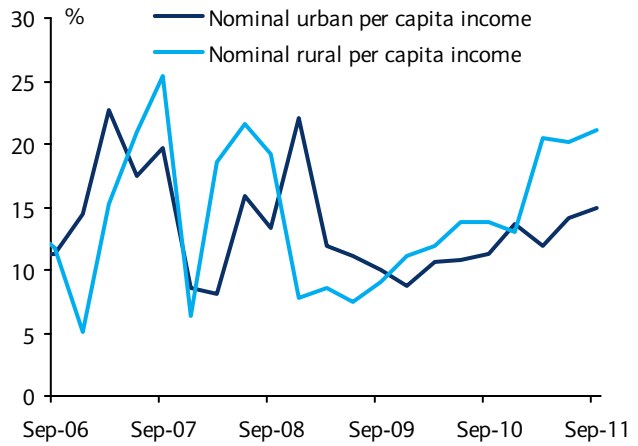
[13] This doesn't mean that there is no price to be paid in association with loan losses. The Chinese government policy favours the banking system via interest rate regulation, which gives an unusually large lending spread. However, this comes at a cost to households, which receive low deposit interest at a regulated rate. Moreover, in the event the government needs to recapitalize banks, households will be the ultimate bearers of the costs.

Figure 31: Property is the main form of household wealth



Source: NBS, PBoC, Barclays Capital

Figure 32: Rapid rise in household income



Source: CEIC, Barclays Capital

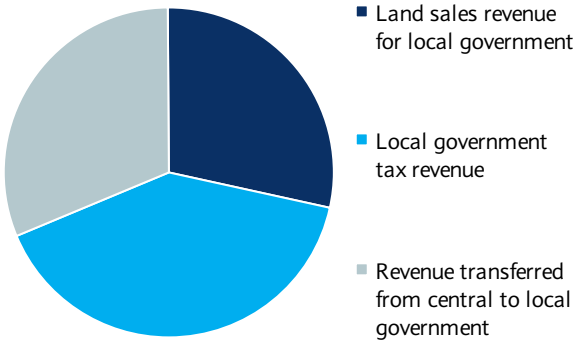
Property has become the most important household asset

An assessment of the macroeconomic impact might be more complicated. Housing property has become the most important asset class that comprises household wealth. The private housing market has existed since the 1980s, but it was not until 1998, when the government finally terminated the welfare housing distribution system, that the private real estate market started to develop and private home ownership began to become widespread. Since then, part of household wealth (in the form of savings deposits) had been shifted to the formerly non-existent category of private housing. By our rough estimates, the value of urban housing stock reached CNY73trn in 2010, compared with CNY30trn of household savings deposits and CNY36trn total stock market capitalization. Housing wealth now roughly accounts for 54% of urban household assets, by our estimates (Figure 31).

Land sales revenue is an important source of local government financing, contributing to growth

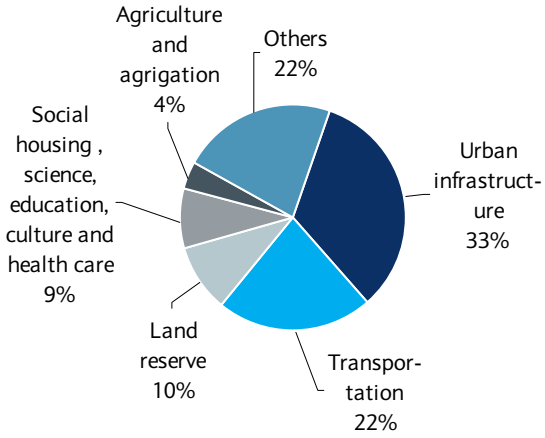
Land sales revenue has become an important source of local government financing. While the importance varies significantly by cities and by year, land sales generally account for some 30-40% of local government revenue in the past couple of years. In 2010, land sales revenue (extra-budgetary) reached CNY2.94trn, 35% of the total local government revenue (CNY7.3trn based on tax revenue and central government transfers, Figure 33). We see two implications: 1) land sales revenues have been contributing to spending by local governments, which suggests that a sharp property correction would result in a significant

Figure 33: Land sales important source of revenue



Source: Ministry of Finance, CEIC, Barclays Capital

Figure 34: Local government debt by usage



Source: National Audit Office, Barclays Capital

reduction in local government spending, driving down investment growth. 2) Local governments and to some extent central government would not want to see a significant price correction, given the range of social responsibilities, including the funding of the social housing projects expected from the local governments (Figure 34).

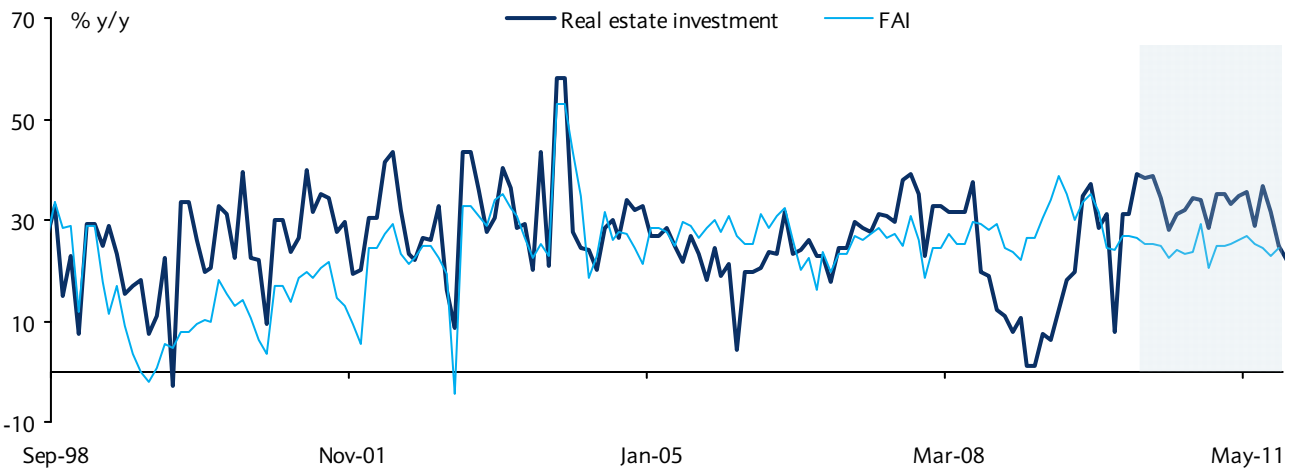
Impact of property price decline on investment is significant

The impact of falling property price on investment would be significant. Figure 35 shows that since the 1998 housing reform, property investment (averaging 24.4%) has been highly correlated with fixed asset investment (FAI) growth (22.4%) and hence a main driver of China's economic growth. Directly, real estate investment and construction accounted for about a quarter of FAI, and about 12% of GDP. Indirectly, it affects industries both upstream and downstream. We estimate about 20% of GDP is likely related to property investment. Historically, property investment has a positive and strong correlation with housing prices (Figure 36), with both often driven by the same factors – policy/credit easing/tightening. Figure 37 shows that the sluggish national property sales in recent months, if they persist, will lead to a significant slowdown in housing starts. But property investment is more correlated with "under construction" than just "starts" (Figure 38). In our base case, we expect real property investment (including both private and social housing) to slow to around 15% y/y in 2012 from 23% forecast for 2011. In an unlikely scenario of a sharp property price correction and private property investment falling to zero percent, downside risks will be -1.2pp to our baseline forecast of 8.4% in 2012, other things being equal.

Social housing unlikely to provide enough offset

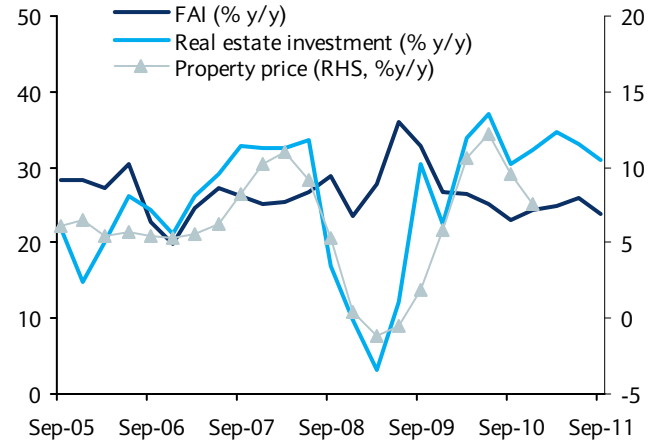
Social housing is unlikely to be a significant offset to the expected slowing property investment growth. Last year, the government started 5.9mn units and completed 3.6mn. The government is committed to building 36mn new units of social housing in the 12thFYP. The plan is to start 10mn units in 2011 and likely 10mn in 2012. While we believe public housing will increase over time to meet a substantive part of the total housing demand, we don't think its contribution to property investment and hence GDP growth will be significant after the initial jump in 2010-11. Assuming a rather optimistic forecast of social housing financing and construction in 2012, social housing investment growth could be at 41% in 2012, compared with around 100% in 2011-12 (Figure 40). We estimate that its contribution to GDP growth could be around 1pp in 2011 and 0.5pp in 2012.

Figure 35: FAI and investment highly correlated



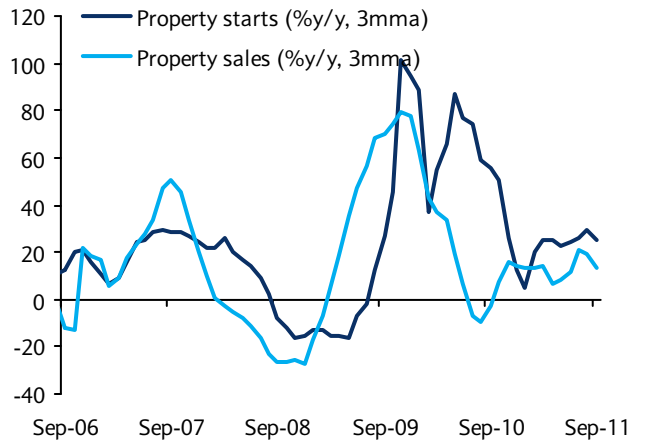
Source: CEIC, Barclays Capital

Figure 36: Property prices highly correlated with investment



Source: CEIC, Barclays Capital

Figure 37: Property sales leads starts by 2-3 quarters



Source: CEIC, Barclays Capital

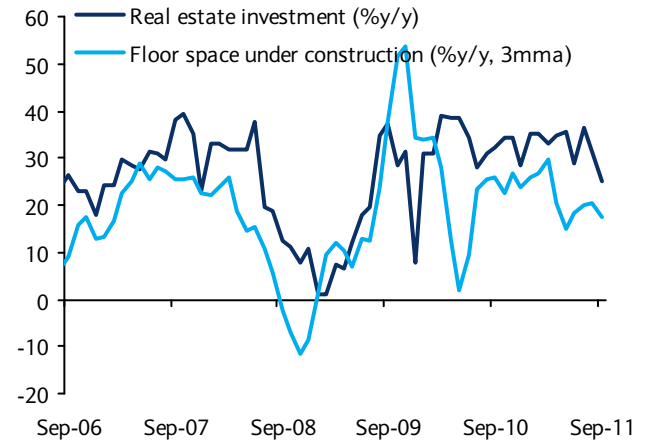
Limited impact of a house price fall on consumption for now

We take a more benign view of the impact of a housing price fall on consumption. We think wealth effects associated with changes in housing prices are likely to be limited, in aggregate terms, at least for now. Figure 39 shows that property prices historically have had little correlation with household consumption growth in China, though a degree of positive correlation is observed with retail sales. Property sales are found to be highly correlated with sales of furniture, home appliances and construction materials.

Wealth effects of house price changes could vary greatly

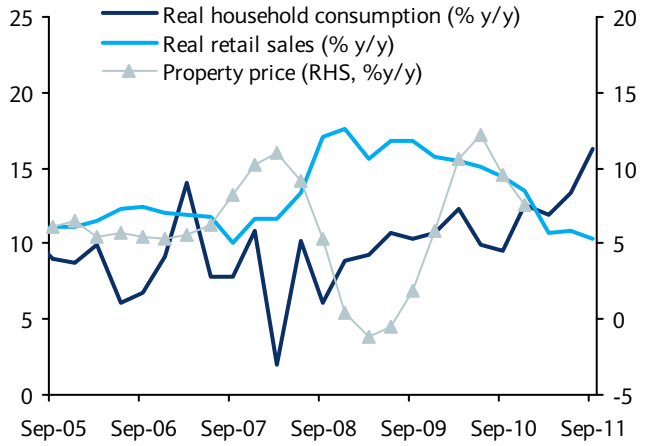
In theory, property price adjustments can affect private consumption through wealth effects (falling prices reduce home owners' perceived lifetime wealth, and constrain their financing/borrowing against home value) as well as income effect (falling prices could result in lower expected income growth, or increase disposable income for potential buyers through reduced savings). These channels vary greatly across countries though. The positive wealth effects from rising house prices have been most evident in the rapid US consumption growth, which was attributable to households' ability to borrow from the rapidly appreciating home values. In Muellbauer and Murata 2011 and Aron et al forthcoming[14], authors developed models including wealth- and interest-rate effects, and

Figure 38: Investment is more correlated with construction



Source: CEIC, Barclays Capital

Figure 39: Property prices and consumption not correlated



Source: CEIC, Barclays Capital

[14] Credit, housing collateral and consumption: evidence from the US, Japan and the US, Working paper 1002, Federal Reserve Bank of Dallas, Janine Aron, John Duca, John Muellbauer, Keiko Murata, Anthony Murray, May 2010

investigates the role of residential land prices. They found the impact of higher house prices on consumer spending in Japan is negative. They attribute that to differences in mortgage markets and tax systems, which discourages home equity withdrawal in Japan but encourages it in the US. China on this basis looks more like Japan than the US, in our view.

Figure 40: Social housing and its contribution to property investment

	Social housing starts	Estimated units under investment	Cost per unit (PPI deflated)	Estimated investment amount		% Real estate investment
Unit	mn Units	mn Units	CNY	CNY trn	%y/y	%
2008	1.0					
2009	3.3	1.6	115161	0.2		5.1
2010	5.9	3.1	121495	0.4	102	7.7
2011	10.0	6.4	130000	0.8	123	13.3
2012	10.0	8.6	136500	1.2	42	16

Source: MOHURD, Barclays Capital

Most research on China found little evidence of a negative relationship between house price and consumption

This is ultimately an empirical question: research so far using data for the past two decades has generally found little evidence of a negative relationship between price and consumption in China.[15] Based on panel data at the provincial level for 1994–2008, the IMF-HKMA (2010) paper analysis shows the overall impact of property price changes on China's private consumption would be insignificant, with a 10% drop in property prices likely to induce a fall in private consumption of 0.7%. Indeed, Chinese households have been prudent. The rapid surge in home values and household wealth has not led to significantly increased consumption growth in recent years. Another possible explanation is that while a fall in prices likely has a negative wealth effect for existing home owners, potential buyers could benefit from it. Low-income people, younger generations, and new urban residents migrating from rural areas would need to save less for down payments, and these people tend to have a higher propensity to consume than high-income people.

Policy and market implications

Housing demand has been well-supported so far

Our brief analysis of the Chinese housing market suggests that property bubbles are indeed already quite serious, according to a range of conventional measures. We have not seen a major collapse of the bubbles so far because several important factors continue to support housing demand: strong income growth, steady urbanization and favourable demographic change, limited investment alternatives for massive savings, and very healthy household balance sheets.

But favourable conditions may turn negative in coming years

Unfortunately, however, most of these favourable conditions may become negatives in the coming years. Income growth is likely to slow as the economy transitions from economic miracle to normal development. The savings rate will probably fall, while the cost of capital might rise. A declining proportion of the labor force among the total population means structural weakening of housing demand. Financial liberalization could open up many new investment opportunities for households, which at the same time may increase their leverage ratios. All these point to higher risks of bubbles bursting in the coming years, if the bubbles continue to build rapidly.

[15] Does rising house price increase or decrease residents' consumption? An empirical study based on panel data of 172 prefecture -level cities, Du Li, Chunyang Pan, August, 2010
A study to research the main reasons that affect the residents' consumption, NBS, Wei Yang, Yu Liu, May 2011

Government may tolerate an average 20% price decline

Policy restrictions on housing purchases are probably a second-best choice, as they discriminate against migrants and are too abrupt. But so far they have been effective as more and more cities start to see declining housing prices. Our best guess is that the government might be willing to tolerate an average decline in housing prices across the country of 20%. The actual decline, however, might range between 10% and 30%.

Policy purpose is to induce some adjustment of the prices, not to see a collapse of the market

Once price adjustment approaches 20%, the government will likely take some action, either micro-adjusting or reversing the policy restrictions. In other words, the government will not sit on the sideline to watch a free fall of housing prices. The policy purpose is to induce some adjustment of the prices, not collapse the market. The longer-term policy agenda is to replace policy restrictions with property taxes, which are already being experimented with in Chongqing. The transition, however, might take three years.

A possible 10-30% correction will not lead to systemic meltdown

The 10-30% decline in property prices we expect will probably not lead to a systemic meltdown of the financial sector or of the economy. The high down payment requirements, about 40% in recent years, mean low probability of negative equity. The low leverage ratios also imply that households would not be forced to sell their property, even with relatively high vacancy ratios. Large property developers should probably be able to survive a downturn of the market, but small developers may suffer significant financial stresses, including bankruptcy. These will add to nonperforming loans of the banks. But a banking crisis still looks unlikely.

…but will slow investment and economic growth significantly next year

A property market adjustment is likely to slow the economy significantly next year. Residential investment, which accounts for about 25% of total fixed asset investment, might turn to negative growth around mid-2012. This, in turn, should generate important implications for the global commodity markets. The effects of falling property prices on consumption, however, should be much more limited.

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