Current Issues

Asia

Deutsche Bank Research

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China's housing markets:

Regulatory interventions mitigate risk of severe bust

Strong house price growth in China. Average house prices increased by 19% in 2010 and by 25% in 2009. In some cities average house price growth was as high as 34% p.a. Even though strong income growth and ongoing urbanisation trends justify rapidly rising prices, the latest momentum has been too strong.

Catch-up in western cities. At the beginning of this rally the top 5 cities in China saw the fastest house price growth. This shifted gradually towards the somewhat smaller Class-2 and Class-3 cities in the west.

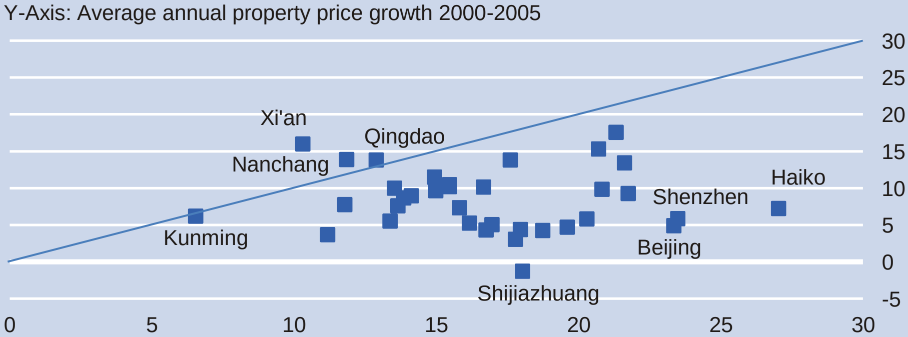
Challenging affordability. Even if China was able to keep income growth at 10%, it would take 20 years for affordability of current house prices to come down to European levels. This represents not only economic, but also social challenges.

Far-reaching regulatory answers. Both central and local governments implemented tightening measures for lowering speculative demand and for boosting supply of affordable housing. This will lead to a strong decline in house price growth this year and might even lead to falling prices. A nation-wide severe house-price crash is not in sight in our view. However, particularly regionally focused developers are set to face a further cooling market. Consolidation on the developer market will continue, liquidity and regional diversification are important success factors for this market.

Only moderate macroeconomic distortions: Falling house prices will lower private consumption. However, we find that the impact is not particularly strong. The direct negative impact on the construction industry would be more important and this could translate into stress for bank books, too. Considering the comparatively conservative financing, an American-style crisis scenario is not likely, though.

Accelerating price growth

X-Axis: Average annual property price growth 2006-2010
Y-Axis: Average annual property price growth 2000-2005



The diagonal represents the 45° - line along which the respective growth rates are equal

Source: NBS

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Authors
Ulrich Clemens

Steffen Dyck
+49 69 910-31753
steffen.dyck@db.com

Tobias Just
+49 69 910-31876
tobias.just@db.com

Editor
Syetarn Hansakul

Technical Assistant
Sabine Berger

Deutsche Bank Research
Frankfurt am Main
Germany
Internet: www.dbresearch.com
E-mail: marketing.dbr@db.com
Fax: +49 69 910-31877

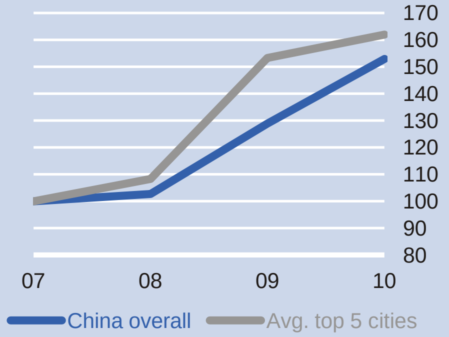
Managing Director
Thomas Mayer

1. Introduction

House prices in China have risen by 53% over the last four years. This has raised concern as to whether this development has created a new real estate bubble. While there were obvious signs of overvaluation already a year ago, we were reluctant to call it a serious distortion then.[1] But as house prices have continued to rally in many Chinese cities, a new assessment of the market appears necessary. In China's top 5 cities[2] house prices have increased on average by 8% since beginning of 2010 and by almost 18% for the country as a whole (see chart 1). At the same time affordability has improved in the top 5 cities and deteriorated in overall China.[3] It appears that the series of measures that was designed to reduce the risk of a real estate bubble was more successful in the top 5 cities than elsewhere. What is more, growth of transactions has come down markedly over the last 12 months.

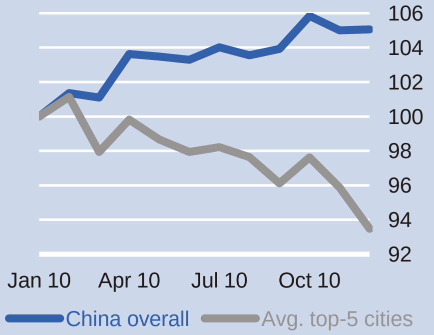
Thus, we want to focus on two important questions in this report: first, we take a closer look at the developments in 35 cities across the country, looking for potential regional real estate bubbles. Second, we try to assess the success of the various policies and their potential negative impact on the economy and the financial system.

China's residential property prices continue to rise
Index, 2007=100



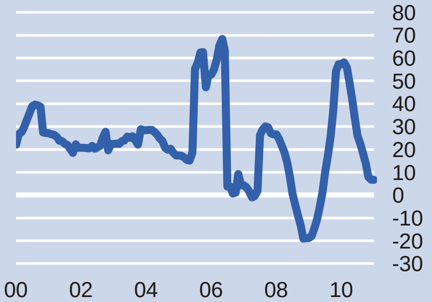
Source: CEIC data, DB Research 1

Improved affordability in top-tier cities
House prices/disposable income, Index Jan 2010=100



Sources: CEIC data, DB Research 2

Moderating growth in property transactions
Residential floor space sold, % yoy 12M moving average



Sources: CEIC data, DB Research 3

2. Regional differences in house price dynamics

After a drop in the course of the global recession in 2008, house price growth rapidly picked up again. In 2009 house prices in the 35 analysed cities rose by 17% and by 22% in 2010, even somewhat faster than house price growth in overall China (2010: 18%). However, regional differences are pronounced. We analysed the housing markets of 35 Chinese cities. In all cities property prices have risen strongly since 1999. Although prices in Class-1 cities[4] like Shenzhen, Beijing or Shanghai are still significantly higher than those in smaller cities, a catching-up process is observable.

In all but three cities (Nanchang, Qingdao, Xi'an), average annual growth rates of residential property prices in the last five years exceeded their ten-year average, i.e. property price growth accelerated significantly within the last few years. On average house price growth in the 35 cities was 8.3 pp faster in the five years between 2006 and 2010 compared to the previous five year period. In Haikou and Shijiazhuang the growth differential was as big as 19.8 and 19.3 pp, respectively.

In order to assess whether this momentum has been excessive, we look at the fundamental drivers of property prices: on the demand side, income, interest rates and population growth are the main drivers of property prices, while construction costs and, related to that, the construction volume determines prices from the supply side.

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[1] Dyck, S., T. Just, S. Huelser. (2010). Asian property markets: No significant bubbles – yet! Deutsche Bank Research. Current Issues. June 23, 2010.

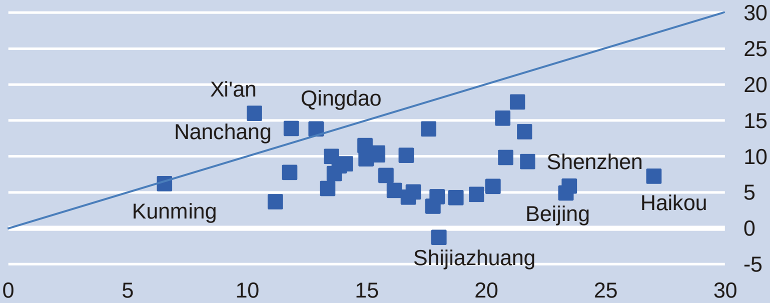
[2] These are: Beijing, Guangzhou, Shanghai, Shenzhen, and Tianjin.

[3] However, compared to early 2007, the affordability index for the top 5 cities is still 50% higher and for overall China 14%. The slight improvement 2010 might just be a drop in the ocean.

[4] For an overview of the classification of the cities see table 22 in the appendix.

Accelerating price growth

X-Axis: Average annual property price growth 2006-2010
Y-Axis: Average annual property price growth 2000-2005

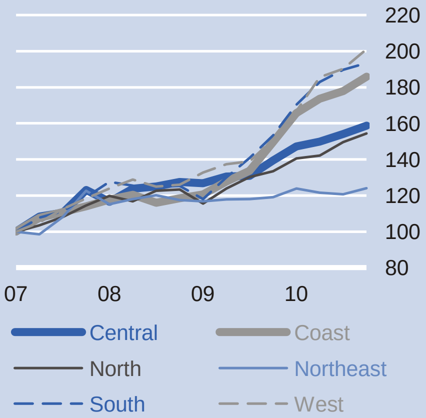


The diagonal represents the 45° - line along which the respective growth rates are equal

Source: NBS 4

Price increases exceed increases in rents

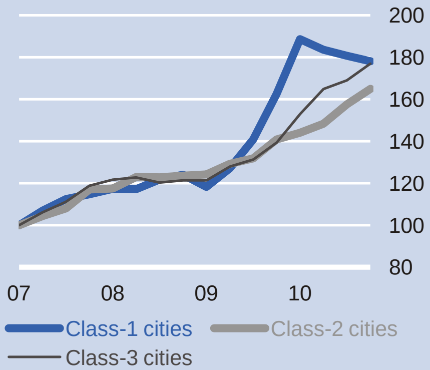
Price-rent ratios, Jan 07=100



Sources: NBS, NDRC 5

Top 5 showing slowdown

Price-rent ratios, Jan 07=100



Sources: NBS, NDRC 6

Price-rent ratio: Top 5 lose speed, smaller cities catch up

The single-best indicator for a real estate bubble is the deviation of house price growth from rental growth.

The development of the price-rent ratio is of particular interest for investors, as a rising ratio suggests that an increasing share of an investor's expected return stems from expected capital appreciation, i.e. from potential future rental growth, rather than from current rental returns.[5] This implies that speculative motives play an increasing role.[6] A glance at the ratios of the 35 cities shows that prices have been rising faster than rents in all 35 cities since 2007, with cities in Western and Southern China experiencing on average the highest increase, closely followed by cities from coastal China[7] (see chart 5).

However, measures that were taken recently by the Chinese central government and the municipal governments (see table 20) to cool the property markets seem to have had a positive effect. The five economically most important cities Beijing, Shanghai, Tianjin, Guangzhou, and Shenzhen, which account for over 15% of Chinese GDP and which were among the first to implement the tightening measures, show decreasing price-rent ratios in Q4 2010. As these ratios remain on elevated levels, the measures might not have gone far enough (see chart 6).[8] What is more, economically smaller cities like Fuzhou, Xi'an, Urumqi or Zhengzhou are showing no signs of a slowdown yet. This indicator clearly signals a sizeable overvaluation of house prices for most regions.

Consumer perspective: Prices rising faster than incomes in most cities

Another important indicator of a potential overvaluation of the housing markets is the price-income ratio, which measures the affordability of housing. Chart 7 shows that in most of the 35 analysed cities, prices have been growing much faster than incomes, i.e. buying residential property has become less affordable

5 However, the price-rent ratio is prone to measurement errors. For example, the fact that a large number of properties in the growing luxury segment are only for sale, while lower priced housing might also be for rent, may lead to an upward bias of the ratio when the fundamental drivers for the luxury segment are stronger than those for the affordable sub-segment.

6 One should note, however, that real estate in China is bought partly due to lack of investment alternatives, and that therefore the significance of the ratio might be diluted, since rental yield may be less of a consideration compared to other countries' experience.

7 For a definition of the individual regions, see the respective chart in the appendix.

8 The extremely sharp increase in 2009 in chart 6 is to a large extent due to rapid price growth in Shenzhen in late 2009 and early 2010.

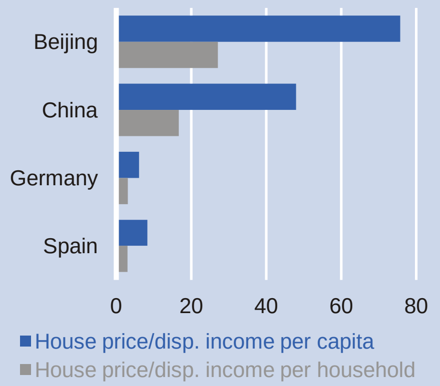
as households have to spend an increasing share of their disposable income on housing.

Basically, the affordability index draws a similar picture as the price-rent ratio above: housing affordability deteriorated fastest in the coastal regions, Western and Southern China, and the five top cities showed decreasing ratios in late 2010. However, the city-level price-income developments differ a lot more; in six out of 35 cities housing even became more affordable (e.g. Shenyang, Dalian) between Q1 2007 and Q4 2010. In two cities affordability stayed roughly constant, and in the remaining 27 cities the ratio increased by an average of 62.6%. Among these cities the respective ratio for Fuzhou, Hangzhou, Ningbo, Shenzhen, Urumqi more than doubled. The most pronounced drop was registered in Shenyang (-25%), the biggest increase in Shenzhen (+169,4%).

However, one should keep in mind that the levels from which the respective cities started also differed considerably. Hohhot had the lowest ratio in early 2007. Only 5.2% of the annual disposable income had to be spent to buy a square meter of residential property in Hohhot. In Beijing an average household had to spend 15.3% of its annual disposable income for a square meter, or – to put it differently – an average household in Beijing needed to spend more than fifteen years of income to afford buying a 100 square meter apartment. Within the last three years, this time has risen to almost 30 years years in Beijing while it stayed roughly constant in Hohhot.

International comparison

Affordability, house price over income
Ratio for average 100 sqm flat



Source: DB Research

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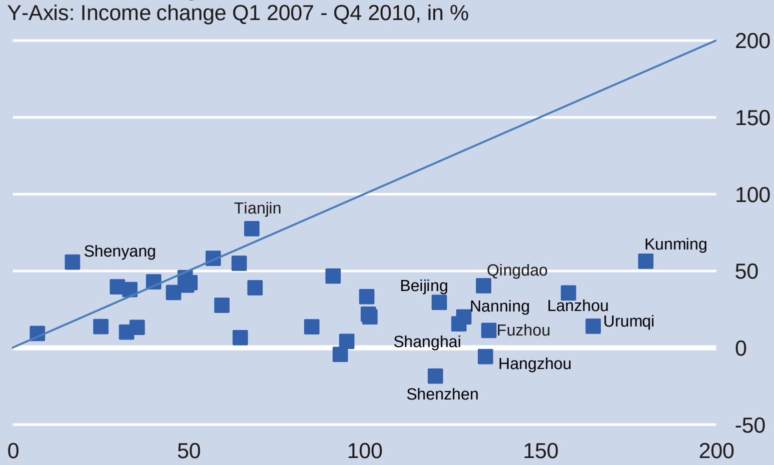
Prices rise faster than incomes

X-Axis: Price Change Q1 2007 - Q4 2010, in %
Y-Axis: Income change Q1 2007 - Q4 2010, in %



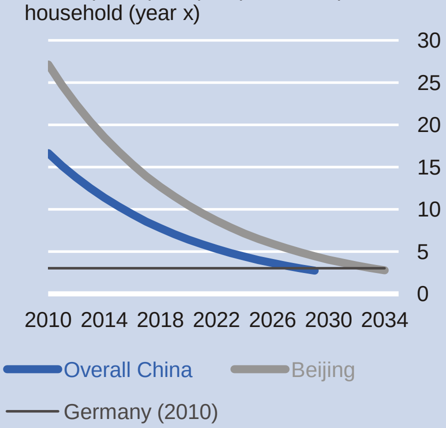
The diagonal line represents the 45°-line along which the price change equals the income change

Sources: NBS, NDRC

8

Affordability can improve only gradually

House price (2010)/disp. income per household (year x)



We assumed an annual increase in China's income of 10%

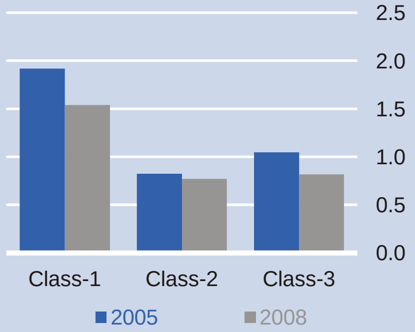
Source: DB Research

9

This development appears even more scary when compared with the respective affordability ratios in other markets: we compare a simple affordability ratio for China, Germany and Spain (end of 2010 values). The ratio of house prices and disposable income per capita was roughly 6 for Germany and 8.3 for Spain. For China the figure was as high as 48, for Beijing even 75. However, these comparisons are misleading in two respects: first, household formation is different in these countries. In China an average household consists of 2.9 persons, in Germany of slightly more than 2 persons. As households, rather than persons, are demanding housing space, it is better to compare house prices by disposable income per household. But this indicator does not change the picture significantly, either: it takes three annual household incomes in

Decreasing vacancy rates

Vacancy rates, in %



Source: NBS **10**

Germany and Spain to finance 100 sqm of living space, this compares to 16 annual household incomes in overall China and even 27 incomes in Beijing.

Second, it can be argued that very dynamic income growth can justify higher house prices, as affordability improves with every year (for a single household, which stays in its flat, house prices can be assumed to remain constant, while incomes rise). However, it would take almost 20 years of annual income growth of 10% for China to reach similar affordability ratios as Germany or Spain. Income growth would need to be as high as 18.5% in overall China to reach German affordability level within only ten years.

This comparison of course implies that the average flat size in China can hardly reach average European levels any time soon. But even if we (plausibly) assume significantly smaller flats in China than in Europe, this indicator clearly points to a significant adjustment risk.

Supply-side developments: No clear sign of overvaluation

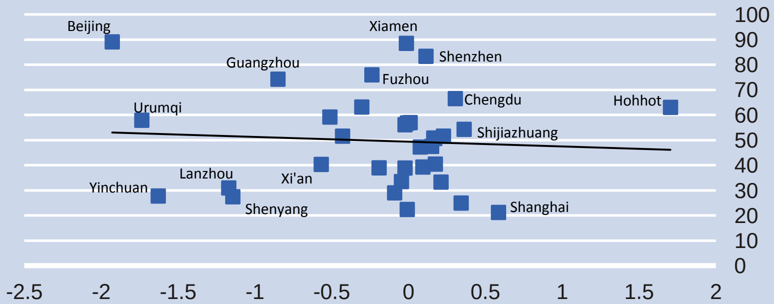
In order to slow down price growth on Chinese property markets, the Chinese government imposed various policies (see table 20 in the appendix). These measures were aimed at both slowing speculative demand (particularly in the luxury segment) and stimulating supply (particularly in the affordable segment), for example by increasing supply of public and affordable housing. However, as demand and supply are responsive functions, attempts to lower demand can also lead to reducing supply, as the expectations of investors and builders are negatively affected.

Indeed, at first sight completion data suggests an aggravation of the problem in the last few quarters. After the volume of completed floor space had peaked in 2009, it declined in 2010 in 24 cities (by 17% on average from its peak levels). It seems that policies aiming at curbing demand, such as home purchase bans and mortgage restrictions, also negatively affected the supply side and therefore led to an - unintended - overall reduction of completed floor space.

Vacancy vs prices: Only slight negative relationship

X-Axis: Change in vacancy rates 05-08, in pp

Y-Axis: Price change 05-08, in %

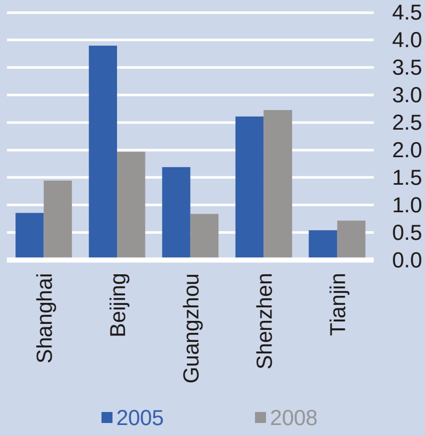


Source: NBS **11**

As vacancy rates already fell from 2005 to 2008, the current reduction in supply might further raise upward pressure on house prices (unfortunately, data on vacancy rates are only available until 2008). Theoretically vacancy rates and residential property prices should show a strong negative relationship, as rising vacancy rates signal growing oversupply and this should reduce pricing power of landlords. Looking at our 35-city sample, however, we only find a very weak negative relationship between these two variables (see

Top 5: diverging paths

Vacancy rates, in %



Source: NBS

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Demographic trends help to mitigate the risk

trend line in chart 11). This might indicate that speculative motives have become more important than fundamental driving forces.[9]

Taking a closer look at chart 11, we see that vacancy rate developments differ substantially between cities. From 2005 to 2008 vacancy rates rose modestly in 14 out of 35 cities, while prices increased in all cities. However, it is worth noting that the overall vacancy level was still low in all Chinese cities. At 4.5%, Yinchuan showed by far the highest rate in 2008; in some of the east German federal states, vacancy rates are almost twice as high.

All in all, the development on the supply side does not clearly indicate overvaluation.

Demographic developments

Although high price-income ratios as well as the increasing volume of mortgage loans strongly point to an overheating of some housing markets, favorable demographic trends will help mitigate this risk at least in the medium or long term. In order to determine in which cities price developments might partly be justified by population growth, we include the United Nations Population Division forecasts up to the year 2025 in our analysis. Plotting these forecasts against the current level of the price-rent ratios (see chart 13) reveals a mixed picture, i.e. the high price-rent ratios are not related to the demographic perspectives of the analysed cities.[10] The risk of a speculative housing bubble seems to be somewhat smaller for cities in the lower-right corner like Hohhot with relatively low price increases compared to their expected population growth. The opposite holds for cities in the upper-left corner of the graph, such as Qingdao, Hangzhou, or Chongqing.

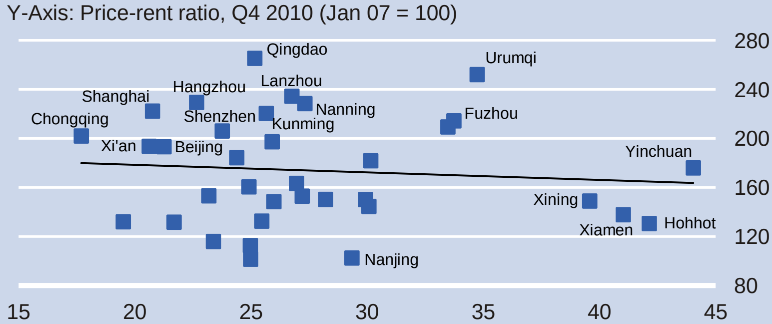
Highest risk in coastal cities

All in all, our analyses show a general dichotomy between two city groups: on the one hand, the big, established and often coastal cities such as Beijing, Shenzhen or Shanghai not only show the highest price levels, but prices have continued to rally up in some cases. Even though in some markets house price momentum has come down in the last few quarters, the current price levels seem to be disconnected from fundamental drivers. Furthermore, these key international cities are facing increasing foreign investor intererest.

Demographics are no clear driver

X-Axis: Population change forecast 2010-2025, in %

Y-Axis: Price-rent ratio, Q4 2010 (Jan 07 = 100)



Sources: NBS, NDRC, UN

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[9] Of course it might also raise questions regarding the reliabiliy of the underlying data.

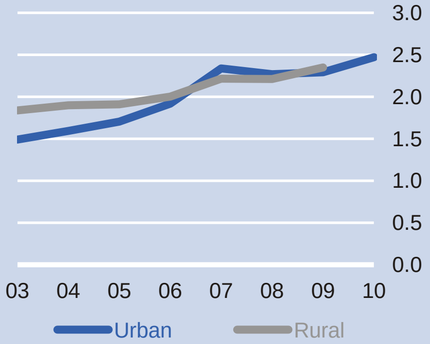
[10] There are some important caveats to this result: first, we do not know how well the UN forecasts actually mirror Chinese expectations towards regional demographic trends. Second, this simple binary regression cannot control for additional factors. There can still be a partial effect after controlling for income growth, governmental subsidies or building activities.

Here, a market correction is likely. On the other hand, house prices in smaller cities towards the west like Urumqi, Kunming, and Fuzhou, have been growing very fast, but from very low levels. While the gap to the Class-1 cities is still big with regard to absolute levels, property markets in many Class-2 and Class-3 cities like Urumqi and Fuzhou have further growth prospects based on high expected population growth and growing economic importance. Here, mispricing still seems comparatively small.

3. Macroeconomic implications

Property income: low but rising

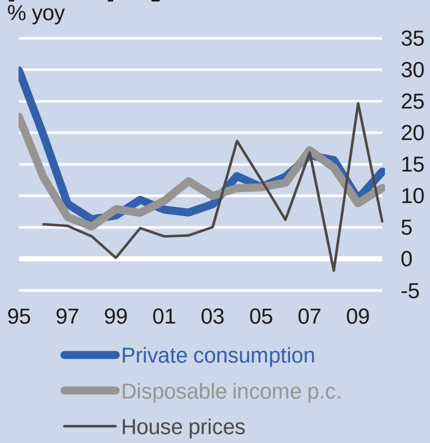
Household property income, % of total income



Source: CEIC data 14

Private consumption: house prices play minor role

% yoy



Sources: IMF, NBS 15

The 35 cities considered in this study are very important for the Chinese economy. Together they account for almost 40% of national GDP. The five economically most important cities − Beijing, Shanghai, Shenzhen, Tianjin and Guangzhou − alone make up 15% of total GDP. It is therefore worrisome that it was exactly these cities where we found the strongest indication for housing bubbles. It is thus necessary to analyse potential negative implications for the macro economy from house price corrections.

Transmission channels of a bursting housing bubble are slowing construction activity, a negative impact on private consumption and investment (via negative wealth effects), as well as balance sheet stress for the banking system, and reduced government revenues.

Private consumption: Minor fall-out expected

Over the last few years there has been a growing body of literature focusing on the question as to how changes in financial and housing wealth affect private consumption. Due to limited data availability most of these studies have looked at the US or the UK.[11] For China, the risk of a strong negative impact of falling house prices for private consumption seems limited: according to estimates by the Hong Kong Monetary Authority (HKMA), a 10% fall in property prices would result in a drop of private consumption by only 0.7%.[12] As private consumption has grown by roughly 10% p.a., the impact appears manageable. This has several reasons: first, Chinese households finance residential property only to a small extent with debt. The household liability-to-asset ratio is below 20% in China compared to 34% in Germany, 37% and 32% in the UK and the US, respectively.[13] In line with this observation, the use of property as collateral to finance consumption expenditures is not very common in China. Second, unlike in many developed countries, income from real estate such as rental income or capital gains does not play a big role in overall household income. Property income accounts for about 2.5% of total household income for urban and rural households alike (see chart 14). By comparison, in 2008 income from interest, dividends or net rental income made up more than 20% of total household income in the US.[14] Third, as can be seen from chart 15, growth in private consumption was strongly correlated with income growth, but not strongly with house price growth. We ran a simple multi-variate regression, with growth of private

[11] Skudelny, Frauke (2009). Euro area private consumption: Is there a role for housing wealth effects? ECB Working Paper Series, No 1057. May 2009; Bostic et. al. (2007). Housing Wealth, Financial Wealth, and Consumption: New Evidence from Micro Data. University of California, Los Angeles, Ziman Center for Real Estate Working Paper No. 1, 2007.
[12] HKMA (2010). Half-yearly monetary and financial stability report. Sep 2010, p. 26.
[13] PBoC (2010). Financial Stability Report 2010, p. 113.
[14] US Census Bureau.

Private consumption is partly driven by house price growth

Dependent variable: private consumption

Included observations: 14 after adjustments

Variable	Coefficient	Std. Error	t-Stat.
INCOME	0.72	0.18	4.06
HP(-1)	0.12	0.08	1.68
C	2.09	1.77	1.18
R-squared		0.73	
Adjusted R-squared		0.68	
Prob(F-statistic)		0.00	
Mean dependent var		10.58	
S.D. dependent var		3.34	

Source: DB Research 16

consumption as endogenous variable and income growth and (lagged) house price growth as exogenous variables. We find that a decrease in house prices by 10% would translate into a drop in private consumption by 1.2 pp. Although the coefficient is bigger, this result is by and large comparable to the findings of HKMA.[15] Job losses in construction, real estate and related sectors might put a dent on income growth and affect private consumption negatively. The construction sector accounts for 14% of total employment and this share has risen quite significantly over the past decade. The importance of real estate services as a source of employment has also increased over time, now accounting for 2% of total employment in China, almost twice as much as in 2003.

Investment: Negative impact varies from city to city

Currently, the construction sector accounts for more than 6.5% of China's GDP, up from 5.5% in 2000. According to Ahuja et al. (2010)[16], a 10% drop in property prices could decrease China's investment by about 4%. Nationwide real-estate-related fixed asset investment (FAI) accounts for 24% of total FAI, up from 22% in 2009. However, shares vary significantly across regions. For instance in Beijing, roughly 50% of the total FAI are real estate investments, whereas in Guangdong province real estate related investments account for less than 30% of total FAI. The larger impact of a property price correction on investment than on private consumption can be explained by indirect effects on related sectors like cement, steel, construction machinery etc.

Government revenues: Significant impact on local governments

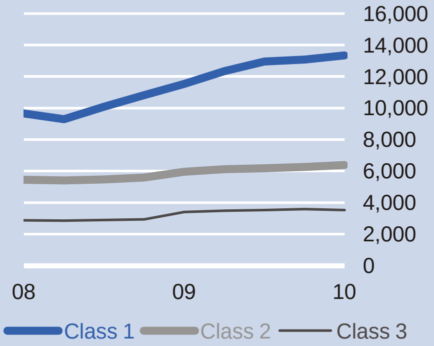
In contrast to private consumption, government revenues might be heavily affected by a collapsing real estate market, as land sales account for a big share of local governments' revenues. In some cases like Chongqing the share is as high as 30%. The resistance of local governments to forgo a strong source of revenue might also help to explain why relatively draconian measures announced by the central government have so far not led to a significant reduction in property prices.[17] Addressing China's property bubble must therefore also address local governments' financing constraints. For example, the introduction of a nationwide property tax is often cited to help ease resistance of local governments.

[15] We have to be very careful in interpreting this finding, as the number of data points was very small.

[16] Ahuja, Ashvin, Lillian Cheung, Gaofeng Han, Nathan Porter, and Wenlang Zhang (2010). Are house prices rising too fast in China? IMF Working Paper, WP/10/274. Dec 2010.

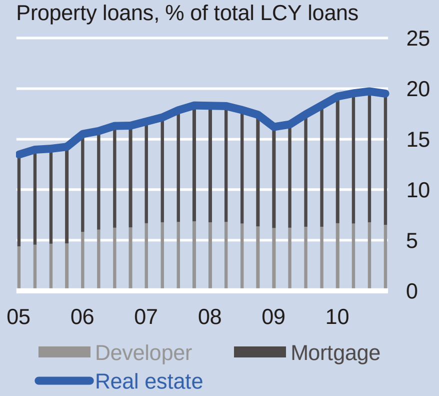
[17] See a more detailed description of conflicting goals below.

Big land price premium in top cities
RMB/sq m, GDP-weighted averages



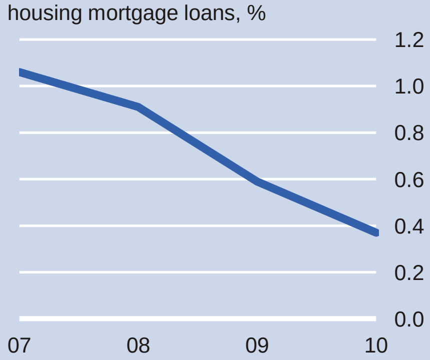
Sources: CEIC data, DB Research **17**

Manageable direct exposure of Chinese banks
Property loans, % of total LCY loans



Sources: CEIC data, DB Research **18**

NPL ratio declining steadily
NPL ratio of Chinese commercial banks' housing mortgage loans, %



Source: CBRC **19**

Property developers: Mixed impact

Tightening measures and a potential property price correction can have both a long-term positive and short-term negative impact on developers. On the negative side, financing is getting more difficult, both in terms of bank financing as well as other sources (external debt, presale funding). Also, some companies will have to exit the market, either by closing down or merging with bigger competitors. In the longer term, however, this consolidation will put the industry on a more stable footing. The market share of China's top 20 property developers has already risen over the past few years, from less than 10% in 2008 to almost 13% in 2010.[18] In addition, lower residential property prices will also weigh on land prices, and in fact land prices have already come down over the past few months. This offers opportunities – especially for market players with better financial fundamentals.[19] In line with this, many developers have recently begun to build up liquidity buffers in order to be prepared for a possible market downturn.

Similar to developments in manufacturing, property developers are beginning to focus increasingly on China's hinterland. As data from the China Land Surveying and Planning Institute shows, residential land prices are usually significantly lower in inland areas (see chart 17): average prices reached more than RMB 13,000 per square meter in the five Class-1 cities covered in this study, but were by and large 50% to 70% lower for Class-2 and Class-3 cities. More recent data from Soufun.com shows a similar spread between established centers and lower-tier cities. At the same time, comparatively stronger income growth in inland areas and smaller cities supports increasing demand for residential property in these areas. As tightening policies have so far focused on major cities like Beijing or Shanghai, where prices have increased strongest (see overview table in appendix), the upward pressure for peripheral cities is likely to continue. It is questionable, however, whether developers, who have heavily focused on Class-1 and -2 cities in the past, can shift easily their business to lower-class cities. Strongly focused developers are thus facing significant risk of the expected market consolidation in Class-1 and -2 cities.

Banking sector: Faces both direct & indirect exposures

The total direct exposure of the Chinese banking sector to the property market is below 20% of total local currency loans outstanding. Mortgages make up around two-thirds of property-related lending whereas loans to developers account for around one-third. With this magnitude, China's banking sector exhibits lower exposure than banks in typical OECD countries: the share of property-market-related lending stood at more than 50% of total loans in the case of the US and Hong Kong, for instance. Also, according to data from CBRC, the NPL ratio for housing mortgage loans was very low at 0.4% as of end-2010. By comparison, pre-crisis delinquency rates on real estate loans in the US stood at 1.6% in mid-2006.[20]

Nevertheless, in the case of a property market correction non-performing loans at Chinese banks would almost certainly rise

[18] See Tsang, Tony, Venant Chiang, and Jason Ching (2010). China Property: Fighting inflation vs. inflation hedge. Deutsche Bank Global Markets Research. 26 Nov 2010, p. 25.
[19] See ibid., p. 29.
[20] Note that delinquency rates and NPL ratios are not completely comparable, since delinquency rates are distinguished by the length of delay of payment.

significantly. This is also due to the fact that loans to sectors with strong cyclical linkages to the real estate sector account for another 24% of total bank loans.[21] The second effect could in turn negatively impact overall economic activity. What might be even more important, aggregated data mask different exposures of individual banks. According to Fitch, for some banks the share of property-related loans is as high as 35% of total loans.[22]

Assessing the likelihood of a sharp property price correction

There is little doubt that there has been a growing speculative component in property markets in many Chinese cities and/or segments, and this has pushed up house prices beyond their fundamentally justified levels. This leads us to three important questions: 1) Will the bubble burst? 2) If so, when? 3) How serious are the implications for the economy?

Mitigating factors for sharp price corrections:

- Pent-up demand stays in place
- Increasing foreign investors' interest
- Lack of alternative investment
- High household savings rate
- Positive outlook for income growth
- Government policies are positive for the long-term

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We do not dare answer the second question but venture to give some thoughts on the first and third one. Developments in China's property market are driven by a structural and by a cyclical component. Ongoing urbanisation, rising incomes, limited investment policies as well as cultural factors favour the property market. Nevertheless, the observed price rises in some cities have increasingly delinked from fundamentals. Government tightening measures are targeting these developments but have so far shown limited impact. In our view, a sustained sharp price correction is not very likely: first, pent-up demand stays in place. If prices were to drop rapidly by a significant amount (say more than 10% on a national scale) potential first-time buyers who have so far been excluded might step in, helping to stabilise prices again. Second, foreign investor interest in Chinese property markets is showing signs of strengthening again which adds another stabilising factor. Third, Chinese financial markets are still underdeveloped and especially for individuals lack attractive investment alternatives. Investing in residential property remains one of the few investment opportunities. Fourth, household savings rates are still high and inflation rates are expected to slow only moderately from H2 2011. This bolsters the residential real estate asset class, too. Fifth, the outlook for income growth remains positive, and this will help to improve affordability. Sixth, the government's policies to slow price increases are relatively aggressive, and the focus on affordable housing and development of rental markets in particular, will cushion the impact on property developers and the construction sector in the medium term.

Considerable drop in GDP possible - but recession not likely

With regard to question 3 − how big the resulting macroeconomic distortions might be − we conclude that both the impact for the domestic but also for the global economy will be considerably smaller than the distortions from the bursting US house price bubble. First, housing finance is much more reliant on equity than debt in China. Second, no additional disruptions are to be feared from securitised products. Third, even if private consumption and private investment decreased Chinese GDP growth by a considerable 2-3 pp, this would not place the economy in danger of recession.

We perceive the risk for the construction industry to be the most important one – both for the financial sector and the overall economy. Thus, a careful mix of policies that are both slowing

[21] HKMA (2010), p. 27.
[22] Fitch presentation on Chinese banks. February 2011.

demand and bolstering (affordable) housing supply is the key for dealing with the current distortions.

Regulatory responses: Keeping home prices affordable for the population

Macro controls

The Chinese government has recognised the possibility of overheating property markets early and has reacted quickly. Already in 2007, a number of tightening measures were imposed, some of which, however, were relaxed or reversed in the course of the global recession following the financial crisis in late 2008[23]. With house prices picking up again quickly, the government returned to its tightening course. In 2010, as real estate markets showed no sign of slowing, tightening measures were intensified and the Chinese central government imposed a set of draconian policies that have become known as first, second and third-round macro controls.

Measures aiming at surpressing demand

In general, two types of measures were imposed: first, measures aiming at suppressing the demand for second and luxury homes, for example by imposing taxes or raising minimum down-payment rates, and second, supply-side support measures, aiming at increasing supply of affordable and social housing. The high number of measures and especially purchase bans targeted at second-home buyers and non-local households as well as the declining transaction volumes following the imposition of these measures indicate that the latest rally did not stem primarily from a growing number of first-time buyers. In that sense, the intended shift towards a larger share of first-time buyers on the housing market seems viable. In the medium-term, it is important to keep a balance between a functioning home-owner's market and a sustainable rental market.

Measures aiming at supporting supply

Beside the central government[24] the main regulating agents are the municipal and provincial governments. However, there are big problems in enforcing the measures enacted by the central government at the local level, since local governments and officials often have conflicting interests, i.e. they benefit from booming housing markets. The implementation of these measures is therefore often delayed or diluted. As a reaction, the central government tried to gain control over local decision-makers by requiring them to regularly report statistics and results, and hold them accountable for implementing central government measures. As fears about a possible bubble on Chinese housing markets have been growing, the tightening regulations got more intense: home purchase bans for residents meeting certain requirements, price control targets, and confiscation of idled land from real estate developers, who left property undeveloped for a long time were imposed. The long awaited property tax, however, has not yet been imposed nationwide. So far, only the municipal governments of Shanghai and Chongqing implemented a trial property tax scheme in January 2011.[25]

One key target of the government is keeping housing affordable. This looks even more important, as purchasing power in China is heavily affected by rapidly rising consumer prices. This may create an important conflict: while rising CPI may call for higher interst

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[23] For an overview of the imposed measures see the respective table in the appendix.

[24] Here the Ministry of Land and Resources, the State Administration of Taxation, and the Ministry of Housing and Urban-rural Construction.

[25] The property tax in Hongkong is – despite its name – classified as an income tax, since it is imposed on rental incomes only.

rates, this can burden the private building markets. Lower supply, then, adds further pressure on house prices.

Although the first two rounds of macro controls affected housing markets only temporarily, the latest measures seem to have some effects on most Chinese housing markets. Whether these effects are also only temporary or represent a trend reversal, is yet to be seen. Both scope and scale of the measures appear well dosed to deal with the problem. However, as implementation is important, a risk of significant delay still remains. What is more, the gun powder of a national transaction tax is still dry.

4. Conclusions

China's house prices continue to soar and fears have risen that a bursting bubble can put both the national and the global economy at risk of a new slowdown. While house price momentum in the top 5 cities has slowed on the back of tightening measures, house price growth in economically less important cities in the west is still high and above fundamentally justified levels. However, despite the rapid catching-up process, these cities are still far from reaching the same levels as the key cities Beijing and Shanghai. What is more, housing in the top 5 is still not easily affordable, and this does not only imply political but also social risk.

Risk of falling prices has risen

As both the central government and local governments have enacted strict policies to slow the market, we expect that house price growth will come down significantly in 2011 – not only in the top 5 cities. Although the risk of rapidly falling house prices has risen, we do not expect a severe crash, yet.

Even in case of a more benign slowdown the construction sector and related industries are facing a potentially big negative impact. Still, as argued, a similar development like in the US or Spain is not very likely. Pent-up demand and overall macro-economic dynamics are still strong, and financing is still comparatively conservative.

Ulrich Clemens

Steffen Dyck (+49 69 910-31753, steffen.dyck@db.com)

Tobias Just (+49 69 910-31876, tobias.just@db.com)

Appendix

Selected regulatory responses by Chinese administrations

Date	Measure	Type of measure	Reach	Agent
Jan 07	Impose value-added taxes on land transactions.	Tightening	Nationwide*	State Administration of Taxation
Sept 07	Tighten credit to the property sector: raise the minimum down-payment ratio to 40% and the minimum mortgage rate to 110% of the benchmark rate for second mortgages. Minimum down-payment ratio and mortgage rates are higher for third mortgage loans.	Tightening	Nationwide	China Banking Regulatory Commission (CBRC)
Nov 07	Cross 'Ordinary Residential Property Development' from the list of industries open to foreign investment. Restrict foreign investment in second-hand house transactions.	Tightening	Nationwide	National Development and Reform Commission (NDRC), Ministry of Finance
Aug 08	Forbid loans for land purchases and for idle projects.	Tightening	Nationwide	
Oct 08	Waive stamp duty on housing transactions and value added taxes on land transactions. Lower the minimum mortgages rate to 70% of the benchmark rate and the down-payment ratio to 20%.	Relaxing	Nationwide	Ministry of Finance
Dec 08	Extend preferential policies for first-home purchases to second-home purchases. Shorten the holding period to enjoy business tax exemption from 5 years to 2 years.	Relaxing	Nationwide	Central government
May 09	Reduce developers' capital requirement for economic and commodity housing investment to 20%.	Supportive	Nationwide	Central government
Feb 10	Set the share of residential land supply going to policy-oriented housing projects to 50%.	Supportive	Beijing	Beijing municipal government
Mar 10	Set the amount of land supply for social welfare housing, residential redevelopment properties and owner-occupied ordinary commodity housing to at least 70% of the total land supply.	Supportive	Nationwide	Ministry of Land and Resources
Mar 10	Change the land auction winning rules such that sites now go to the bidder offering not the highest but the most reasonable price.	Tightening	Beijing	Beijing municipal government
Apr 10	Raise minimum down-payment ratio for the first mortgage to 30% for a residential property of no more than 90 square meters. Raise the down-payment ratio for the second mortgage to 50% and the minimum rate to 110% of the benchmark rate. Significantly increase down-payment ratio and minimum mortgage rate for the third mortgage and any subsequent mortgages. Restrict mortgage lending to non-residents.	Tightening	Nationwide	Central government
Apr 10	Impose home purchase restriction rule that will only allow households, local or from outside the city, to purchase one new home.	Tightening	Beijing	Beijing municipal government
Jun 10	Suspend approval of listing of property companies via "shell companies".	Tightening	Nationwide	China Securities Regulatory Commission (CSRC)
Sep 10	Further tighten down-payment requirement, even for first-time home buyers (for instance, the maximum mortgage loans for some new housing projects in Beijing are only 60% of the purchase price for first-time home buyers, and will be only 30% for second-time home buyers).	Tightening	Beijing	Beijing municipal government

Sep 10	Tighten land management by prohibiting developers from bidding for new plots of land if they have land that has been purchased for property development and yet left idled for a year. Restrict land supply to high-end housing and make it available only if land supply for low-end housing has been fully met.	Tightening	Nationwide	Ministry of Land and Resources, Ministry of Housing and Urban-Rural Development
Sep 10	Support the construction and operation of public rental housing projects, by exempting business taxes, real estate taxes and stamp duties for such projects.	Supportive	Nationwide	Ministry of Finance
Sep 10	Outright suspend mortgage lending to third-home buyers. Raise minimum down-payment to 30% for all first-time home buyers, regardless of the size of the housing unit. Require banks to step up the management of consumer loans, and to prevent borrowers from using consumer loans for home purchases. Hold local government officials accountable for implementing central government measures.	Tightening	Nationwide	Central government
Oct 10	Impose home purchase restriction rules, limiting the number of houses that individuals or households are allowed to purchase.** - Extended to 2011, also plans to extend this measure to 30 cities -	Tightening	"Cities with high/soaring home prices": Beijing, Tianjin, Dalian, Shanghai, Hangzhou, Nanjing, Wenzhou, Ningbo, Suzhou, Guangzhou, Shenzhen, Xiamen, Sanya, Haikou, Fuzhou, Lanzhou	Ministry of Housing and Urban-rural Construction
Oct 10	Impose differential land value-added tax schedule penalizing high-priced housing projects, with over-priced projects subject to higher taxes.	Tightening	Shanghai	Shanghai municipal government
Nov 10	Suspend the issue of new loans for property development from the end of October, as the banks have used up all their lending quotas for the real estate sector in 2010.	Tightening		China's four biggest State-owned commercial banks
Nov 10	Impose specific risk control requirements on bank lending to local government investment companies, the real estate sector as well as the control of liquidity risks.	Tightening	Nationwide	China Banking Regulatory Commission (CBRC)
Nov 10	Limit foreign individuals' purchase of residential property for own use to one. Allow overseas institutions to purchase non-residential property only in the city where it is registered.	Tightening	Nationwide	Ministry of Land and Resources, State Administration of Foreign Exchange
Dec 10	Give approval to developers to sell luxury residential homes following falling prices in October and November. → Relaxing the tightening measures of the second-round macro-control.	Relaxing	Beijing	Beijing municipal government
Dec 10	Increase social welfare housing construction to 10 million units by 2011, up by over 72% from 5.8 million units in 2010.	Supportive	Nationwide	Ministry of Housing and Urban-Rural Construction
Dec 10	Require local governments to report unusual land transactions (i.e. land-transaction deals closed either with a price 50% higher than the auction starting price or with a record high price for similar locations). Ban local governments from supplying more land for high-end housing development if they have failed to meet the quantitative targets for land supply for social-welfare and low-income housing development, currently set at 70% of total supply.	Tightening	Nationwide	Ministry of Land and Resources

Jan 11	Require local governments to set price control targets for new housing units (targets will be released within the first quarter of 2011). Collect business tax, currently at 5.5%, based on the home purchase price, rather than on the difference between the cost base and selling price, for all second-hand homes sold less than five years after purchase. Raise down-payment for mortgages on second home to at least 60%. Set the interest rate to at least 1.1x PBOC base lending rate. Confiscate idled land from real estate developers if they leave the property undeveloped for a long time.	Tightening	Nationwide	Central government
Jan 11	Further expand home purchase bans to cover all municipalities directly administered by the central government, all cities with provincial-level-equivalent fiscal power, all provincial capitals, as well as cities where housing prices have increased excessively. This means at least 36 cities will impose the purchase ban this year. Under the home restriction ban, all local residents who already own at least two homes, non-residents with at least one home as well as non-residents who have resided in one given city for less than a year will not be able to buy new homes in that city.	Tightening	36 cities	Central government
Jan/ 11	Implement a trial property tax scheme. Chongqing: Imposed on three types of housing; progressive tax schedule. Tax base will be 100% of the home purchase price. Shanghai: Progressive tax schedule. The tax base will be 70% of the home purchase price.	Tightening	Shanghai, Chongqing	Shanghai municipal government, Chongqing municipal government
Feb 11	Housing rental/leasing regulation: ban unilateral rental increases initiated by the landlord during the leasing period. Require the local housing authority to release rental price information regularly, and set down per capita minimum housing occupancy area for rented apartments.	Tightening	Nationwide	Ministry of Housing and Urban-Rural Construction
Feb 11	Set target to build or acquire 1m units of all kinds of public housing during 2011-2015. For 2011 particularly, the target is 200k units. Among various kinds of public housing, give public rental housing higher priority. Ensure sufficient land supply in 2011, more than 50% of which is for public housing construction and at least 70% for public housing and small/medium-sized commodity housing.	Supportive	Beijing	Beijing municipal government
Q1 2011	Levy property tax (0.1 - 3% of property value).	Tightening	Nationwide	Ministry of Land and Resources
unknown	Change land auction winning rules from the bidder offering the highest price to the bidder who can "best serve the public interest" (consideration of intended house price changes and other factors of public interest).	Tightening	Municipalities of Chongqing and Shanghai	Municipalities of Chongqing and Shanghai

Measures in blue letters are planned, but not yet imposed
* Note that measures enacted by central agencies and ministries are not necessarily implemented by the local governments, i.e. the implementation of measures often occurs delayed or in reduced/weakened form.

** For detailed home purchase restrictions see extra table below

Sources: IHS Global Insight, IMF 21

Home purchase restrictions/bans for selected cities in detail:

Shenzhen, Nanjing	The number of homes that each household can purchase is restricted to two for permanent residents and one for non-residents who have worked in the city for at least a year. New home purchases by households already owning properties are banned; residents with at least two homes and non-residents with at least one residence are not allowed to buy any new homes.
Shanghai	Households, local or from outside the city, are allowed to purchase only one new home.
Beijing	One household is only allowed to buy one apartment.
Xiamen, Fuzhou	One household is only allowed to buy one new home during the period from 1 October to 31 December.
Ningbo	One household is only allowed to buy one new home during the period from 1 October to 31 December. Home purchase ban on residents owning at least two homes and non-residents with at least one home.
Hangzhou	Households − both local residents and non-residents − are only allowed to buy one additional home.
Guangzhou	Each local household, permanent resident or non-permanent resident who has resided in the city for over a year, can only buy one new home. Non-residents are not allowed to purchase homes in the city, the same applies to local residents aged under 18. For foreigners, the local government has reaffirmed a home purchase restriction rule instated in 2006, which only allows expatriates who have worked or studied in the city for over a year to buy apartments in Guangzhou.
Sanya	Both local and non-local residents are allowed to buy only one home for a single household.
Wenzhou	Locals and non-locals are only allowed to buy one more home.
Dalian	A single household can only purchase one more home.
Suzhou	Households are only allowed to purchase one more home in the city, regardless of currently owned number of homes.
Lanzhou	Local households are only allowed to purchase up to two homes in the city, non-local households only one.

Sources: IHS Global Insight, IMF 22

Classification of cities

City	% Chinese GDP	Population (2009), m		% Chinese GDP	Population (2009), m		% Chinese GDP	Population (2009), m
Class-1:			**Class-2:**			**Class-3:**		
Shanghai	4.38	14.01	Chongqing	1.92	32.8	Jinan	0.98	6.0
Beijing	3.48	12.46	Hangzhou	1.50	6.8	Zhengzhou	0.97	7.3
Guangzhou	2.68	7.95	Qingdao	1.44	7.6	Harbin	0.96	9.9
Shenzhen	2.41	2.46	Wuhan	1.34	8.4	Shijiazhuang	0.91	9.8
Tianjin	2.20	9.80	Chengdu	1.32	11.4	Changchun	0.84	7.6
			Dalian	1.30	5.8	Xi'an	0.80	7.8
			Shenyang	1.28	7.2	Fuzhou	0.74	6.4
			Nanjing	1.24	6.3	Hefei	0.62	4.9
			Ningbo	1.24	5.7	Nanchang	0.54	5.0
			Changsha	1.10	6.5	Kunming	0.53	5.3
						Hohhot	0.48	2.3
						Xiamen	0.48	1.8
						Taiyuan	0.45	3.7
						Nanning	0.44	7.0
						Urumqi	0.32	2.4
						Lanzhou	0.27	3.2
						Guiyang	0.27	3.7
						Yinchuan	0.17	1.6
						Xining	0.15	1.9
						Haikou	0.14	1.6

Sources: NBS, own classification 23

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