CHINA: HOUSING PROPERTY PRICES: FAILING TO SEE THE FOREST FOR THE TREES

— The lack of consistent data makes it difficult to assess property prices trends in China. Developments in the top-tier cities should not hide trends in the rest of the country.

— However, top-tier cities account more than 1/3 of the economy so that potential downside risks to housing prices cannot be ignored: negative impact on economic activity; stress on banks’ balance sheets and on local government finances.

— After a strong increase over the past decade, housing prices declined in 2011 due to monetary tightening and macro-prudential measures put in place by the government. They bottomed out in the first quarter of 2012 and have recovered since then. Nevertheless, a sharp rebound is unlikely in the near-term as the government has maintained restrictions in the property sector in order to improve affordability and to prevent prices overheating.

— In the medium term, favourable demographic prospects, strong government support to social housing, and lack of investment alternatives to real estate are likely to continue supporting housing demand.

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The lack of consistent data makes it difficult to assess the best gauge of housing property prices trends in China. Developments in the top-five cities should not hide trends in the rest of the country. The growing importance of property in the economy and an increasing exposure of the banking sector to the real estate sector highlight the importance of using adequate measures to monitor prices developments.

**SALIENT FEATURES OF THE CHINESE PROPERTY MARKET**

There are several factors that distinguish China as a developing real-estate market from Western developed markets, affecting the way property prices should be considered in China.

**Sustainable housing demand from urbanisation process**

The rapid increase of urbanisation combined with rising income levels suggest that demand for property in urban areas would continue to be strong in the medium-term. The urbanisation rate increased from 44% in 2006 to 51% in 2011 and is projected to climb further to 60% by 2020. Over the same period, average income per capita for urban households expanded by an annual average growth rate of 13% (in nominal terms). As income levels are likely to continue to rise, those moving into urban areas would be first-time home purchasers, while those in urban areas would look to invest and/or upgrade their current residential properties, supporting continued housing demand.

**Lack of alternative investment to housing**

Given still underdeveloped local financial markets limiting domestic investment opportunities and capital controls preventing residents from investing abroad, sound investment alternatives to real estate remain limited in China. In addition, the lack of an adequate welfare (pension) system has also made real estate investment attractive to people.

**Continued government support to social housing**

Unique to China’s housing market, the vast majority of the urban population lives in government-built housing (see Box 1). In 1998, the government launched its “economic housing” scheme by ending its practice of allocating housing units. Effective ownership of such housing units was transferred to occupants. In 2007, “economic housing” was renamed “affordable housing”. The government has historically always encouraged the development of affordable housing for lower income households but has failed to reach its targets because local governments lack both political incentives and funding. However, it has recently implemented key measures in this area by giving incentives for developers to provide low-cost housing, through provision of land and subsidies to cover development costs. In 2011, the 12th five-year plan set the target of the construction of 36 million units of social housing during the period 2011-2015. The targets of 10 millions units in 2011 and of 7 million units in 2012 were fully met, following concerns that projects were behind the schedule. The government has set a target of 6 millions units for 2013. By 2015, social housing is expected to account for about 30% of total housing stocks, up from the current level of 10%.

The fact that the majority of urban population still resides in government-built homes explains the high level of homeownership in China (more than 80% of the urban households). Indeed, the majority of homeowners do not have the income capacity to afford even the cheapest of the homes sold by private property developers. Residential private housings are thus not sold to the “average” Chinese households but to relatively “high income” households who are low leveraged. Many first-home purchases are made in cash. As far as housing loans are concerned, the average down payment ratio is very high amounting to 60% of the property value (significantly above the required level at about 40%), the average maturity is short (5 years) and interest rates are variable.

High homeownership ratio raises concerns about affordability, measured by average housing price to average disposable income. Affordability is not explosive at the national level standing at 23 but is very high in top tier-cities reaching 55 in Shenzhen and 40 in Beijing. House prices rose much faster than incomes in the past few years, i.e. buying residential property has become less affordable as households have to spend an increasing share of their disposable income on housing. Especially, in Shenzhen, an average household had to spend close to 60% of its annual disposable income for a square meter in 2011. Put it differently, an average household needs to spend more than 51 years of income to afford buying a 90-sqm apartment, compared to 43 years in 2008.

These unusually high housing prices to income ratios in big cities suggest that affordability is a legitimate social concern in China. However, affordability is likely to be better than it would appear as official income/wage statistics are not reflective of actual income levels. Income data are underreported partly due to tax reasons and they are not inclusive of “grey” income, non-taxable income such as allowances and stipends rewarded by companies as supplemental employee benefits.

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2 In China, ownership of residential properties is limited to a term of 70 years. After this period expires, the right of use the land and property will no longer belong to the current owner.
BOX 1 – TYPES OF RESIDENTIAL HOUSING

There are primarily two types of housing, social and private, which represent the vast majority of Chinese residential property.

- **Social housing** refers to government policy-driven housing projects and can be divided into different categories: (i) **economic housing**, about 60 square meters, which are new housing units sold well below prices applied in the private market to low income residents; (ii) **price controlled housing**, less than 90 square meters, with prices slightly more expensive than economic housing and capped by local authorities when developers buy land substantially below market-prices; (iii) **low rent housing**, less than 50 square meters, which are housing units owned by the government and rented to extremely poor residents at below-market rates; (iv) **public rental housing**, less than 60 square meters, which are a recent phenomenon dated to 2009 to help temporary rental to those whose income levels fall between the thresholds required for “economic housing” and “low rent housing” such as migrant workers and new graduates. They are owned by the government but unlike low rent housing, they can be sold to the tenants after satisfying certain requirements (including a residency period, income cap, and compensation to the government) and (v) **slum redevelopment**, which is simply the reconstruction of shanty towns (“slum areas”) with newer housing by the government.

- **Private housing** is housing sold at prices determined by the market to individuals and is also commonly called “commodity building”. The private housing market in China formally started in 1988 when the Constitution was amended to allow for land transactions by separating the right to own a land from the right to use it. In 1994, a more comprehensive policy framework was designed by the government to push forward housing reform process towards privatization. Later, in 1998, the government implemented broader market-based reforms by ending its allocation system of housing units and by privatizing the entire public housing.

These factors highlight key differences between the Chinese housing market and Western developed ones. Hence, it is worth identifying the methodology and calculation of property price data currently available in China in order to make a relevant assessment of the evolution of housing prices and of their impact on the economy.

**AN OVERVIEW OF PROPERTY PRICES DATA**

In nascent housing markets such as China, housing price indicators are different than those of more developed markets which typically use resale housing prices. Newly constructed residential housing tend to be the more accurate measure of housing prices for developing property markets, as it is where the majority of transactions take place. In addition, newly built housing prices, more so than resale prices, directly affect the performance of real estate and related industries (construction machinery, cement, steel and transportation, etc…).

**Property prices have strongly increased over the past decade**

Given that the range of available data for NBS indices is very short (only going back to January 2011) (see Box 2), we have computed an index based on the NBS aggregate average property price for 36 cities to assess longer historical trends. Since 2002, this index show that property prices have more than doubled. They have been growing at a slightly faster pace than in Hong Kong, except in the recent period. However, wages in China have also doubled while they have only grown by 20% in Hong Kong over the period. The only disruption in this rising trend was the 2008 financial crisis. The property market then strongly recovered in 2009. To prevent the property market from overheating, early 2010, the government put in place macro-prudential measures (see Box 3) which combined with monetary tightening resulted in a significant decline of housing prices in 2011. Clearly, the fall in house prices has been policy driven (authorities being worried about the social consequences of housing affordability’s deterioration) rather than representing weaker underlying demand. The policy was aimed at shifting...
the composition of housing under construction away from the high-end segment (which accounts for only 8% of the total real estate investment) towards more affordable housing.

**BOX 2 – HOUSING PRICES DATA IN CHINA**

There are two main data sources that are used and regularly updated for property prices in China: the first one is sourced by the National Bureau of Statistics (NBS) and the second one by the National Development and Reform Commission (NDRC). The NBS provides average prices and indices while the NDRC provides only average prices.

**Average Prices Series:**

— The NBS provides average prices (RMB/sqm) on a yearly frequency (starting in 1997) for 31 provinces and municipalities and for 35 cities (see Appendix).

— The NDRC provides average prices on a monthly frequency from January 2007 to January 2012 for 36 cities (including the 35 largest cities covered by the NBS sample and the city of Lhasa).

Due to data collection and calculation differences, the two price series from the NBS and the NDRC are not exactly comparable. The NDRC sample set is concentrated in downtown locations while NBS data cover a broader regional area. In addition, the NDRC data aggregate both residential and commercial buildings on a RMB/sqm basis while the NBS only reports transactions for residential buildings. Hence, in contrasting the NBS and NDRC property prices, the discrepancy could come from either price difference between the downtown (more developed) and provincial/regional areas, or price difference between residential and commercial properties within cities. Overall, NDRC exhibits higher prices than NBS. For instance, NDRC data indicate average property price in Shanghai for 2011 to be RMB 22,346 per square meter, while NBS data indicate average property price to be RMB 13,448 per square meter. The discrepancy between the two is even greater in Beijing, where NBS data indicate average prices to be RMB 15,518, while the NDRC indicates RMB 27,887.

**At the aggregate level,** the NBS and the NDRC provide both an average of housing prices for 35 cities and 36 cities respectively on a monthly frequency. While they differ in value, the two price series have the same overall growth trend but the NDRC series tend to follow the NBS ones with a lag. Since the NBS aggregate series of average housing prices is available for a longer period than the NDRC one (starting 1997 and 2007 respectively), it can be used to assess historical long term trends in the property market.

While these prices series are the most reported indicators of property prices, it is important to keep in mind that the majority of constructed and sold housing is located in areas outside of key markets (like Tier 1 to Tier 3 cities). At the end of 2011, all regions outside of the top 3 tiered cities accounted for 66% of transactions and registered the highest growth rate of 7% in property sold (in volume by square footage), while Tier 1 and 2 cities saw a drop in transactions.
However, changes in average transaction prices (calculated as total values of buildings sold divided by total sold floor space) can be affected by composition and quality effects. For instance, if buildings sold during a given period are mainly luxuries properties, the average price will go up. Conversely, if buildings sold in the following period are mostly economic houses, the average price will go down. It would thus be better to use the NBS price indices, which are less affected by the composition effects.

**NBS Price Indices:**

The NBS provides indices on a monthly frequency for 70 cities (which account for 70% of total real estate transactions). Since January 2011, the series are collected primarily by real estate developers, but also by local statistics authorities who conduct surveys and collect data for 10,000 samples on newly built and resale residential properties. However, real estate developers may not always report the truth on the developments of the property market; hence, there is room for inaccuracies. Prior to January 2011, the NBS reported an aggregate price index for 70 cities. However, due to criticism of underreporting the magnitude of price increases in the cities, the NBS ceased reporting an aggregate series, providing instead individual city-level data. In addition, since January 2011, calculations of the price indices were considerably adjusted; hence, the new data are not completely comparable with historic data.

Since July 2012, transaction volumes have also started to pick up after a contraction in late 2011.

The rebound in the housing market in 2012 has been part of a broader acceleration in the economic activity thanks to supportive fiscal stimulus measures and easing monetary stance. However, with tighter measures in the property market since March 2013, a sharp rebound is unlikely in the near-term.

**IMPACT OF AN HYPOTHETICAL PROPERTY PRICE CORRECTION**

While the top 35 largest cities are only representing one third of the housing market, they account for almost 40% of GDP. The first five largest cities alone make up 15% of GDP. Despite the lack of consistent data, it is useful to analyse the impact of a hypothetical property price correction on the economy as it is often alleged that it could trigger a hard landing of the economy.
BOX 3: PROPERTY MARKET: MACRO-PRUDENTIAL MEASURES

<table>
<thead>
<tr>
<th>DATE</th>
<th>MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2010</td>
<td>Minimum Down Payment Ratio for second mortgage set at 40%.</td>
</tr>
<tr>
<td>April 2010</td>
<td>Minimum Down Payment Ratio for first mortgage raised to 30% (from 20%) for a property of no more than 90 sqm.</td>
</tr>
<tr>
<td>April 2010</td>
<td>Minimum Down Payment Ratio for second mortgage raised to 50% (from 40%).</td>
</tr>
<tr>
<td>April 2010</td>
<td>Minimum Mortgage rates raised to 1.1 times (from 0.8-0.85) the benchmark interest rate.</td>
</tr>
<tr>
<td>April 2010</td>
<td>Down Payment Ratio and Minimum mortgage rates raised for third and more mortgages while specific rates have not been mentioned.</td>
</tr>
<tr>
<td>April 2010</td>
<td>Restrict mortgage lending to non-residents.</td>
</tr>
<tr>
<td>September 2010</td>
<td>Ban on third and more mortgage lendings.</td>
</tr>
<tr>
<td>November 2010</td>
<td>Minimum Down Payment Ratio for first mortgage raised to 30% (from 20%) regardless the size of the property.</td>
</tr>
<tr>
<td>December 2010</td>
<td>Minimum Down Payment Ratio for second mortgage raised to 60% (from 50%).</td>
</tr>
<tr>
<td>January 2011</td>
<td>Requirement to local governments to set housing price control targets for new housing units.</td>
</tr>
<tr>
<td>January 2011</td>
<td>Collection of business tax (currently at 5.5%) based on the home purchase price for all second-hand homes sold less than 5 years after purchase.</td>
</tr>
<tr>
<td>March 2013</td>
<td>Implementation of a property tax on a trial basis in Chongqing and Shanghai on new property purchases.</td>
</tr>
<tr>
<td>March 2013</td>
<td>Implementation of a 20% tax on profits from selling a home (previously people could choose between paying a 20% tax on profits or 1% tax on the sale of the property).</td>
</tr>
<tr>
<td>March 2013</td>
<td>Minimum Down Payment Ratio raised to 70% (from 60%) and Minimum Mortgage rates raised to 1.3 times (from 1.1) the benchmark interest rate for second mortgage.</td>
</tr>
</tbody>
</table>

Sources: IMF, Government press releases.

Negative impact on overall economic activity

The impact of a rapid property price drop would be relatively limited on private consumption. First, as mentioned above, household’s indebtedness is still low. Total consumer debt was just 28% of GDP in 2011 and mortgage loans reached only 15% of GDP. Moreover, the average loan to value ratio amounts to around 40%. Second, income from properties including rental incomes and gains from property transactions do not appear to be considerable in household income. Property income accounts for 2.3% of China’s per capita income in both urban and rural areas.

However, a sharp property price correction would likely have a sizeable effect on private investment. Real estate accounts for 24% of total fixed investment. Since it is highly connected with other industries (steel, cement, appliances, etc.), the property sector is estimated to make up to 30% of total fixed investment and 12% of GDP.

Given the large shares of private consumption and investment in the economy (35% and 48% of GDP respectively), the overall impact of economic activity would likely be significantly negative.

Large banks’ exposure to the real estate sector

Banks’ direct exposure to the real estate market looks manageable, accounting for 25% of total loans in 2011. Home mortgages make up around 2/3 of this exposure whereas loans to developers account for around 1/3. Housing finance is dominated by commercial banks. Moreover, the Housing Provident Fund (HPF), which was established in 1990, accounts for 10% of outstanding mortgage loans. The HPF requires contributions from employers and employees. The latter are entitled to withdraw their contributions for the HPF along with housing loans at favourable conditions when purchasing (either social or commodity houses), building, renovating or repairing their homes.

However, it is likely that banks’ exposure is much higher when accounting for indirect exposure as firms may use their properties as collateral to borrow money from banks. A property price correction would reduce the collateral values and hence hurt banks’ balance sheets if borrowers were to default on loans. According to Fitch, for some banks, the share of property related loans is as high as 35% of total loans.

3 A. Ahuja, L. Cheung, G. Han, N. porter, and W. Zhang (“Are House Prices Rising Too Fast in China?”, IMF Working Paper, WP/10/274, December 2010) show that a 10% fall in property prices would result in a drop of private consumption by only 0.7% and of investment by about 4%.
Banks’ exposure to mortgage loans is manageable given the relatively limited household leverage and the traditionally low level of delinquency on household loans (0.3% in 2011). The property developers segment is more at risk notably for those who have specialized in high-end residential real estate in Tier 2 and 3 cities. Moreover, it is reported that loans to property developers are being increasingly extended through trust companies and real estate investment trusts which receive funding from banks, so that banks’ exposure to property developers could be higher than reflected in direct bank loans. However, since their peak in October 2011, bond yields on the main property developers have decreased, suggesting that fears of a property bubble have receded.

After continued deceleration since mid-2010, banks’ exposure to the real estate has recovered since Q2-12 along with the rebound in the property market. Real estate loans accelerated to 12.8% YoY in Q4-12. Household mortgage loans grew by 13.7% YoY over the same period.

Fiscal stress on local governments

Local governments might be heavily affected if the real estate market were collapsing as land sales (which depend on land prices) account for a big share of their revenues4. In some cases like Beijing and Chongqing, the share is high as 30% while Shanghai has been below 10% in the past few years.

This potential negative impact on local government revenues would likely further weaken their fiscal position. During the implementation of the 2008-2009 fiscal stimulus to counter the financial crisis, local governments have significantly increased their recourse to local government financing platforms to run government-led infrastructure projects. This has resulted in a build-up of their debt. Such financial vehicles have been established by local governments to borrow indirectly from banks or to use land as collateral. If a large portion of the local government debt had eventually to be taken over by the central government, public debt could climb to 60% of GDP from the current official central government debt of 16% of GDP.

Assessing property prices trends in China is a difficult task given the lack of consistent data. Developments in Tier 1 to Tier 3 cities may not reflect trends in the rest of the country. Affordability in the largest cities has significantly deteriorated; yet, at the national level affordability is still manageable. While the 3 top-tier cities account for only a third of the housing market, they represent 40% of the economy so that a sharp correction in housing prices could have a significant negative impact on the activity, on banks and on public finances. While a temporary slowdown in the property sector cannot be ruled out, a severe correction seems unlikely. The government has recently reiterated its

4 The other main source of local government revenues is fiscal transfers from central government, amounting to 45% of revenues.
commitment to maintain restrictions in the property sector, highlighting its concerns more about the social consequences of affordability’s deterioration rather than about the economic impact of a slowdown in the property market. Over the medium term, fundamentals drivers (favourable demographic prospects, strong government support to social housing, and lack of investment alternatives to real estate) are likely to drive housing demand and thus prevent severe disruptions in property market.
### APPENDIX: CLASSIFICATION OF TOP 35 LARGEST CITIES

<table>
<thead>
<tr>
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<tr>
<td>Shanghai</td>
<td>4.07</td>
<td>1.85</td>
<td>Chongqing</td>
<td>2.12</td>
<td>2.31</td>
<td>Jinan</td>
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<td>3.39</td>
<td>1.57</td>
<td>Hangzhou</td>
<td>1.26</td>
<td>0.55</td>
<td>Zhengzhou</td>
<td>1.04</td>
<td>0.77</td>
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<td>Qingdao</td>
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<td>Harbin</td>
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<td>Wuhan</td>
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<td>Shijiazhuang</td>
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<td>Tianjin</td>
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<td>1.04</td>
<td>Chengdu</td>
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<td>0.92</td>
<td>Changchun</td>
<td>0.71</td>
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<td>5.94</td>
<td>Dalian</td>
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<td>Xian</td>
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<td>Nanchang</td>
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<td>Kunming</td>
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<td>Hohhot</td>
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<td>Shenyang</td>
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<td>Xiamen</td>
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<td>Xian</td>
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<td>Taiyuan</td>
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<td>Nanning</td>
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<td>Urumqi</td>
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<td>0.26</td>
<td>Haikou</td>
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<td>Guiyang</td>
<td>0.29</td>
<td>0.27</td>
<td>Total</td>
<td>10.67</td>
<td>8.21</td>
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Sources: NBS, SG calculations.
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