CHFS DATA TALKS

TREND IN THE HOUSING MARKET AND HOUSING VACANCY RATE IN URBAN CHINA
I. Trends in the Housing Market of Urban China

- China’s housing market is facing weak demand and a supply glut at the same time.
- The home-ownership rate in urban China has reached 89.2% by the end of March 2014.
- 40% of the annual housing supply is enough to meet additional housing demand.

Recently, sales in commercial housing have experienced sharp decline across the country, with a relatively high stock of unsold properties emerging in several key cities. Does this mean that China’s housing market has reached a tipping point?

Based on the data analysis provided here by analysts from the Survey and Research Center for Chinese Household Finance, it is shown that China’s housing market is facing weak consumer demand, and a supply glut.

Simple projections based on recent trends highlight a clear downward trend in supply that will persist for the next few years.
1. Weak Demand

According to data taken from the latest wave of the Chinese Household Finance Survey (CHFS), the home-ownership rate in urban areas of China was up to 87.0% by the end of August 2013. 18.6% of these households were in possession of two or more units of housing.

By the end of March 2014, the home-ownership rate in urban areas had risen even further to 89.2%. The rate of household with more than one unit of housing had grown even faster, up to 21.0%, according to the latest CHFS figures for the first quarter of 2014.

1.1. Rigid demand for housing in the past two years has dropped to a large extent.

‘Rigid demand’ for housing includes demand from people who are either presently without housing, parted from housing (i.e. people who are in possession of housing which is outside of their living and working circle), and/or people with demand for separation, which for example includes households with grown-up children who now seek their own home.

The rigid demand for housing has sharply declined by 3.6% between August 2011 and August 2013. CHFS figures show that 24.6% of urban households had rigid demand for housing by the end of August 2013. Among this, 13.0% of the rigid demand was from individuals presently without housing, down 2.2% from the same period in 2011. Demand from those who were separated from housing also declined, fell by 1.8% down to 4.0%, while those with demand due to separation saw a slight increase up to 7.6%.

By August, 2013:

Rigid housing demand: 24.6%
Improvement-oriented demand: 13.1%

1.2. 13.1% of (potential) demand from urban households is improvement-oriented

This section introduces the concept of ‘improvement-oriented’ housing demand. There is no clear definition of improvement-oriented housing demand available from existing international housing market research, we therefore create and use the following definition:

Improvement-oriented demand is the demand from home-owners who have (i) lived in their existing housing for more than 20 years, or (ii) those who have resided in the same property for at least 5 years and have a per-capita living space is lower than the median figure for the whole province. In either of the above cases, the head of household must not be over 60 years old.\(^1\)

The potential demand for improvement-oriented housing in the urban households of China is 13.1%.

\(^1\) In calculation rigid demand and improvement-oriented demand do not overlap.
Table 1 highlights the regional variation in improvement-oriented housing demand, with the Central region of China having much greater demand than either the Western or Eastern regions. This may in part reflect the nature of wider economic development, where the central region is relatively more prosperous, creating greater opportunities for improvement to occur.

### 1.3. Weak purchasing power: Realizable housing demand is less than 40% of the total demand

The numbers reported above reflect our best estimate of the potential demand for housing, either from rigid demand or improvement-oriented demand, by China’s urban population. This part of the report takes a deeper look into the financial status of households, and their ability to realize their demand i.e. the ability for a house to actually purchase the property it demands.

The first step in calculating the level of achievable housing demand is to verifying whether (i) the household financial asset base is at least equal to 30% of the down payment required for new housing (i.e. current liquid assets) or (ii) whether the existing housing assets of the household could afford the average value of new housing within the province in 2012 (i.e. total assets).

According to these criteria, the achievable housing demand in urban areas was 7.0%, meaning that only 18.6% of the total potential housing demand (the sum of rigid and improvement-oriented demand) can actually be realized.

An alternative measure of purchasing power can be defined by the 6-times housing price-income ratio. Households whose income is equal to or less than 6 times the price of a house are defined as having purchasing power. Using this measure the aggregate achievable housing demand is higher at 10.1%, reflecting...
As a final measure for comparison we also estimated the achievable housing demand based on the repayment ability of the households. We calculated the monthly repayment burden for households by means of the ‘Equivalent Amount of Principal and Interest’ based on a 6.55% benchmark mortgage rate provided by the People’s Bank of China, and a maximum repayment period of 30 years. If the calculated monthly repayment amounts to less than 40% of a household’s monthly income, this household has credible purchasing ability. Based on this calculation, the achievable housing demand in urban areas was 14.7%, 39.0% of the potential housing demand.

The three different measures of purchasing ability discussed above reflect different ways of perceiving the purchasing potential of a household, and clearly result in different numbers. To try and reconcile their differences, at least in part, it should be noted that they reflect in some ways the speed of ability to purchase also. The first measure reflects assets owned by the household already, while the latter two take more direct account of borrowing potential. One might consider these as cautious, realistic and optimistic cases respectively.

Given the above evidence and calculations, the nationwide level of achievable rigid-demand for housing ranges between 6.8 and 23 million units. The total achievable improvement-oriented housing demand ranges between 8.6 and 9.5 million units. Accordingly total achievable housing demand from China’s urban population ranges somewhere between 15.4 and 32.5 million housing units.
2. The Supply Glut

Markets operate at a point which balances the demand from consumers against the supply which residential developers and other owners of housing are prepared to offer given the prices which exist. To provide a complete picture of the market from both of these sides, this section therefore looks at the supply side of the market.

2.1. Possession rates for more than one unit of housing have further increased

The first aspect of supply of housing is based on the stock of ‘spare’ housing that has already been purchased by urban households in China. The CHFS figures show that possession rates for urban households that own more than one unit of housing was 15.9% in 2011. This figure rose even further to 18.6% in 2013. By March of 2014 this figure had increased further still to 21.0%.

![Figure 3: possession rate of more than one set of housing in urban China](image)

This sustained high growth in multiple home-ownership rates by the urban households of China poses genuine concerns since large volumes of vacant housing are one pre-condition the can lead to a property price bubble. The following therefore considers the nature of these vacancy rates in more detail.

2.2. High vacancy rates among owner-occupied housing

Vacant housing includes two categories in this report: a household’s only housing which is vacant because the owner is out working (“parted from housing” for short); or where a household owns more than one unit of housing, the additional households that are owned and neither lived in nor rented out to other families.

Statistics show that the general vacancy rate of housing in urban areas of China was 20.6% in 2011, and this figure rose by 1.8% to 22.4% in 2013. See Table 2.
Table 2: Housing Vacancy Rate in Urban Areas

<table>
<thead>
<tr>
<th>Year</th>
<th>Vacancy Rate of Households (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>with only one unit of housing (“parted for housing”)</td>
</tr>
<tr>
<td>2011</td>
<td>4.8</td>
</tr>
<tr>
<td>2013</td>
<td>5.1</td>
</tr>
</tbody>
</table>

“Parted for housing” accounted for 4.8% of vacant housing in 2011 rising a little to 5.1% in 2013. At the same time, households with more than one unit of housing had experienced a notable increase in their vacancy rate, increasing from 15.8% in 2011 to 17.3% in 2013.

Based on these estimates, in 2013 there were an estimated 48.98 million units of vacant housing in urban areas of China, an increase of 8.42 million compared with that of 2011.

3. The existing housing stock of ‘spare’ households can easily meet the achievable housing demand

Based on the analyses above, the ceiling of the achievable rigid demand for housing in urban areas of China was around 23 million sets, while that of the achievable improvement-oriented housing demand was 9.5 million sets, leading to a total figure of 32.5 million units of achievable demand.

For the same period, the number of vacant owner-occupied housing units among China’s urban households had reached 48.98 million, with a further 3.5 million units of commercial housing for sale, which made the total supply up to 52.48 million units.

From these numbers it is clear that the existing housing stock will be able to meet the achievable housing demand with up to 20 million units remaining vacant. Therefore, even without the supply of indemnificatory housing committed to during the Twelfth Five-Year Plan period, existing demand can be met in full.

Annual additional housing demand: 8.95 million Units

Annual housing supply: 25.04 million Units

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1 Calculated from a projected total urban housing stock of 218.7 million units multiplied against the urban vacancy rate of 22.4%.

2 Estimated by the figure of residential area of commercial housing for sale released by the National Bureau of Statistics in the end of March 2014.
4. 40% of the existing annual supply of housing can meet the annual additional housing demand

The report so far has used the statistics in the CHFS to develop a picture of the total national demand for housing in China, and also the total national supply. These data reveal an important imbalance. This section of the report now turns attention towards the year-on-year incremental supply and demand.

4.1. The annual additional demand for households

Additional housing demand includes: demand due to urbanization, new housing demand from additional adults (e.g. children coming of age), housing demand from relocated households (due to demolition of previous housing) and finally improvement-oriented housing demand.

According to the CHFS analysis, the vast majority of the younger registered population in rural areas has poured into cities, pursuing better job, income and overall life opportunities. 58.7% of those aged from 16-30 and nearly 50% of those between 31-45 entered cities.

### Table 3: Annual Additional Housing Demand in Next Five Years

<table>
<thead>
<tr>
<th>Category</th>
<th>Annual Additional Housing Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual additional households of migrant workers</td>
<td>3.36 million units</td>
</tr>
<tr>
<td>(urbanization)</td>
<td></td>
</tr>
<tr>
<td>Annual additional adults</td>
<td>3.17 million units</td>
</tr>
<tr>
<td>(due to children coming of age)</td>
<td></td>
</tr>
<tr>
<td>Annual additional relocation households</td>
<td>2.42 million units</td>
</tr>
<tr>
<td>(due to demolitions)</td>
<td></td>
</tr>
<tr>
<td>Sum</td>
<td>8.95 million units</td>
</tr>
</tbody>
</table>

The statistics further reveal that the vast majority of the highly educated rural population has migrated into cities. 74.6% of the rural population with junior college degree or above had entered cities, with 57.4% of those having completed either senior high school or technical secondary school. According to the age characteristics and educational level of the remaining rural population, we project the urbanization rate in China over the next five years to reach 0.84%, representing 3.36 million additional households formed of migrant workers.

In estimating the additional adult population that will demand housing within the next five years it is assumed that the future adult population is made up of individuals in urban areas who are currently aged 13-17. Further it is assumed that each future adult requires 0.5 units of housing, or one unit per couple. From these assumptions, the annual demand for housing from additional adults will be 3.17 million units.

The number of demolition households had reached 11 million units in the past five years, and growing at the rate of 10%, there would be 2.42 million additional units of housing demand generated by relocation. To sum up, the number of annual additional housing demand in the next five years will reach 8.95 million.

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1 Excluding school students.
2 This number comes from
4.2. The annual additional supply of households

Turning next to the annual additional housing supply, the level of supply includes commercial housing supply, housing supply due to elderly citizens retiring from the population (e.g. deaths due to old age) and indemnificatory housing supply.

The annual supply for commercial housing is measured as the five-year average of new commercial housing projects, provided by the National Bureau of Statistics. Housing supplied specifically from elderly individuals retiring from the population is estimated from the average life expectancy in the province, drawn from the national census adjusted for residential conditions. Indemnificatory housing supply refers to the 36 million units of housing committed to in the Twelfth Five-Year Plan. Therefore the total supply of housing, refer to Table 4, will be 25.04 million units per year. Accordingly, 40% of the annual housing supply will meet the annual additional housing demand.

<table>
<thead>
<tr>
<th>Table 4: Annual Housing Supply in Next Five Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
</tr>
<tr>
<td>Annual Supply of Commercial Housing</td>
</tr>
<tr>
<td>Annual Supply from Senior Citizens</td>
</tr>
<tr>
<td>Annual Supply of Indemnificatory housing</td>
</tr>
<tr>
<td>Sum</td>
</tr>
</tbody>
</table>

5. Trends in purchaser type: the share of first-time buyers is in decline

In this section we take a quick look at the distribution of buyers, classified into three types: first-time buyers, households who already own one property and are purchasing their second, and lastly households who already own multiple properties and are making an additional housing purchase.

The CHFS statistics show that first-time buyers are consistently decreasing in the share of buyers year-on-year, for close to 15 years now. By the end of August 2013, first-time buyers accounted for only 47.7% of the house-purchasing households. Between 2013 and 2014 the dominant buyer type in the market was no longer the first-time buyer, but had been replaced by households purchasing their second home.
According to the most recent quarterly survey, the share of first-time buyers has dropped dramatically from 47.7% down to 19.7%, the largest shift in buyer shares in recent history.

The evidence here can be translated into a considerably limited willingness and ability for individuals/families to enter into the housing market. Furthermore, the price of housing is clearly being driven by investment demand, with most consumption being from households who are already in possession of housing and not upgrading.

6. **New ideas on the existing regulation of the housing market in China**

China is now facing a clear problem of excess supply that requires immediate attention.

The existing housing stock currently has a high vacancy rate, and when achievable demand for housing is taken into account, there still remains an extremely large surplus of housing. More concerning than this however, is the evidence presented here that this surplus (the net imbalance between supply and demand) will continue to grow, since the projected incremental supply of housing is capable of serving the total (not only the achievable) projected incremental demand more than twice over. This is clearly unsustainable: not even taking into account the poorly allocated physical resources or pollution caused from construction, the excess supply of housing in this scale poses a significant financial risk to the Chinese economy.

An obvious objective for policy to aspire to, would be on bringing the existing vacant housing stock back into active use, and reduce waste as much as we can.

In the short term, exemption on taxes arising from property rental would help to stimulate home-owners to at least offer their vacant homes for rental. Revisions to the existing regulation on the rental market would help to protect the interests of both sides (tenants and landlords), generate benefits from currently unproductive vacant housing, and also help to maintain the liquidity of the labor force – making it easier for temporary/contract workers to find temporary accommodation where jobs are located.

In the long run, larger numbers of vacant housing units can be ‘activated’ by ensuring that their carry-cost, namely the (annual) cost of holding the property, is notably increased. An immediate way in which this could be achieved is through increased property tax collection on households owning more than one unit of housing. High carry-costs will have the direct consequence of decreasing the demand for multiple home ownership.
The most obvious explanation for the supply/demand imbalance in the housing market in China is due to the demand for housing as an investment. This is motivated from the buyers’ side from the expectation that house prices are continuing to rise, and that the returns from property investment will outperform other types of investments.

One policy option would therefore be to help potential home purchasers be better informed about the true property price (to help match expectations with reality), and also provide additional knowledge regarding wider housing market trends. This will at least help households purchasing for investment purposes to make better informed and more rational investment decisions. The collection and regular release of housing vacancy rates or other related indexes would be of clear importance in this regard.

There simultaneously exists a “misallocation” of property resources and a high vacancy rate within the existing indemnificatory housing market. For this reason it would seem a strategic priority to reduce or even completely stop the construction of further indemnificatory housing. By implementing the measure discussed above of making rental subsidies available to low-income households and ‘floating’ rural households, we could provide them with accessible housing, while at the same time activating the rental market and increase the use (and hence productivity) of currently idle resources.

In conclusion

- Chinese households already enjoy a high rate of housing ownership, a rate which is also still continuing to rise rapidly.
- But the rigid demand and improvement-oriented demand for housing in China is presently very weak, with no signs of strengthening in the near future.
- At the same time, the existing vacant housing stock can fully meet the achievable housing demand.
- 40.0% of the projected incremental annual housing supply is enough to meet total incremental annual housing demand.
- In light of the above, a downward trend in the housing price is inevitable: the facts suggest that the winter of the housing market in China is looming.
II. Housing Vacancy Rates in Urban China

- China has an urban housing vacancy rate of 22.4% in 2013.
- 4.2 trillion Yuan in bank mortgages are trapped in vacant housing.
- The value of vacant housing accounts for 11.8% of the total household assets in the urban areas.

The China Household Finance Survey (CHFS) statistics show that the vacancy rate of owner-occupied housing in urban areas is considerably high and remains on an upward trend, increasing from 20.6% in 2011 to 22.4% in 2013.

The value of vacant housing accounted for around 4.2 trillion Yuan of bank mortgages in 2013. Meanwhile the asset value of vacant housing accounted for 11.8% of total household, suggesting a huge amount of idle resources and a thriving 'false economy'.

Vacant housing is more vulnerable to the risks of falling house prices, which as discussed in Part 1 are very likely in the coming years. Once the prices fall, they are in greater danger of suffering a loss or in the extreme case insolvency.

Economically affordable housing for indemnificatory use in particular, had a stunningly high vacant rate of 23.3%, and has failed to play its due role in providing housing security to those in need.
1. The high vacancy rate of family-owned housing in urban areas of China

The first part of this report illustrated the heavy imbalance between the supply and demand for housing from urban households. This part of the report focuses more directly on the vacancy rate and its decomposition. It begins with a general international comparison to show how severe the vacancy rate is by global standards.

1.1. China has an urban housing vacancy rate of 22.4% in 2013, higher than many other nations/regions of the world.

This section illustrates the vacancy rate of China as being one of the highest in the world. Given the scale of the economy, and China’s economic status (still being a developing nation), these rates can only be described as remarkable – but not in an optimistic sense.

Before proceeding some definitions are helpful: in this report, vacant housing refers to properties in urban areas falling under one of two categories: (i) a household’s only fully-owned housing which is vacant because the owner is out working in another region (we refer to this as “parted from housing” for short); and (ii) for households which own more than one unit of housing, all additional units that the owner neither lives in nor rents out (we refer to this as “more-than-one-unit vacancy” for short).

According to the CHFS data, the aggregate housing vacancy rate in urban areas of China was 22.4% in 2013, an increase of 1.8% from 2011. Among this, the “parted from housing” accounted for 5.1% while the “more-than-one-unit” accounted for the remaining 17.3%. From these figures, it can be estimated that the total number of vacant housing in the urban areas of China is around 48.98 million units, with 37.83 million units being owned by households with “more-than-one-unit” of housing.

Figure 5, on the next page, makes some international comparisons in order to help place these vacancy rates into a broader context. The United States has experienced a low vacancy rate, being 2.5% in 2011; similarly Hong Kong has a low rate at 4.7% in 2010. The EU survey on house vacancy in 2004 showed that the average vacancy rate was 9.5%. Japan had a vacancy rate of 13.1% in 2008, while that of Taiwan was 17.6% in 2001. The vacancy rate in China exceeds all of the international benchmarks.

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Vacancy Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>2013</td>
<td>22.4%</td>
</tr>
<tr>
<td>Taiwan</td>
<td>2001</td>
<td>17.6%</td>
</tr>
<tr>
<td>Japan</td>
<td>2008</td>
<td>13.1%</td>
</tr>
<tr>
<td>EU main countries</td>
<td>2004</td>
<td>9.5%</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>2010</td>
<td>4.7%</td>
</tr>
<tr>
<td>US</td>
<td>2011</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

Figure 5: Housing Vacancy Rate in China and Other Nations and Regions

Note: The definition of vacant housing in this report is in accordance with the US survey on house vacancy rate in terms of the exclusion of the newly built housing that is not yet for sale, while in other nations and regions that kind of housing is included.

Data sources: US survey on house vacancy rate, United States; Hong Kong property management report in 2010.
1.2. Third-tier cities suffer from the highest vacancy rate, followed by second-tier cities and lastly first-tier cities

First, second and third-tier cities differ in terms of their government status, and hence the level of government funding and investment that they can attract. A first-tier city is the highest tier, offering the greatest level of resource to its residents, with second and third-tier cities being ranked lower.

In terms of the disparity of housing vacancy rates in cities of different tiers, third-tier cities are suffering from the highest vacancy rate, sitting at 23.2%. Though lower than in third-tier cities, the housing vacancy rates in second and first-tier cities are still high at 21.8% and 21.2% respectively.

Looking only at the vacancy rates from commercial housing, we find that the rates in second and third-tier cities are much higher than in first-tier cities. For both second and third-tier cities the vacancy rate is 27.6%, which is 9.2% higher than that of first-tier cities where the vacancy rate is 18.4%, and also 1.3% higher than the national average.

The general picture is broadly insensitive to whether or not the “parted for housing” is included. Excluding these types of vacant properties, the vacancy rates for commercial housing in first, second and third-tier cities are 14.2%, 20.9% and 22.6% respectively.

2. The massive amount of vacant housing represents a severe waste of social resources

Large resources are tied into vacant housing, including vacant indemnificatory housing, which may well be better used in other areas of the economy. Particular attention is given here to the misallocation of resources towards vacant economically affordable housing.

2.1. The vacancy rate of economically affordable housing is as high as 23.3% without bringing its indemnificatory role into full play

Economically affordable houses in China are termed indemnificatory housing, and are intended to provide accessible housing for low-income families in urban areas, subsidized in part by the government. The CHFS statistics show that there exists a severe waste of resources and misallocation in the market for economically affordable housing in China. The vacancy rate of economically affordable houses is as high as 23.3%, next
only to that of the commercial housing.

Figure 7 shows two things, the ownership rate or share of households that own indemnificatory housing by income quartiles, and also the share of that housing that is vacant. The ownership rates alone highlight a clear resource misallocation. 3.2% of the households in the upper income quartile own indemnificatory housing, clearly indicating that indemnificatory housing is not being provided where it is needed the most.

Considering the misallocation aspect further, the data also reveal that 27.5% of these economically affordable houses are owned by the highest income group are vacant. Interestingly, the housing vacancy rate of the 25% households with the lowest income, though lower, still remains high at 17.1%.

The implications are therefore that a sizeable portion of affordable housing is being provided to households that do not need it, and that even the households who do need it (i.e. the lowest income group) are in many cases being provided households which do not suit their needs, hence these households remaining vacant and idle. The ultimate point being that indemnificatory household is being misallocated across the full income spectrum.

2.2.4.2 trillion Yuan of bank mortgage capital is trapped in vacant housing, lowering the efficiency of the financial market.

The bank mortgage capital that is trapped in vacant housing is a kind of idle capital since the money is ultimately invested in an idle and unproductive asset. This lowers the efficiency of the financial market, diverting money away from other potentially productive investments.

The latest statistics from the CHFS show that vacant housing has not only higher credit availability than non-vacant housing, but also that the size of loan capital is higher. Credit availability here refers to the proportion of household that actually get a property loan relative to the total number with formal loan demand.1

Credit availability for vacant housing is 82.3%, which is a striking 20% higher than that of non-vacant housing. In terms of the size of loan, the average loan amount for vacant housing is 320 thousand Yuan, while that of non-vacant housing is only 237 thousand Yuan.

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1This is in some ways a reflection of the facts reported in Part 1 that much of the vacant housing is seemingly arising from (arguably wealthier), multi-property, households, whose ability to raise credit should be higher.
Based on the available data, it is possible to calculate that vacant housing accounted for a net loan worth 4.2 trillion Yuan at the end of August 2013.¹

### 2.3. 11.8% of household capital in urban areas is trapped in vacant housing, representing a huge waste of social economic resources

Vacant housing is incapable of fulfilling the social function which it is intended to provide, and as such is a significant waste of social capital.

From the CHFS statistics it is calculated that 11.8% of the average total household asset in urban areas made up of vacant housing assets. Since as discussed this capital is effectively idle, then this 11.8% of assets represents a significant waste of (limited) housing resources.

From Figure 8 it can also be seen that vacant housing assets are larger than financial assets, which represent only 10.5% of household assets.

#### 3. Vacant houses are a bigger potential risks than non-vacant ones

Falling household prices are a genuine concern in China for reasons already discussed. Here we summarize evidence that when the general price of housing in China falls, the value of vacant housing is more severely impacted than non-vacant housing is.

**3.1. Once the housing prices fall, vacant houses are in greater danger of suffering a loss**

The situation today is that 5.4% of vacant houses are ‘at loss’ given the current housing prices that prevail in the national market. By ‘at loss’ we mean that the value of the house has fallen below its initial purchase price (in nominal terms). This is slightly higher than non-vacant houses, where the percentage of houses ‘at loss’ is 4%.

If the housing price falls by 5%, then 17.1% of vacant houses will become ‘at loss’, a much higher number than for non-vacant housing which is estimated at 6.6% of houses ‘at loss’. If the housing prices fall by 50% (a scenario close in nature to a bursting property bubble), then 49.1% of vacant houses will be worth less than

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¹ This value is calculated using the ratio of debt from vacant house to debt from total housing (calculated from CHFS data), multiplied by the total national housing debt balance provided by the People’s Bank of China.
their purchase cost, while only 24.2% of non-vacant houses will be ‘at loss’.

**Figure 9: The proportion of loss of vacant houses and non-vacant houses when the housing prices fall to different degrees**

![Graph showing the proportion of loss for vacant and non-vacant houses at different price falls.]

### 3.2. Households owning vacant housing are in greater danger of insolvency, but bank mortgages will not be at big risk

We consider here the nature of insolvency in terms of housing debts (including bank mortgages/loans as well as informal lending). As housing prices fall the value of the asset base decreases. When the value of the assets falls below the value of the debt, the household is classified as insolvent.

Vacant houses are in greater danger of insolvency when prices fall, which follows directly the evidence above that their values shall more sharply than non-vacant households. The present situation is that only 0.8% of vacant houses with housing debts are insolvent, while only 0.6% of non-vacant houses are insolvent. When the housing prices fall by 5%, the percentage of insolvency for vacant houses with housing debts will rise to 1.0%. And if the housing prices fall by 30%, then 11.2% of vacant houses and only 3.3% of non-vacant houses suffering from insolvency.
4. Reasons offered for housing being vacant

In this final part of the report we present statistics on the main characteristics of households that own additional vacant housing, in an effort to distill the key reasons for vacancy.

4.1. Income level, being a bachelor of marital age, and investment risk preferences are the major factors for houses being vacant

Among the 10% of households with the highest income level, 39.7% are in possession of vacant houses, 21.5% higher than for the 25% of households with the lowest income level.

28% of households with at least one bachelor of marital age in the family are in possession of vacant houses. This compares with 23.9% of households without bachelors.
Lastly, in terms of risk preferences, 34.7% of households with strong preference for investment risks have vacant houses, while only 20.2% of those who are not willing to take a risk for investment own vacant houses.

4.2. Each 10% rise in price-to-rent ratio will cause a 0.6% rise in the housing vacancy rate

The price-to-rent ratio, the ratio between the housing price and the monthly rent of per square meter of gross floor area, is one of the criteria that we use to gauge how the housing market is likely to function. The higher the ratio is, the lower the incentive for households to put their houses into the rental market, and therefore the higher the likelihood of leaving the property vacant. This can be justified on the basis that the short-term rental yields are lower than the long-term speculative gain in the housing market.

The CHFS statistics show that each 10% rise in price-to-rent ratio will cause 0.6% rise in housing vacancy rate.
4.3. Each 10% rise in urbanization rate will cause 2.6% drop in housing vacancy rate

Urbanization brings new demand for housing, which will help drive-down the urban housing vacancy rate. Each 10% rise in urbanization will cause a 2.6% drop in housing vacancy rate. Though the housing demand brought by urbanization has only a quite limited power to decrease the existing vacant houses.

Table 5 shows the various amount of contribution by different factors to the housing vacancy rate when assuming other factors remain unchanged. For example, each double of household income causes a 0.6% increase in housing vacancy rate.

<table>
<thead>
<tr>
<th>Factors that Affect Housing Vacancy Rate (with other factors remain unchanged)</th>
<th>Change of Housing Vacancy Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each double of household income</td>
<td>Increase by 0.6%</td>
</tr>
<tr>
<td>Each year more of education of the owner</td>
<td>Increase by 0.6%</td>
</tr>
<tr>
<td>With bachelors of marriage age</td>
<td>Increase by 2.1%</td>
</tr>
<tr>
<td>With family-run business</td>
<td>Increase by 11.3%</td>
</tr>
<tr>
<td>Preference for investment risk</td>
<td>Increase by 5.3%</td>
</tr>
<tr>
<td>Each 10% rise in price-to-rent ratio</td>
<td>Increase by 0.6%</td>
</tr>
<tr>
<td>Each double of yield in first house</td>
<td>Increase by 0.2%</td>
</tr>
<tr>
<td>Each 10% rise in urbanization rate</td>
<td>Decrease by 2.6%</td>
</tr>
</tbody>
</table>

**In conclusion**

- Existing **indemnificatory housing policy** is undermined severe resource **misallocation** problems, across the full income spectrum.

- The **money tied up in mortgages** for vacant house poses a genuine financial risk to the economy, and must not be allowed to grow.

- **Large levels of insolvency** among urban households with vacant housing may occur with even fairly modest property price falls.
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Housing Report from the First Quarter of 2014

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2. Further Increases in the Acceleration of the Housing Ownership Rate in Urban Areas

3. Significant Improvements in the Housing Ownership Rate of Housing in the Urban Areas of Central and Western Regions

4. Notable Increases in the Proportion of Ownership of More than One Set of Housing

5. Analysis of Households Buying and Selling Housing

6. Changes in Housing Values in Urban Areas

7. Further Decreases in the Rigid Housing Demand Surplus

8. A Slight Increase in the Housing Vacancy Rate