

Contributors to the Potential Demand for Reverse Mortgage in China

**—An Empirical Investigation Based on a Questionnaire
Survey of Residents in Beijing**

Chen Bingzheng, Deng Yinglu, Liu Xiaofei, Zhang Lihong

School of Economics and Management, Tsinghua
University

Motivation

- **Longevity** : Population aging is a worldwide issue. By 2050 there will be 2 billion people aged 60 and over 22% of world population. By 2050, it is projected that the population ages 60+ and 80+ will reach 440 million and 101 million, respectively. (China Population, 2009).
- **Reverse mortgage**: Reverse mortgage provides a possible approach to solve the aging problem and hence attracts attention from the government agency, insurance company and banks. On one hand, the reverse mortgage relieves the burden of the retiree's family, the pension fund and the social security system. On the other hand, the reverse mortgage provides an innovative financial instrument and a new market for the insurance company, bank and other financial institutions.

Motivation (Cont.)

- **Difficulty in China:** the Chinese people has the traditional concept that the house should be left as a legacy to the next generation, or be saved for the long-term care, or be regarded as the last resort and the safety net for their last days.
- **Objective of our paper:** In order to explore the possibility to initiate the reverse mortgage market in China, we need to study on some important related issues.
- How can the reverse mortgage emerge into Chinese market?
- What is the perception of the Chinese consumer on the reverse mortgage product?
- What are the main factors that affect the reverse mortgage demand?

Motivation (Cont.)

- **What we do in this paper:**

In our paper, we design a survey to investigate the market and explore the answer to the questions above. Based on the survey, we do the statistical analysis to find the demand, the influential factors of the reverse mortgage market.

Sample

- **Time:** March, 2012
- **Size:** Efficient sample 816
- **Target area:** Beijing
 - (1) Beijing is a cosmopolitan where capital market and real estate market are mature.
 - (2) Beijing is one of the areas with high percentage of aging homeowners.
 - (3) The percentage of homeowners who own more than one house or apartment is higher than other cities or areas in China.
 - (4) Consumers are more open and better educated to perceive the innovative financial product than other cities or areas in China.

Sample (cont.)

- Six districts in Beijing, including the dongcheng district, the xicheng district, the chaoyang district, the shijingshan district, the haidian district, the fengtai district.
- In every district, we select two streets randomly, 66-67 homeowners each. The 66-67 homeowners are selected from two communities, 33-34 each. Through residence investigation, we collect 816 effective questionnaires. In the questionnaire, the percentage of each sex is controlled to be 50%. The age is between 50 years old to 70 years old, the percentage of each age group, 50-54, 55-59, 60-64, 65-69, are controlled to be equal.

Questionnaire design

- The media investigation lab in Tsinghua University was entrusted to do the survey.
- The questionnaire is designed to answer the following questions:
- We tend to find the factors which affect the life satisfaction of the aged homeowners. Through the statistical analysis, we intend to find the target potential consumer and the appropriate social financial environment for the emerging of the reverse mortgage.
- We tend to identify if the income level affects the life satisfaction significantly. The main contribution of the reverse mortgage product is income improvement. If income level affects the life satisfaction significantly, the demand for reverse mortgage will be high.
- We tend to find the traditional concept of the aged homeowner. Whether they are willing to leave the house or apartment to the next generation as the legacy, or they are willing to save the house for their long-term care spending.

Questionnaire details

- Our questionnaire includes **six** parts, **twenty six** single choice questions in total.
- **First part:**
we select the qualified interviewees through the questions on the age and job. The qualified interviewees are among between 50-70 years old. The question excludes the biased samples who work in the insurance industry or in the survey industry.
- **Second part:**
we intend to investigate the living condition of the interviewees, including the living style, the amount of the house, the value of the house, the age of house and the amounts of the son/daughters.
- **Third part:**
we intend to investigate the financial status of the interviewees, including the financial resource, monthly income, etc.

Questionnaire details (cont.)

- **Fourth part:**

we intend to investigate the insurance consumption of the interviewees, including the life insurance consumption, health status and self estimated life satisfaction.

- **Fifth part:**

we introduce the eight different type of the reverse mortgage products and investigate the preference and demand of the interviewees towards the products.

- **Sixth part:**

we investigate the sex, education and amounts of son/daughter for the background information.

Regression Variables

- Two dependent variables, **life satisfaction** and **perception of the reverse mortgage**.
- **Life satisfaction (five levels):** extremely unpleasant, relatively unpleasant, not sure, relatively pleasant, extremely pleasant.
- **Perception of the reverse mortgage:** extremely dislike, relatively dislike, not sure, relatively like, extremely like.
- The independent variables include age, living style, amount of houses, value of houses, age of houses, income resource, monthly income, health condition, health judgement, sex, education, amounts of son/daughter.

Analysis of the survey results-- Income status of the interviewees

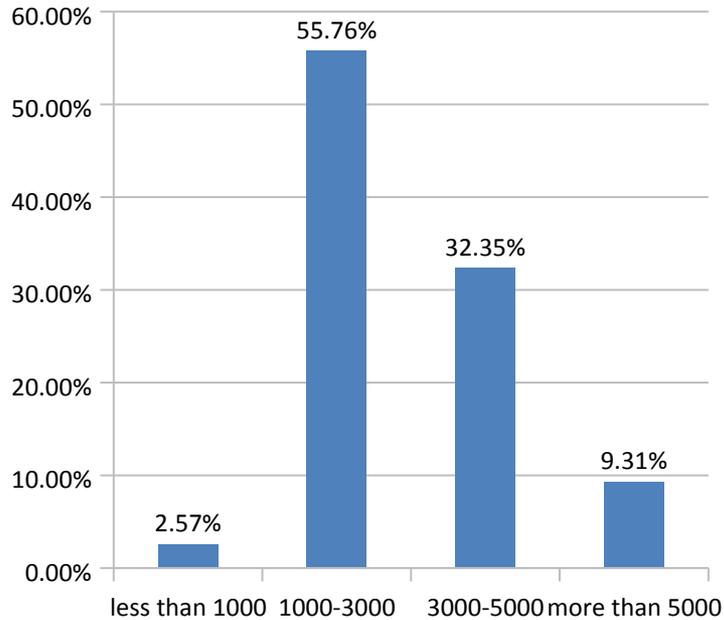


Figure 3.1 Distribution of income for interviewees

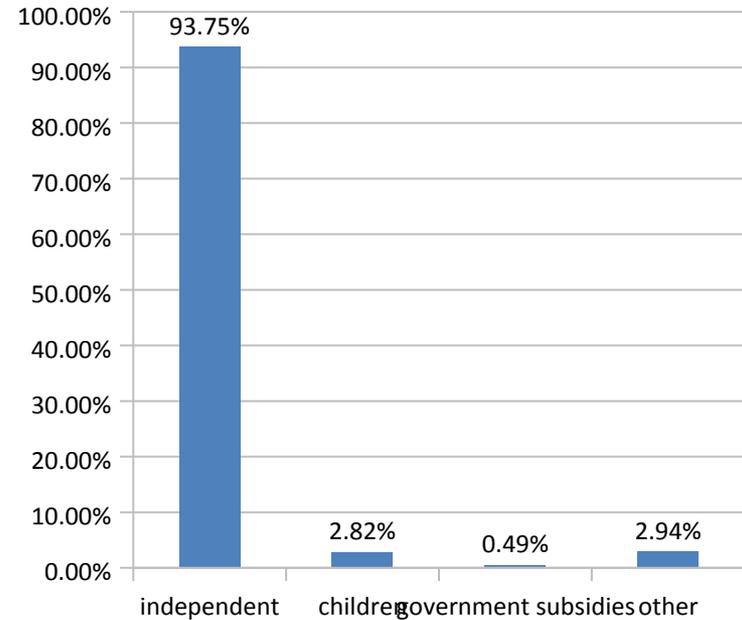


Figure 3.2 Income source of interviewees

Analysis of the survey results-- Income status of the interviewees (cont.)

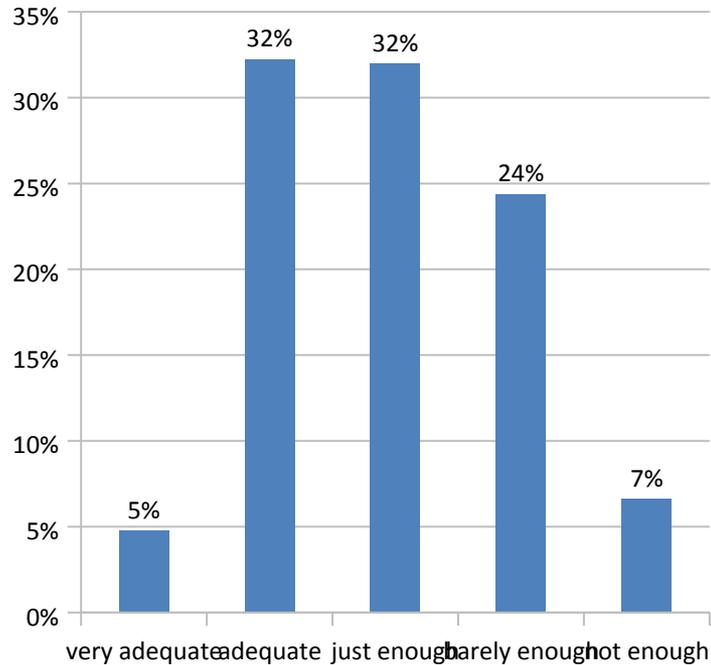


Figure 3.3 View for adequacy of income

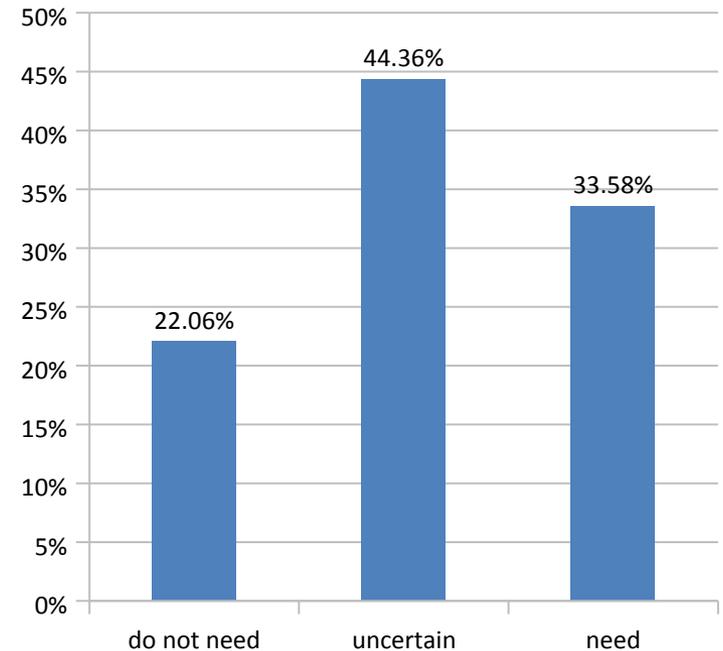


Figure 3.4 Needs to increase income

Analysis of the survey results-- Housing conditions of interviewees

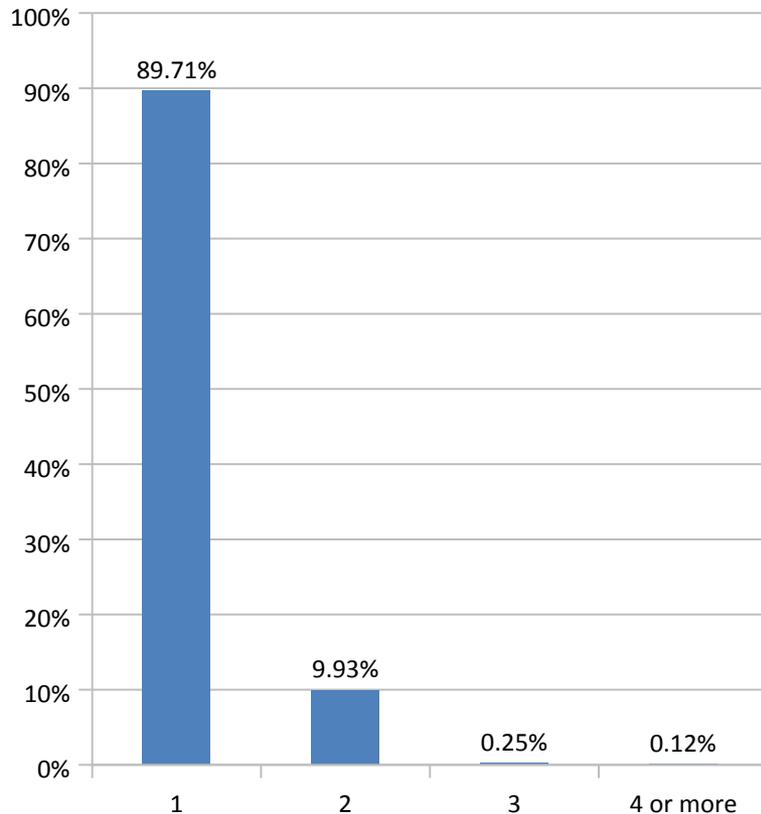


Figure 3.5 : the number of real estate which the interviewees own

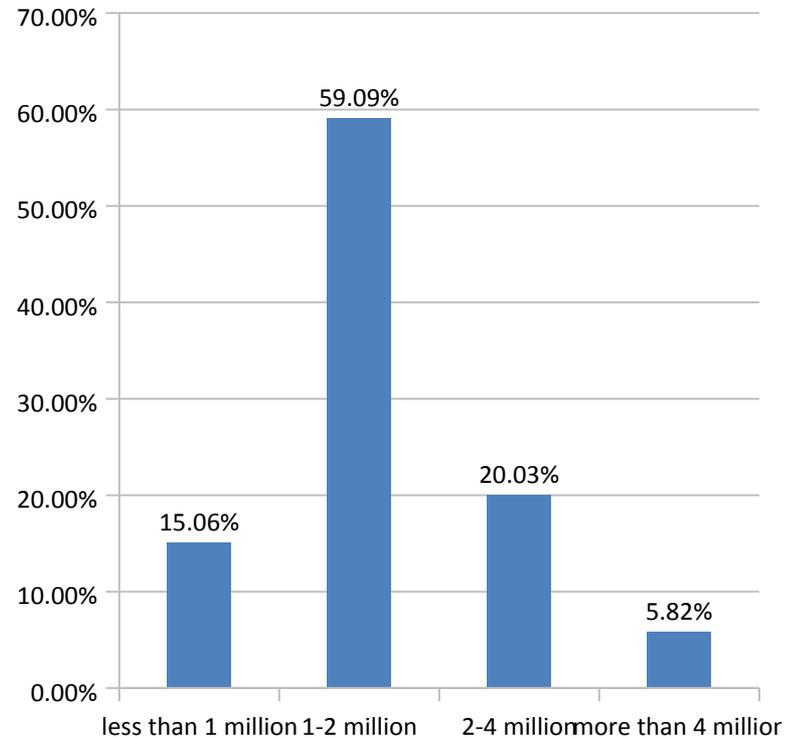


Figure 3.6 value of house

Analysis of the survey results-- Housing conditions of interviewees (cont.)

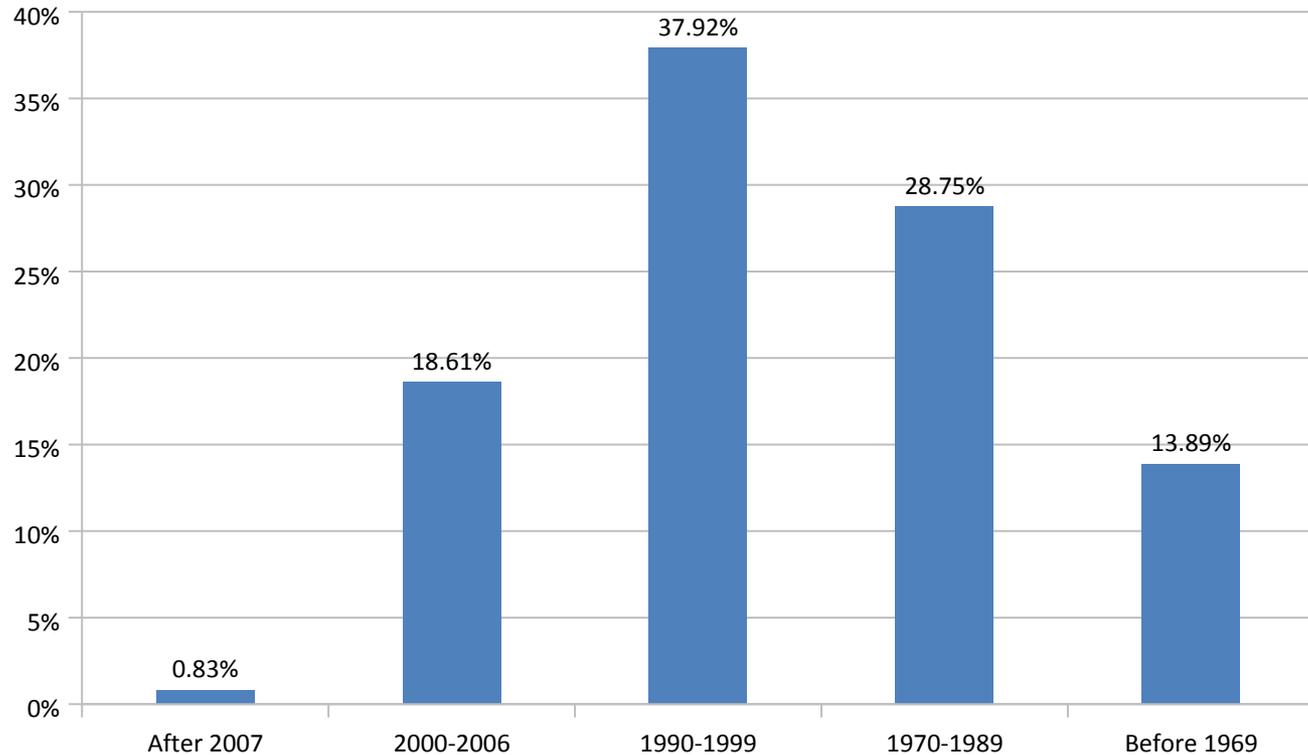


Figure 3.7

Year of housing construction

Analysis of the survey results

- **Life satisfaction analysis of elderly**
- **Table 3.2 Regression results:** The regression result shows that the more real estate, and higher monthly income as well as the more health lead to the higher life satisfaction. This result is very intuitive.
- **Table 3.3 Variance analysis:** The variance analysis shows that the number of real estate, housing value, housing serving year, monthly income, health degree, gender, number of children, and insurance have significant impact on life satisfaction.

Analysis of the survey results-- Attitudes toward real estate

Table 3.4 attitudes towards housing (1)

Description	proportion
1. Housing property can bring sense of security. Mortgage is regarded as a last emergency and will not be used until necessary.	84.80%
2. Housing can be reverse mortgaged to increase income	15.20%

Analysis of the survey results-- Attitudes toward real estate (cont.)

Table 3.5 attitudes towards housing (2)

Description	proportion
1. Reverse mortgage can increase income. It is acceptable that the house cannot be inherited by children.	8.46%
2. I hope to leave real estate to my children. If I need more money, I will ask my children to support.	71.94%
3. I incline to engage in reverse mortgage. However I need to discuss with my children since it is a big decision which is related to whether they can inherited the real estate.	19.61%

Analysis of the survey results-- Attitudes toward real estate (cont.)

Table 3.6 Cross-over attitudes

Attitudes(1)	Attitudes (2)			total
	1	2	3	
1	26(3.19%)	546(66.91%)	120(14.71%)	692(84.8%)
2	43(5.27%)	41(5.02%)	40(4.9%)	124(15.2%)
total	69(8.46%)	587(71.94%)	160(19.61%)	816(100%)

Analysis of the survey results-- Attitudes toward real estate (cont.)

- **Table 3.7 Regression result for investigation of significant factors of attitudes (1)** : The result shows that residential patterns, healthy status and number of children are significant components.
- **Table 3.8 Regression result for investigation of significant factors of attitudes (2)** : The result shows that age, residential patterns, healthy status education, and purchasing healthy insurance are significant components.

Analysis of the survey results-- Attitudes toward reverse mortgage

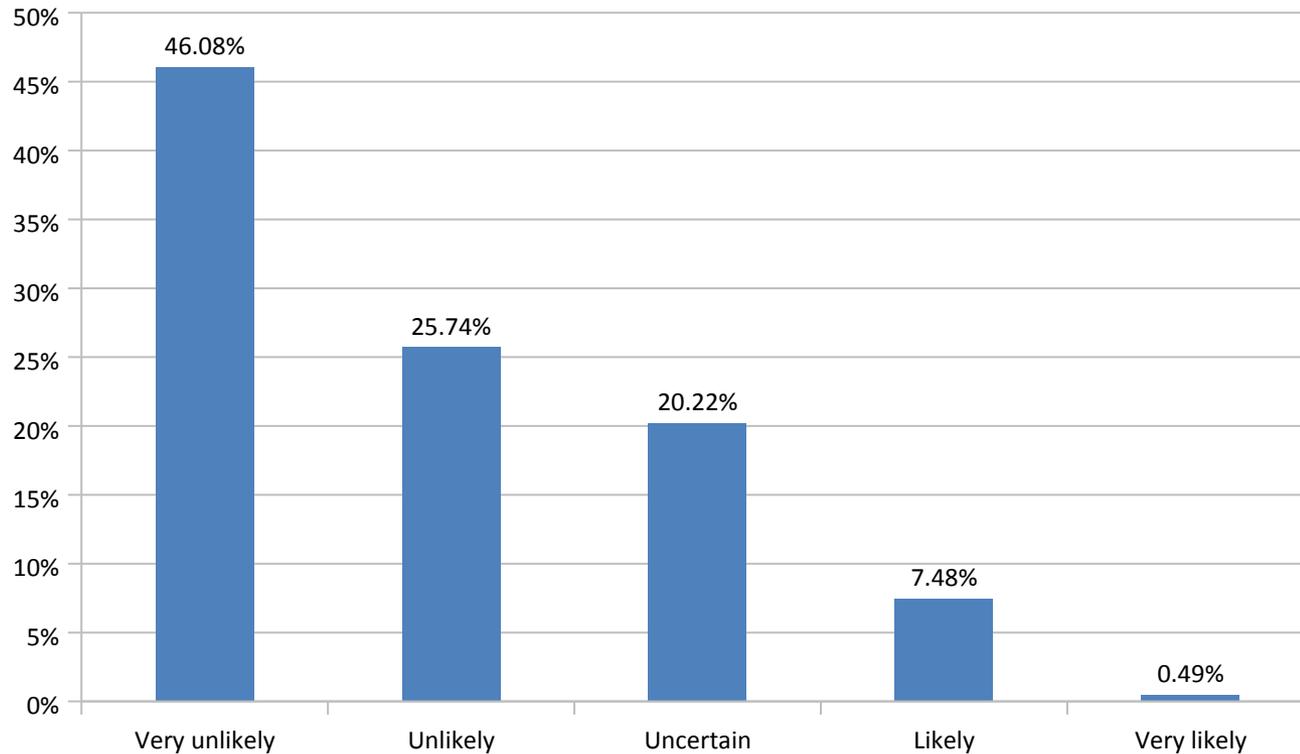


Figure 3. 8 Inclination of taking reverse mortgage

Analysis of the survey results-- Attitudes toward reverse mortgage(cont.)

- **Table 3.9 Regression analysis:** From the regression result, we draw the following conclusion. Firstly, leaving real estate to their heirs is the priority for elderly, only there is no heir or there is no value of the housing, are they likely to take reverse mortgage. Secondly, the health degree has “U” sharp effect on the willingness of taking reverse mortgage, and the last, there is strong relevant between purchasing health insurance and taking reverse mortgage.
- **Table 3.10 Variance analysis:** The variance analysis shows that residential pattern, housing value, year of housing construction, health status, number of children and purchasing insurance have significant effect on the willingness of taking reverse mortgage via variance analysis

Conclusion

- Most aged has the will to increase their income, at the same time they indeed have the ability and means to realize this goal. The market for housing reverse mortgage is very promising.
- **The key factors that affect the attitude of the aged towards housing reverse mortgage are the following:**
 - (1) The aged tends to leave houses to their children, and will only consider housing reverse mortgage when they don't have any children or the housing is not in good shape.
 - (2) Second, the state of health influences the attitude towards reverse mortgage. The aged that are in poor health are more willing to choose reverse mortgage.
 - (3) Third, the attitude towards reverse mortgage is strongly correlated with the purchase of health insurance. The aged that have purchased health insurance is more willing to consider reverse mortgage.

Thanks for your attention