Research on Risk of Implementing Housing Reverse Mortgages in China[1]

Yuehe Chen

Qing Wu

School of Management
Shanghai University of Engineering Science
China

Abstract

After China entered the aging society, the age structure of the population is aging, increasing the social dependency ratio, making the traditional family model unsustainable pension after retirement elderly, socioeconomic status decline, also significantly reduced income due to diseases caused by medical expenses, but with age and the inevitable increase, China has yet to establish a current to match the perfect Social Security system. Thus, housing reverse mortgages as innovative financial products in China pension realistic implementation needs. However, the specific implementation process, problems and obstacles facing many still resolved. This article from China's national conditions, the implementation of housing reverse mortgage process faced by risk analysis, and proposed some specific risk control measures and proposals to this endowment of financial products can be successfully implemented in China.

Keywords: Housing Reverse Mortgage, risk, control measures

1. Introduction

Reverse mortgage refers to already have the property rights of the elderly housing property mortgaged to banks, insurance companies and other financial institutions, financial institutions in the borrower's age, the present value of expected life, housing, the future value, impairment circumstances and borrowers value of the property after the death of a comprehensive assessment, the assessed value of their house minus the expected impairment and advance the interest, calculated according to the average life span, the value of their houses split up, spread over the expected life of years to go, on a monthly or annual cash payments to the borrower. So that the applicant may be expended in advance the price of the house, the borrower to obtain cash at the same time, will continue to be responsible for the maintenance of housing and residence. After the end of the contract the appropriate financial institutions to obtain housing property, sell, rent or auction proceeds to repay the loan principal and interest, while enjoying the appreciation of the listing. Its operation is usually the opposite of the mortgage business, like financial institutions, with the installments from the hands of the borrower to buy a house, it is the first to be called a "reverse mortgage" in the United States.

Financial crisis tells us that houses the reasonable control of the risks of reverse mortgages is the key to the success of pension financial products. In the process of the implementation of housing reverse mortgages, the biggest risk is borne by the borrower the lender is unable to perform the contract due to bankruptcy. The risk is borne by the lender is much more complicated, mainly exposed to interest rate risk, the risk of fluctuations in the value housing, longevity risk, the risk of moral hazard and adverse selection.

2. Risk of Implementing Housing Reverse Mortgages and control measures

2.1 Interest Rate Risk and Control Measures

Interest rate risk is the risk of changes in interest rates led to changes in the value of assets and the income resulting from the loss. Towards macroeconomic uncertainties, pressures and inflation adjusted lending rates are likely to increase interest rate risk. In the past 1990 to 2013 , China's macro-control needed in different periods, the interest rate on loans made 31 adjustments. Among them, the one-year lending rate, for example, the maximum lending rate was 10.98% and the lowest was 5.31%, the magnitude of change is large.

[1] This work was supported by Postgraduate Innovative Project(NO:E1-0903-14-01049 Shanghai University of Engineering Science) and Ministry of Education Humanities Science Planning Fund(NO:10yja630169).

Reverse Mortgage Loan Interest rate risk is an inherent risk, floating rate or a fixed interest rate, as well as the level of interest rates will affect the degree of risk. In the housing reverse mortgages, home values tend to be more substantial, mortgage time is relatively long, so make sure a reasonable interest rate of this loan is whether sustainable development was crucial. Changes in interest rates have a significant effect on the Reverse Mortgage and Housing calculate changes in the value of the loan. If a fixed interest rate, lending rates rose during the encounter a lot of credit funds or inflation will tie up the inevitable devaluation and floating interest rates can effectively avoid this problem, of course, the disadvantage is that the lender can not bring accurate calculate the future value of the house. Due to the special nature of reverse mortgage housing loans, loans longer than ordinary multi its loan term, interest rate fluctuations is very likely the loan period.

Generally, housing reverse mortgages are used to adjust interest rates, which can significantly reduce the interest rate risk. When the central bank raised the benchmark lending rate will lead to rising opportunity cost of funds to pay housing reverse mortgage lenders can be a corresponding increase in reverse mortgage interest rates. Similarly, when the central bank lowered the benchmark lending rate, there is a possibility that the borrower is willing to assume the original high interest rates and refinancing, then you need to be adjusted downward accordingly reverse mortgage interest rates.

2.2 The Risk of Fluctuations in Value of the House and Control Measures

Housing Reverse Mortgage longer period, during the period the loan is secured by the value of the house may fluctuate. If the maturity of the loan is greater than the cumulative value of the property should also principal and interest, as well as the remaining debt after the borrower, but if the value of the property is less than the maturity of the loan principal and interest accrued should also, as the loans do not have recourse, in the absence of government guarantees under the circumstances, the lender will face losses.

Schiller (1989) to predict the future of real estate prices is very difficult, because too many factors that affect real estate prices, and many of these factors are difficult to predict. According to the nature of the factors affecting prices can be divided into the following six categories: economic factors, administrative factors, market factors, natural factors, social factors and other factors.

Economic factors which include the macroeconomic environment, the formation material prices and land prices, such as housing construction entities. Real estate prices are affected by the overall macroeconomic environment is very significant, when the macro is on the rise, per capita income increases, the desire to be stimulated investment, and make home ownership to enhance the ability of residents have the ability to withstand the rising prices of real estate investors increased, formation of effective demand in the property market, thereby stimulating rising real estate prices. Social factors refer to family size, population, demographic, social environment, law and order situation, the level of urbanization and so on. Market factors refer to the relationship between supply and demand in the housing market.

The risk of fluctuations in value of the house is the risk of reverse mortgage greatest impact. Since the Reverse Mortgage loan collateral only housing property, accurately predict the value of housing has become a top priority of the loans. The risk of fluctuations in the value of housing can be reduced in two ways: First, using sophisticated forecasting models to predict the rates and to reduce the difference between the actual prices; Second, through reverse mortgage securitization risk spreading this to all investors. Specifically, you can Reverse Mortgage loan contract in accordance with the different levels split packaged by the rating agencies reverse mortgage securities to be traded after the rating issued on the secondary market.

2.3 Longevity Risk and Control Measures

When a borrower is much larger than the average life expectancy of life, the lender's loan principal and interest payment will be higher than the cumulative value of the mortgaged property, this risk is known as longevity risk, also known as life expectancy risk. The borrower to repay reverse mortgage can be divided into two cases, the first one is the borrower to repay the loan principal and interest in his lifetime ahead, redemption housing, no problem, do not risk the life expectancy of the presence of such a situation.

Another case is the natural death of the borrower, the lender is secured by real estate deal with the loan agreement, recovery of loans, that in this case the length of the period of borrowing depends on the borrower's actual life. In actual life of the borrower's life expectancy is shorter than the situation at the end of the loan period, the real estate value will be higher than the amount of the loan principal and interest, this time above the part of the borrower's heritage as issued by the reverse mortgage lender to the borrower to return legal successor.

But when the borrower actually live longer than the life expectancy, the real estate will be worth less than the amount of the loan principal and interest accrued, if lenders do not have to buy the corresponding reverse mortgage loan insurance products, will face losses.

Longevity risk is generally based on the probability of the borrower's death to measure the longevity risk in line with the principles of the law of large numbers, is a risk can be distributed, so you can increase the number of reverse mortgages to pay housing to reduce longevity risk. U.S. housing especially HECM reverse mortgage products, an increasing number issued in the United States, which guard against longevity risk produce an effective role. For older people, can also take part of the mortgage ways to guard against longevity risk. For example, 60% of elderly housing property is mortgaged, the remaining part can leave their children to inherit, so if the real life than the life expectancy, there are still some real estate discretionary. American Financial Freedom product was subject to a borrower can leave a certain percentage of real estate, this part of the offspring can inherit property, which is lending institutions, the elderly and children who are good. Against longevity risk, should life with population growth, improve housing reverse mortgages to participate in the age limit. Currently, the U.S. housing reverse mortgages to implement the provisions of the age is 62 years, China in the implementation of the appropriate age limit should be set based on the average life expectancy of our population.

2.4 Moral Hazard and Adverse Selection Risk and Control Measures

Moral hazard refers to the information asymmetry is due to the loss in value caused. Specific to the reverse mortgage business mainly refers to housing maintenance risk and longevity risk borrowers.

Housing maintenance risk, whether the borrower wishes to maintain repair the house, depending on the borrower's housing maintenance costs resulting effect is greater than spent. If the effect is greater than the cost, an anti-moral hazard, the borrower will be greater than for housing maintenance operator expected; If the utility is less than the cost, the resulting moral hazard, the borrower will not meet the housing maintenance operator expected. Longevity risk, in a reverse mortgage, the borrower and the operators are faced with the risk of asymmetric information. Operators that the lender, during the life expectancy predicted when the elderly can not learn more about the physical condition of the elderly, but to use the expected average life of the loan period life table of conduct. The longer the life expectancy of the borrower, the longer the duration of the loan, the total loan amount, the higher the risk the lender faces bigger.

Due to problems arising from asymmetric information above, it will have adverse selection risk caused by the moral hazard. For example, the borrower to be able to conduct business, will conceal their actual situation. But the true physical condition of the elderly poor, but do not choose a reverse mortgage. Operators want to get all the information you need to spend a higher overhead costs, so if the borrower deliberately false, then the information will be unable to grasp fully.

In order to control the risk of moral hazard and adverse selection, in practice, you can take the following measures: First, for a reasonable proportion of the value of the loan, reducing the probability of moral hazard. Loan to value ratio is the ratio of total loans and real estate assessed value, limiting the value of the ratio of the reverse mortgage loan allows the borrower is expected to post revenues after deducting houses, reverse mortgages can leave the remaining principal and interest, there is an incentive to maintain the house value. This is because in this case, the borrower put enough maintenance costs can enjoy the good quality housing in their lifetime, but also increase the value of the part of the house left to their descendants revenue sharing. Thus defining the high loan to value ratio is an effective way to prevent moral hazard. Second, the introduction of commercial insurance agencies, lenders risk dispersion. The use of commercial insurance agency reverse mortgage guarantees or insurance contracts, can be dispersed over the current lenders who focus on risk. If the listing price is less than the loan maturity to repay the loan, insurance agencies can afford to repay some or all of the outstanding loan obligations or responsibilities. In addition, a sound commercial insurance system not only can help lenders share the risk of moral hazard, but also can effectively disperse other market risks.

References

Kuang, Weida.(2013). Impact of Interest Rates on House Prices. World Economy.

Zhu, Jingsong.(2010). Explore Three Major uncertainty Factor in Housing Reverse Mortgages. Real Estate Finance.

Fan, Ziwen.(2011). Research on Reverse Mortgages in China. China Agriculture Press.

Zuo, Tao.(2012). Analysis of Reverse Mortgage . Wuhan Finance.

Liang, wang.(2010). Securitization of Longevity Risk in Reverse Mortgage. FHT Report.