

The Study on the Influence of Land Expropriation on Farmers' Purchase of Commercial Endowment Insurance—Based on CHARLS 12,620 samples of rural residents

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Abstract: The pension problem of land-expropriated farmers in our country has been widely concerned by the society. This study took rural residents in CHARLS data as samples. Using OLS model to its commercial endowment insurance behavior and influence factors of regression, in order to explore land for rural residents to buy the influence degree of the behavior of commercial endowment insurance. The binary Probit and Tobit models were used for robustness test. The results show that the proportion of farmers who buy commercial endowment insurance is very low. Age has a significant negative influence on farmers' behavior of buying commercial endowment insurance. Other variables including gender, marital status, whether there is a long-term caregiver, net income of agricultural and sideline products and other variables of insurance participation also have a significant and stable positive influence on them.

1. Introduction

Land plays an important role in ensuring the survival of rural residents. However, in order to carry out economic, cultural, national defense and social public undertakings, the state inevitably needs to occupy part of the collectively-owned land [1]. Since 2014, China's land requisition area has been increasing. In 2018, the requisition area was 2003.66 square kilometers, and a large number of farmers have been requisitioned [2]. The peasants whose land is expropriated refer to the registered agricultural population who lose all or most of the land due to the government's unified expropriation of rural collective land and enjoy the right to contract rural collective land when the land is expropriated [3]. Aiming at this group, the state has introduced a series of requisition compensation measures. Although the relevant compensation system has been revised repeatedly, it still has some defects, leading to the lack of old-age security and the lack of daily life coverage for some farmers whose land has been expropriated [4].

2. Theoretical Framework, Research Data and Research Method

2.1 Theoretical Framework

Commercial endowment insurance is a kind of commercial insurance, it is with the life of the person or the body is insurance object, when insurant old age retires or keep a period to expire, pay annuities by insurance company by contract regulation. At present, the customers who buy commercial endowment insurance are mostly urban residents, while the coverage in the vast rural areas is low [5]. In rural areas, land often plays a crucial role in guaranteeing the life of farmers. In some sense, land even plays a certain role in substituting insurance products or projects.

From the perspective of peasants whose land is expropriated, the physical space of life and work will be transformed due to the "loss" of land [6]. This group will be separated from the mutual assistance and co-protection system formed by blood relationship and geographical location in the traditional rural society for a long time. Commercial pension insurance will become a new choice of pension security for this group under the background of aging. (Jiang Weiguo, 2020) in addition to the promotion of other old-age security, the wealth growth brought by land acquisition and the

continuous improvement of rural residents' financial management concepts will also increase their demand for financial products such as insurance [7]. From the perspective of the whole social security system, there is great potential for the development of market-oriented commercial pension insurance, which can significantly supplement China's social security system [8]. The special group of land-expropriated farmers may become the breakthrough point for commercial pension insurance to open the rural market. Considering that there are many factors affecting people to buy endowment insurance, such as personal characteristics, children's characteristics, income and other insurance participation, even in theory, land expropriation will have a certain impact on farmers' demand for commercial endowment insurance, but the extent of the impact still needs to be further quantitative analysis [9].

2.2 Research Method

The explained variable I "whether to buy commercial endowment insurance" in this paper is a binary variable, which can be transformed by $E(I|x) = P(I=1|x)$, so that the dummy variable has the characteristics of cardinal variable and ordinal variable at the same time. The OLS regression analysis method was used to establish the model. According to the principle of multiple regression and the factor analysis conducted above, the following formula is constructed:

$$Y_i = \beta_{i0} + (\beta_{i1}x_1 + \beta_{i2}x_2 + \dots + \beta_{ik}x_k) + (\beta_{i(k+1)}x_{i(k+1)} + \beta_{i(k+2)}x_{i(k+2)} + \dots + \beta_{i(k+q)}x_{i(k+q)}) + u$$

i represents the i th respondent; Y_i represents the willingness of the i th respondent to purchase commercial pension insurance. x_1, x_2, \dots, x_k represent k core variables; $x_{i(k+1)}, x_{i(k+2)}, \dots, x_{i(k+q)}$ represent k control variables; β represents the estimated coefficient and intercept of explanatory variables in OLS, and u is the error term.

Then the binary Probit model and Tobit model were used to test the robustness. The basic form of the binary Probit model is as follows:

$$P(Y = 1) = f(x)$$

The explained variable Y is a 0-1 variable, and $f(x)$ follows a standard normal distribution.

The Tobit model can be expressed simply as:

$$y = \max(0, \beta'x_i + u_i)$$

x_i is the independent variable vector, β' is the coefficient vector, and the error term u_i is independent and normally distributed: $u_i \sim N(0, \sigma^2)$.

2.3 Data sources and descriptive statistics

Data from China's health and retirement tracking survey (CHARLS) in 2013 and 2015 were used in this paper. The CHARLS survey, conducted in 2011, aims to collect a set of high-quality micro data representing families and individuals aged 45 and over in China to analyze China's population aging problem and promote interdisciplinary research on the issue. By 2018, the survey covered more than 19,000 respondents from 12,400 households in 150 counties and 450 communities (villages) across the country. According to the research needs, the samples lacking key variables were eliminated, and 12,620 samples of rural residents were selected through the household registration type.

Based on the existing literature and the above theoretical framework, this paper makes an empirical analysis on the impact of land expropriation on farmers' purchase of commercial endowment insurance, and quantifies the impact of land expropriation and other factors on the purchase behavior. According to the research purpose, a total of 11 variables were set [10]. The explanatory variable of this study is whether to buy commercial endowment insurance, the core explanatory variable is whether land has been expropriated, and other control variables are set from four perspectives of individual characteristics, children characteristics, income and other insurance participation.

First, personal characteristics and children's characteristics. The gender ratio of the sample was relatively uniform, with 50.7% female and 49.3% male. The average age is 58.08 years old. The samples are concentrated in the middle and old age group, which has a high demand for pension and is the guarantee group of pension insurance. In this sample, 67.59% of the respondents were eligible for long-term care. The higher proportion was corresponding to the age ratio. The average education level was from junior middle school to senior high school graduation, and the overall educational level of the sample farmers was relatively low. In the sample, 86.74% were married, and 80.21% were married and living with their spouses. In terms of health status, the overall health status was good, and the proportion of health was "average", "good" and "very good" was 80.2%. The average number of children is 2.5, and most families have 1-2 children. The frequency of contact between children and their parents is not high. The average contact frequency is only 1.05 according to the gradual increase of the contact frequency from 1 to 5. In terms of material goods, children's economic support to their parents was relatively low in a year, with an average index value of 6.58 and a standard deviation of 1.16, which were relatively concentrated.

Second, income and other insurance participation. The average annual wage of the sample was 10,532 yuan, and the average income of agricultural and sideline products was 3,647 yuan. The distribution of annual wage was relatively concentrated compared with that of agricultural and sideline products. In terms of insurance participation, 67.75% of the population is covered by the new rural insurance or urban and rural insurance, compared with 3.76% of the population covered by the basic endowment insurance. The low coverage rate of basic endowment insurance indicates that the endowment insurance plays a small role in the farmers' sample, and it can also be seen that this group lacks the awareness of participating in the endowment insurance.

Third, the purchase of commercial pension insurance and land expropriation. Compared with basic endowment insurance, the proportion of commercial endowment insurance is even lower, even less than 1%. In terms of land acquisition, the probability of land acquisition was 15.92% in this sample.

3. Research Results

3.1 Reliability and validity test and chi-square analysis

Reliability and validity tests were conducted for each of the above variables. Reliability tests showed that Cronbach's Alpha of the internal consistency coefficient of each variable was, indicating that the internal consistency of the model was good and the reliability was high. In the validity test, most of the variables in this study were ordinal variables, so Spearman correlation coefficient was selected to estimate the reliability of the variable and the acceptable range of the estimated results, indicating that the variable had good validity. Chi-square analysis. Aiming at the categorical variables in the core variables and control variables in this paper, chi-square analysis is applied to test whether there are differences between the explained variables in different types of explanatory variables. The test results show that the values all satisfy the significance of 10% and higher. Therefore, further regression analysis can be carried out.

3.2 Regression analysis and robustness tests

According to the above model, regression and robustness tests were conducted on the sample data. Among them, OLS model is the core model, and binary Probit model and Tobit model are used for robustness tests.

Regarding the possible multicollinearity problem of OLS model, Kendall correlation coefficient was used to obtain that the correlation between core variables and explanatory variables was below 0.20. In addition, the value of VIF was less than 10 according to the expansion factor, so the multicollinearity problem of this model was relatively light. Then, the binary Probit model and the Tobit model were used for robustness test. The coefficients of the core variables of the model and the control variables were the same as the positive and negative signs, and the average marginal effect was similar. Therefore, the model had good robustness.

According to the results of OLS regression model, the core variable "whether land has been expropriated" passed the confidence level test of 5%. The marginal effect of land expropriation is 0.002, indicating that land expropriation has a positive promoting effect on farmers' purchase of commercial pension insurance, and the probability of farmers who have been expropriated to purchase commercial pension insurance is 0.2 percentage points higher than those who have not been expropriated. This empirical result verifies the theoretical analysis, that is, farmers' demand for commercial endowment insurance will increase after losing the land as the guarantee of survival. Commercial insurance companies that carry out pension programs should pay attention to this special group. On the one hand, they should provide them with the necessary protection to rationally plan their family wealth. On the other hand, they can also regard this group as the focus to broaden their business path in rural areas.

In order to explore the influence of land expropriation on the purchase of commercial endowment insurance, other promoting and limiting factors should be considered. Gender, age, marital status, long-term caregivers, net income of agricultural and sideline products, participation in basic endowment insurance and participation in the new agricultural insurance or urban and rural insurance all passed the significance test and showed positive correlation.

First, individual characteristics. Women pay more attention to pension security than men, which is consistent with the theoretical analysis. Women tend to avoid risks when choosing financial products. Insurance is one of the financial products with low risks, and insurance itself has the characteristic of risk sharing. Age can reduce the purchase of commercial endowment insurance, the reason may be that this sample is concentrated in the middle-aged and old people, according to the life cycle theory, with age income present a "U" shape, middle-aged people are more likely to convert savings into insurance and other financial products, the less age pension insurance, the necessity of buying has also fallen; Farmers who are divorced or single are more likely to buy such insurance, perhaps because they lack the company and security from their partners and are more worried about the possible pension dilemma. Long-term caregivers can be divided into relatives and employees. Long-term caregivers are more likely to buy commercial endowment insurance, which is contrary to theoretical analysis. In reality, it may be for the purpose of reducing the burden of relatives or getting pension to pay for the economic burden of employees.

Second, the income level and other coverage. The income from agricultural and sideline products is an important source of income for rural residents. The higher the income is, the stronger the incentive to buy commercial endowment insurance will be. Commercial endowment insurance for "social security" and "agricultural insurance has a supplementary role," the basic old-age insurance belongs to the "social security", and is a compulsory social insurance system, to participate in the insurance of peasants are engaged in non-agricultural formal workers, may be on the concept of endowment insurance pay more attention to and income is relatively stable, also have the ability to have intend to buy commercial endowment insurance. The new rural insurance and the urban and rural insurance belong to the "rural insurance", and there is a problem of low level of insurance in the implementation process (Liang Xiaoyu, 2018). Rural residents who participate in the new rural insurance and the urban and rural insurance may not be satisfied with the insurance treatment they get, so they seek the supplementary insurance of commercial endowment insurance.

Thirdly, education level, health status, financial support to parents and number of children were negatively correlated with purchase behavior, while the frequency of contact with children and annual salary were positively correlated, but none of them passed the significance test.

4. Conclusions

The results show that the factors of land acquisition have a significant and stable influence on farmers' behavior of buying commercial endowment insurance. Age has a significant negative influence on farmers' behavior of buying commercial endowment insurance. Other variables including gender, marital status, whether there is a long-term caregiver, net income of agricultural and sideline products and other variables of insurance participation also have a significant and stable positive influence on them.

References

- [1] Xu Wenfang. Problems and countermeasures of rural commercial endowment insurance in China -- from the perspective of improving the social security system [J]. Insurance research, 2009 (08): 71-76.
- [2] Shi, shih-jiunn. Left to market and family-again? Ideas and the development of the rural pension policy in China [J]. SOCIAL policy and ADMINISTRATION, 2006, 40:791-806
- [3] Wang Ming and LeYuan. Analysis on the mode of Chinese non-governmental organizations participating in the purchase of public services [J]. Journal of the party school of zhejiang provincial party committee, 2008 (04): 5-13.
- [4] Ning Manxiu, Xing Li and Zhong Funing. Empirical analysis of factors affecting farmers' decision-making of purchasing agricultural insurance -- a case study of the manasi river basin in xinjiang [J]. Agricultural economic issues, 2005 (06) : 38-44 + 79.
- [5] Jia Ningand Liang Chuchu. Director executive liability insurance, institutional environment and corporate governance -- from the perspective of earnings management of China's listed companies [J]. Insurance research, 2013 (07) : 57-67.
- [6] Zhang Qiang, Yang Yiyong. Analysis on the influencing factors of enterprise employees' participation in commercial pension insurance -- based on CGSS2013 national survey data [J]. China prices, 2017 (07) : 54-56.
- [7] Clara Busana Banterle. Incentives to Contributing to the Supplementary Pension Funds: Going Beyond Tax Incen - tives [J]. Geneva cca shut, 2002, 27:555-570.
- [8] A.G. Malliaris, Mary e. Malliaris. Investment principles for individual retirement accounts [J]. Journal of Banking and Finance, 2007,32 (3).
- [9] Xu Zequn. Research on preferential tax policies for personal commercial endowment insurance [D]. Southwest jiaotong university, 2009.
- [10] Zheng Bingwen. Top-level design of the third pillar commercial endowment insurance: the role of taxation and its far-reaching significance [J]. Journal of renmin university of China, 2016,30 (01) : 2-11.