A study on the impact of basic pension insurance on the well-being of middle-aged and elderly groups in China—Evidence based on CGSS 2021

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Abstract: Common wealth is the wealth of both material and spiritual life. As an important part of the social security system, pension insurance also plays an important role in this regard. It is of great significance to study whether the urban-rural home insurance has an effect on the subjective well-being of the middle-aged and the elderly. Based on the data from the China Social Survey 2021, we use an ordered Logit model to study the impact of old-age insurance on residents' subjective well-being. The results show that middle-aged and elderly people who enjoy basic pension insurance have a higher subjective well-being than those who do not, and that education level has a positive effect on the subjective well-being of middle-aged and elderly people, and middle-aged and elderly people with a higher education level who participate in basic pension insurance have a higher subjective well-being.

1. Introduction

With the aggravation of population aging, the physical and mental health of middle-aged and old-aged groups has become one of the important tasks in promoting the construction of a healthy China, while the current situation of the mental health of middle-aged and old-aged groups in China is not optimistic. The current situation of the mental health of the elderly in China was released in the national mental health blue book "China's National Mental Health Development Report", which was co-sponsored by the Institute of Psychology of the Chinese Academy of Sciences and the Social Science Literature Publishing House. The report focuses on and analyses the mental health status of various groups of people in China in 2019-2020 from an academic perspective, with data showing that about one-fifth (19.05%) of older people are in a state of mild depression, and nearly one-tenth (12.17%) of older people are in a medium-to-high level of depression. Whether basic old-age insurance, as an important social security system for the elderly, can effectively improve the rate of mental health of the elderly and enhance the sense of well-being in the lives of middle-aged and elderly people is an indicator of the effectiveness of its system. With the continuous promotion of pension insurance policy, the research on assessing the effect of pension insurance policy is becoming a hot spot, some studies found that pension insurance can promote family consumption,

enhance the economic independence and health of the elderly, reduce the burden of children's old-age pension, and narrow the income gap between urban and rural residents, but empirical studies on whether the basic pension insurance can effectively enhance the sense of well-being of the elderly, and the effect of the policy on different groups of people are relatively insufficient, the relevant research on theoretical cognition of the function of pension insurance is not enough. The relevant research is of great significance to the theoretical cognition of the function of pension insurance, improve China's pension insurance system and cope with aging.

2. Literature Review and Critique

As an important part of social insurance, which is one of the three core systems of China's social security system, pension insurance plays an important role in maintaining social stability and safeguarding the country's livelihood [1].

Some scholars believe that participation in basic medical insurance has a significantly stronger effect on the residents' sense of well-being than the basic pension insurance; the more residents participate in the number of social insurance, the stronger their sense of well-being [2]. Basic pension insurance for urban and rural residents can significantly improve the sense of economic access, political access and social access of the insured, and the overall sense of access of the insured as measured by these three dimensions is also significantly improved [3]. Pension insurance can increase the sense of security of the elderly, reduce the burden of young people's old-age pension, avoid family disputes arising from old-age problems, and thus improve the sense of well-being of the elderly [4]. Social insurance can significantly affect the subjective well-being of the public, and the public with pension insurance is significantly happier than those without pension insurance [5].

However, there are some scholars' studies that show that pension insurance, because of the different effects of participating and receiving pensions for the participants, does not show obvious signs of enhancing happiness for some groups of people. For example, participation in a high level of pension insurance compared to a low level of pension insurance can enhance the happiness of the population by promoting consumption expenditure [6]. Commercial pension insurance can significantly increase the happiness of rural residents, but the effect on the happiness of urban residents is not significant [7]. Basic pension insurance significantly improves the well-being of low- and middle-income residents, but has a weak effect on high-income residents [8].

To sum up, firstly, there are abundant researches on the influencing factors of happiness, but there are fewer researches on the relationship between pension insurance and happiness; secondly, some scholars in China use the survey data to conduct empirical researches, but they still haven't formed a unified conclusion, and there is disagreement on the happiness effect of pension insurance under different differences; therefore, the research in this paper can enrich the researches on the happiness effect of pension insurance, and the analysis of the pension insurance. The analysis of the heterogeneity of the happiness effect can provide a reference for the academic community to form a theoretical consensus.

3. Data Selection and Research Design

The article mainly applies the 2021 CGSS data as the research sample, and investigates the impact of basic pension insurance on the happiness of middle-aged and old-aged groups through the ordered Probit model. In order to accurately assess the impact of pension insurance on the happiness of middle-aged and old-aged groups, after preliminary data processing, the middle-aged and old-aged groups are set as the current age greater than 45 years old, and 1731 valid samples are selected after eliminating residual values and meaningless options.

3.1. Selection of variables

3.1.1. Selection of dependent variables

The dependent variable of the article study is the subjective well-being of the residents, CGSS in the measurement of subjective well-being, mainly by means of a questionnaire, by the respondents to choose according to the seven options provided, this article on the well-being scores to be re-assigned and adjusted from very unhappy to very happy in the five states were assigned a value of 1-5 respectively.

3.1.2. Selection of independent variables

Whether to participate in the basic pension insurance is the independent variable of the article research, mainly based on the questionnaire about whether the respondents participate in the basic pension insurance. Combined with the design of the questionnaire and for the need of empirical analysis, this chapter is assigned a value of 0 for participation in insurance, and 1 for non-participation.

3.1.3. Selection of control variables

The happiness of the middle-aged and elderly group is affected by many factors, so there are many variables, in order to enhance the persuasiveness of the article research as well as scientific, with reference to the existing research results, the socio-demographic characteristics, as well as the health status and income, etc. were chosen as the control variables for the study, of which the socio-demographic variables are mainly the individual's gender, marital status, education level, region, etc. The health status is mainly the individual's self-evaluation of their own health status, and the income was logarithmically treated. The health status is mainly the individual's self-evaluation of his/her own health status, and the income is logarithmically processed, and each variable and its definition are shown in Table 1.

Table 1: Meaning of key variables.

variable name	notation	Variable Meaning
subjective well-being	happiness	Very unhappy = 1; very happy = 5; (1-5)
Whether or not you have basic pension insurance	basicins	Do not have = 0; Have = 1
distinguishing between the sexes	sex	Male = 1; Female = 2
marital status	marriage	Unmarried = 0; Married = 1
health status	health	Very unhealthy = 1; very healthy = 5; (1-5)
income level	lnincome	Logarithm of annual income
educational level	edu	No education = 1; Postgraduate and above = 13; (1-13)
district (not necessarily formal administrative unit)	area	West = 0; Centre = 1; East = 2; (0-2)

3.2. Research design

Since the subjective evaluation of whether or not they have taken out basic pension insurance and the subjective evaluation of their own happiness by the middle-aged and elderly groups are both evaluated by selecting a grade, which is an ordered discrete variable, we chose to apply the ordered Probit model for the analysis, and the equations of the model are shown as follows:

$$Happiness_i = basicins_i + \partial CV_i + \varepsilon_i \tag{1}$$

4. Analysis of results

The analysis of the regression results shows that in the ordered logistic regression model, model (1) in Table 2 is the regression result of introducing the explanatory variable alone, and the effect of the explanatory variable basic pension insurance on the subjective well-being of the middle-aged and the elderly is significant, with the significance of 0.008<0.01, and the regression coefficient is positive 0.167, which indicates that the happiness brought by participating in the basic pension insurance to middle-aged and the elderly is increased by 16.7%, indicating that the subjective well-being of those enjoying basic pension insurance is higher compared with those who do not participate in it. This shows that the marginal effect of participating in basic old-age insurance has increased by 16.7 per cent, which indicates that the subjective happiness of the middle-aged and the elderly who enjoy basic old-age insurance is higher than that of those who do not participate in it.

Model (2) is the regression result after introducing the control variables of gender, political appearance, religious belief, marital status, health status, income, education and region, the regression coefficient of the model is positive 1.131, and the significance of 0.047 is still significant, which confirms that the middle-aged and old-aged groups can get higher subjective happiness by participating in the basic old-age insurance, and the effect of the basic old-age insurance on subjective happiness is independent. Happiness, and the effect of basic pension insurance on subjective happiness is independent. This suggests that basic old-age insurance can increase the subjective well-being of the middle-aged and the elderly by providing them with old-age protection, and there is a positive relationship between the two. In terms of control variables, there is a significant correlation between education level and region and subjective well-being of the middle-aged and elderly groups. In terms of education level, it is significant at 1% level of significance and positively correlated, which indicates that the higher the education level, the higher the level of well-being.

Table 2: Regression results of the effect of pension insurance on the subjective well-being of the elderly group

variable name	Models (1)	Models (2)
basicins	0.167**	0.131*
	(0.063)	(0.066)
edu		0.135***
		(0.032)
area		-0.166*
		(0.079)
N	*1731*	1731

Standard errors in parentheses
$^{*} p < 0.05,$ $^{**} p < 0.01,$ $^{***} p < 0.001$

5. Conclusions and recommendations

This paper empirically analyses the impact of China's current basic pension insurance system on the happiness of middle-aged and elderly people using an ordered logistic regression model based on the 2021 CGSS data. It is found that: first, receiving pension insurance benefits has a positive effect on enhancing the happiness of the middle-aged and elderly; second, the higher the education level of the middle-aged and elderly group, the more the receipt of basic pension insurance enhances the happiness. The core conclusion of this paper is that there are differences in the enhancement of the sense of well-being of the elderly in different groups by basic old-age insurance, so the government should co-ordinate the layout of the multi-level old-age insurance system, and focus on the basic old-age insurance system, and the basic old-age insurance which belongs to the legal protection as the first level of the multi-level old-age insurance system, which on the one hand, can improve the people's livelihood directly in the material sense, and on the other hand, it is also conducive to the cultivation of social trust,and moreover helps to enhance the residents' overall sense of well-being. At this stage, China urgently needs to optimise and improve the mechanism for determining pension benefits, promote the improvement of the operating capacity of the pension insurance fund, and thus promote the improvement of the level of investment income, so as to enhance the level of pensions and ensure that they are paid in full and on time. At present, there are still some residents who do not participate in the basic pension insurance, so the local government should strive to continue to expand the scope of participation, and strive to all people can join the basic pension security system, to achieve comprehensive coverage of basic pension insurance. At the same time, the media should be used to publicise and educate citizens as well as provide typical examples, so that residents will have a positive and optimistic view of the development of basic old-age insurance in China. In due course, urban and rural residents' pension insurance can be transformed from a voluntary participation model to compulsory participation.

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