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The effect of new rural endowment insurance scheme: A gap analysis on four selected rural areas in China

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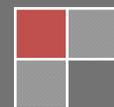
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ABSTRACT

China became an aging society since 2000; however, the aging problem is even worse in the rural areas. To solve the problem, a newly designed Rural Endowment Insurance Scheme was implemented in 2009. This paper attempts to evaluate the effect of the New Rural Endowment Insurance using gap analysis on the economic status and health status of the rural elderly before and after joining the scheme. The results imply that after joining in the scheme, most of the economic situations and health conditions of the respondents have been improved. However, the changes in health conditions were very small. Recommendations on how to improve the performance of the Rural Endowment Insurance Schemes are suggested accordingly.

KEYWORDS

New rural endowment insurance scheme; Economic status; Health status; Gap analysis.



BACKGROUND: AGING PROBLEM IN RURAL CHINA

Aging problem is one of the major initiatives for the establishment of old-age social security schemes in rural areas. It is an essential context for the analysis on the current condition of rural elderly care and for evaluating the effect of the NREI.

Due to the low fertility rate caused by the One-Child policy and the increasing longevity caused by medical improvement, China became an aging society since 2000, when the population that aged 65 and above reached 7 percent of the population of China^[1].

The aging problem is even worse in rural areas of China. In 2012, proportion of rural elderly has reached 17.1 percent, which is 2.77 percent higher than the national average level (14.33%). In China, many rural young adults work in urban areas for higher wages and better lives. However, because of the family register system, unemployed rural elderly cannot enjoy the benefit of social security in urban areas. About 40 percent of rural elderly (more than 40 million) are left behind in rural areas. Two major consequences for the aging population in China are the decline of labor forces and the heavy burden of public old-age care. For the increasing old-age care in both urban and rural areas, the Chinese government is taking measures to reform the current social security schemes and exploring new public old-age care and support schemes.

Therefore, judging the conditions of the economy and politics, the New Rural Endowment Insurance Scheme (NREI) was established to solve the problem.

PROBLEM STATEMENT

The NREI was established in 2009 to provide social security for rural elderly. It is the newest and the core part of rural old-age care in China. NREI is a pension scheme. Rural residents, who contributed 15 years, can collect benefit and service every month after they aged 60. The contribution is shared by individual, local government and the central government. Because NREI was implemented for only 4 years, the participants, who are already aged 60 or older at the establishment, need not to wait for 15 years; they can collect benefit without contributing. However, their children must participate in the scheme and contribute in compensation.

Before NREI was established, there were no formal general applicable old-age care scheme for all rural elderly, but several schemes that cover different aspects, such as: Old-Age Assistance for Land-Lost Rural Residents, which only provide assistance for the rural elderly who have lost their farmland for urbanization of other causes, and Endowment Insurance for Migrant Workers, the participants of who were only the rural residents that have temporary non-agricultural work in urban areas. With the breaking up of the traditional family-centered old-age care in rural areas, the NREI has become the backbone for guaranteeing the later lives of rural elderly. When this research started in 2010, NREI was just implemented in a few pilot areas of China. As a newly designed rural old-age care scheme that plans to cover the rural elderly in the whole country, the Chinese government spends a lot of manpower and physical resources on the NREI. Testing the effectiveness of the NREI is significant in policy implications for the government to decide the next step of NREI: expand to nationwide or made more amendment. Therefore, this study is designed to test the effect of NREI by evaluating the satisfaction of the system participants and comparing the change of their economic and health status before and after joining the NREI. By doing so, the NREI will be evaluated, and recommendations on future implementation will be proposed.

THEORETICAL FOUNDATION: MASLOW'S HIERARCHY NEEDS THEORY

Maslow's hierarchy of needs is a theory in psychology, proposed by Abraham Maslow in 1943 and 1954. It is often portrayed in the shape of a pyramid, with the largest and fundamental levels of needs at the bottom, and the need for self-actualization and spiritual demands at the apex. The fundamental four layers of the pyramid contain what Maslow called "deficiency needs (D-needs)", i.e.

esteem, friendship and love, security, and physical needs. These levels of needs must be met before higher level of needs, otherwise the individual feels anxious and tense^[2].

With regards to this study on social security scheme in China, researchers found that health (part of the second layer of the pyramid, safety) are highly valued by the elderly^[3]. As people gets older, their physical or safety needs increase and sometimes they attempt to pursue higher needs if they are capable. This increasing fundamental needs and a desire to keep pursuing the higher needs becomes the basic feature for the needs of the elderly^[4].

With regards to Maslow's theory on human needs, Song (2009) analyzed the needs of rural elderly in China from three major aspects (basic needs, social interacting needs and spiritual needs), and found that 26.6% of the elderly cannot meet the need of the basic living as most of them are living in strained circumstances due to lack of social support. For the second layer, studies showed that social support, including financial, information, care and other forms of social support, are important to enable older people to maintain healthy aging. Therefore, to fulfill the fundamental needs of rural elderly is a major objective of the social security scheme in China. Rural Social Security Scheme is a kind of social support provided by the government. It is aimed at providing basic benefits for the rural residents and protecting them from financial hardships. In China, the schemes of old-age social security system have provided insurance and financial support for the latter life of the participants. Whether the schemes have basically met the physiological and safety needs of the rural elderly, which are the primary need of the Chinese rural elderly, need to be studied accordingly. Therefore, Maslow's hierarchy of needs is the most fundamental theory used in this study, as the establishment of social security scheme must fulfill and guarantee the basic needs of people to sustain their lives.

LITERATURE REVIEW

Economic status of the rural elderly

With the increasing aging trend of China, old-age care becomes an increasingly urgent task for the Chinese government, and economic security of the elderly is one of the major focuses for the current practice of China. As two-thirds of the Chinese elderly live in the rural areas where both public and private safety nets for the elderly are weak comparing with the urban areas, rural elderly are facing more risks for being in poverty^[5,6]. On one hand, the current rural public old-age care system is not complete and could provide limited economic supports for the rural elderly; on the other hand, with the economic development and urbanization process, young rural adults prefers to migrant to the cities, the traditional family-centered safety net was broken^[6].

For the rural elderly in China, the support from family members and earning of their own works are the major sources of income. Studies of Giles, Wang and Zhao^[7] found that the rural elderly in China rely significantly on support from family members: 54%, and 38% of the rural population over 60 relies on the incomes of their own labor work, which showed a rising trend for the proportion of support from family members compared with the study of Goldstein and Ku^[8] (22% of the cash income of rural elderly came from transfers from children, and the remaining 78% coming from their own work). It is a common phenomenon in rural China that most elderly over 60 still work in the formal labor force, either because they lack access to pension support when they are of "retirement age," and must rely on their own labor income^[7]; or expend a great deal of effort trying to increase the asset base of their own household and their children's households^[9]. Among these rural elderly who still work in their 60s and above, significant age differences were found by the scholars^[9,10]. Elderly who are in their early 60s are more likely to engaged in labor work and support themselves, and with their aging they depend more on their family members' financial support. Almost all people between 50 and 60, and over two-thirds of those between 60 and 70 are still working in the formal workforce. Cai *et al.* studied the determinants of the income of the rural elderly, and found that increasing the average education of adult members of elderly households by one year, receipt of a pension and having a migrant family member associated with a 7.6%, 67% and 5.7% increase in income per capita respectively, which provides important policy implications to increase the income of rural elderly in China^[5].

Another issue that needs to address is that there is a great disparity on the economic status of the elderly between the urban and rural areas. Income inequality has been growing since the late 1980s with the implementation of Reform and Open policy in China^[11]. On one hand, the rural elderly “who had once held high status in earlier agricultural societies by virtue of their control of scarce resources and their knowledge of tradition, find themselves in a lower status in the process of industrialization”^[11]. The income of non-farm employment are tending to account for the major sources of family income due to the changing Chinese economy, rural households with lower education, especially for the rural elderly, will have less income than the more educated urban families. On the other hand, the deficiency of rural old-age care system has further enlarged the income gap between rural elderly and urban elderly. Urban elderly will be satisfied and can enjoy stable and decent income from the benefits of endowment social insurance; while most of the rural elderly still need to engage in labor work to support themselves as earlier mentioned. Therefore, it is important to implement an improved rural old-age social security system in China.

The basic purpose of the implementation of NREI is to reduce poverty and improve the living standard in rural China. Academics have demonstrated that social pension scheme could improve the economic status of the participants. Mujahid, Pannirselvam and Doge^[12] found that social pension could change the economic conditions, provide access to health care and improve the overall well-being and satisfaction of the older persons in the perceptions of Asian evidence. According to Zhang and Tang^[13], the pension benefit is only partly spent on improving the living and medical condition of the older participants, it partially transferred to other family members through spending on their children or grandchildren, which means social pension will not only improve the economic status of the participants themselves but also other family members.

Health status of the rural elderly

Health is another major concern among older persons. As good health provides independence and as poor health often means dependence, older persons expressed the need for improvements in healthcare to provide better access and treatment, and thereby a better quality of life in old age^[12]. However, the health status of rural elderly in China is generally poor. According to a study of Zhou, Wang, Yu and Li^[14], the result of a survey conducted on 528 rural elderly who are over 60 showed that 59.28% of the respondents have one or more chronic disease and 65.63% of them cannot afford their own medical cost. Due to high costs of health care and the absence of government support, almost two thirds of the elderly persons had unmet needs for health care. Although per capita income increased greatly in China’s rural areas, cost of health care increased much more significantly, with the cost of a doctor visit increasing by 625% and that of in-patient treatment increasing by 511% according to the data in 1999^[15].

There are many impact factors or determinants for the health status of the rural elderly in China. First, economic status is closely related to the health condition of the rural elderly. Elderly who has higher economic status or receiving financial support are healthier than those poor elderly, as it is easier for them to access to medical treatments and reduce the mortality risk^[16]. According to the study by Du^[17], the rural elderly who have independent economic resources are mostly healthy, and the majority of the unhealthy elderly usually depend on the financial support of their family members. Second, the living arrangement showed a significant influence on the health conditions of the rural elderly. With whom the elderly people live is an important factor in their well-being and satisfaction leading to better health care and old age care in rural areas of China^[18], as co-residence with adult children will provide the elderly financial and emotional support which are essential to the health condition of the elderly. The elderly, especially the oldest-old group (80 years old and above), are more likely to live with family when they are healthier, and are more likely to live in institutions when they are suffering from physical disability, cognitive impairment, or chronic illness^[19]. Rural elderly with migrant children have poorer health condition than those who without migrant children, and the condition become even worse for those who live alone or only with spouses and grandchildren (many rural adults choose to work and live in cities, but often left their children who are under school age in rural areas due to the expensive living

cost in cities). Third, demographic factors have impact on the health status of the rural elderly. There is a difference on the health status between male and female rural elderly, male elderly are healthier, but female elderly are living longer. Also, childhood socioeconomic conditions affect the healthy longevity of rural elderly: those who received adequate medical care during a childhood sickness have a 17% to 33% lower risk of physical or cognitive impairment than those who did not get appropriate medical treatment^[20]. And the rural elderly with a higher age has higher possibility/risk of being unhealthy.

Due to limited government funding, the public health care system in rural area is left behind, most of the rural elderly cannot afford the expenses for medical care, especially when they are facing with serious illness^[21]. Therefore, to some extent, the participation of rural old-age care system will improve and maintain the health status of rural elderly by improving their economic income. On the other hand, higher life satisfaction after participating rural social schemes will have positive effects on their mental and physical health status. Mujahidet *al.* found that social pensions impact positively on the health status of older persons and contribute towards the empowerment of the older persons^[12]. Case^[22] stated that income of the old age pension has improved the health status of all household members. Similar studies on the implementation of social security system in other countries can also be informative. For example, according to the study of Atunet *al.*^[23] in Turkey, the implementation of nationwide health system has improved the level of health and notably increased user's satisfaction. As such, the improvement of health status of the rural elderly is regarded as one of the important variables associated with the satisfaction of NREI.

Theodoulou and Kofinis^[24] identified four types of the most commonly used policy evaluation typologies, which are: process evaluation, outcome evaluation, impact evaluation, and cost-benefit analysis. In this research outcome evaluation will be used to assess whether the implementation of NREI is successful, i.e. whether the outcome of NREI has met the stated goal. Therefore, the economic, health surveys of rural elderly will examine whether their basic needs are satisfied.

RESEARCH METHODS

Since the pilot test of NREI initiated in 2009, a survey questionnaire was carried out in 4 selected pilot areas (the rural areas around Beijing, Suzhou of Jiangsu province, Jiaxing of Zhejiang province and Baoji of Shaanxi province). This survey used multi-stage sampling to select towns, villages and households from the 4 selected areas randomly. 400 questionnaires were distributed totally, 100 in each area. All the questions are multiple-choice questions to guarantee the questions are easy to answer and to ensure the continuous concentration of the participants.

A gap analysis strives to identify two key levels of factors, from these two levels, the differences between the two levels are determined, which is regarded as the gap. Gap analysis is widely used in company strategy evaluation and service evaluation. In this study, gap analysis is used in evaluating the effects of NREI on the participants' economic status and health status before and after joining the NREI, namely the differences in economic status and health status of the participants before and after they joined the scheme. Meanwhile, single mean t-test was used to identify what the effects of NREI on the participants are. Mean of the respondents' economic and health condition before and after participate in NREI was calculated. Then, a series of one sample t-tests were conducted to analyze the difference based on item by item and construct by construct.

RESULTS AND DISCUSSION

400 survey questionnaires were sent out (100 questionnaires in each village), and 318 of the returned questionnaires were considered to be valid (questionnaires with questions left blank, and inappropriate or random responding are deemed as invalid). The response rate was 79.5%. With reference to TABLE 1, about 47.2% of the respondents were male and 54.7% were aged from 60 to 69, 36.2% were aged from 70 to 79. Most of the families had two or three children. The education level of the respondents was relatively low. The education background of primary school and below accounts for

50.9%, and there were no respondents with a higher education (junior college and undergraduate and above). The family annual per capita income of 45.6% respondents was between 5000 RMB to 10000 RMB, and 45% of the respondents did not work, while 39.6% only engaged in agricultural industries, and a few (12.1%) respondents' income were from non-agricultural work.

TABLE 1: Respondents' profiles

Demography	Detail	Number	% of Respondents
Gender	Male	150	47.2
	Female	168	52.8
Age	60-69	174	54.7
	70-79	115	36.2
	80 and above	29	9.1
	0 and 1	14	4.4
Number of Children	2	115	36.2
	3	98	30.8
	4	47	14.8
Education Background	5 and above	44	13.8
	Primary school and below	162	50.9
	Middle school	110	34.6
	High school	26	8.2
	Technical school	20	6.3
	Junior college	0	0
	Undergraduate and above	0	0
Family annual per capita income (RMB)	Under 2000	7	2.2
	2000-5000	58	18.2
	5000-10000	145	45.6
	10000-15000	93	29.2
	Above 15000	15	4.7
Source of income	I don't work	143	45
	Just agriculture	126	39.6
	Just non-agriculture	3	9
	Mainly from agriculture, partly from non-agriculture	36	11.3
	Mainly from non-agriculture, partly from agriculture.	10	3.1

Single mean t-test was used to identify the effect of NREI on the participants. Mean of the respondents' economic and health condition before and after participate in NREI was calculated. The results are shown in TABLE 2 and TABLE 3.

In TABLE 2, positive gap score indicates the status of respondents became better than before when they did not participate in NREI, negative gap score indicates that the status became worse than before, while 0 means the situation keeps unchanged. The results show that all of the items of economic status after participate in NREI were positive compared to before participating. While for the items of health status, the differences between before and after join NREI are very small, some items even have negative results. The results of single mean t-tests imply that after joining in the NREI, most of the economic situations and health conditions of the respondents have improved. The changes in health conditions, however, were very small. These findings imply that the effects of NREI on the economic and health status of the participants are very limited

TABLE 2: Gap analysis of the respondents on their economic and health condition

Statement	Mean*			P-value
	Before	After	Gap	
Economic Status	3.38	3.52	0.14	0.105
1 I have enough money for food	3.80	3.92	0.13	0.000
2 I have enough money for cloth	3.45	3.53	0.07	0.027
3 I have enough money for medication	3.16	3.40	0.24	0.000
4 I have enough money for other expense	3.05	3.36	0.31	0.000
5 I have money to be saved	3.28	3.39	0.11	0.004
6 I don't need subsidies	3.40	3.46	0.06	0.127
7 My economic situation is sufficient for my daily need.	3.50	3.57	0.07	0.051
Health Status	3.25	3.33	0.08	0.311
1 I don't feel tired when doing daily (house) work	3.35	3.56	0.21	0.000
2 I always have positive attitude	3.09	3.26	0.16	0.000
3 I always have a good sleep	3.16	3.15	-0.01	0.802
4 I don't always catch a cold or other common infectious disease	3.34	3.54	0.21	0.000
5 My weight always keep unchanged	3.18	3.27	0.09	0.004
6 I can do activities of daily living	3.49	3.60	0.11	0.001
7 The amount of food I eat is always the same	3.19	3.19	-0.01	0.891
8 I always keep a regular number or amount of meals	3.45	3.49	0.05	0.186
9 I don't need to take medicines for certain illness.	3.01	2.93	-0.08	0.036

*Note: The mean values of "Before", "After" and "Gap" are rounded to two decimal places.

TABLE 3: Mean construct gap scores

Dimension	Mean Gap
Economic	0.14
Health	0.08
Overall Status Gap	0.11

IMPLICATIONS

At present, the social security level is low in contribution, benefit and coverage rate due to a series of reasons such as low income of rural residents, limited financial ability of local governments and lack of propaganda. According to the findings of the document review and interviews with the experts and academicians of the study, the social security level in rural areas can be improved by:

1. Improving the income and paying ability of individuals.
2. Expanding the methods of collective subsidy.
3. Encouraging social donation.
4. Enhancing the financial support of the governments.
5. Encouraging high participatory contribution level.
6. Strengthening the incentive function of personal accounts.
7. Conducting propaganda among the masses.
8. Speeding up the establishment of relevant regulations and laws.

There is a systematic relationship among the roles of the individual, local government, and central government, and these participants are sharing the responsibility of improving the social security level in rural areas.

The individual, local government and central government will have direct and indirect effect on the social security level in rural areas. More active participation is required from individuals. This could be realized through increasing their income, rising among them awareness about the social old-age security system, and choosing a higher level of contribution. The local government should expand

collective subsidies through the economic development, and also may ask for social assistance like personal donation or donation from enterprises. The local and central government should publicize the regulations of social old-age security system. They should make sure that all the rural residents know and understand the contents and significance of the system, helping them make the right choice. Besides propaganda, the central government could offer more financial support for rural social security schemes and rural families and balance the social security level nationwide through transferring financial revenues from rich provinces and regions to poor ones. Legislation of social security is the trend of development, and it will make the promotion of rural social security system proceed more effectively.

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