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Research on the Influence Effect of Agricultural Insurance Premium Subsidy

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Abstract

Based on the new pattern of high-quality development of agricultural insurance at home and abroad, to improve the agricultural assistance system and increase the enthusiasm of grain growers, China proposes to further improve the agricultural insurance premium subsidy policy. Guaranteeing food security is one of the bottom lines of China's "three rural" work. The agricultural insurance premium subsidy policy is of strategic significance for building and improving the national agricultural insurance market and ensuring a steady increase in agricultural production and farmers' income. Based on the necessity of agricultural insurance premium subsidy policy, this paper sorts out relevant literature on agricultural insurance subsidy policies from the perspectives of farmers' willingness to participate in insurance, farmers' income and agricultural production, regional heterogeneity of premium subsidy effects, and policy efficiency evaluation. It will help to further study the agricultural insurance subsidy policy, promote the optimization and upgrading of the premium subsidy policy, and give better play to the role of the agricultural insurance premium subsidy policy in benefiting the public.

Keywords

Agricultural Insurance Premium Subsidy; Agricultural Production; Farmers' Income; Willingness to Participate in Insurance; Efficiency Evaluation.

1. Introduction

Agriculture is the basis for the independence and development of the national economy. However, their vulnerability makes agriculture vulnerable to natural disasters in the production process, resulting in fluctuations in yields and farmers' incomes, which do nothing to ensure national food security. Agricultural insurance can effectively improve farmers' ability to resist natural disasters and ensure farmers' stable income. Agricultural insurance is different from commercial insurance. Only when the government provides subsidies and support to it can the insurance market develop sustainably (Tuo Guozhu and Zhu Junsheng[1] , 2005). To this end, the central government has increased capital investment to ensure the development of agricultural insurance, and continuously promoted the implementation and improvement of the agricultural insurance premium subsidy policy. Actively implementing the agricultural insurance premium subsidy policy and improving the national agricultural insurance system will help mobilize farmers to engage in agricultural production, expand crop planting areas, and ensure national food security.

Since 2007, the Central Ministry of Finance has decided to carry out policy-based agricultural insurance premium subsidies pilot projects in six provinces including Jilin and Inner Mongolia, adhere to the principle of "government guidance, policy support, market operation, and farmers' voluntary", and actively explore new forms of agricultural development. From 2008 to the end of 2012, with further support from the central and local finances, the pilot provinces were gradually expanded nationwide. At the end of 2016, the Ministry of Finance issued the "

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Administrative Measures for Agricultural Insurance Premium Subsidies of the Central Finance ", which clearly divided the powers and responsibilities of agricultural insurance premium subsidies between the central and local governments. In May 2019, the central government approved the "Guiding Opinions on Strengthening the High-Quality Development of Agricultural Insurance", and china's agricultural insurance premium subsidy policy work has entered a stage of gradual development. The Ministry of Finance said that in 2021, the central government subsidy will be up to 33.345 billion yuan, a year-on-year increase of 16.8%. Agricultural insurance premium subsidies include crop insurance premiums, fishery insurance premiums, forest insurance premiums and Tibet-related special insurance premiums. Among them, the premium subsidy policy has been gradually expanded nationwide, and the types and proportions of agricultural insurance premium subsidies have continued to increase . In 2007, only the insurance targets of the subsidized insurance types determined by the central government were crops with a wide planting area and related to the national economy and people's livelihood, including corn, rice, wheat, soybean and cotton . Oil crops were newly added in 2008, and the variety of subsidized crops has continued to increase since then. In 2021, in addition to the above crops, potatoes, sugar crops and natural rubber are also included, and the types of subsidized crops are still increasing. With the continuous increase of provinces and crop types of plantation insurance premium subsidies , the proportion of premium subsidies is also constantly improving. In 2007, after the provincial finance departments of the pilot provinces received more than 25% of the planting industry premiums, the Ministry of Finance assumed another 25% of the planting industry premiums. In terms of subsidized insurance, the subsidy standards of provincial financial departments in subsidized areas are the same as in 2007, but the subsidy ratio of the Ministry of Finance has increased to 35% of premiums. In 2010, the Ministry of Finance adopted different subsidy ratios for different regions. The subsidy ratio of 17 provinces including Hebei, Jilin, and Heilongjiang was 40%, and the subsidy ratio of 6 provinces including Liaoning and Jiangsu was 35%. Xinjiang Production and Construction Corps, Heilongjiang General Administration of Agricultural Reclamation , China Grain Reserve Management Corporation Northern Company subsidy ratio is 65%. The continuous development of the premium subsidy work has also promoted the further improvement and upgrading of the premium subsidy ratio. In 2021, with the premium scale as the weight , the average subsidy ratio of the central and local governments will be determined through weighted average calculation , and the subsidy ratios of the central and western, northeastern and eastern regions will also be distinguished.

According to the background of the above-mentioned national priority to promote the agricultural insurance premium subsidy policy, the impact of the agricultural insurance premium subsidy policy has also become the focus of attention from all walks of life, and many scholars have also discussed its impact. This paper discusses the research of experts and scholars from six aspects: first, it discusses the necessity of agricultural insurance premium policy; second, it analyzes the influence of agricultural insurance premium subsidy policy on farmers' willingness to participate in insurance; The impact of insurance premium subsidies on the income level of farmers; fourthly, the impact of agricultural insurance premium subsidies on agricultural production is studied; fifthly, the heterogeneity of the impact of agricultural insurance premium subsidies is analyzed; sixth, the agricultural insurance premiums are analyzed. This paper summarizes the literature on the efficiency evaluation of subsidies; finally, summarizes the literature of the above-mentioned experts and scholars on agricultural insurance premium subsidies, and puts forward some research inspirations and suggestions.

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2. Literature Review

2.1. The Necessity of Agricultural Insurance Premium Subsidy Policy

Due to the particularity of agricultural insurance, there are several reasons for subsidizing its premiums. First, agricultural insurance premium subsidies are conducive to increasing social welfare, consumer and producer surplus. Agricultural insurance has the characteristics of a natural monopoly. Agricultural insurance premium subsidies can encourage farmers to participate in insurance and improve social welfare. When the effective demand of farmers to participate in insurance reaches the minimum underwriting rate of insurance companies, premium subsidies can increase the producer surplus of insurance companies. The consumer surplus of farmers (Wang Genfang and Tao Jianping [2], 2012). Some studies have also shown that the net effect of social welfare can be increased when premiums are subsidized in some areas, while it can be reduced when subsidies are provided to many areas, resulting in a net loss of social welfare (Sun Xiangyu and Zhong Funing [3], 2008). Second, agricultural insurance premium subsidies are conducive to the development of the agricultural insurance market. The enthusiasm of farmers to apply for insurance and insurance companies gradually increases with the increase of agricultural insurance premium subsidies, and the increase of agricultural insurance premium subsidies also contributes to the balanced development of the national agricultural insurance market (Yu Yang and Wang Erda [4], 2009). Since the problem of information asymmetry is more serious in the agricultural insurance market, it is more necessary to subsidize agricultural insurance premiums for agricultural insurance market players to promote the development of agricultural insurance (Capitanio et al. [5], 2011).

2.2. The Impact of Agricultural Insurance Premium Subsidies on Farmers' Willingness to Participate in Insurance

Improving farmers' willingness to purchase insurance can help regulate the failure of the agricultural insurance market. Therefore, many scholars have conducted research on the impact of agricultural insurance premium subsidies on farmers' willingness to participate in insurance, and generally believe that the premium subsidy policy can motivate farmers to actively purchase insurance. For example, Hou Lingling et al. [6] (2010) took the rural survey data as a sample and based on the Logit model, studied and analyzed the impact of agricultural insurance premium subsidies on farmers' willingness to purchase insurance. The empirical results show that the national agricultural insurance premium subsidy policy has indeed effectively improved the insurance rate of farmers. In addition, farmers' expectations of premium subsidies will have a negative effect on the amount of insurance they purchase. Farmers who encounter major natural disasters in agricultural production are more active in purchasing agricultural insurance. The degree of publicity of agricultural insurance premium subsidy policies in various regions also affects farmers' purchase of insurance. an important factor in positivity. Feng Jian et al. [7] (2012) used the meta-analysis method to analyze the empirical literature on the impact of agricultural insurance premium subsidies. The study found that the agricultural insurance premium subsidy helps to stimulate farmers' insurance behavior and enables farmers to continue to insure their crops. Zheng Jun and Yuan Shuaishuai [8] (2018) took the "equalization of public services" as the starting point, and empirically explored the relationship between new urbanization, agricultural insurance premium subsidies and farmers' agricultural insurance needs. The research results show that the agricultural insurance premium subsidy has a positive incentive effect on farmers' willingness to buy insurance, and also promotes the increase of agricultural insurance premiums. Jiang Yan and Li Yang [9] (2012) also verified the above conclusions based on the agricultural field survey data in Jinhu County and Sihong County, and proposed that agricultural insurance premium subsidies are an important factor affecting whether farmers increase their insurance coverage.

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In addition to further increasing the agricultural insurance premium subsidy, farmers' enthusiasm for insurance has increased with the promotion of the agricultural insurance premium subsidy policy. (Wang Zhigang et al. [10], 2013). However, there are also a few scholars who have raised their own concerns. For example, Jiang Zhongsheng et al. [11] (2015) found that although agricultural insurance premium subsidies are conducive to promoting the development of the insurance market, the subsidies are mainly concentrated on premiums and do not increase farmers' participation in insurance. will. Zhang Ruojin [12] (2018) used the empirical analysis method to study whether farmers' willingness to participate in the insurance increased under the agricultural insurance premium subsidy policy based on the rice insurance data in Sichuan Province. The results show that the factor that causes farmers to not buy insurance is not the capital cost of insurance premiums. Whether they have suffered serious natural disasters or a short agricultural planting time is an important factor affecting farmers' willingness to buy insurance. Therefore, financial subsidies alone cannot promote farmers to participate in insurance. a sharp rise in the rate. Wang Hongbo [13] (2016) not only proposed the positive effect of premium subsidies on the effective demand for insurance participation, but also emphasized the “crowding out” effect of premium subsidies on insurance companies’ willingness to underwrite insurance. role has not been fully realized.

2.3. The Impact of Agricultural Insurance Premium Subsidies on Farmers’ Income

As one of the goals of the implementation of agricultural insurance premium subsidy policy, it is also the focus of the study to explore the impact of the premium subsidy policy on it. Some scholars believe that the premium subsidy policy can increase farmers' income and improve their living standards. For example, Luo Xiangming et al. [14] (2011) found that policy-based agricultural insurance can play a role in regulating the income of farmers through theoretical calculations, and agricultural insurance premium subsidies can make farmers expand the sown area of crops by playing the role of transfer payment, and then make their agricultural Income increased. Wang Liyong et al. [15] (2020) established a multi-period double-difference model for empirical analysis, which also confirmed the above conclusions. The study found that agricultural insurance premium subsidies significantly improved the income level of farmers through the intermediary variable of insurance density, and the positive impact of agricultural insurance premium subsidies on farmers is more significant in the central, western and areas with more natural disasters. Farmers ' willingness to buy insurance gradually increases with the increase in premium subsidies, and at the same time, their ability to resist risks is also enhanced, which ensures farmers' agricultural income and helps prevent farmers from falling agricultural harvests and living standards due to natural disasters (Zheng Jun, Chen Qi). [16], 2021). Of course, some scholars put forward the opposite view, arguing that the welfare of farmers has not increased with the increase of agricultural insurance premium subsidies. Therefore, they questioned the ability of premium subsidies to improve farmers ’ welfare , arguing that under the influence of agricultural insurance premium subsidies , there were significant differences in farmers’ welfare among states, and agricultural producers in western states such as California did not benefit from the subsidies (Lusk[17] , 2017), and more studies have shown that there are significant differences in the level of effective premium subsidies, and some agricultural producers actually pay close to their full actuarial fairness premium and may not actually receive any subsidies at all (Ramirez et al.[18] , 2015).

2.4. The Impact of Agricultural Insurance Premium Subsidies on Agricultural Production

Agricultural insurance premium subsidy policy is committed to serving and ensuring national food security, and there is no consensus on the impact of premium subsidies on agricultural production. Some scholars believe that the agricultural insurance premium subsidy policy has

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promoted the increase of agricultural output. For example, Zheng Jun and Wang Biao [19] (2020) empirical research based on time series data shows that premium subsidies affect agricultural output from two aspects of agricultural production and risk management technology, making agricultural output increase several times. Liu Wei and Sun Rong [20] (2016) established static and dynamic panel measurement models based on provincial panel data. Empirical studies have found that the agricultural insurance premium subsidy policy significantly affects farmers' planting decisions, allowing farmers to increase the sown area of subsidized crops such as wheat, rice and corn, and effectively improve the yield of these crops. In addition, some studies have found that the premium subsidy not only has a positive impact on the regional agricultural output value (Wang Meiling [21], 2019), but also reduces the input of polluting production factors in the agricultural production process, thereby protecting the agricultural ecological environment (Raja and Julien [22], 2014). However, some scholars have found that the impact of premium subsidies on agricultural production may be negative. In view of this, the government should have an in-depth understanding of the actual risk-taking mode of farmers, otherwise premium subsidies may prompt farmers to reduce production levels (Ye et al. [23], 2012).

2.5. Regional Heterogeneity of the Effects of Agricultural Insurance Premium Subsidies

China has a vast territory, with different agricultural resources in the eastern, central and western regions, and major natural disasters in different regions. Due to differences in agricultural resource endowments and natural disasters, there may be heterogeneity in the subsidy effect of planting insurance premiums in different regions. For example, Zhang Ying and Zhang Ruiyu [24] (2021) constructed a DEA model based on agricultural panel data. Empirical analysis finds that the premium subsidy efficiency in Jilin Province is low, and the regional differences are significant. Even some regions with low subsidy efficiency have imperfect subsidy systems and excessive investment, resulting in diminishing returns to subsidy scale. Zhao Junyan [25] (2015), based on the empirical test results of 15 provinces in China, also proposed that the imperfect financial subsidy mechanism has led to regional differences in agricultural insurance premium subsidy efficiency. In an empirical analysis of 18 prefecture-level cities in Henan Province, Li Qinyin et al. [26] (2019) found that some prefecture-level city capital subsidies exceeded the optimal scale, resulting in the problem of uneven development of performance in various regions of the province. In addition, the heterogeneity of the subsidy effect is also reflected in the fact that the policy effect of the premium subsidy policy on the grain crops in the first pilot provinces is more obvious than that in other provinces (Xiao Pan et al. [27], 2019), and the performance of the premium subsidy policy in the central region is significantly lower Compared with other regions in the country (Du Wei'an, Li Xinran [28], 2016) and so on. Therefore, we need to pay attention to regional differences, improve the fund allocation mechanism in some regions, and improve the use efficiency of premium subsidy funds (Qian Zhenwei et al. [29], 2014).

2.6. Efficiency Evaluation of Agricultural Insurance Premium Subsidy Policy

By analyzing the efficiency of agricultural insurance premium subsidy implementation, scholars put forward some problems in the implementation of premium subsidy policy. For example, Zhang Zurong [30] (2017) found that by estimating the self-paid insurance premiums of farmers, China’s insurance premium subsidy funds were largely dissipated. For every RMB 1 increase in the government’s premium subsidy on average, farmers could only receive about 0.91 yuan in insurance compensation. There are still problems in China's agricultural insurance premium subsidy policy, such as the efficiency of fund use and the low supervision. The reason for the low use efficiency of government premium subsidy funds may be the moral hazard problem of agricultural insurance caused by information asymmetry between insurance

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companies, the government and insured farmers (Zhao Shuxin and Wang Wen [31], 2012), or the premium subsidy paid by the government exceeds the amount it should pay (Gao Xudong et al. [32], 2018). In this regard, some scholars put forward relevant suggestions, such as Zou Xinyang and Fan Li [33] (2012), based on the theory of supply and demand and price discrimination, to study the optimal subsidy rate of agricultural insurance in China. It is believed that the optimization and upgrading of agricultural insurance subsidy rate should be promoted by implementing different subsidy rates, reducing insurance compensation and operating and management costs, so as to improve the quality of national policy agricultural insurance. Wang Guodong and Pang Kai [34] (2020) took Gansu Province as the research object and used the three-stage DEA-Tobit method to study the agricultural insurance premium subsidy efficiency in the province. The empirical results show that the overall efficiency of agricultural insurance premium subsidies in Gansu Province is not high. high. Further, it is proposed to improve the efficiency of agricultural insurance subsidies by improving the handling capacity of agricultural insurance and formulating scientific and differentiated rates.

The above studies have studied the implementation effect of the agricultural insurance premium subsidy policy from different perspectives, mainly studying the impact of the policy on farmers' insurance behavior, farmers' income and subsidized crop yield, and at the same time, how to improve the utilization efficiency of subsidy funds. The question also makes relevant suggestions. However, there are few studies on the impact of premium subsidies on farmers' planting behavior and planting structure in subsidized areas, and there are some deficiencies: First, the research method has certain limitations, and the text derivation and theoretical analysis lack empirical basis. The influence of irrelevant variables cannot be eliminated by ignoring the continuous change trend of time. Second, there is no in-depth exploration of the transmission mechanism of the effect, and the direct effect between variables is only considered. Third, there is a lack of research on regional differences in the effect of the premium subsidy policy, ignoring the differences in the effect of the policy in different regions.

3. Research Implications

By combing the literature of the above-mentioned experts and scholars on the impact of plantation insurance premium subsidies, it can be seen that China's agricultural insurance premium subsidies are of great significance to deepening the development of the agricultural insurance market. There are differences between agricultural insurance and other commercial insurances. Only by effectively subsidizing it by the state and increasing the recognition and awareness of agricultural insurance by strengthening the publicity and popularization of agricultural insurance to farmers can farmers be more motivated to buy insurance and motivate farmers to be active. Insure your own crops. Farmers purchase agricultural insurance for sowing crops, which can effectively improve farmers' ability to resist natural disasters and reduce the harm of natural disasters to agricultural production. Farmers' agricultural production has been protected, which also helps to better guarantee farmers' agricultural income and living standards. In addition, exploring the heterogeneity of the impact of agricultural insurance premium subsidy policies and improving the efficiency of agricultural insurance premium subsidies are also topics that many scholars pay attention to. The impact of agricultural insurance premium subsidies on the natural environment provides new ideas for the country to further deepen the reform of agricultural insurance premiums. On the basis that the protection of the rural ecological environment can fully consider the diversity of crop planting, and according to local conditions, differentiated regional agricultural insurance premium subsidies should be implemented. At the same time, we will deepen farmers' awareness and understanding of agricultural insurance premium subsidy policies, and encourage and mobilize farmers to actively purchase insurance for their crops. And

government departments should cooperate properly with relevant commercial companies to guide the regulated and orderly development of the agricultural insurance market. The agricultural production of farmers is effectively guaranteed, and the agricultural income of farmers is effectively guaranteed. Finally, speed up the establishment and improvement of the performance evaluation mechanism of agricultural insurance premium subsidy policies, evaluate the implementation effect of agricultural insurance premium subsidy policies in various regions, and timely discover relevant problems, and continuously promote the deepening of agricultural insurance premium policies.

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