Influencing Factors of Agricultural Insurance Demand under the Background of Big Data

Wang Yuping
School of Finance, Xinyang Agriculture and Forestry University, Xinyang 464000, China

Abstract: The development status of agricultural insurance in China, the overall coverage of crop insurance and forest insurance is still less than 60%. Except for wheat, rice and corn crops, the coverage of other crops is relatively low. The coverage of aquaculture insurance is low, especially the penetration rate of important animal products such as fat pigs and dairy cows is less than 25%. Emerging products such as weather index insurance, price index insurance and facility agricultural insurance are still in the initial stage of exploration. The supply of agricultural products with local, industrial and functional characteristics is insufficient and it is difficult to meet the diversified protection needs. The investment in insurance product development is relatively insufficient, which reflects the insufficient supply of agricultural insurance products and services in China. This paper comprehensively studies and discusses it.

1. INTRODUCTION
In September 2014, the China Insurance Association released the "China Agricultural Insurance Market Demand Survey Report". The survey lasted for half a year. The surveyed farmers were spread across 27 provinces, autonomous regions and 4 municipalities. The number of valid questionnaires exceeded 13,000, which was more objective and comprehensive. Reflects the status quo of China's agricultural insurance development. Corresponding to the report, the report also pointed out that agricultural industrialization has led to strong demand for agricultural risk protection. With the advancement of urbanization, the implementation of the rural land transfer policy, the gradual industrialization, scale and intensification of agricultural production, the result of land transfer will form new groups such as large planters, agricultural cooperatives and family farmers. Compared with the average farmer, the agricultural risks faced by farmers who rent land are increased, there is an urgent need for agricultural insurance and a higher willingness to pay for agricultural insurance, which brings growth opportunities for agricultural insurance demand. Agricultural professional cooperatives and leading agricultural enterprises have strong demand for risk protection. While paying attention to the losses caused by natural disasters, they are more concerned about the impact of price fluctuations. In response to the above problems, the following suggestions were made: First, further improve the supporting policies for agricultural insurance subsidies. Strengthen the classification guidance and implement the agricultural insurance premium subsidy system according to local conditions [1]. According to the situation of different regions, different insurance insurance types and premium subsidy standards shall be formulated to achieve the level of agricultural security and the level of local economic development, in line with the development of modern agriculture. The second is to actively promote the innovation of agricultural insurance products. Innovative products are the driving force for business development. We must strengthen the innovation of price index insurance and weather index insurance, develop a package of insurance products for leading agricultural enterprises and
farmers, provide a total risk solution and meet the individualized and differentiated design terms of local characteristics. Expand insurance liability and gradually extend from cost insurance to output value insurance and income insurance and start agricultural product quality and safety liability insurance. This paper believes that in order to promote the innovation of agricultural insurance products and services according to local conditions, there is a realistic possibility in the context of the era of big data [2].

2. APPLICATION OF BIG DATA: NEW SOLUTIONS FOR INNOVATIVE AGRICULTURAL INSURANCE PRODUCTS AND SERVICES

2.1. DATA HAS BECOME AN IMPORTANT STRATEGIC RESOURCE
The State Council's "Outline for the Promotion of Big Data Development" pointed out that big data is a collection of data characterized by large capacity, multiple types, fast access speed and high application value. It is rapidly developing into a large number, scattered sources and diverse formats. Data collection, storage and correlation analysis, a new generation of information technology and service formats that discover new knowledge, create new value and enhance new capabilities. In the research report, McKinsey pointed out that data has penetrated into every industry and business function field and has gradually become an important production factor; and the use of massive data will indicate a new wave of productivity growth and consumer surplus. After the release of McKinsey's report, big data quickly became a hot concept in the computer industry and it also attracted the attention of the financial community. With the continuous development of Internet technology, data itself is an asset and this has reached a consensus in the industry. In fact, the global Internet giants have realized the importance of big data. Global IT giants including EMC, Hewlett-Packard, IBM and Microsoft have achieved technology integration through the acquisition of "Big Data" related vendors and they also see their emphasis on "Big Data." The convergence of information technology and economic society has led to rapid data growth. Data has become a national basic strategic resource. Big data is increasingly generating global production, circulation, distribution, consumption activities, economic operation mechanisms, social lifestyles and national governance capabilities [3].

2.2. BIG DATA BRINGS NEW TECHNICAL MEANS TO THE INSURANCE INDUSTRY
Big data has also attracted the attention of many insurance industry people. The management mechanism of "speak with data, use data to make decisions, use data management and use data to innovate", big data will bring new technical means to the insurance industry, which will help accurately mine customer needs, product pricing and marketing, risk prevention and business decisions. At the beginning of December 2015, China Insurance Press Co., Ltd. Insurance Industry Big Data Evaluation and Application Project (Phase I)—Insurance Service Evaluation and Agricultural Insurance Management Evaluation System was announced. The bidding content is the insurance company service evaluation and Agricultural insurance management evaluation system. The project is based on the "Internet +" thinking of China Insurance Press Co., Ltd., using the only media platform in the insurance industry to integrate industry data resources, develop insurance professional information services, promote traditional media and emerging media, insurance companies and insurance consumers, insurance industry [4]. A key integrated project for the development of cross-border integration with society. The first phase of the project plans to build two information service product application platforms for insurance company service evaluation and agricultural insurance operation evaluation, providing in-depth data services for insurance supervision departments, insurance companies and insurance consumers. The development and application of big data technology will change the information model of traditional financial insurance, promote the electronic and digitalization of insurance transactions, greatly improve the operational efficiency of the insurance industry and change the competitive landscape of the market. To realize the application of big data technology in the insurance industry, it is necessary for the whole industry to speed up the process of
insurance data, promote data online, break down data barriers, establish a data sharing concept, find a combination of data business needs and management needs and then explore new ones. Business opportunities, improve business management capabilities. The development trend of agricultural insurance is shown in Figure 1.

![Figure 1: Development trend of agricultural insurance](image)

3. THE CHALLENGES BROUGHT BY THE BIG DATA ERA: DIFFICULTIES AND RISKS IN THE PROCESS OF AGRICULTURAL INSURANCE DATAIZATION

From a practical point of view, China has a certain foundation in the development and application of big data and has market advantages and development potential. However, big data has insufficient open sharing of government data, weak industrial foundation, lack of top-level design and overall planning in agricultural insurance applications. Possible risks are shown in Figure 2. There are many unfavorable factors such as the lag of planning, the construction of laws and regulations and the lack of innovation and application fields. In addition, there are also shortcomings in risk prevention. For example, how to establish a perfect standardized work system when insurance organizations use big data technology for product, service and management innovation, data security and privacy protection work becomes more important, how to reduce privacy violations and Legal risks of trade secrets, how to prevent systemic and regional risks. Therefore, the regulatory authorities should timely integrate regulatory resources, actively try to use big data technology to supervise, improve the regulatory system, be alert to the various risks that may arise and avoid regulatory dead space and regulatory vacuum. In addition, big data brings new challenges to the insurance industry in the field of risk management. Big data analysis makes it easy to calculate the probability of a risk and only high-risk people buy insurance. The 2012 New York Times reported that a climate company plans to purchase a weather cloud service from Amazon to collect real-time meteorological data from 1 million locations across the United States, providing customers with temporary, short- and medium-term weather forecasting services that can be combined According to the soil and water quality of the customer's location, the company provides climate risk reports to customers. According to the report, customers can choose whether to insure the agricultural climate insurance in the insurance company. The customer will only purchase climate insurance if the customer's climate risk is greater than the pure risk loss rate at the time the premium is calculated. In response to these challenges, insurers must anticipate and plan and respond to them in advance.
4. MEETING THE STRATEGY OF THE BIG DATA ERA: DO A GOOD JOB OF ROLE TRANSFORMATION, ACTIVELY PREVENT AND CONTROL RISKS

The big data application in the era of mobile Internet and cloud services has become an inevitable trend. Faced with this situation, the agricultural insurance industry should seize the big data opportunity, carry out reform and innovation and make transformation and upgrade. First, we must actively study big data and establish our own standards and technical thresholds. The agricultural insurance industry should use its own capital advantages and data accumulation, arrange and occupy positions in the big data field in advance, establish its own standards and technical thresholds and consciously guide the development of big data applications in a direction that is beneficial to itself. At present, big data applications are still in the groping trial stage. The mainstream applications are focused on accurate advertisement push and customer demand analysis and have not yet penetrated into the fields of risk identification and health management. The agricultural insurance industry must have a sense of crisis, establish technical barriers (such as patents) in the application of big data as soon as possible, become a game rule maker as soon as possible and even consider direct mergers and acquisitions related big data application research and development companies and so on, challenge will not evolve into danger. Second, agricultural insurance companies should change their thinking and be transformed by passive risk acceptance and active risk management. The insurance industry's optimal response to the big data challenge is naturally to retain core business and core assets and to integrate with new technologies through incremental changes [5].

5. CONCLUSION

Therefore, one possible transformation path of the insurance industry is to transform from a passive risk acceptance to an active risk management party and the premium is converted into a risk management fee. For example, health insurance is transformed from selling health insurance products to providing health management services. If there is a sudden meteorological disaster other than early warning in a year or a meteorological disaster exceeding the warning value, the risk management company compensates the farmer for the loss due to the failure of the performance. If the meteorological disasters occurred in the year are all early warning by the company within the specified
time, the company will fully perform the contract without compensation to the farmer. In fact, the above-mentioned transformation ideas have begun to show signs in the international insurance industry. The Australian injury claims management community has proposed that human injury claims management should be seen as a driver of health and productivity, rather than a traditional department that fulfills its claims and reduces the cost of paying. They believe that the purpose of claims management is to ensure that injured individuals and their productivity are maximally restored and that insurance companies should provide reasonable, adequate and necessary services to achieve the above objectives.

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