

供给侧改革背景下

中国多层次 农业保险产品结构研究



徐斌 著

STUDY ON THE MULTI-LAYERED
STRUCTURE OF CHINA'S
AGRICULTURE INSURANCE PRODUCTS
UNDER THE CONTEXT
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摘要

中国多层次农业保险产品结构的构建是一个既具有理论意义，又有着重要实践价值的命题。在理论上，农业保险作为一个整体概念，我国学术界对其属性、功能、制度设计和演进等问题已经进行了丰富而广泛的研究，也取得了相对较为一致的结论。然而，农业保险并不是一个构成单一、内部同质的孤立单元，而是由类型多样、功能各异的农业保险产品组成的，完善的农业保险产品结构更是应该表现为各组成部分之间相互配合与协调的系统。目前，我国针对农业保险产品结构这一领域进行的研究较为鲜见，需要对其进行理论上的拓展和补充。在实践上，无论是国家粮食安全战略、农业现代化进程还是保险业供给侧结构性改革（简称供给侧改革）方面均对农业保险产品提出了更高的要求，而原有的品类单一的农业保险产品结构显然无法胜任。近期，在国内部分地区出现的众多新型农业保险产品的探索与试点，在一定程度上丰富了我国农业保险产品结构，但总体仍呈现出明显的碎片化特征，很难与市场上的传统农业保险产品实现功能上的协调与配合。因此，要实现农业保险对农业生产和经营的既定管理目标，必须从更加宏观、系统的层面对农业保险产品结构进行规划、设计和考量。

本书所说的多层次农业保险产品结构是以农业保险供给侧结构性改革为背景，基于各类农业保险产品保障水平、功能和政府管理

需要所作的产品层次划分。通过这种划分，明确了各层次农业保险产品所处的新供给经济周期阶段以及政府和市场的责任与边界，有利于政府提供针对性的制度和政策环境，引导和加速农业保险“新供给”的形成，优化其产品结构。最终，使农业保险发展由靠政府推动和财政补贴的单核带动向产品创新、服务创新和模式创新的多核推动转变，以充分发挥农业保险供给侧结构性改革的作用，助推农业供给侧改革的全局发展。

本书共8章，篇章结构安排如下：

绪论，本章提出本书研究的主要问题，分析该问题产生的相关背景，阐述对其进行研究的目的和意义，并对国内外相关问题的研究现状进行了梳理和述评。根据所研究问题的特殊性，笔者设计了研究思路及内容框架，并对所选用的主要研究方法进行了解释和说明。最后，提出本书研究所包含的创新点和存在的不足之处。

第1章，农业保险供给侧结构性改革及多层次产品结构的理论基础。本章主要针对研究主题中几个关键概念所涉及的理论进行了分析。由于本书的出发点和落脚点都是农业保险，农业保险是本研究的核心概念，其相关理论贯穿本研究的始终。首先，对农业保险基础理论的论述从其基本属性出发，阐述了适用于农业保险的外部性理论和公共物品理论，并试图将两者区分开来进行分析。对外部性理论的分析主要确定了外部效应的三个判定标准，可以概括为：①对另一主体福利产生的影响；②表现为一种伴随效应；③主体之

间未进行相应支付。对公共物品理论的分析改变了以往非此即彼的分类方式，而采用了以竞争性和排他性为线性指标的二维空间分类方式，得出了准公共物品的空间范围。其次，对农业保险产品经营中存在的信息不对称理论和信息经济学进行了阐述，主要分析信息不对称问题的危害及其在农业保险经营过程中的具体表现，在此基础上论述了农业保险产品开发需要特别防范信息不对称风险的原因。最后，对农业风险管理理论进行了阐述，主要得出农业风险的特点以及不同类型风险适合的风险管理方式，农业保险主要用于应对中等频率、中等损失程度的农业风险。供给侧结构性改革的理论部分主要对历史上注重供给端的经济学派的发展历程和理论要点进行了梳理，重点阐述了脱胎于我国经济增长实践的新供给主义经济学的宏微观基础及其新供给经济周期理论。本书研究的另一个关键概念是多层次，主要通过风险偏好理论和前景理论解释了构建多层次产品结构的需求侧因素。

第2章，农业保险产品结构的国际比较及其中国构建。本章通过分析各国农业保险产品结构的演变过程，发现其总体上呈现出由单一向多元和多层次转化的特征，这种特征体现在保险责任、保障水平、保险单元和保费补贴四个方面。其中，美国的农业保险结构最为完善，层次性也最为明显；印度农业生产方式与我国相似，农业保险产品结构层次相对简单，但正通过中央机构的统一规划而实现结构优化；相对而言，我国的农业保险产品种类虽趋于丰富，但

缺乏统一的整体规划和层次安排。本章从国家的宏观经济发展和农业产业升级调整战略角度出发，分析了构建我国多层次农业保险产品结构的必要性，并从财政实力、保险公司经营经验和农户认可度等方面分析了其可行性。

第3章，中国多层次农业保险产品结构的框架设计。本章基于不同类型农业经营主体的风险管理需要，实现农业经营风险的有效转移和分散以及提高农业保险在支农体系中的地位等多重目标，在不降低小规模农户风险保障效用，不影响保险公司持续经营的原则下，构建了我国多层次农业保险产品结构的基本框架。该结构可以分为三个层次：第一层次是基本层次，以传统农业保险产品（成本保险）为主体；第二层次为中间层次，由产量保险、收入保险和一些承保市场风险的新型农业保险产品构成，并以收入保险为未来发展方向；第三层次为附加层次，它以美国“浅层损失”保险项目为蓝本，在我国该层次以各类天气指数保险产品为主体。为了实现不同层次产品在保障功能上的互补，本章还设计了结构中各层次产品的组合模式，以满足不同发展阶段更为多样化的保障功能需求。

第4章，多层次农业保险产品结构：基本层次。本章从实证的角度研究基本层次农业保险产品对农业生产者行为的影响，从而证实其对农业生产的作用。在本章中，先根据农业保险对农户生产行为的影响途径建立了理论模型进行推导和论证。结果显示，农业保险对农户生产行为的影响表现为种植面积变化和农资投入变化。然

后，利用微观数据进行回归分析，对上述理论分析结果加以验证。在数据选择上，采用了笔者亲自参与入户调查获得的微观数据，涉及全国主要粮食主产区，合计共千份问卷。在模型设定上，以农业收入和农业收入占总收入的比重为被解释变量，分别表征从事农业生产的绝对收益和比较收益，然后，以人口统计变量、农业经济变量和风险认知变量为控制变量，主要考察农业保险的有无对模型被解释变量的作用。由于涉及两个影响途径，本书回归分析采用了嵌套模型的形式。实证结果表明，基本层次农业保险产品对农业收入起到了支持和稳定的作用，但并没有显著提高农业的比较收益，且这种作用主要是通过种植面积的扩大实现的，农业保险引致农业投入增加的作用并不显著。在此基础上，为了检验地域差异，对各省份样本进行了模糊聚类分析，根据结果将整体样本分为两组进行分组回归。结果显示，农业保险对农业收入占比较高的省份具有较为显著的收入稳定作用，但对农户从事农业生产积极性的提升效果均不明显。

第5章，多层次农业保险产品结构：中间层次。本章以案例分析的形式探索我国多层次农业保险产品结构之中间层次的发展路径。立足于我国农业保险发展的实际情况，论述了在我国难以直接发展产量保险和收入保险的原因，并将中间层次的范围扩展到承保市场风险的一系列价格保险产品；重点阐述了“保险+期货”模式的产生背景、基本原理和赔付机制，并通过“保险+期货”模式的大连

实践——期货价格保险的实际运行实例加以说明；然后，通过分析“保险+期货”模式相对于其他价格保险的优越性，明确其中间层次农业保险产品“新供给”的定位。最后，指出“保险+期货”模式与收入保险制度的衔接方式，探索了以收入保险产品为主体的农业保险中间层次的发展路径。

第6章，多层次农业保险产品结构：附加层次。本章以实证研究的方式分析了农业生产者对附加层次农业保险产品的有效需求。本章较为详细地分析了美国“浅层损失”项目的赔付机制和模拟实施效果，进一步明确其附加型农业保险产品的定位；然后，立足于我国农业保险产品创新的现状，阐述在我国利用天气指数保险应对“浅层损失”的合理性，并指出对附加性保障的有效需求是影响该层次产品实际效果的关键因素。实证部分同样基于上述农村入户调查所获得的微观数据，采用 Logistic 模型对农业生产者附加性保障的有效需求进行了回归分析。为了考察不同类型农业生产主体对附加型保险产品有效需求的影响因素，将总体分为新型农业经营主体和小农户两个子样本进行分组回归。结果表明，影响传统小农户有效需求的关键因素是风险意识和对农业保险重要性的主观评价；而对规模化生产主体，种植面积也是影响其有效需求的重要因素。

第7章，研究结论、政策建议及展望。本章对全书进行总结，归纳出本研究得出的基本结论，依据其中的关键性结论提出针对性的政策建议，并对该领域未来的研究方向进行了展望。

本书对该领域的贡献和创新之处主要包括以下几个方面：

第一，尝试以供给侧结构性改革为背景，从农业保险产品结构的视角进行了研究。国内现有的针对农业保险的研究主要将其作为一种制度，探究其制度演进过程、制度实施模式和制度中存在的信息不对称或巨灾风险等问题。少数从农业保险产品角度进行的研究只是针对某一种产品进行保单设计、产品定价或者介绍国外的新型农业保险产品，缺乏系统性且不能契合中国农业供给侧结构性改革实践的研究。本书从农业保险产品的视角，系统研究了各类农业保险产品的特征，尝试以多层次产品结构的分析视角为农业保险供给侧结构性改革提供了思路。

第二，初步构建了符合我国供给侧结构性改革思路的多层次农业保险产品结构的框架体系。基于我国农业产业转型升级的特殊阶段性 with 供给侧结构性改革的基础理论，本书初步构建了包括三个层次在内的农业保险产品结构。构建过程借鉴了美国农业保险产品结构发展的经验和最新的研究成果，同时融合了我国和一些发展中国家在农业保险产品创新方面的实践经验，为解决我国农业保险保障水平不足、产品供给结构与需求结构不匹配等问题提供了宏观思路。该供给结构的三个层次按照保障功能进行了划分：一是为小农户（特别是贫困农户）提供基本恢复再生产能力的基本层次产品；二是为新型农业经营主体提供全面、高水平保障的中间层次产品；三是为有需求的农业生产者提供附加性保障的附加层次产品。总体

上看,这一供给结构充分考虑了不同农业生产主体的风险管理需要,通过多种途径实现保障形式的多样化,有望提高我国农业保险产品的保障效果。

第三,结合实证分析和理论分析结果初步探讨了多层次农业保险产品结构的构建路径,得出了一些具有创新性的观点。现有研究对农业保险发展方向的政策建议大多是根据定性研究或对单一产品的实证研究提出来的。本书对我国农业保险的主要产品和试点模式都进行了实证分析,并根据其综合理论与实证分析得出了如下观点:①基本层次农业保险产品已不能满足和创造新的需求,但其在维持农民收入稳定方面仍发挥着重要作用,应谨慎提高该层次产品保障水平,逐步实现由政府全额补贴保费的普惠性基本层次保险保障;②中间层次农业保险产品提供全面的农业生产经营风险保障,符合新型农业经营主体的生产目标,政府部门应提供具有持续性的财政补贴和产品知识产权保护制度,通过营造良好的制度环境引导和加速此类新供给的形成;③天气指数保险产品可以与基本层次农业保险产品构成互补而非替代关系,以满足农业生产者对附加性保障的有效需求。

关键词:农业保险;多层次;供给侧结构性改革;产品结构

Abstract

In China, the construction of multi-layered agricultural insurance product system is such a proposition that has both the theoretical significance and the important practical value. Theoretically, as an overall concept, the propositions of the agricultural insurance's attribute, function, system design and evolution have been studied sufficiently, and some consensus has been reached accordingly. But the agricultural insurance was not a homogeneous entity, it is a multi-layered system consisting of insurance products with diverse functionalities. Such system shall have inner structure that interact, coordinate and complement each other. However, rarely has any research been done to form the theoretical basis for such system. In practice, considering the fact that China has committed to modernize agriculture, ensure food security and improve social administration through insurance, the traditional agricultural insurance typified by simple, similar products are outdated and could not support such ambitious cause. Even though there are some attempts by pilot regions to introduce new insurance products, such attempts are highly fragmented and the new products often fail to grow compatible with the existing products. All of these have made a multi-layered insurance products system with careful planning, organized structure and clear measurement indispensable.

This thesis is organized as follows:

Chapter 1, Introduction, It firstly proposes the main problem this paper need to address and introduces the background where such problem was formed on. The research significance is highlighted by reviewing the literature from China and abroad. Furthermore, the framework on how we approach such problem is introduced and the methodology is explained. Finally, it points out the novelty and limits of this paper.

Chapter 1, the theoretical analysis on the multi-layered agricultural insurance product system. This chapter aims to theoretically explore the key concepts involved in the research. Because the agricultural insurance is both the starting and finishing point for this paper, the theories on it will last throughout the whole process of this research. The theoretical basis of agricultural insurance mainly involve the theory of externality and the theory of public goods. We tried to distinguish these two in the context of insurance. The analysis on the externality theory mainly determined the three criteria for externality, summarized as 1) the influence it may bring to another subject of welfare, 2) accompanied effect and 3) lack of payment. The analysis on the theory of public goods changed the "either-or" classification, but adopted the two-dimensional classification taking the competitiveness and exclusiveness as the criteria, resulting in the spatial range of quasi-public goods. Information asymmetry theory was later introduced to identify such instance in agricultural insurance product management practice. We highlight the reason why it needs to be paid special at-

tention to prevent the risk of information asymmetry in agricultural insurance. We later expound on the theory of agricultural risk management. The characteristics of agricultural risk and the risk management methods suitable for different kinds of risks are analysed. We reached the conclusion that the agricultural insurance can be used mainly for coping with the risks with medium frequency and loss in middle level. The last concept for the researched problem in this paper is the multi-layered system. We explained the reason for constructing multi-layered system through the theories of risk preference and prospect theory.

Chapter 2, International experience in agricultural insurance product system and its application in China. Through analyzing the construction process of the agricultural insurance product system in different countries, we find the evolution process from single form to diversified and multiple-layered system. Such evolution process is embodied in the change in five aspects including insurance responsibility, guarantee level, insurance unit etc. The agricultural insurance in the U.S. is considered to be the most comprehensive, with the most clear property of multiply layers. The agricultural insurance in India is similar with that in China, with no layer in its simple agricultural insurance system; but it is gradually being optimized through the unified planning by the central institution. Chinese agricultural insurance products are becoming increasingly rich. However, it lacks unified planning and the property of multiple layers. Furthermore, in this

chapter we analyzes the necessity for constructing Chinese multi-layered agricultural insurance product system, and demonstrates its feasibility through the aspects of fiscal strength, the management experiences of insurance companies and the recognition degree of peasants.

Chapter 3, The framework design of Chinese multi-layered agricultural insurance product system. To reach the goal of meeting the risk management demand from multiple participants of agricultural insurance, the effective transfer and dispersion for agricultural management risk, we constructs such a multi-layered agricultural insurance product system. Such system will not lower the farmers' utility, and will not undermine the profitability of insurance companies. This system has three layers: the first layer consists of the traditional agricultural insurance products (insurance based on cost); the second level consists of those insurance products for agricultural output, farmers' income and some new types of products to cover the market risks; the third level takes American insurance project of "shallow loss" as the blueprint, consisting of insurance products such as weather index insurance. In order to ensure the complementarity of the products in different levels, we have also designed a combination model for products in different levels, so as to fulfill the demand on the guarantee for diversification.

Chapter 4, The influence of the first layer product on farmers' behavior and agricultural production. In this chapter, we establish a theo-

retical model for how the agricultural insurance would influence the farmers' production behavior. The result shows that the influence of agricultural insurance on the farmers' production behavior may be reflected through the changes in the cultivated area and agricultural investment. Then, it utilizes the practical data for regression analysis, and such as the plant area, and verifies the model result. For data selection, we select the micro data based on household surveys, concerning the major grain producing areas in China, with a thousand questionnaires in total. For the model setting, we take the agricultural income and the proportion of agricultural income to the total income as the dependent variables, representing respectively the absolute gains and relative gains of agricultural production. We control for variables on population, agricultural economic variable and risk cognition variable as the controlling variables, to investigate whether the existence of agricultural insurance has the effect on the dependent variables of the model. Because there are two dependent variables, the regression analysis used in this paper takes the form of nested model. Results show that, the agricultural insurance products at first layer play the supporting and stabilizing role on agricultural income, but they do not significantly improve the relative gains of agriculture. The effect on agriculture income gain was achieved mainly through the expansion of cultivated area, while agricultural insurance do not cause a not significant rise in agriculture investment. In addition, to account for regional difference, we

performs the fuzzy clustering analysis on the samples of each province, makes the group regression on overall samples divided into two groups. Our results show that, the agricultural insurance has significant stabilizing effect in provinces where the agricultural income accounting for higher ratio in its total income. However, the agricultural insurance fails to improve the productivity of the farmers.

Chapter 5, Investigation into the development of second layer insurance through case studies. In this chapter, we expounds the reason why it is hard to develop the insurance on agricultural output and farmers' income at present. We expand the range of the second layer products to the series of insurance on prices. The "insurance + future" model was analyzed on its background, basic principles and compensation mechanism. A case study is performed on such model based on the practice adopted in Dalian. Later on, through analyzing the advantages and defects of the "insurance + future goods", it clarifies that the second layer is only transition process. Finally, it points out the connection method between the "insurance + future goods" model and the income insurance system, also points out the development path for the products in second layer.

Chapter 6, Empirical study on the farmers' demand on the third layer products. In this chapter, we introduces the compensation mechanism and simulated effect of American "shallow loss" project in details. We points out the rationality for China utilizing the weather index insurance to cope