

IDE Research Bulletin

Research Summary based on papers prepared for publication
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Institutional Innovations and Adaption to Marketization in Rural China: Economic Analysis of Cooperative Organization and the Collective Ownership System

Project Organizer
Hisatoshi Hoken

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Since the 1990s, two remarkable institutional innovations have emerged in rural China. The first is the quick development of a new type of intermediate agricultural organization called the “Famer’s Professional Cooperative” (FPC hereafter). Since farmers in rural China tended to be inferior to agribusiness enterprises in terms of bargaining power on pricing and contract enforcement, they began to establish effective agricultural cooperatives to overcome the disadvantages of small-scale farm management. FPCs are expected to be intermediate between the agribusiness enterprises and farmers in terms of diffusion of agricultural technologies, monitoring of farm cultivation, procurement of farm products, and redistribution of the profits produced by the differentiated products.

The other innovation is the reform of the collective ownership system. Previously the system could not adjust to the rapid development of a market economy, resulting in inefficient management of collective assets. Thus, it was necessary to create a new system to manage collective assets more efficiently as well as distribute those profits more properly. In the ownership reforms of rural enterprises in the late 1990s, many TVEs (Township and Village Enterprises) adopted a cooperative ownership system, called the “shareholding cooperative system”, to distribute the dividends of collective assets to the village people. The basic framework of TVE reform has been applied to the new collective ownership institutions, such as the “Land Shareholding Cooperative”.

The major goal of our research project is to analyze the economic features of these newly developed organizations and institutions, and to evaluate their impacts on organization members and market participants, employing strict econometric procedures. To accomplish this, our research group has attempted to review the microeconomic theoretical models, such as the agency and game theory models, and conducted detailed questionnaire surveys of farmers, cooperatives and agribusinesses. Then, we have examined the role of cooperative organizations and the cooperative ownership system in rural development, focusing on the economic relationships among stakeholders, including local governments, firms, brokers and farmers.

To estimate the economic functions of agricultural cooperatives numerically, we have conducted three types of international joint research with academic research institutes in China to collect relevant micro data. Brief explanations of our survey designs are as follows. First, cooperating with the Research Center for Rural Economy of the MoA (Ministry of Agriculture), we have chosen nine agricultural and shareholding cooperatives in Hebei province to conduct questionnaire surveys of cooperatives’ presidents, village leaders and their member

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households. Second, the Rural Development Institute of the CASS (Chinese Academy of Social Sciences) and IDE have selected less a developed inland county (Xinjiang County in Shanxi province), where greenhouse horticulture is considerably advanced, and randomly chosen farmers that are members and non-members of FPCs to estimate the impacts of FPC participations. Third, we have performed a longitudinal slaughtering firm survey (2008, 2010 and 2015) in Henan and Jilin provinces to investigate the structural changes of the pork industry during the period as well as to estimate the impact of contract breeding with agricultural cooperatives on producers' and contractors' surplus. This survey has been performed as a joint research project with the Institute of Agricultural Economics and Development of the CAAS (China Academy of Agricultural Science). The major results of our research activities are summarized in three independent discussion papers.

Yamada's paper investigates the economic functions of the LSHCS (Land Shareholding Cooperative System). Recently, this system has been widely adopted by FPCs to improve land productivity and transparency of profit distribution. Employing the survey data on FPCs which have introduced LSHCS, this paper analyzes the performance of FPCs from the perspective of the organizational structure and the method of profit distribution. The article shows that FPCs can be classified into two groups. The first group is virtually managed by a handful of powerful investors and entrepreneurs, and decision making concerning FPC management is performed exclusively by those core members. Since the economic performance of FPCs in this group is higher due to their greater commitment, they can obtain comparatively larger profits according to their contributions.

The other group is mainly organized by local cadres and the management tends to be more community-oriented. Therefore, their member farmers can obtain a larger amount of redistributed profits, although the performance of FPCs in this group is generally stagnant. In addition, an examination of the members' household survey suggests that income disparity between full and associate members is much larger than that between the two groups of FPCs. On the other hand, the average income of member households is enhanced through participation in FPCs mainly by reducing their farm workdays and engaging more in off-farm occupations, whereas the contribution of land rent income to the increase of total income is considerably limited.

Next, Hoken's paper examines the economic impact on farm households of participation in FPCs as well as the introduction of vegetable greenhouses. This study compares FPC participants with non-participants (who are

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also vegetable farmers) and grain farmers in vegetable-producing areas in Shanxi to investigate the treatment effects of participation in FPCs and the implementation of vegetable cultivation. This article adopts parametric and nonparametric approaches to precisely estimate the treatment effects. In both parametric and non-parametric estimations the results indicate that there are no significant differences between participants and non-participants of FPCs in terms of vegetable net income. On the other hand, the comparison between vegetable and grain farmers in terms of agricultural net income using propensity score matching (PSM) reveals that the treatment effect of vegetable cultivation is significantly positive for total and agricultural incomes, although vegetable cultivation is more labor-intensive. These results indicate that it is the implementation of vegetable cultivation rather than the participation in an FPC that enhances the economic welfare of farmers, due to the non-exclusivity of FPCs' services as well as the risk involved in vegetable cultivation.

Finally, the paper of Watanabe and Wang conducts a structural estimation of the pork market structure to investigate a relationship between depth of market differentiation in pork and the benefits to farmers from contract farming and cooperatives. The article indicates that market upgrading has been emerging in the pork industry as a whole, and that the consumer surplus and the benefits of the pork processing market have drastically improved. The main concern of the paper is whether this expanded surplus has ever benefited farmers. This article demonstrates a geographical difference in the impact of contract farming and FPCs between two provinces. Namely, contract farming transaction improves product benefits for consumers and consumer surplus in Jilin, while FPCs contributed to the improvement of benefits and consumer surplus in Henan.

However, it should be noted that the expansion of the total value of transactions does not necessarily improve farmers' economic benefits. Specifically, although the integration of procurement methods (i.e., building up their own farms and organizing their own procurement team) improves total economic benefits, the selling price of hogs for farmers is significantly lower than that of the traditional transaction model (i.e., indirect procurement via an agent). These results indicate that institutional development, such as contracts or integration, expands the benefits of transaction and profits for firms, but the incomes of farmers are not increased proportionally.

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