

Research on Synergetic Symbiosis Relationship between Cooperatives and Joint-Stock Companies

—A Theoretical Interpretation of the Practice of New Farmer Cooperatives

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How to cite this paper: Xie, Y.T., Xiong, H.B. and Fan, L.N. (2019) Research on Synergetic Symbiosis Relationship between Cooperatives and Joint-Stock Companies—A Theoretical Interpretation of the Practice of New Farmer Cooperatives. *Open Journal of Social Sciences*, 7, 316-330.
<https://doi.org/10.4236/jss.2019.710027>

Received: August 19, 2019

Accepted: October 21, 2019

Published: October 24, 2019

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Abstract

Cooperatives and joint-stock companies in China and Western countries can form synergetic relations in theory and practice. The new farmer cooperatives in China also introduce the factors of shares, which need to make a theoretical interpretation. This paper reviews the theoretical research on cooperative system and shareholding system in academia, discusses the specific reasons for the integration of share factors into new farmer cooperatives, explains the symbiotic relationship between cooperatives and joint-stock companies, and demonstrates the history of mutual penetration of share factors and cooperation factors in Chinese and Western cooperatives, then analyzes the necessary and sufficient conditions for the symbiosis of cooperatives and joint-stock companies. Finally, it summarizes the symbiosis model of cooperatives and joint-stock companies at present, and provides the optimal design of its symbiosis mechanism.

Keywords

New Farmer Cooperatives, Joint-Stock Companies, Synergetic Symbiosis

1. Introduction

Farmer cooperative is a necessity to solve the problem of agriculture, rural areas and farmers in China to enhance the organization of farmers. Since the reform and opening up, cooperatives have thrived in rural areas, most of which are not classical cooperatives, it is based on family contract management and encourages

the development of new forms of farmer cooperatives, such as professional cooperation and shareholding cooperation. New farmer cooperative divided into two joint-stock cooperatives spontaneously innovated by farmers. These two modes are characterized by either money or technology-based shareholding or land-based shareholding. From a theoretical point of view, cooperatives and joint-stock companies are originally completely different economic organizations. Cooperatives are a form of cooperative organization established by the working people to jointly unite for cooperative production and cooperative operations; joint-stock company is a corporate legal person in which the company's capital is a company consisting of shares and the shareholders are liable to the company for the shares they subscribe for. Can these two essentially different economic organizations be integrated? The academic world has a lot of different opinions, but the practice is ahead of the theory. The shareholding cooperative system risen in the late 1990s has once become the main form of state-owned enterprises (SOE) and urban and rural collective economic restructuring in China. In terms of this widely practiced organization form, is it the end of the cooperatives or spontaneous institutional innovation of Chinese farmers? Opinions from the academia vary during that time. Since the new century, a new round of farmer cooperatives prospers. Until the end of April 2017, the number of the national professional cooperatives, community cooperatives, industrial associations and various economic unions amount to 1.888 million. With the integration of more and more industry and commerce capital, cooperative factor has a tendency to merge with share factor and some share factors even play the dominant role. Meanwhile, equity and initiator also show the trend of diversification. As a result, the new rural microstructure again draws the attention of the academia. In fact, joint-stock cooperative system is based on the cooperative system, absorbs some practices of the shareholding system, and combines labor unions and capital alliances to form a new form of economic organization. The author believes that according to the "co-symbiosis" theory, the symbiotic units in the region can coordinate, develop and co-evolve. Based on this understanding, this article is necessary to explore the symbiotic mechanism between cooperatives and joint-stock companies so as to make a theoretical interpretation of the integration of shareholding factors into the new type of farmer cooperatives in China.

2. Previous Research: Views on the Cooperative System, Shareholding System and Joint-Stock Cooperatives

2.1. The Theoretical Research of Marxist Political Economy on Cooperative System and Shareholding System

Marxist cooperation theory has strong theoretical interpretation ability and practical guiding significance in the study of macroeconomics. Using the related principles of the Marxist political economy on the cooperative system and the shareholding system can objectively describe and dialectically analyze the evolution of cooperatives in reality and its causes.

Marx put forward the theory of the relationship between labor and capital in *Das Kapital*, and pointed out the heterogeneity between the cooperative system and the shareholding system. The former is to “actively develop and discard the capitalist mode of production itself”, and “labor dominating capital” [1] in the cooperatives conforms to the basic principles of socialism; the latter is the “potential (negative) sublation and abandonment of capital ownership”, and “capital dominating labor” in the shareholding system conforms to the basic principles of market economy. The internal contradictions and conflicts between them will inevitably lead to the division and integration of labor union and capital union, which provides a reasonable explanation for the diversified practice of contemporary cooperatives. Marx affirmed the homogeneity of the two during his classical arguments of cooperatives and joint-stock company, “joint-stock company, the same as cooperative factory, should be regarded as a transition from the capitalist mode of production to joint production” [1]. That is to say, both of them are a transition to communism and cooperative system is closer to communism. Therefore, the joint-stock system and the cooperative system should be integrated to complement each other. In the thought of “community of free individuals”, Marx thinks that both the cooperative system and the joint-stock system are the transitional forms leading to the ideal “community of free individuals”, and are the inevitable requirements for the realization of “the reconstruction of individual ownership” (Xie Yuantai, 2010) [2].

Engels also has classical discussion about cooperative system and shareholding system in *The Peasant Question in France and Germany*, arguing that the Danish cooperative system is a model to establish farmers’ land property rights system. “Our task for small holders, the first is to put their private means of production and the private possession into a cooperative production and possession, not by force, but by demonstration and offering help.... The Danish socialists... have put forward similar plans. Farmers in a village or parish... should combine their land into a large grange, and work hard together to cultivate it, and distribute the income in proportion to the shares in the land, the capital paid in advance and the labour force produced” [3]. Here “the shares in the land, the capital paid in advance” are the share factors introduced in the cooperative system.

2.2. The Theoretical Research of Western Economists on the Integration of Share Factors into Cooperative System

Contemporary western scholars have not studied the special organizational form of “joint-stock cooperative” in China. However, since after World War II, cooperatives in western countries have increasingly incorporated shares and capital elements. Some scholars mainly started from the micro level to regard cooperatives as independent enterprises, and studied cooperatives through mathematical model construction or empirical analysis. For example, they used agency theory to study optimal contract design (Eiler and Hanf, 1999) and game theory to study its organizational framework (Staatz, 1983; Sexton 1980), studied spatial compe-

tition model and equilibrium with new institutional economics (Sexton, 1990), established collective selection model of cooperative enterprises with contract theory (Zusman, 1992), and constructed unbalanced system model with neoclassical theory (Vercammen, Fulton and Hyde, 1996).

2.3. The Theoretical Research of Chinese Scholars on Cooperative System and Shareholding Cooperative System after the Reform and Opening-Up

After China's reform and opening up, farmers spontaneously organized a large number of cooperatives containing certain factors of shares, known as "joint-stock cooperatives". Some scholars in China use the symbiosis theory, transaction cost, institutional change theory, property right theory, modern enterprise system and other theories to explain the logical route of the emergence of joint-stock cooperatives. For example, Yuan Chunqing (1998), based on symmetrical reciprocity of the symbiotic theory, explained that the joint-stock cooperative system fundamentally solved the contradiction between blurriness of the principal part of capital and the asymmetric status and distribution of laborers, which was the main objective mode of transformation of China's small-scale economic system [4]. Liu chengli (2003) pointed out with endogenous transaction cost theory that the cooperative system of agricultural land shares follows the decreasing principle of endogenous transaction cost, and the appropriate expansion of shareholding system in cooperatives is the most realistic transitional institutional arrangement [5]. Ren Hui *et al.* (2012) outlined the research thread of "external profit-property right definition-land resource optimization setting" with the theory of institutional change, and explained the inevitability of the reform of land share cooperative system in production and development [6]. Some scholars have demonstrated that joint-stock cooperatives are "a 'transition point' leading to the future society, in line with the international trend of the integration of cooperative system and shareholding system" (Xie Yuantai, 2012) [7], and the two can go hand in hand. Xiao Duan (2013) expanded on the basis of the above scholars' research and adopted the theory of property right as the analysis tool, believing that the land share cooperative system solved the separation of "two rights" under the background of collective ownership of rural land and household contract system to some extent, which built a complete theoretical foundation of institutional economics [8]. However, some scholars denied the third middle way of joint-stock cooperatives, believing that cooperatives and joint-stock companies were completely different or even contradictory organizational forms. Some scholars believed that joint-stock cooperatives were not in line with the national conditions or the reform was not complete, which is degeneration, alienation, even institutional variation and essential drift.

After the promulgation of *Law on Farmer Professional Cooperative* in 2007, a large number of specialized cooperatives emerged. Most scholars in China studied the system improvement, policy support and development prospect of pro-

professional cooperatives under the classic Marxist cooperation theory. However, some scholars, under the influence of western scholars on the research paradigm of cooperatives, completely regarded cooperatives as enterprises. Therefore, they use property right theory, transaction cost, game theory, modern enterprise system and institutional change theory to study the property right structure, transaction cost, operation benefit evaluation and system design of cooperatives. The results of studying cooperatives with enterprise theory and methods are undoubtedly a series of pessimistic conclusions, such as high cost, uneconomical and unpromising of cooperatives, and even they advocated that cooperatives should develop into corporation-based enterprises (Hu Zhenhua, 2010; Liu Bin, 2012) [9] [10]. Agricultural experts pointed out that the cooperatives shall develop differently according to the situations of the state and regions, holding that in terms of cooperatives involving collective property system of agricultural land, economically developed regions should focus on reform of operational assets in share cooperation; the central and western regions, especially the agriculture land should focus on the land share cooperation mechanisms (Zhang Hongyu 2015) [11]. Some scholars discussed the “construction of symbiotic mechanism between Chinese farmers’ professional cooperatives and rural credit cooperatives” by using the symbiosis theory (Xie Yuantai *et al.* 2012). When the model of “comprehensive agricultural association” of Rui’An in Wenzhou City achieved success, it was highly recognized by many famous scholars in the field of agricultural economics, such as Chen Xiwen, Huang Zuhui, Yang Tuan, etc. Zhang Xiaoshan believed that the model of “comprehensive agricultural association” of Rui’An “was bound to surpass the classic, reflect Chinese characteristics and the characteristics of the time.... and is also the essential path for Chinese agriculture to go global” (Zhang Xiaoshan, 2014) [12].

Through reviewing the research results of cooperatives at home and abroad, it can be seen that Chinese and foreign scholars have made theoretical interpretations from multiple perspectives on cooperatives and introducing share factors into cooperatives. Marxist classical writers mainly explained the essential attributes of cooperatives, the homogeneity and the development prospects of joint-stock companies. After World War II, due to the integration of share factors into cooperatives, some scholars in China and the West tended to regard cooperatives as corporate-based enterprises. Scholars in China have more disputes about the nature of the joint-stock cooperative system in the new period, and have a relatively consistent understanding of the mode of “comprehensive agricultural association”. However, both the joint-stock cooperative system and the mode of “comprehensive agricultural association” objectively integrate share factors into the cooperatives, which means that there is an objective symbiotic relationship between cooperatives and joint-stock companies under the new situation.

3. Historical Logic: The Development Trend of the Integration of Cooperative and Joint-Stock Company

The natural evolution of enterprise forms throughout the western capitalist coun-

tries and our country since reform and opening-up roughly go through individual economy-private economy-economic partnership-the shareholding cooperative system-joint-stock company. In the trend of the rise of the strength of the Guild, equity incentive and world economic integration, shares gradually confluences with cooperation [13].

3.1. After World War II, Cooperatives and Joint-Stock Companies Showed the Trend of Penetration into Each Other

For one or two hundred years, cooperatives in western countries have adhered to the principle of cooperative system and developed steadily in the long run. But at the same time, after World War II, many stock issuing cooperatives and enterprise operating cooperatives appeared in western countries. Although it is different from the appellation of “joint-stock cooperative” in China, there are two trends of penetration of stock factors and cooperative factors [14].

First, the trend of demutualization of cooperatives-joint-stock cooperatives. Taking some cooperatives in Germany as an example, the transformation of cooperative structure that emerged in the 1960s began to absorb some practices of shareholding system on the basis of the seven principles of international cooperation alliance. In respect of the cooperative principle, the one-person-one-vote system will be eased to a maximum of one-person-three-vote system; In terms of the membership, it stipulates that some of the non-member investors can be absorbed as members, so that shareholders and membership separate; In terms of distribution system, the practice of not paying dividends in share capital have been changed. Learning from the financial and accounting standards of enterprises, except for setting aside public accumulation fund in proportion to year-end surplus, most of the rest will be returned to the members and a small part will be paid as dividends.

Second, the cooperative tendency of joint-stock companies-employee stock ownership plan (ESOP). In the United States, for example, some private enterprises and joint-stock companies of large enterprises began to incorporate some elements of cooperative. For example, Kelso United Company first proposed and implemented ESOP in 1961, and then, Wilde Steel Company and United Airlines of the United States to some extent adopted ESOP for enterprise reform in 1984 and 1994 respectively. The factors for the joint-stock company to increase the cooperative system through the employee stock ownership plan include: the principle of democratic voluntariness—the joint-stock company allows the employees to become the owners of the company’s assets and follows the principle of voluntary democratic participation (but not less than 70% of the employees participating); State aids—providing loan services to employees; Free withdrawal of shares—anti-monopoly principle, but shares of employees shall not be transferred; The indivisibility of public accumulation—with a certain amount of dividends, etc.

3.2. Since China's Reform and Opening-Up, There Has Been a Trend of Integration between Farmer Cooperatives and Joint-Stock Companies

Since China's reform and opening up, many farmer cooperatives in China have integrated the stock factor to expand scale operation and enhance market competitiveness, which is a realistic choice for the cooperative movement under the new situation. In reality, there are two main ways for the integration of share factors and cooperatives:

One way is individual private enterprises turning into joint-stock cooperative enterprises through business combination, such as rural land joint-stock company under non-agricultural operation, which absorbs the rural land as property and resource shares, turning land use into direct or indirect business such as malls and parking lots. Geometric progression of output efficiency of rural land use grew, differential rent of land was achieved by leaps and bounds and the dividends of land revenue in reform were shared [15].

The other is turning cooperatives into joint-stock cooperative enterprises by borrowing shareholding mechanism through joint measures. For example, by referring to shareholding property rights issue and clarity principle, the fuzzy property of township enterprises became clear joint ownership through the rural collective economic organization (township office, village office) or farmers investment (farmer joint operation or other forms of cooperation). In this way, the operating mechanism was more independent and flexible, which better supported the construction of agriculture and rural areas.

In response to the rise of joint-stock cooperative enterprises, local governments began to issue relevant documents. For example, since 1987, Wenzhou has issued 8 consecutive documents on joint-stock cooperative enterprises. At the same time, the national level was also actively encouraging and regulating the development of joint-stock cooperative enterprises. In 1990, the Model Articles of Association for Farmers' Joint-stock Cooperative Enterprises was issued to further promote the development of joint-stock cooperative enterprises.

Since the beginning of the 20th century, most of the farmers' cooperatives have introduced share factors, and some even share factors taking the dominant position, but they are rarely named as "share cooperatives", but named as "new type of farmer cooperatives".

To sum up, although cooperatives in western countries have been integrated with share factors, they always adhere to the principle of cooperative system. In China, in the 1980s and 1990s, the practice of cooperatives showed the integration of shares and then fell into depression. However, at present, a large number of forms of share cooperation have appeared spontaneously again in the new type of farmer cooperatives. Chinese-foreign cooperative practices show that in the historical revolution, the trend of social division and collaboration of labor strengthens, organizational level improves and market competition becomes more and more fierce. The mutual infiltration and integration of shares and cooperation

factors is an effective way to conform to the rule of modern market economy. Symbiosis between cooperatives and joint-stock companies is the micro basis and necessary condition for high speed development of commodity economy.

4. Realistic Logic: Analysis of the Causes of the New Type of Farmer Cooperatives Incorporating Share Factors

In the new century, China's new type of farmer cooperatives has emerged. The reasons for the integration of the share factor into the new type of farmer cooperatives are complex. This paper believes that there are two main reasons: the external driver of the macro-economic transformation and the internal financing demand of the new type of farmer cooperatives.

4.1. The External Drive of Macro-Economic Environment-Economic Transformation

Cooperative development strategy is a key issue that must be solved in the development of rural economy in China. In the 1980s after the reform and opening up, the household contract system was playing a positive role. The state mainly provided policy supply to rural areas. While how to improve the level of rural economic organization was mainly explored by farmers themselves. After the decision to establish the socialist market economy system in Third Plenary Session of the Fourteenth Central Committee in 1994, the economy and society officially entered the transition period when the macro policy environment was greatly relaxed. It is natural that the development of China's rural cooperatives integrates with the market economy, so the integration of the share factor will become the most effective means to enhance the strength of cooperatives. Since entering the new century, with the deepening of the world economic integration and the acceleration of urbanization and industrialization in China, the survival condition of rural business entity, no matter family or cooperatives, is becoming more and more severe in the international market environment. In order to enhance their strength and market competitiveness, it is common for farmers' cooperatives to incorporate the share factor. By the way, in this macro-economic environment, the design of the policy framework of "separating rural land ownership rights, contract rights, and management rights" may be a better choice for the development of "shareholding cooperation".

4.2. The Inherent Demand of New Type of Farmer Cooperatives-Financing Demand

According to the survey, financing needs account for 92% of the financial demand of farmer cooperatives in China, ranking the first place. 80% of farmer cooperatives show that what they are most in need of is fund. With the expansion of the scale, strength and influence of the new type of farmer cooperatives, their potential financing needs and centralized financing needs will be fully exposed, which will become the internal requirements for the further development

of the new type of farmer cooperatives. The integration of share factors into farmer cooperatives not only facilitates the solution of internal members' mutual financing, but also adheres to the essence of cooperative finance. With land stock cooperation being an important way of land transfer in China, the object of household contract right is transformed into the subject of internal financing. Therefore, it is an inevitable choice for the new type of farmer cooperatives to expand the financing (capital and resources) channels.

5. Necessary and Sufficient Conditions: Necessity and Possibility of Synergetic Symbiosis between Cooperatives and Joint-Stock Companies

5.1. Comparative Advantage: Analysis on the Necessity of Synergetic Symbiosis between Cooperatives and Joint-Stock Companies

As China's rural areas are "acquaintance society", joint-stock companies may lead to distrust of farmers due to unpredictability of interests, uncontrollable risks and financial opacity and impartiality, so they must retain the essential nature of cooperatives. The Law on Farmers' Professional Cooperatives stipulates that "the return of the proportion of distributable surplus shall reach over 60%", and it can also obtain direct subsidy from government finance and the preferential policies of donation part of the property, which greatly stimulates the expectation of farmers' joining in the cooperatives and conforms to their preference of investment by incorporating share factors into cooperatives. Therefore, the new type of cooperatives especially stock cooperative practice in our country combines the dual characteristic of shareholding system and cooperative system, which follow the socialist basic principle—adhering to the essential attribute of cooperation, and conforming to the fundamental principles of market economy—incorporating share and capital elements. It possesses distinct Chinese characteristics and accords with the fundamental path of transformation of the socialist market economy with Chinese characteristics. The collaborative symbiosis of cooperatives and joint-stock companies has taken the comparative advantages of share factors and cooperation into account—the cooperatives refer to shareholding financing and management advantages and joint-stock company learns from the advantages of mutual reciprocity, mutual benefit and strong internal cohesion of cooperatives, which fits the development philosophy of promoting "sharing", seeking "win-win" through "symbiosis" in the new normal of the economy.

5.2. Comprehensive Conditions: Possibility Analysis of Synergetic Symbiosis between Cooperatives and Joint-Stock Companies

First, the loose environment of macro-legal policy. In 2013, "No. 1 Document" issued by the Central Committee of CPC proposed "vigorously supporting the development of various kinds of new types of farmer cooperatives." At the same

year, “Decision on Several Major Issues Concerning the Comprehensive Deepening of the Reform of the Socialist Market Economy” and “Opinions on Comprehensively Deepening Rural Reform and Accelerating Agricultural Modernization” issued by the Central Committee of CPC have clearly put forward “to allow farmers to pursue agricultural industrialization through shares of contracted investment,” which created policy space for the mutual integration of cooperation factor and share factor. From 2014 to 2017, four consecutive “No.1 Documents” issued by the Central Government reiterated and emphasized “encouraging the development of diversified and multi-type cooperatives such as joint-stock cooperation.” The Law on Farmers’ Professional Cooperatives (amendment draft) currently submitted is also consistent with the Central Government’s requirement, thus providing a legal basis for the synergetic symbiosis between cooperatives and joint-stock companies.

Second, the mature theoretical basis of synergetic symbiosis. Joint-stock company and cooperatives in previous statement have a symbiotic relationship, and the premise of symbiosis is that different subjects should have a collaborative relationship. According to the synergy theory, in the large system of cooperative, the cooperative system and the shareholding system have different properties and functions, but they still have the relationship of mutual influence and cooperation. The symbiosis theory further holds that, whether it is homogeneous or heterogeneous symbiosis units, the first manifestation is not mutual exclusion and killing, but mutual attraction and cooperation, and mutualistic symbiosis can be achieved. The introduction of “synergy” and “symbiosis” into social science and the research on farmers’ cooperatives provides a relatively mature theoretical and logical framework for the construction of double-wheel and double-track share-cooperation.

Third, rich experience in synergetic symbiosis. In recent years, many collaborative innovation centers of industry-university-research integration have been established all over the country. Industry-university-research integration has yielded rich practical experience in economics, sociology and other fields, and explored many new forms of cooperation modes, providing relatively mature practical experience for the synergetic symbiosis between joint-stock companies and cooperatives.

6. Institutional Innovation: Exploring the Synergetic Symbiosis Mechanism between Cooperatives and Joint-Stock Companies

6.1. Practice and Exploration: The Pattern Classification of Cooperatives and Joint-Stock Companies

Facing the increasingly serious problems of “agriculture, rural areas and farmers”, farmer cooperatives, as the new type of agricultural operating entity, must realize innovation in the system and mechanism. From the current practice of cooperatives and joint-stock companies, it is characterized by “symbiosis-sharing-win-win”. Under the framework of symbiosis theory, there are three

basic modes of symbiosis between cooperatives and joint-stock companies (as shown in **Table 1**).

First, parasitic symbiosis. Take the failure case of cooperatives and joint-stock companies as a typical example. Its essence is a kind of organization form with the purpose of illegally collecting state funds, without rules and regulations and actual operation. It is suspected of energy transfer from one host party to another parasitic party, and will not produce new economic and social benefits. It is a nominal symbiotic association.

Second, commensalism. It takes domestic “leading enterprises + cooperatives” and foreign “joint-stock companies + cooperatives” as examples. The former is an organization mode dominated by leading enterprises and establishes cooperatives because of the demand of leading enterprises. Farmer’s production and cooperative business is guided by the demand of leading enterprises. The latter is an organization mode where a joint-stock company is led by a cooperative to take advantage of capital of leading enterprises and market forces and to own a majority stake in the joint-stock company. Both will generate new energy, but the former is the leading enterprise to seize all the new energy, while the latter is

Table 1. Symbiotic modes between cooperatives and joint-stock companies.

Modes of symbiosis	Organization forms of symbiosis	Characteristics of symbiotic energy	Symbiotic mechanism	Symbiotic types
Parasitic symbiosis	Any actual operation negligent of rules and regulations for the purpose of illegal collection of state funds.	<ol style="list-style-type: none"> 1. No new energy is generated; 2. There is energy transfer from one host to another parasite between cooperatives and joint-stock companies 	Notional symbiotic association	A failure case of collaborative symbiosis between cooperatives and joint-stock companies
Commensalism	Cooperatives are established by leading enterprises to meet the needs of leading enterprises.	<ol style="list-style-type: none"> 1. New energy will be generated; 2. Only one party benefits: cooperatives are a link and workshop in the business chain of leading enterprises, and joint-stock companies seize all the new energy 	Loose union embedded externally	Domestic model of “leading enterprise + cooperative”
	A joint-stock company led by a cooperative to take advantage of capital of leading enterprises and market forces and to own a majority stake in the joint-stock company.	<ol style="list-style-type: none"> 1. New energy will be generated; 2. Only one party benefits: the cooperative owns the majority or even all the equity of joint-stock company, and all the interests belong to the members 		Foreign mode of “joint-stock company + cooperative”
Mutualism	Organization and management factors of shareholding system are integrated into Cooperatives.	<ol style="list-style-type: none"> 1. New energy will be generated; 2. Both parties benefit from the broad-spectrum distribution of new energy, and the orientation of capital of joint-stock companies and the orientation of the interest of cooperative members are paid equal attention; 	A tight union embedded internally	Farmer share cooperatives
	Association, mutual assistance and other factors of shareholding system are integrated into joint-stock companies.	<ol style="list-style-type: none"> 3. Wide-spectrum distribution is carried out according to asymmetric mechanism or symmetric mechanism. 		Joint-stock enterprises

Note: this table is based on the symbiotic organization, symbiotic energy characteristics, symbiotic mechanism and symbiosis types of cooperatives and stock companies. It is summarized from three aspects: parasitic symbiosis, partial symbiosis and reciprocal symbiosis.

owned by members of the cooperative, belonging to a loose union embedded externally.

Third, mutualism. Take farmer share cooperative or share cooperative enterprise for example. The former is the organization and operation mode integrates shareholding system into cooperatives, while the latter is a mode which integrates union and mutual assistance of cooperative system into joint-stock company. Both have the dual goals of capital orientation and orientation of membership interest. Both generate new energy and belong to tight union embedded internally.

6.2. Optimal Design: Synergistic Symbiosis Mechanism between Cooperatives and Joint-Stock Companies

According to the basic principles of symbiosis theory, symmetrical mutualism is an ideal type of symbiotic relationship and the most efficient, cohesive and stable symbiotic model. However, we believe that according to the relatively successful cooperative practices in various regions of China at the present stage, the ideal type and ideal state of the new type of farmer cooperatives incorporating the share factor should be asymmetric mutualism, that is, generating new energy and cooperatives getting more distribution of benefits. Therefore, the synergistic symbiosis mechanism should be optimized from the two aspects of ownership structure and income structure, as shown in **Figure 1**:

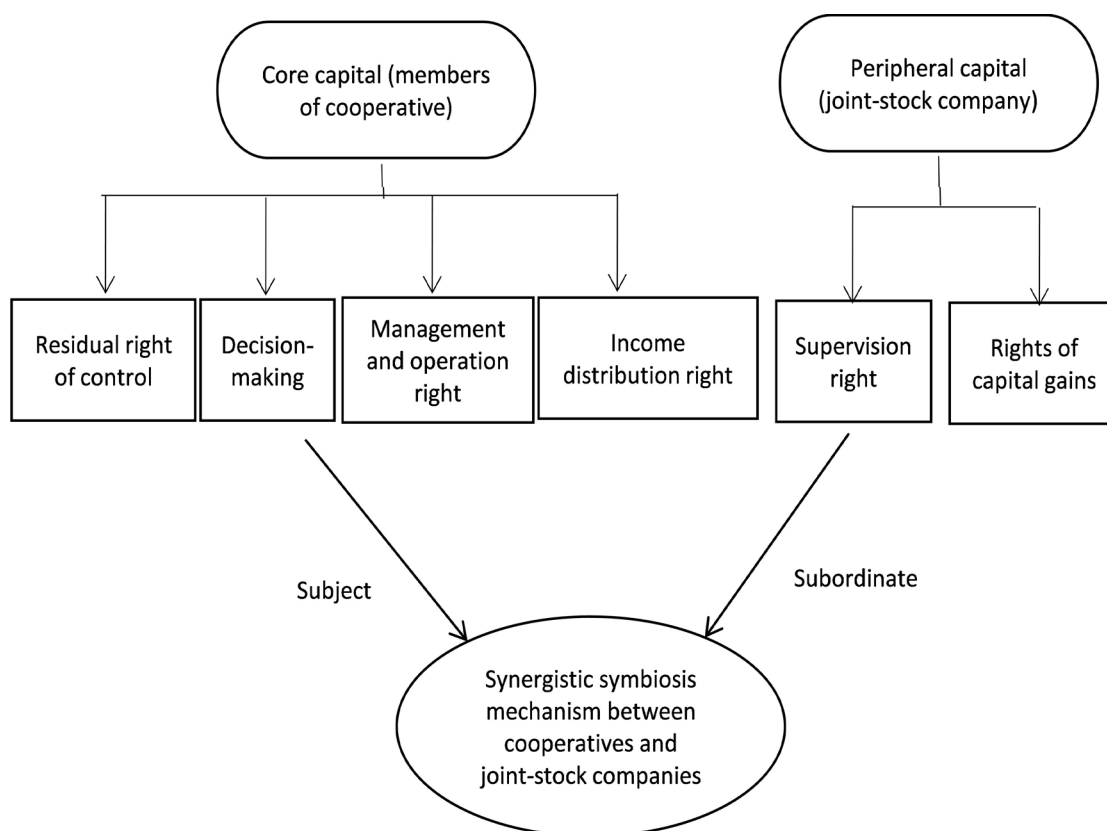


Figure 1. Optimal design of synergistic symbiosis mechanism between cooperatives and joint-stock companies.

The mechanism of asymmetric mutualism designed in the figure above focuses on the relationship between ownership structure and income structure. Ownership structure determines residual control rights, decision-making right, management and operation right, income distribution right, supervision right and rights of capital gains. Peripheral capital also has the right to supervise and the right to profit from assets, but because its share of shares is smaller than that of cooperatives, the right to supervise and the right to profit from assets is also limited. Thus, the symbiosis mechanism remains the dominant factor of cooperation.

First, improve the symbiotic ownership structure. Farmer cooperatives and joint-stock companies can achieve joint development through joint-stock cooperation. A joint-stock company may directly contribute capital or share technology, land, equipment and related services into farmer cooperatives through share conversion. The share capital can be the cost and initial capital for the cooperatives to complete the production of agricultural products. It needs to point out the subject positioning of the two: a cooperative is the general partner (GP), which holds a large number of shares of core capital and thus occupies a dominant position. A joint-stock company, on the other hand, is a limited partner (LP), which provides only a small share of the peripheral capital and is therefore subordinate.

Second, the income structure of the two symbioses should be clarified. From the ownership structure, it can be seen that the two are cooperative rather than subordinate. Cooperatives are responsible for many links including production and supply, and joint-stock companies provide marketing channels and services, forming a relationship of interest. Cooperatives have residual control rights, decision-making rights, management and operation rights and income distribution rights, and the ownership belongs to the members of cooperatives. As shareholders, joint stock companies do not participate in the decision-making and management rights of cooperatives, but only enjoy the legitimate rights and interests of shareholders, namely the right of supervision and the right to profit from assets, which share interests and risks.

7. Conclusions and Deficiency

7.1. Conclusions of This Paper

The most important feature of the difference between China's new farmer cooperatives and traditional classic cooperatives is that most of them are objectively integrated into the stock factor. In this regard, the theoretical circles have different opinions. This paper attempts to make a theoretical explanation from the perspective of synergistic symbiosis theory.

In fact, since the middle and late of the last century, the cooperation factors and stock factors at home and abroad have shown a trend of mutual penetration and integration. According to the theory of synergistic symbiosis, cooperatives and joint-stock companies have a synergistic symbiotic relationship.

This paper sorts out the theoretical research on the cooperative system and

the shareholding system in the academic world. Most scholars in China believe that this is two economic organizations with completely different natures. Only a few scholars fully affirm the Rian “Agricultural Association” model. But, Engels’s organic combination of the two has long been a classic interpretation of the Danish model in the French-German Peasant Problem.

From the perspective of historical logic, since the Second World War and the reform and opening up in the West, there has been a trend of mutual penetration and integration between cooperatives and stock companies.

From the perspective of real logic, due to the external drive of the macroeconomic environment—the economic transformation and the inherent requirements of the new farmer cooperatives-financing needs, China’s new farmer cooperatives have generally introduced the stock factor.

Cooperative symbiosis with cooperative companies has already met the necessary and sufficient conditions: their respective comparative advantages are the necessary conditions for the symbiosis of the two; and the relaxed legal policy environment and the mature theoretical basis of synergistic symbiosis are sufficient conditions for the symbiosis of the two.

At the end of this paper, the three modes of coexistence between cooperatives and joint-stock companies are parasitic symbiosis, partial symbiosis and mutual symbiosis. At the same time, the synergistic symbiosis mechanism is designed from two aspects: equity structure and income structure.

7.2. Insufficient

This paper mainly focuses on theoretical analysis. Therefore, there is almost no comprehensive and in-depth argumentation on the cooperative mechanism of cooperatives and joint-stock systems in practice at home and abroad, which needs to be improved in subsequent research.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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