

Core and Common Members in Chinese Farmer Cooperatives

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Abstract: This paper addresses the distinction between core members and common members in farmer cooperatives in China in terms of the allocation of ownership rights, decision rights, and income rights. Empirical results from a multiple case study indicate that the life cycle and the governance characteristics of farmer cooperatives in China differ from cooperatives in the West world. The genesis of cooperatives in China is due to entrepreneurial farmers and the government, rather than the bottom-up, collective action process of many small farmers. The distribution of equity capital, decision rights, and income rights is quite skewed towards core members. We conclude that the development of cooperatives in China adapts to the local economic and cultural environment and goes via an alternative way to cooperatives in the Western world.

Key words: Farmer cooperatives, China, Core member, Common member, Governance

1 Introduction

Traditional farmer cooperatives in the Western world are founded for the sake of bargaining with downstream buyers. They realize economies of scale and countervailing power by bottom-up, collective actions of small farmers. Later on, these cooperatives faced challenges due to changes in the business environment (technology, competitiveness, globalization, consumer demand differentiation, and member heterogeneity et al.). As a consequence, the defensive organizational structures and conservative strategies of traditional cooperatives were not anymore able to produce sufficient value added in highly competitive and low-margin markets. This has resulted in many governance structure changes in agricultural cooperatives in the Western world (Chaddad and Cook, 2004; Hendrikse, 2011).

Cooperatives in China started in a different way. They are initiated by a few entrepreneurial farmers with the support of the government, rather than by many small farmers. Farmer cooperatives in China are enterprises owned and used collectively by patrons, just like cooperatives in other countries. However, they are managed by a few active members having substantial voting rights. They are referred to as core members in the current paper. We define a core member as one who is in

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charge of at least one of the key business areas (management, input purchasing, production, marketing, and accounting ...) in a cooperative, is a member of the board of the cooperative, and is a member. A core member generally holds relatively more shares of the cooperative and correspondingly has more income rights, whereas a common member is inactive in decision-making and mainly focuses on producing or farming.

Cooperatives in China have been criticized for their noncompliance with general cooperative principles such as democratic decision making and collective income rights². Control in terms of decision rights and income rights in farmer cooperatives in China mostly lies with a small group of members, rather than the whole membership. Cook (1994) argues regarding cooperatives in the Western world that conflicts arise when equity capital ownership is held by a small group of active patrons and voting power is in the hands of a broad range of inactive, smaller patrons. Cooperatives in China may also experience conflicts due to most voting power being allocated to a small group of active members. Ma and Meng (2008) emphasize that the agency problem pertaining to core members and common members is the key tension in farmer cooperatives in China. Yet Huang and Xu (2008) conclude based on a survey study of 372 farmer cooperatives in Zhejiang province, China, that the skewed authority allocation reflected in the distinction between core and common members is beneficial in gathering valuable production factors such as asset capital and human resources. They argue that the current governance featured by core members holding most authority is feasible and that the development of cooperatives may require going beyond traditional cooperative principles. One reason is that the survival and development of cooperatives in China at this stage depend on the capabilities of core members (Xu, 2005).

There's hardly data about the life cycle and the governance structure in terms of ownership rights, decision rights, and income rights in farmer cooperatives in China, what factors contribute to the allocation of these rights, or how to avoid opportunistic behavior incurred by the governance. We contribute to fill this gap in the current paper. We focus on the following research questions:

- 1 Who are the main actors in the genesis and development of farmer cooperatives in China?
- 2 How are core members distinguished from common members and what are the distinctive features of core members?

² The earliest Chinese cooperatives are named People's Community Cooperatives. In the 1950s they first appeared under the plan economy and Marxist tradition. People's Community Cooperatives were established by the central government and are characterized by collective ownership, central planning, and state-embeddedness. People's Community Cooperatives disappeared a few years later, due to their non-economic orientation and governance. A new model of cooperatives, characterized by farmer ownership and economic-orientation, began to be established in 1980s. Cooperatives in the current paper especially refer to this type of farmer cooperatives (translated as "farmer specialized cooperatives" in Chinese).

3 What are the governance characteristics of Chinese farmer cooperatives in terms of ownership rights, decision rights, and income rights?

4 What are the main factors that contribute to the skewed allocation of ownership rights, decision rights, and income rights in Chinese cooperatives?

5 What can be done to limit or avoid problems incurred by the distinction between core and common members?

The paper is organized as follows. Hypotheses are formulated in the next section. Section 3 presents the data. We address the hypotheses in section 4. Section 5 discusses the results. We conclude in section 6.

2 Theory

This section formulate hypotheses based on theories regarding the life cycle theory (2.1), the distinction between core and common members (2.2), and the governance structure in terms of decision rights and income rights (2.3).

2.1 The genesis of farmer cooperatives

Cook and Plunkett (2006) distinguish a five-stage life cycle of traditional cooperatives, i.e. genesis, growth, emergence of internal conflicts, recognition and analysis, and options choice stages. The traditional agricultural cooperatives emerge due to problems associated with asymmetric information, monopsony-monopoly power, or externalities. Farmers collectively form countervailing power via cooperatives to deal with these problems. Cooperatives therefore are bottom up organizations.

Hypothesis 1: The genesis of farmer cooperatives is a bottom-up, collective action process of small farmers.

As the competitiveness of market increases and consumer demand differentiates, cooperatives began to face challenges caused by free rider, horizon, portfolio, control, and influence costs problems. These challenges forced stakeholders to examine the governance of cooperatives. They realized that the defensive strategies and traditional cooperative governance structure was not sufficient in the new economic environment. By the mid-1980s, many U.S. cooperatives entered the fourth stage, i.e. recognition and analysis (Cook and Plunkett, 2006).

Nowadays, cooperatives in the West have undergone option choice stages by restructuring, conversion, merger, and degeneration to form new models. They have developed from anti-poverty, establishing countervailing power, and more social- and member-oriented enterprises to value adding, integrated, profit- and economic-oriented enterprises. Different from traditional cooperatives, new cooperative models allow dividend allocation based on shareholding, tradable share capital, and voting rights related to shareholding (Hind, 1999). New generation cooperatives are an example (Cook and Iliopoulos, 1999).

Hypothesis 2: Payments based on capital share do not occur in cooperatives at the beginning of the life cycle.

2.2 Core versus common members

A cooperative is characterized by collective control and collective income rights based on patronage. However, authority and income rights are never distributed among members on the basis of patronage in cooperatives in China, but distributed according to capabilities in terms of asset capital and human capital. Farmers in a cooperative are heterogeneous in resource endowments and play different roles. Resource endowment mainly refers to natural resources (production size), human capital (marketing and management ability), asset capital, and social network (Lin and Huang, 2007). Core members generally hold the essential and scarce production factors, such as asset capital, marketing capability, social networks, and so on.

Hypothesis 3: Core and common member in farmer cooperatives in China differ in capabilities.

The management in farmer cooperatives in China differs from cooperatives in other countries due to core members being owners and in the meantime are in charge of the management of cooperative enterprises (Lin and Huang, 2007; Huang and Xu, 2008; Xiong and Zheng, 2008). Xiong and Zheng (2008) address the fact that core members control most of the authority in farmer cooperatives will cause high agency costs. Core members will favor their own benefits at the expense of common members when there are conflicts of interests. Core members may capture rents due to having on the one hand superior information regarding market demand and subsidies from government and on the other hand the cost for common members to supervise core members' behaviors and performance. Huang and Xu (2008) argues that the authority allocation structure characterized by the distinction between core and common members and core members being in charge of the management is beneficial, compared to introducing outside management. It is due to the objective of core and common members being similar, which is maximization of the value added. These core members are crucially important to the development and success of farmer cooperatives. Common members are aware that they lack the production factors, and they have to free ride on high ability farmers. Common members therefore release part of their decision rights as well as their income rights to core members.

Hypothesis 4: The CEO of a cooperative in China is a member.

2.3 Governance structure

A governance structure specifies the allocation of decisions rights and income rights (Hansmann, 1996). Transaction cost economics (Williamson, 1989) and incomplete contracting theory (Grossman and Hart, 1986) address the allocation of decision rights (2.1.1), while the principal-agent literature (Holmström and Milgrom, 1987) addresses income rights (2.1.2). An appropriate choice of governance structure will limit the negative consequences of opportunistic behavior. Opportunistic behavior occurs when an individual, organization, or institution takes advantage of the power in a market or

contractual setting. The scope for opportunistic behavior arises when there is incomplete or asymmetric information (Bijman and Hendrikse, 2003). Moral hazard and adverse selection are two well-known problems resulting from opportunism. Harris et al. (1996) point out that member opportunism is an also prominent problem in cooperatives. Cooperative members are likely to act opportunistically by either overusing their cooperative or by limiting the amount of capital they provide (Fulton, 1995). Due to the core members' high capability, they tend to overuse their rights, including decision rights and income rights, to receive additional rents. Besides, if core members take too much surplus and common members' benefits cannot be met, common members may behave opportunistically during transactions with the cooperative. For example, members behave opportunistically by shirking on quality, delivering to other firms that offer a better price, and so on.

2.3.1 Decision rights

Cooperatives are characterized by democratic decision making and collective income rights. All the members collectively hold residual decision rights of the enterprise, while each member farmer is in charge of his individual farm. Dunn (1988) addresses the three basic cooperative principles: the user-owner principle, the user-control principle, and the user-benefits principle. Democratic control is one of the primary features of farmer cooperatives (Hendrikse and Veerman, 2001). According to Robotka (1947), control in a cooperative must be on a democratic basis rather than a financial basis. "One member, one vote" is the basic principle of democratic decision making. However, "one member, multiple votes" is also allowed by many countries. Most of cooperatives in the U.S. have "one member, one vote" rule, while cooperatives in various countries in Europe adopt a "one member, multiple votes" rule. For example, each member in cooperative FrieslandCampina Dairy in the Netherlands has one vote plus some extra votes based on delivery. Regardless "one member, one vote" or proportional voting, decision making based on democracy satisfies the vesting control of the membership. All the members have rights to vote.

Hypothesis 5: Farmer cooperatives are characterized by collective and democratic decision making.

Influence costs inevitably arise in organizations when decisions affect the distribution of wealth or other benefits among members or constituent groups of the organization, and the affected individuals or groups attempt to influence the decisions towards their benefits (Milgrom and Roberts, 1992). These decisions are called influence activities. Influence activities therefore are costly (Cook, 1995; Iliopoulos and Cook, 1999; Gripsrud et al., 2000). The absence of marketable common stock in cooperatives determines that they have no access to measurement instruments, which is available to IOFs, for ameliorating the constraints imposed by influence costs (Iliopoulos and Hendrikse, 2009). And managers in cooperatives are more flexible to pursue goals inconsistent with members. Decisions related to payoff or wealth distribution in cooperatives are more complicated than that in IOFs, due to the collective ownership and collective decision making rights.

Holmström (1999) regards it infeasible to have a large number of people directly involved in corporate decision making. Democratic processes are usually slow and costly. Besides, the opportunity to influence decisions will invite participants to spend time and energy on maximizing their own share of the pie, rather than the total economic pie. As Rousseau and Shperling (2003) point out, when ownership is distributed among many investors, owners may be less inclined to participate in decision making and they would allocate the decision making authority to chairpersons, because they have low expectations of successful influence on decisions. So, the efficiency of the cooperation may be enhanced if small farmers give up some control rights.

Hypothesis 6: Decision making in cooperatives in China is organized in a core-periphery structure.

Hart and Moore (1990) state that control over the asset should lie with the agent, or simple majority voting among the group of agents, when an agent or a group of agents are key to an asset. Hendrikse (2005) also argues that control over the operational activities by a professional management may be efficient when it has superior knowledge. The pyramid hierarchy, some agents specializing and others coordinating with them, is an efficient decision making structure (Hart and Moore, 2005). In the same sense, Hojman and Szeidl (2008) model about network formation shows that the core-periphery structure is the unique equilibrium architecture and there is a positive correlation between centrality and payoffs. The difference in capability, especially the significant disparity of cognitive capability, between core and common members determines their different control over decision-making. It is therefore expected that core members in cooperatives have more decision rights than common members.

Hypothesis 7: Core members in farmer cooperatives in China have more control over decision making than common members.

2.3.2 Income rights

The agency problem is the standard way to address opportunistic behavior from an income rights perspective. It has been analyzed in a large number of studies (Holmström and Milgrom, 1991; Waterman and Meier, 1998). The principal-agent problem is considered to be especially difficult for cooperatives firms (Sexton and Iskow, 1988). The distinguishing feature of a cooperative's residual rights, their restriction to the patron agents, leads to the absence of marketable common stock in cooperatives and subsequently causes high agency costs. The agency cost problem is therefore even more serious in cooperatives than in other organizations (Staatz, 1987; Royer, 1999; Huang, 2008).³

A governance structure is distinguished by the allocation of decision authority and the identity of the residual claimant (Hendrikse and Veerman, 2001). The residual return is

³ However, based on the principal-agent model, Feng and Hendrikse (2011) find that cooperatives are uniquely efficient when the upstream marginal product multiplied with a function increasing in the strength of the chain complementarities is higher than the down-stream marginal product.

distributed largely based on patronage, rather than in proportion to members' investment (Royer, 1992; Cook and Plunkett, 2006). However, authority and income rights are usually not distributed among members on the basis of patronage in cooperatives in China, but distribute according to capabilities in terms of asset capital and human capital.

Hypothesis 8a: Income rights are based on patronage in farmer cooperatives in China.

Hypothesis 8b: Income rights are based on capabilities in farmer cooperatives in China.

Dunn (1988) argues that there are two concerns if there is capital or investment oriented capital. First, it will cause a divergence between users and the ownership structure. Second, return to the equity will place pressure on the cooperative to become investment-oriented and maximize short-run profitability. Hence, most of cooperatives return profits on the basis of delivery or patronage. In addition, as Cook and Plunkett (2006) put it, cooperative founders in the United States take three hard-core principles, "one member, one vote", service at cost, and limited return on equity capital. Return on capital is limited. For example, most state incorporation statutes place specific limits on the rate of profit allocated based on equity capital, i.e. 8% (Baarda, 1986).

Hypothesis 9: Payment to members based on equity capital is limited in farmer cooperatives in China.

3 Data

Based on a sample of 37 farmer cooperatives in Zhejiang province, China, hypotheses formulated in section 2 are tested. Methodological choices regarding the research method and the sample choice are motivated in Appendix 1. We start to presents some basic information and distinctive features of cooperative enterprises in the survey (3.1). Second, the distinction between core members and common members in farmer cooperatives in China is outlined (3.2). Third, an overview of the governance structure choices in terms of the allocation of ownership rights (3.3), decision rights (3.4), and income rights (3.5) is provided.

3.1 Small membership size and locality

The data regarding the cooperatives in the survey are reported in appendix 4, while descriptive statistics are presented in table 1. All the cooperatives in the survey were founded after 2001. Two thirds of the cooperatives had membership sizes between 100 and 200 and most of cooperatives had less than 200 members. The total sale value of cooperatives was 2103.9 yuan on average. Three fourths of all cooperatives had memberships within a local town, while more than half of the cooperatives had production bases within a local town. In addition, most cooperatives had memberships and production bases within a local city, the percentages being 97.3% and 83.7%

respectively. It is not difficult to conclude that cooperatives in China are featured by small membership size and locality.

Table 1. Descriptive statistics

		Numbers of cooperatives	Proportions (%)
Total number of cooperatives		37	100
Main products of cooperatives	Vegetables	7	18.9
	Fruits	28	75.7
	Vegetables & fruits	2	5.4
Membership size	<100	7	17.9
	[100-200)	25	67.6
	[200-500)	3	8.1
	≥500	2	5.4
Geographical scope of the membership	Within a local village	8	21.6
	Within a local town	20	54.1
	Within a local city	8	21.6
	Within a local province	0	0
	Nationwide	1	2.7
Geographical scope of production bases	Within a local village	4	10.8
	Within a local town	15	40.5
	Within a local city	12	32.4
	Within a local province	1	2.7
	Nationwide	4	10.8
	International	1	2.7

3.2 Distinguishing core from common members

As we defined above, almost all members of the management and the boards are referred to as core members, due to their large shares and key roles in the cooperative. A core members holds relatively large shares and is in charge of at least one of the key businesses areas (management, input purchasing, production, product purchasing, marketing, accounting, and so on) in the cooperative. Other members are referred to as common members.

There are usually 3-10 core members in a farmer cooperative, depending on the size of membership. There were on average 6 core members in the cooperatives in the survey. To become a core member in a cooperative, at least one of the following conditions needs to be met. Firstly, a core member is usually one of the initiators of the cooperative. Exceptions are possible. A member joining the cooperative after its foundation may also become a core member due to his distinct capabilities. Initiators of cooperatives fall into several types: 1) those who used to work in a government or agricultural technique department, 2) those who did transportation and marketing of

agri-products, 3) those who used to be chairpersons of private enterprises, and 4) large farmers.

Secondly, a core member is generally good at management, marketing and/or has substantial relations with downstream buyers and processors. Examples are, a chairperson who used to be the village head is good at organizing farmers; a chairperson who used to do transportation and sale has a lot of skills in marketing and is able to establish a broad marketing network of products; and a chairperson who used to run a company tends to guide the cooperative into the direction of demutualization. Figure 1 summaries appendix 4 in terms of the experiences of the chairperson. It shows that two fifths (40.6%) of cooperative chairpersons were or used to be a village head or worked in governmental department; 29.7% of them used to do product transportation and sale; 16.2% of them ran a company before initiating cooperatives; and finally 13.5% of chairpersons were large farmers. Farmers with higher asset capital, human capital, and social capital have a higher probability to obtain authority, economic benefits, or political benefits. Besides, a core member is able to collect information about consumer preferences and price information at a lower cost and may receive a higher price when negotiating with downstream buyers, whereas a common member has most likely higher costs of collecting information and probably receives a relatively lower price for the same product.

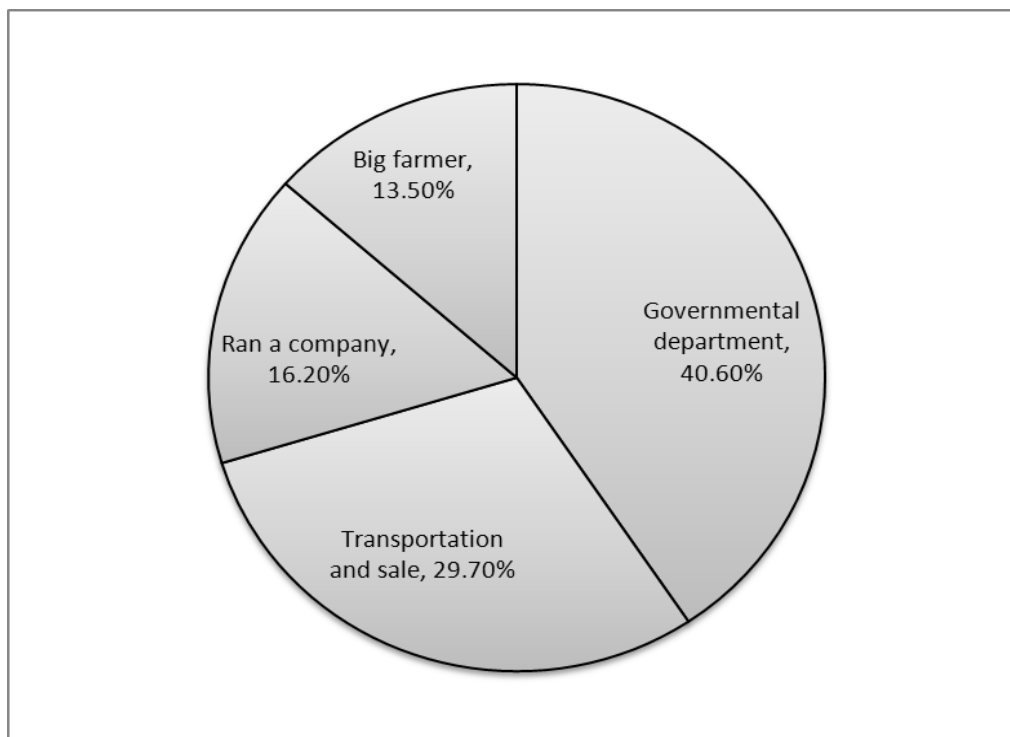


Figure 1. Working experiences of chairpersons.

Thirdly, a core member is more risk oriented and more likely to invest or innovate (Xu, 2005). Risk attitudes are considered as having a significant influence on farmers' decisions and behaviors. Farmers' risk attitudes were appraised via their choices between hypothetical but realistic farm alternatives involving risky versus sure

outcomes (Dillon and Scandizzo, 1978). Core members tend to introduce new varieties of products, accept innovative projects, and take more business initiations. Risk attitudes of farmers are correlated with area (village), sex, age, schooling level, income of last period and expected income, land rented, assets, and so on. For example, more than 54% of chairpersons in the survey have a high-school education level and 21.6% of chairpersons have a college or university education.

3.3 Ownership rights

Information about capital share distributions between core members and common members is presented in table 2. Though farmer cooperatives in China are characterized by collective ownership rights, just like cooperatives in other countries, the distribution of capital share is significantly skewed between core and common members. Core members, accounting for 5% of the membership, held nearly a half of the equity capital. Besides, chairpersons of cooperatives were the largest shareholders among core members.

Table 2. Capital share distribution in cooperatives in the survey

	Number/ proportion
Average membership size	171
Average number of core members	6
Average proportion of core members out of membership (%)	5
Average shares that core members hold (%)	49.1
Average shares that the chairperson holds (%)	16.0

Data source: Author's own survey.

According to the Zhejiang Cooperative Law, a single member is not allowed to hold more than 20% of the total capital of a cooperative, which prevents too much concentration of ownership rights. Though there is no provision about the 20% share ceiling in China's National Cooperative Law, farmer cooperatives all over China practically obey this provision in reality. In spite of the restriction that a single member can not own more-than-20% shares of the equity capital, the majority of the capital shares is still in the hands of core members. Core members in some cooperatives limit common members' equity capital by providing the ceiling amount of shares that each common member can buy, which contributes to the skewed distribution of equity capital.

The capital share distribution of the 37 cooperatives is presented in figure 2. The horizontal axis stands for members ranging from core members to common members, while the vertical axis refers to the percentage of equity capital in the cooperative. We have only data about the capital share of the chairperson and about the capital share of all the core members jointly. We assume in figure 2 that all the core members except for the chairperson are identical in capital share and all the common members are identical in capital share as well. According to the data in appendix 4, the chairperson has on average 16.0% of the capital shares, which determines the start point of the line in figure 2. Core members (including the chairperson), accounting for 5% of the

membership, have 49.1% of the capital shares, which determines the kink of the line in figure 2.

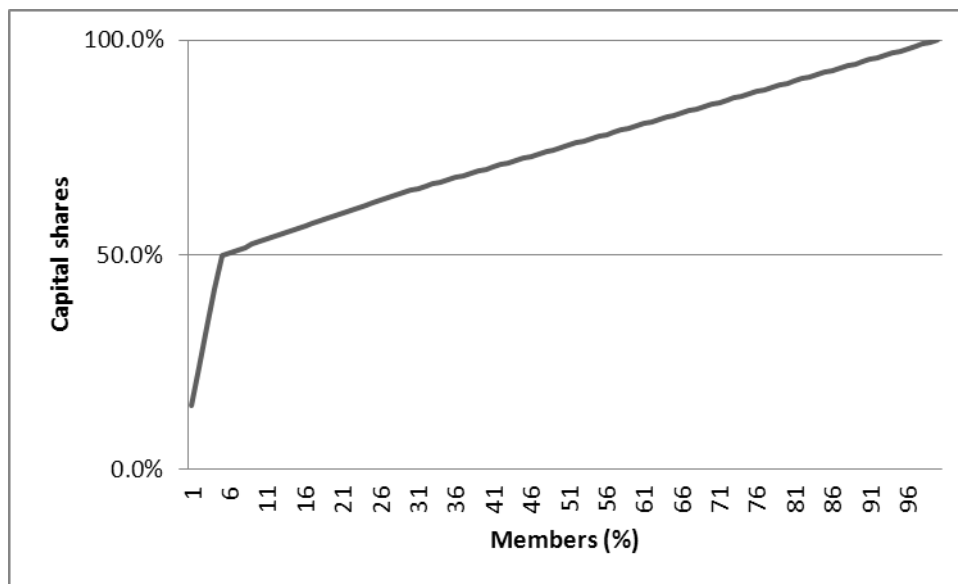


Figure 2. Distribution of equity capital.

A member who exits the cooperative is reimbursed his initial share capital as well as the accumulated part of his capital. If a member exits from the cooperative, there are two ways that he deals with his equity capital. One is that he transfers or sells his equity capital to someone else, either a member of the cooperative or a non-member farmer. The other way is that he withdraws his shares directly from the cooperative. In the latter case, total capital of the cooperative is reduced and meanwhile shares of each current members increase.

If a member is dissatisfied, then it is not likely that there will be exit. Members are more likely to stay and show that they do not support a decision or action by abstaining from voting, rather than withdraw. The reason is that they have already invested in the cooperative over the years, their shares may not easily or sufficiently be recouped by transferring or selling, and it's not easy to find alternative buyers.

3.4 Decision rights

According to the survey, there were on average 3 general membership meetings in 2010 in each cooperative. However, most of the general meetings were held for the sake of production technical trainings, rather than decision making or voting. Key decisions were made through board meetings. There were on average 5.5 formal board meetings in 2010 in each cooperative in the survey.

Members of the boards are together in charge of the management in the cooperative, implying that the management consists of both the board of directors and the board of supervisors. The board of directors is a body of members who oversees activities such as 1) organizing technical training and decision making through general meetings, 2) presenting information about achievement and profits of the past year as well as future challenges, and 3) working out production objectives and budget plans for the

next year. The board of supervisors is regarded as a body of members that supervises the operation of the board of directors. The duties of the board of supervisors are mainly 1) ensuring the enforcement of decisions made through the membership meetings and technical trainings, 2) supervising financial issues, 3) monitoring the enforcement of duties of directors, and 4) recording the delivery quantity and quality of director members.

Generally, most of the decisions in the cooperative are made by core members, instead of the membership. The board of supervisors, however, colludes with, rather than supervises, the board of directors. The collusion causes opportunistic behavior in cooperatives. For example, the board of directors and the board of supervisors (in a cooperative in the survey) jointly rented an orchard in the name of the cooperative. Profits of the orchard were distributed on the basis of equity capital and merely within board members, whereas costs of both renting and production of the orchard were covered by the cooperative, i.e. the membership. So, when there are conflicts of interests between core members and common members, core members will probably behave in favor of their own interests.

Members of cooperatives always have the formal right to be engaged in the decision-making process, in terms of voting, voice, and exit. According to the <Law>, boards of directors and supervisors make decisions by the “one member, one vote” voting rule, while for general membership meetings, both “one member, one vote” and “one member, multiple votes” are allowed by the <Law>. There are usually two ways of decision making. One possibility is that core members propose some decision options and all the members vote for or against these decision options. A decision is approved when there are 50% or sometimes 70% of members in favor of it, depending on the rules of the cooperative. The other possibility is that decisions are made by core members without common members. Common members can choose to be silent, voice, or exit when they are unhappy with these decisions. Herein the interesting fact is that most common members relinquish their decision rights to core members by following core members in their voting since they know that they are inferior in capabilities of both information acquisition and decision making. Implied from these descriptions, most of decisions in the cooperative are made by the core members. The decision rights distribution is therefore at least as skewed as the equity capital distribution. Figure 3 presents a distribution of decision rights reflecting this observation. The horizontal axis stands for members ranging from core members to common members, while the vertical axis refers to the percentage of decision rights.

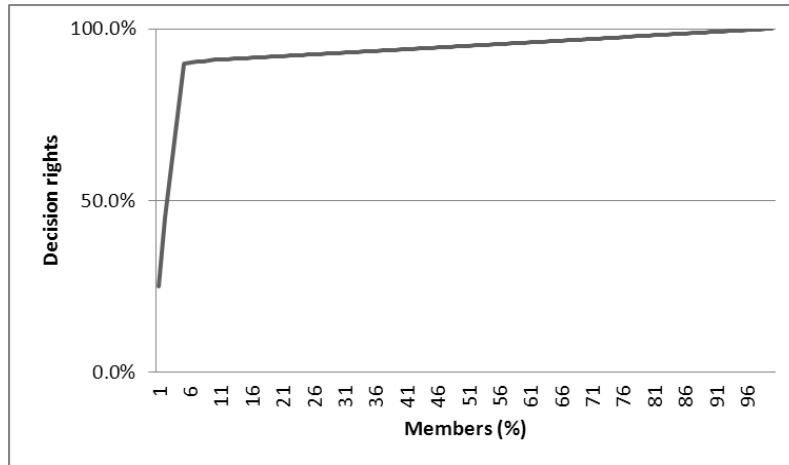


Figure 3. Distribution of decision rights.

3.5 Income rights

Total profits are on the one hand allocated to reservations for risk and future investment and on the other hand to members at the end of the production year. The allocation of profits to farmers is based on delivery, capital share, or both. As figure 4 shows, 73.0% of cooperatives in the survey distributed profits to farmers on the basis of both delivery and capital share, while 21.6% of cooperatives distributed profits solely based on delivery and 5.4% solely based on capital share. Among the cooperatives that distributed profits according to both delivery and capital share, on average 56.1% of profits were distributed on the basis of delivery, while 43.9% were distributed on the basis of capital share, which was almost in line with China's National Cooperative Law that at least 60% of profits distributed to members should be based on delivery.

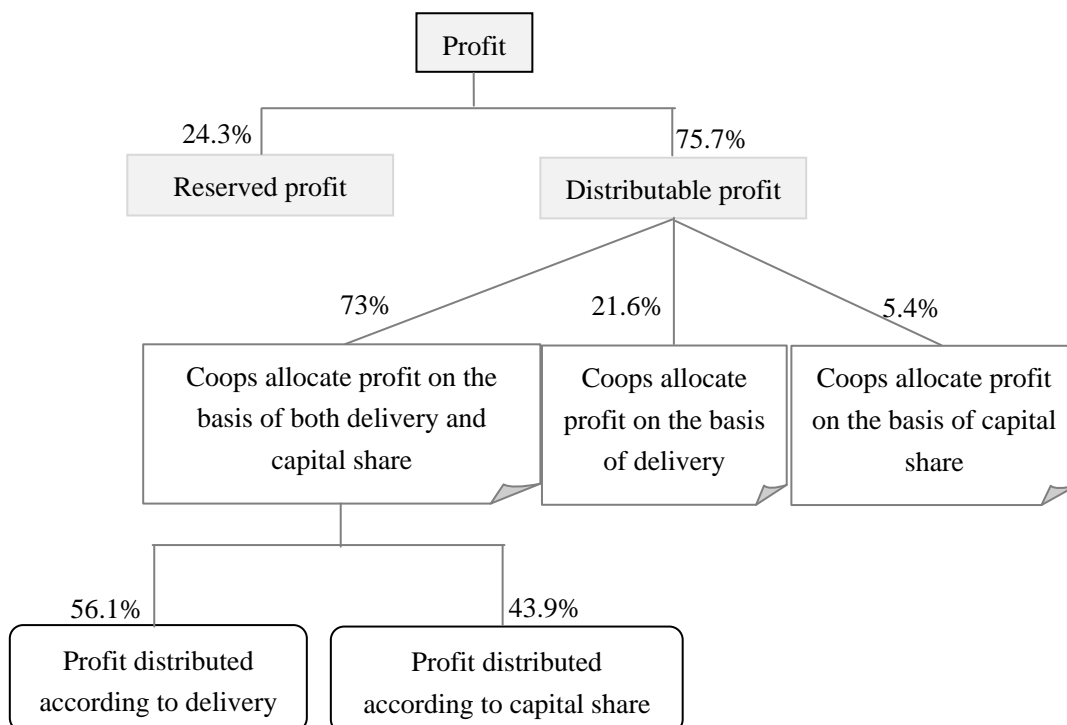


Figure 4. Average profit distribution of cooperatives

Data regarding the income of farmers is not available. However, the figure 2 and 4 enable us to say something about the distribution of income rights. Figure 4 indicates that most cooperatives allocate profits to members on the basis of both delivery and capital share. Figure 2 reflects that core members have significantly more equity capital shares than common members. However, figure 1 shows that only 13.5% of core members were large farmers, i.e. most core members don't have a bigger production size than common members. The distribution of income rights is therefore less skewed than the distribution of equity capital. The distribution of profits is presented in figure 5. The horizontal axis stands for members ranging from core members to common members, while the vertical axis refers to the percentage of profits allocated to farmers (based on delivery and capital share).

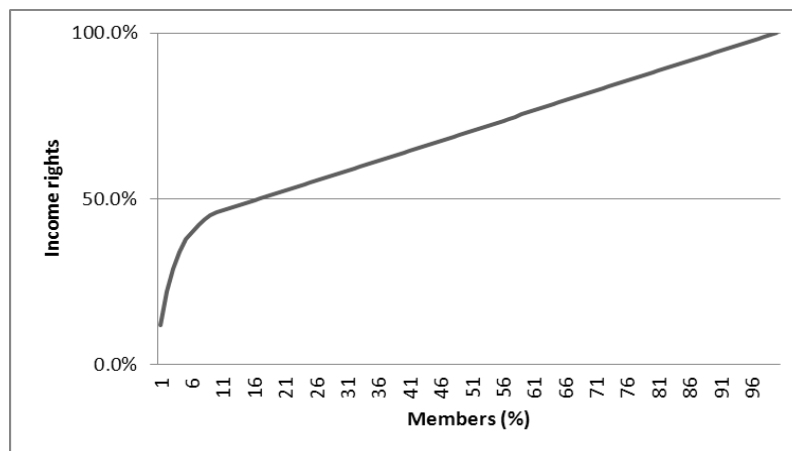


Figure 5. Distribution of income rights.

4 Analysis

This section will confront the 9 hypotheses of section 2 with the data presented in section 3. We start with hypothesis 1. All cooperatives in our survey were founded after 2001 (which is shown in Appendix 4). Initiators of cooperatives are a group of entrepreneurial farmers. They may be those who used to work in a government or agricultural technique department, those who did transportation and marketing of agri-products, those who used to be managers of private enterprises, and large farmers. These entrepreneurial farmers become core members of cooperatives. Implied from figure 2, equity capital of cooperatives is not equally distributed. Core members invest more capital than common members. The genesis of cooperatives in China is due to these entrepreneurial farmers as well as the government. Hypothesis 1, the genesis of farmer cooperatives in China is a bottom-up, collective action process of small farmers, is therefore not supported.

Members in farmer cooperatives in China are heterogeneous and characterized by the distinction between core and common members from the beginning. Core member, who are in the meantime initiators of cooperatives, have more asset capital and are

more capable and risky in business. They seek higher rents than common members, either via more capital shares or via bigger production size. The skewness in the distribution of income rights in figure 5 is to a large extent due to payments based on capital share. Most of cooperatives allocate profits on the basis of both delivery and capital share. Therefore, hypothesis 2, payments based on capital share do not occur in cooperatives at the beginning of the life cycle, is not supported.

Core members differ from common members regarding capabilities in asset capital, marketing, management, and social capital related to the government. The differences in capabilities may be mainly due to education level and working experiences. Core members have significantly higher average education level and more diversified experiences, compared with common members. Hence, hypothesis 3, core and common member in farmer cooperatives in China differ in capabilities, is confirmed.

Having a member-CEO may have both advantages and disadvantages. A member-CEO is likely to have more knowledge of production as well as the membership, whereas an outside CEO is probably more professional in management and marketing. All cooperatives in our survey had a member-CEO. Therefore, hypothesis 4, the CEO of a cooperative in China is a member, is rejected.

On the one hand core members have a higher desire for authority. On the other hand, common members are willing to relinquish their voting rights as owners due to their incapability. Decision rights in farmer cooperatives in China are heavily skewed towards core members (figure 3). Hence, hypothesis 5, farmer cooperatives in China are characterized by collective and democratic decision making, is not supported.

Formally, both “one member, one vote” and “one member, multiple votes” are allowed by the Law on the one hand, while it specifies that the ceiling regarding voting rights of a single member is 20% on the other hand. However, the practice is that common members delegate and relinquish voting rights to core members, as we described in section 3.4. Core members are both the management and the board of cooperatives. Both hypothesis 6 and hypothesis 7, decision making in cooperatives in China is organized in a core-periphery structure and core members have more control over decision making than common members, are confirmed.

The skewed distribution of equity capital and decision rights determines the skewed distribution of residual income rights (figure 5). Net profits of cooperatives, after partly being reserved for future risks and investment, are distributed on the basis of both equity capital and delivery. Since core members either have more equity capital or bigger production size, income rights are skewed towards core members. The proportion of the return based on equity capital versus patronage therefore depends to a large extent on the capabilities of the core members in the cooperative. Hypothesis 8a, income rights are based on patronage in farmer cooperatives in China, and hypothesis 8b, income rights are based on capabilities in farmer cooperatives in China, are both supported.

It is considered desirable to allocate profits based on both delivery and capital share.

On the one hand, if all the profits are distributed on the basis of delivery, core members would consider themselves being insufficiently motivated, considering their inputs of asset capital, human capital, and social capital. Sufficient motivation of core members is vital to the development of cooperatives at this start-up stage. On the other hand, if all the profits are distributed according to capital share, small farmers holding a small amount of equity capital will receive nothing except for the sale revenues and they will lack the motivation to join cooperatives. Hence, in order to balance the interests of both core and common members, China's National Cooperative Law requires that the profit distributed on the basis of delivery must be more than 60% of total distributable profit. Overall, hypothesis 9, payment to members based on equity capital is limited in farmer cooperatives in China, is not supported.

5 Discussion

We start the discussion with various observations regarding the life cycle of Chinese cooperatives (5.1). Most of the discussion will be dedicated to position the governance of Chinese cooperatives (5.2).

5.1 The life cycle

Chinese cooperatives differs from cooperatives in other parts of the worlds. They are developing along an alternative path and are running counter to the traditional cooperative model featured by bottom-up, collective action. The genesis of cooperatives in China is due to entrepreneurial farmers' economic ambitions (5.1.1) and the government's economic and political objectives (5.1.2), rather than the incentive for small farmers to build countervailing power.

5.1.1 Entrepreneurial farmers

Farmers in China and the West are different. They differ in asset capital, human resources, and social resources. Some farmers have substantial asset capital, marketing capabilities, or social relations. They are often entrepreneurial and are referred to as "elite" farmers. Examples are persons used to run private enterprises, those who used to work in the agricultural department, or persons having a lot of information about the product supply chain. Meanwhile, there are also common farmers being good at farming, but not good at marketing or management. Most farmers in China belong to this type. These differences determine different production and marketing strategies as well as objectives between alternative groups of farmers. Farmers with high capabilities seek to realize entrepreneurship in terms of capital investment and authority through the management of cooperatives, whereas common farmers are satisfied by selling their products at reasonable prices. These entrepreneurial farmers organize common farmers into farmer cooperatives. A vital feature of cooperatives in China is therefore that they attract key production factors (Xu, 2005). Though it is essential that common members produce and provide products that meet the demand of consumers, yet more important is that core members

use their capabilities to enhance the value of cooperative enterprises by downstream value adding activities and acquiring higher profit in markets.

The characteristics of small membership size and locality of cooperatives in China are to a large extent due to the dominant position of the core members. Chinese cooperatives are seldom professional in management or marketing and sometimes they feel that their abilities are short of their ambitions. All the CEOs and the chairpersons in the cooperatives in the survey were members. They lack detailed knowledge of markets and management, compared with full-time professional managers (Sexton and Iskow, 1988). So they have to limit the membership size and also limit the membership within a certain area to ensure the homogeneity of members. On the one hand, local farmers have similar climate and land conditions. The natural conditions basically determine the industries and varieties of products in a town or city. It facilitates local farmers to act collectively due to their similar products as well as similar production technologies. On the other hand, farmers from the same town or city have the same culture and economy environments, which implies that they are exposed to the same situation in information collection and in entering into the large markets. These similarities reduce the heterogeneity of farmers and make cooperation easier. In addition, farmers from the same village or town usually have some relations and know each other well. The mutual trust between members facilitates farmers' cooperation and meanwhile can save on governance cost of the cooperative. Besides, the same dialect within a certain area contributes to smooth communication.

5.1.2 Relationships between the government and cooperatives

The genesis and development of Chinese farmer cooperatives are not only due to the desire of entrepreneurial farmers, but is also driven and influenced to a large extent by the government. There are various aspects of the relationship between the government and cooperatives. First, initiation of farmer cooperatives is to a large extent promoted by the government. The start-up stage of cooperatives in China began in the 1980s and entered into a period of rapid development in the 2000s. This development was reinforced in 2007 as the <National Cooperative Law> was promulgated.

Second, the government supports cooperatives in various ways, like tax relief and subsidies, subsidies for infrastructure of villages, and investment in storage and processing equipment. Subsidies are important to cooperatives at the start-up stage due to cooperatives' inability to raise capital. In addition, the government supports cooperatives by providing them production technique trainings and product promotions, and rewards for brand establishment. It is important to recognize that cooperatives in different parts of China vary in their stage of development. Cooperatives firstly came into being in eastern China where the economy and market levels are more developed and agriculture is more industrialized. Cooperatives in western China are still in the start-up phase. The government is promoting the foundation of cooperatives and many cooperatives are still growing fast. Nevertheless, regardless the essential role that the government plays, the initiation of farmer

cooperatives in China is essentially due to market forces as well as farmers' desire for investment. The government accelerates or normalizes the development of cooperatives.

Third, not only cooperatives need support from the government, but also the government uses cooperatives to realize some economic and political functions. From the perspective of its economic function, the development of cooperatives can increase farmers' incomes and promote the local economy, industrialization, and the agricultural supply chain. Cooperatives organize small farmers to realize production standardization and product brand establishment, which are difficult for individual farmers. From the view of political function, cooperatives naturally have an anti-poverty function (Xu, 2005; Wu and Xu, 2009). The government both collects information and voice from farmers and implements various policies via cooperatives. The voice of small farmers is organized and paid more attention to due to the existence of cooperatives. Additionally, cooperatives, as an organization and an umbrella of farmers, can even carry out policies more efficiently and effectively than the government does. Therefore the government takes advantage of cooperatives to carry out governmental activities such as technical extension, development of industrialization, subsidizing poor farmers, and so on.

5.2 Governance

As we mentioned before, in spite of the short history, most farmer cooperatives in China are going beyond traditional cooperatives and have developed directly towards alternative governance models. We position the governance model of Chinese cooperatives (5.2.1) and address possible ways to limit opportunistic behavior which may be incurred by the governance (5.2.2).

5.2.1 Chinese cooperatives versus new generation cooperatives

Cook and Plunkett (2006) characterize define traditional cooperatives as defensive organizational arrangements. The term "defensive" means that the objective of cooperatives is to defend the economic position of the patron relative to upstream or downstream parties. However, the defensive strategies are not competitive in adding value to farmers' assets when new challenges arise in markets. Therefore most cooperatives in the U.S.A. and in Europe began to adopt some alternative models of cooperatives by transferring or merger. Chaddad and Cook (2004) develop a typology of organizational models based on ownership structure comprising both residual claim and control rights. They distinguish traditional cooperatives, proportional investment cooperatives, member-investor cooperatives, new generation cooperatives, cooperatives with capital-seeking entities, investor-share cooperatives, and investor-owned firms (IOFs).

Proportional investment cooperatives are characterized by members contributing equity capital in proportion to usage. In member-investor cooperatives, profits are distributed in proportion to member shareholdings rather than patronage. New generation cooperatives differ from traditional cooperatives in that membership is

closed, members are required to make up-front equity investment which is proportional to anticipated delivery, and equity shares are both tradable and appreciable (Cook and Iliopoulos, 1999). All these models are characterized by member-patronage restrictions. Cooperatives with capital-seeking entities and investor-share cooperatives have outside equity capital. However, they don't convert to IOFs.

Cook and Iliopoulos (1999) formulate five governance attributes: transferable equity shares, appreciable equity share, defined membership, legally binding delivery contract or a uniform grower agreement, and minimum up-front equity investment requirement. Table 3 classifies the cooperatives in China based on these attributes, and contrasts them with traditional cooperatives and new generation cooperatives.

Table 3. Different cooperative models.

	Traditional coops	New generation coops	Coops in China
Transferable equity shares	No	Yes	Yes
Appreciable equity shares	No	Yes	Yes
Close membership	No	Yes	Not necessary
Legally binding delivery contract or a uniform grower agreement	No	Yes	Not necessary
Minimum up-front equity investment requirement	No	Yes	Yes

Cooperatives in China have a flavor of new generation cooperatives. They differ from new generation cooperatives in a couple of aspects in terms of governance. Firstly, members need to buy equity capital when joining the cooperative. However, members' equity capital is usually not proportional to their expected delivery or usage. Core members have substantial capital shares compared with common members. As a consequence, a lot of farmer cooperatives in China are characterized by demutualization. The demutualization characteristic is even more obvious in eastern China where agriculture is more industrialized than in western China. Secondly, decision-making in Chinese cooperatives runs counter to the democracy principle. Decisions are made mainly by core members. Thirdly, membership is not really closed but limited in Chinese cooperatives. There are some requirements for joining cooperatives, for instance requirements regarding product variety, product quality, production size, technique, years of production experience, and so on.

Moreover, the management between Chinese cooperatives and new generation cooperatives differs. Bijman and Van Dijk (2009) distinguish three board models in farmer cooperatives in the Netherlands: the traditional model, the management model, and the corporation model. In traditional cooperatives, members usually elect the board of directors from members, while the board of new generation cooperatives is comprised of professionals including both outside professionals and members. As

market-orientation of cooperatives intensifies, it is assumed that there is a shift of the board from the traditional model to the management model and corporation model. According to Cook and Burrell (2011), among the 1000 cooperatives surveyed in the USA, only one of them has a member-CEO, while the other 999 cooperatives have an outside CEO. Nevertheless, CEOs and the board in Chinese cooperatives generally consist of members (i.e. core members). In addition, the management and the board are not separated. The skewed distribution of authority and residual income serves as an incentive for core members to invest their energy in managing cooperatives and improving the value added of products. Because of the short history and small size of cooperatives, core members of most cooperatives are basically competent at this stage. However, cooperatives in relatively developed parts of China have begun to face challenges from both the external environment and their internal governance. One of the problems regarding internal governance is the lack of professionalization of the management and the board, which may limit the further development and upgrade of cooperatives.

5.2.2 Exit, voice, and loyalty

Ma and Meng (2008) point out that common members' interests are hurt if core members behave opportunistically by hiding the true profits of cooperatives from common members. Common members may seek to influence decisions. Common members spend time and energy to influence decisions made by core members, while core members spend time and energy to respond to these influence activities as well. Besides, common members may also behave opportunistically by delivering low quality products or by delivering through alternative outlets. The cooperative therefore need to supervise on common members' behaviors, which is also costly. Thus, it is important to alleviate members' opportunistic behavior, which can be done in formal as well as informal ways.

Firstly, members' formal exit right can prevent core members' opportunistic behavior to a large extent. For decades scholars have been arguing that the presence or absence of 'exit' rights is beneficial for organizations. It is in accordance with Holmström (1999) statement that those who have good market alternatives will surely be well taken care of. Besides, Hirschman (1970) argues that exiting is an important part of bargaining power. Notice that though core members are more important than common members in the operation of farmer cooperatives, core members need the participation of common members as well. Otherwise product quality control, quantity stability, and economies of scale are not able to be realized. Common members' exit therefore may lead to the failure of the cooperative and sequentially abortion of core members' ambition. Hence, core members have to balance between benefits obtained by behaving opportunistically and losses due to members' exit. However, it has to be acknowledged that 'the exit mechanism operates less effectively in markets in which the costs of switching are high and when information about alternative options is incomplete (Pencavel, 2001)'.

Secondly, voting and voice rights are formally allocated among the whole

membership, no matter whether they are used or not. According to the <Law>, the general meeting of the membership is the top authority of a cooperative. Common members have the right to vote and voice against decisions if they are dissatisfied. The formal voting and voicing rights can effectively limit core members from overly opportunistic behavior. Additionally, it is formally required by the <Law> that the ceiling of voting rights of a single member is 15% and the ceiling of capital shares of a single member is 20%. Common members yet are willing to relinquish their decision rights to core members or not using the right as long as they are satisfied with the benefit derived from joining the cooperative. Because on the one hand they regard themselves being incapable of making good decisions; on the other hand influence activities are not costless (Cook, 1995; Iliopoulos and Cook, 1999; Gripsrud et al., 2000).

Trust and reliability among members play an essential role in limiting members' opportunistic behavior and influence activities. Informal institutions have a significant impact on the development of farmer cooperatives in China as well as in other countries. Cooperatives in China are characterized by loyalty and trust between members because cooperatives are founded based on the rural community and its relations (Xu, 2005). Those who initiate cooperatives in China are usually people with high reputation among local residents and are trusted by common farmers. Core members cherish the reputation and trust from people, so do common members. Members therefore care about not only monetary income but also many nonmonetary aspects. Consequently this reputation and trust act as strong moral constraints and play an important role in reducing opportunistic behavior and influence activities.

Hirschman (1997) argues that loyalty is a key concept in the battle between voice and exit. When there is an absence of loyalty, exit is essentially costless and members are more likely to exit if they are unhappy with core members, whereas loyal members do not tend to exit, but they will influence decisions by voting or voice. If core members take too much surplus and small farmers' benefits cannot be met, small farmers will have a limited reliability on, or loyalty to, the cooperative. Common members, therefore, will probably behave opportunistically during transactions with the cooperative, i.e. small farmers will unhesitatingly change to delivering to other firms that offer better prices or even exit from the cooperative.

Both core members and common members therefore balance between opportunistic behavior and reputation. Core members trust that common members will deliver quantity and quality products, while common members trust that core members will satisfy members' interests. Trust and reliability between members are crucial to maintain good relations between members and meanwhile alleviate opportunistic behavior and influence activities.

6 Conclusions and further research

Farmers join cooperatives to realize various purposes and objectives. Common

farmers intend to sell their products collectively through cooperatives, whereas ambitious farmers want to gain from scale economies in sale and to realize entrepreneurship by organizing farmers in a cooperative. Besides, the Chinese government uses cooperatives to realize some political and economic functions. As a consequence, the genesis of cooperatives in China is due to core members and the government, rather than collective action of small farmers. Farmer cooperatives in China are characterized by a skewed allocation of ownership rights, decision rights, and income rights between core and common members. Core members hold most rights.

In spite of the skewed rights allocation between core and common members, field investigation in farmer cooperatives in Zhejiang, China indicates that common members are basically satisfied with the current governance in terms of the allocation of decision making and income, or to be more precise, they have no choice but to be satisfied. The reason is that common members may be uninterested to participate in decision making. Individual members may perceive that they have limited capabilities to make good decisions and have limited possibilities to influence decisions. This has a close relationship with the characteristics of cooperatives. In IOFs, ownership is generally concentrated and each owner has a strong incentive to participate in decision making and to monitor management performance. However, ownership rights are distributed among the membership in cooperatives and each member, especially a common member, has a small percentage of ownership shares. It means that a common member neither has sufficient incentives to participate in or influence decision making, nor has the capability to supervise the management of the cooperative enterprise. Common members have a much lower desire of successful influencing on decisions. The existing governance of farmer cooperatives in terms of ownership rights, decision rights, and income rights allocation is the outcome of interactions between farmers. The skewed allocation of authority as well as ownership is adopted to motivate entrepreneurial farmers to put effort in running cooperatives.

There are advantages of governance featured by core members holding most power, like lower decision costs and core members investing more effort in enterprise development. However, there are conflicts of interest in terms of the allocation of income rights between different groups of members. To limit members' opportunistic behavior, formal institutions in terms of members' exit right, decision right, and ownership right specified in Law and informal institutions such as trust between members, are important. The current structure of profit distribution is the combined result of both the interaction between heterogeneous members and government guidance. Core members hope that profits are distributed according to capital, whereas common members prefer profits are allocated on the basis of delivery. Since it is core members who are in charge of the management of cooperatives and most core members have substantial capabilities in capital and marketing, rather than production areas or output, it is not difficult to expect that core members prefer to distribute revenues on the basis of capital. Therefore, the <Law> specifies that at least 60% of distributable profits must be distributed to members according to delivery, in

order to protect benefits of common members. It is probably an effective way at this stage to help farmer cooperatives in China to develop towards a direction where cooperatives are able to develop fast and different groups of members are satisfied at the same time.

It is not desirable for cooperatives in China to blindly comply with traditional cooperative principles and it is also not possible (Xu, 2005). It is important that cooperatives learn from history and experiences of developed countries and even more important to develop to adapt to the local economic and cultural environment. Substantial authority may therefore be allocated to core members, as long as the profit distribution satisfies both core and common members, and cooperatives are developing at a relatively high speed. As farmer cooperatives in China develop and as the history of cooperatives in China becomes much longer, members as well as memberships will stabilize and cooperative enterprises' capital accumulation capability will improve; and sequentially some degree of democracy may be realized in farmer cooperatives in China. Anyway, survival and development are the key issues at the current stage of the development of Chinese farmer cooperatives. Additional research regarding the efficiency of cooperatives with a skewed rights allocation and empirical studies regarding the effects of ownership rights structure, authority allocation, and income rights distribution on performance of farmer cooperatives are desirable.

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Appendix 1: Methodology

A multiple-case study is developed to test the hypotheses regarding the governance characteristics of farmer cooperatives developed in Section 2.

Data came from both documents and first-hand interviews. First, documents such as statutes and by-laws of cooperatives were collected to gather information regarding governance structure in terms of equity capital, decision-making, profit distribution, exit rights, and so on. Second, face-to-face individual interviews with cooperative members using a semi-structured questionnaire were conducted in order to collect primary data.

Within the population of farmer cooperatives in China, we surveyed a sample from cooperatives in Zhejiang province. Zhejiang is located in the southeast of China (see figure 1) and is one of the most developed provinces in China. The GDP per capital of Zhejiang province was \$7690, ranked as the first among the provinces in China, while the GDP per capital of China was \$4382 in 2010.⁴ However, the average plantation land area per capital is even smaller than 0.4 mu (1 hectare = 15 mu) in Zhejiang, while the national average plantation land area per capita is 1.38mu in 2010.⁵ Due to its scarcity of land and its relatively developed economy, Zhejiang specializes in high value products, such as fruit and vegetables. We focused on fruit and vegetable cooperatives during the field investigation, in order to ensure relative homogeneity of cooperative enterprises.



Figure 1. Map of China

⁴ Data source: China Statistical Yearbook 2011.

⁵ Data source: Ministry of Land and Resources of the People's Republic of China.

Zhejiang province was chosen as the survey area for two main reasons. The first reason is that Zhejiang is leading the way of farmer cooperative development in China, in terms of both quantity and performance. There were 3916 farmer cooperatives with a total membership of 270,000 in Zhejiang in 2006.⁶ At the end of 2010, there were 20,678 farmer cooperatives with a membership size of 768,000.⁷ The number of cooperatives has been increasing at a high speed and farmer cooperatives are playing an increasing role in agriculture markets in Zhejiang, and elsewhere in China.

Secondly, Zhejiang put into practice <Zhejiang Farmer Cooperative Law> in the beginning of 2005. It is the first provincial and official cooperative law in China. The <National Farmer Cooperative Law in China> was promulgated on July 1st, 2007, on the basis of Zhejiang Cooperative Law. It implies that cooperatives in Zhejiang are leading for the relatively typical and somehow advanced modes of farmer cooperatives in China to a large extent.

Random selection is applied in sampling. We chose 50 farmer cooperatives randomly from the documented name list of cooperatives provided by Zhejiang Agricultural Department, all of which are vegetable and fruit cooperatives. These 50 farmer cooperatives are distributed over different cities of Zhejiang province.

Face-to-face individual interviews with cooperative members using a semi-structured questionnaire were carried out during March, 2011 and June, 2011 intermittently in Zhejiang province, China. Three members of each cooperative in the survey were interviewed. We started to interview the chairperson of a cooperative. Then we talked with another core member, mainly to confirm some of the information collected from the chairperson. We finally interviewed a common member to re-confirm some information collected from the core members. The questionnaire is provided in Appendix 2.

We failed to interview members of 5 cooperatives that we initially chose, due to unavailability of interviewees. Therefore we interviewed members from 45 farmer cooperatives. A questionnaire was counted as valid one if there were no significant inconsistencies between information collected from members of a cooperative and no important information was missing. An example of an inconsistency of information is a substantial difference between a chairperson's capital share collected from the chairperson and from others. A reason may be that a chairperson may try to hide the truth about his capital shares by offering wrong information when he owned shares beyond the ceiling of shares required by the Law. We discarded this questionnaire when we were not able to find out the true information. Among all the cooperatives visited, data from 8 of them were discarded due to missing information or information inconsistencies. We have therefore 37 cases.

⁶ Data source: Internal Statistical Document of Agricultural Department of Zhejiang Province.

⁷ Data source: Zhao et al. (2011).

Appendix 2: Questionnaire (in English)

A Basic information of the cooperative

- 1 Name of the cooperative;
- 2 The name of the city that the cooperative is located;
- 3 The year of the establishment of the cooperative;
- 4 Membership size of the cooperative when being established;
- 5 Current membership size of the cooperative;
- 6 Fixed capital of the cooperative when being established;
- 7 Current fixed capital of the cooperative;
- 8 Share capital of the cooperative when being established;
- 9 Current share capital of the cooperative;
- 10 Total shares of the cooperative;
- 11 Main products of the cooperative;
- 12 Total production areas;
- 13 The brand of the cooperative's products;
- 14 Total sale volume of the cooperative last production year;
- 15 Total sale value of the cooperative last production year.

B Membership of the cooperative

- 1 Geographical scope of the membership;
 - (1) Within local village;
 - (2) Within local town;
 - (3) Within local city;
 - (4) Within local province;
 - (5) Nationwide.
- 2 Geographical scope of members' production basis;
 - (1) Within local village;
 - (2) Within local town;
 - (3) Within local city;
 - (4) Within local province;
 - (5) Nationwide;
 - (6) International area.
- 3 What is the basic membership rule of the cooperative?
 - (1) Open; (2) Limited; (3) Closed.
- 4 If there is an open membership rule, then please specify the reasons why the cooperative chooses this rule;
- 5 If there is a limited membership rule, then please specify the requirements that a farmer has to meet to entry the cooperative;
- 6 If there is a closed membership rule, then please specify the reasons why the cooperative chooses this rule;
- 7 Please describe the exit rule of the cooperative.

C Board members

1 Number of members in the board of directors of the cooperative;

2 Are all the directors farmer members?

(1) Yes; (2) No.

If no, then the number of non-members;

3 The total capital shares of directors (%);

4 Number of members in the board of supervisors of the cooperative;

5 Are all the supervisors farmer members/

(2) Yes; (2) No.

If no, then the number of non-members;

6 The total capital shares of supervisors (%);

D Decision making

1 The yearly frequency of members' general meeting;

2 The purpose of the general meeting;

(1) Technology trainings;

(2) Decisions regarding technology innovation;

(3) Decisions regarding business strategy;

(4) Decisions regarding the board's personnel issues;

(5) Others. Please specify.

3 The yearly frequency of core member meeting;

4 The purpose of the core member meeting;

(1) Technology trainings;

(2) Decisions regarding technology innovation;

(3) Decisions regarding business strategy;

(4) Decisions regarding the board's personnel issues;

(5) Others. Please specify.

5 Please specify the general decision-making process in the cooperative.

E Income/profit allocation

1 Describe the cooperative's payment strategy of product procurement;

(1) Average market price;

(2) Higher than market price;

(3) Lower than market price.

2 The share of profit that is retained as accumulation fund (%);

3 The share of distributable profit that is allocated based on equity capital (%);

4 The share of distributable profit that is allocated based on delivery (%).

F Information of the chairperson

- 1 Name of the chairperson;
- 2 Age of the chairperson;
- 3 Gender of the chairperson;
- 4 Telephone number of the chairperson;
- 5 The education level of the chairperson;
 - (1) Lower than primary school;
 - (2) Primary school;
 - (3) Middle school;
 - (4) High school;
 - (5) Higher than high school.

- 6 The year that the chairperson began to do farming;
- 7 The year that the chairperson began to grow current products;
- 8 The production area of the chairperson;
- 9 The proportion of the chairperson's production area to total area of the membership (%);
- 10 The equity capital of the chairperson;
- 11 The equity capital shares of the chairperson (%);
- 12 Other jobs that the chairperson is engaged currently;
 - (1) Being a technician of some governmental department;
 - (2) Being a member of another cooperative;
 - (3) Being a village head;
 - (4) Selling agricultural input materials;
 - (5) Working in a company;
 - (6) Running a company or being a manager of some company;
 - (7) Others. Please specify.

- 13 What had the chairperson ever done before being a cooperative member?
 - (1) Farming;
 - (2) Worked in some governmental department;
 - (3) Been a village head;
 - (4) Sold agricultural input materials;
 - (5) Procured and sold agricultural products;
 - (6) worked in a company;
 - (7) Ran a company or been a manager of a company;
 - (8) Others. Please specify.

- 14 The technological level of the chairperson;
 - (1) Very bad;
 - (2) Worse than average;
 - (3) Medium;
 - (4) Better than average;
 - (5) Excellent.

Appendix 3: Questionnaire (in Chinese)

A 基本信息:

- 1 合作社名称:
- 2 合作社所在县市:
- 3 合作社成立年份:
- 4 合作社成立时的社员数:
- 5 合作社当前社员数:
- 6 合作社成立时的固定资产:
- 7 合作社当前固定资产:
- 8 合作社成立时的股金总额:
- 9 合作社当前股金总额:
- 10 合作社当前总股份数:
- 11 合作社主营产品:
- 12 合作社生产总面积
- 13 合作社产品品牌:
- 14 合作社上一年度的总交易量:
- 15 合作社上一年度的总交易额:

B 合作社社员的社员资格

- 1 社员主要来自于:
 - (1) 本村; (2) 本镇; (3) 本县; (4) 本市; (5) 本省; (6) 全国各地
- 2 社员的生产基地主要分布在:
 - (1) 本村; (2) 本镇; (3) 本县; (4) 本市; (5) 本省; (6) 全国各地; (7) 拥有国外基地
- 3 合作社的入社条件:
 - (1) 开放性社员资格;
 - (2) 限制性社员资格;
 - (3) 封闭性社员资格。
- 4 若合作社采取开放性社员资格, 采取这个政策的原因是:
- 5 若合作社采取限制性社员资格, 那么农户入社需满足什么条件:
- 6 若合作社采取封闭性社员资格, 采取这个政策的原因是:
- 7 请描述合作社社员的退社条件和程序(是否允许退社, 退社条件, 退社的返还股份计算等)。

C 理事会和监事会成员

- 1 理事会成员的人数:
- 2 理事会成员是否都为农户社员: (1) 是; (2) 否。
若否, 则非社员的理事会成员人数是:
- 3 理事会成员所拥有的股份(%):
- 4 监事会成员的人数:
- 5 监事会成员是否都为农户社员: (1) 是; (2) 否。
若否, 则非社员的监事会成员人数是:
- 6 监事会成员所拥有的股份(%):

D 决策机制和过程

- 1 合作社上一年度的社员大会次数：
- 2 合作社举行社员大会的目的：
 - (1) 技术培训；
 - (2) 关于技术创新的决策；
 - (3) 关于市场策略的决策
 - (4) 关于理事会和监事会成员人事变动的决策
 - (5) 其他。请说明。
- 3 合作社上一年度的理事会次数：
- 4 合作社举行理事会的目的：
 - (1) 技术培训；
 - (2) 关于技术创新的决策；
 - (3) 关于市场策略的决策
 - (4) 关于理事会和监事会成员人事变动的决策
 - (5) 其他。请说明。
- 5 请描述合作社所采取的基本决策程序。

E 利益分配机制

- 1 合作社对农户产品的定价原则：
 - (1) 按市场价格支付；
 - (2) 高于市场价格一定比例；
 - (3) 低于市场价格收购。
- 2 合作社提取的公积金和公益金份额（%）：
- 3 合作社的可分配利润中按照股金分配的比例（%）：
- 4 合作社的可分配利润中按照交易量或交易额分配的比例（%）：

F 合作社社长/理事长信息

- 1 社长名字：
- 2 社长年龄：
- 3 社长性别：
- 4 社长电话：
- 5 社长教育程度：
 - (1) 小学以下；
 - (2) 小学毕业；
 - (3) 初中毕业；
 - (4) 高中毕业；
 - (5) 大专或本科以上。
- 6 社长开始从事农业的年份：
- 7 社长开始从事目前合作社主营产品的生产的年份：
- 8 社长的农产品生产面积：
- 10 社长的农产品生产面积占社员总生产面积的比例（%）：
- 11 社长的股金：
- 12 社长股金占合作社总股金的比例（%）：
- 10 社长目前所从事的其他工作：
 - (1) 某些政府部门的技术人员；

- (2) 村长/村支书等村级干部;
- (3) 除了该合作社以外的其他合作社的成员;
- (4) 经营农资公司或商店;
- (5) 其他公司的普通员工;
- (6) 经营公司或是公司的管理人员;
- (7) 其他。请说明。

11 社长在成为社长之前的工作经历:

- (1) 从事农业生产;
- (2) 政府部门工作;
- (3) 村长/村支书等村级干部;
- (4) 经营农资公司或商店;
- (5) 从事农产品返销;
- (6) 其他公司的普通员工;
- (7) 经营公司或是公司的管理人员;
- (8) 其他。请说明。

12 社长的农业生产技术水平就全体社员来说, 处于:

- (1) 很差; (2) 中下; (3) 中等; (4) 中上; (5) 前茅。

Appendix 4: Data base used in the paper

Coops	Year of foundation	No. of members	No. of core members	Geographical scope of the membership	Geographical scope of members' production basis	Capital shares of core members	Capital shares of the chairperson	Education level of the chairperson	Experiences of the chairperson	Number of general membership meeting	Number of core members' meeting	Percentage of retained profit	Profit distribution strategy	Percentage of profit allocated based on delivery
1	2003	132	5	1	1	53	14	3	2	1	3	18	3	68
2	2003	46	3	2	2	43	19	3	3	2	6	4	3	63
3	2002	173	9	3	6	50	9.5	3	2	2	6	30	3	60
4	2003	250	5	2	6	65.8	18.2	3	4	3	12	30	3	70
5	2004	108	8	2	2	97.45	18	2	1	2	6	30	3	55
6	2004	103	4	3	3	65	19.8	3	2	3	4	30	3	60
7	2004	135	3	3	3	20	10	4	4	4	8	30	3	60
8	2003	103	3	2	2	60	19.8	2	4	3	8	30	3	30
9	2003	103	3	2	3	30	15	2	1	4	6	30	1	100
10	2002	705	5	3	3	29.48	13.9	5	3	1	2	30	3	62
11	2002	100	5	2	3	30	15	4	1	2	4	30	3	60
12	2002	108	4	1	2	40	10	3	2	2	4	30	3	60
13	2006	120	3	2	6	51.6	19	3	3	3	7	30	3	60
14	2002	132	5	2	4	48.2	16.67	4	2	2	10	30	3	60
15	2002	1321	5	3	5	66	14	2	3	3	3	11	3	60
16	2003	125	3	2	3	30	10	3	2	2	6	30	3	30
17	2003	102	7	2	2	50	20	3	1	1	2	13	1	100
18	2002	109	4	2	2	41	17.7	2	2	2	3	20	1	100
19	2001	328	40	6	7	60	2	1	1	8	2	6	2	0

Coops	Year of foundation	No. of members	No. of core members	Geographical scope of the membership	Geographical scope of members' production basis	Capital shares of core members	Capital shares of the chairperson	Education level of the chairperson	Experiences of the chairperson	Number of general membership meeting	Number of core members' meeting	Percentage of retained profit	Profit distribution strategy	Percentage of profit allocated based on delivery
20	2005	50	5	2	2	49	20	3	2	2	4	30	2	0
21	2005	68	3	2	2	60	20	2	1	1	2	0	1	100
22	2005	78	3	1	3	30	7.6	4	2	3	5	30	3	60
23	2005	135	7	1	2	70	16	2	1	3	8	30	1	100
24	2002	128	5	1	1	42	19	3	1	2	4	25	3	60
25	2002	47	7	2	2	21	5	4	1	2	5	25	1	100
26	2003	31	7	1	1	45	19	3	1	1	4	30	1	100
27	2003	120	5	2	2	50	20	3	4	3	5	30	3	60
28	2004	109	2	2	3	26.9	20	4	1	1	3	30	3	60
29	2005	120	3	2	3	50	20	3	1	5	3	30	3	60
30	2004	287	3	2	2	45	20	3	1	4	3	30	3	60
31	2002	158	5	4	6	57	19	3	3	1	4	30	3	8
32	2003	120	5	3	3	53.1	16	3	3	2	5	25	1	100
33	2003	152	3	2	2	35	19	4	2	10	10	30	3	60
34	2005	86	5	3	3	38	12	3	2	2	4	23	3	60
35	2005	137	8	2	2	80	20	2	1	12	12	30	3	50
36	2006	103	5	1	1	95	19	3	1	6	5	10	3	60
37	2004	102	6	1	2	40	20	3	4	3	10	0	3	60

Notes:

Geographical scope of the membership: 1 within a local village; 2 within a local town; 3 within a local city; 4 within a local province; 5 nationwide.

Geographical scope of members' production basis: 1 within a local village; 2 within a local town; 3 within a local city; 4 within a local province; 5 nationwide; 6

international.

Experiences of the chairperson: 1 used to be a village head or worked in governmental department; 2 did product transportation and sale; 3 ran a company; 4 a large farmer.

Education level of the chairperson: 1 under primary school; 2 primary school; 3 middle school; 4 high school; 5 college and university; 6 others.

Profit distribution strategy: 1 based on delivery; 2 based on equity capital; 3 based on both delivery and equity capital.