

## Governance Structure of Chinese Farmer Cooperatives: Evidence From Zhejiang Province

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### ABSTRACT

The governance of farmer cooperatives in China is addressed regarding democratic decision-making procedures, participation in decision making, member exit, and profit allocation. Empirical results from a survey of fruit and vegetable cooperatives in the Zhejiang province (China) indicate that the distribution of ownership rights, decision rights, and income rights in a farmer cooperative is quite skewed towards a small proportion of members. Several governance practices by cooperatives are not in line with the requirements specified by the Law. [EconLit classification; D210; Q130]. © 2014 Wiley Periodicals, Inc.

### 1. INTRODUCTION

Farmer cooperatives in the Western world have gone through various stages of development during their evolution, such as genesis, growth, emergence of internal conflicts, recognition and analysis, and options choice (Cook & Plunkett, 2006). Most farmer cooperatives in China are still in the genesis and growth stages, but the growth in the number of cooperatives indicates a revolution in the governance of agriculture in China. The number of farmer cooperatives was 26,400 when the Chinese Cooperative Law (“Law” thereafter)<sup>1</sup> was promulgated on July 1st, 2007. By the end of 2012, there were 689,000 farmer cooperatives<sup>2</sup> with 43.0 million members in China.<sup>3</sup> Around 20% of the farmers have joined cooperatives.<sup>4</sup>

The development of farmer cooperatives in China is driven and influenced to a large extent by the government (Liang & Hendrikse, 2013). Farmer cooperatives in China are regarded as one of the important tools of the government for the purpose of economic development and political stability (Liang and Hendrikse, 2013; Xu, 2014). The government therefore promote the development of farmer cooperatives in order to help farmers enter into markets and achieve income increase. One of the key ways that the government helps cooperatives is via formulating

<sup>1</sup>The full name is Farmer Specialized Cooperative Law of the People’s Republic of China. We refer to it as Cooperative Law or Chinese Cooperative Law in this article.

<sup>2</sup>According to an estimate, more than one third of cooperatives in China exist on “paper”, around one third develop beyond the cooperative principles, and the last one third are functioning properly (Sultan and Wolz, 2012).

<sup>3</sup>The number of cooperatives increased to 110,900 in 2008 and to 246,400, 379,100 and 521,700 in 2009, 2010 and 2011 respectively.

<sup>4</sup>Data source: The Ministry of Agriculture of the People’s Republic of China. Available at <http://www.moa.gov.cn/>

the formal rules regarding governance structure. The others are promoting the initiation, various provisions for the relief or exemption of test, and so on.

A governance structure delineates ownership rights, decision rights, and income rights regarding (physical or financial) assets (Baker, Gibbons, & Murphy, 2008; Hansmann, 1996). Ownership rights specify the formal rights regarding the residual control of assets, such as the property rights regarding the assets and the distribution of voting rights among the membership. Decision rights address the question “Who has control (regarding the use of assets)?” and specify who directs the firm’s activities, that is, the allocation of real authority. Finally, income rights address the question “How are benefits and costs allocated?,” thereby creating the incentive system faced by the members and the decision makers. These three rights are reflected in the classic characterization of a farmer cooperative by Dunn (1988) as user-owned, user-controlled, and user-benefitted, that is, “A cooperative belongs to the people who use its services, the control of which rests with all the members, and the gains of which are distributed to the members in proportion to the use they made of its services” (p. 85).

A cooperative is a governance structure characterized by member dominance, which is reflected in collective ownership, democratic control, and member benefits being the distinguishing characteristics of farmer cooperatives. This features also in Chinese Farmer Cooperative Law. However, reality differs from the design (Xu, 2005). Control in terms of decision rights and income rights in farmer cooperatives in China seems to mostly lie with a small group of members, called core members, whereas the other members, called common members, are hardly involved. This may be because of the top-down rather than the bottom-up emergence of cooperatives in China (Liang & Hendrikse, 2013). The core members, rather than the whole membership, seem to be in charge of the cooperative (Huang & Xu, 2008). Not only authority is held by core members, but also a majority of profits are distributed to core members.

The institutional environment is recognized as one of the most important conditions for the success of organizations, according to the framework offered by Williamson (2000). The institutional environment refers to legal system or formal rules such as constitutions, laws, and property right. The legal system matters to the development of farmer cooperatives. Henriksen, Hviid, and Sharp (2012) show that the Law has facilitated and promoted the success of Danish cooperatives. Farmer cooperatives in China had no legal position, were not able to be formally registered, and sequentially, were neither accepted by farmers nor had any tax deduction before 2007 because of the absence of the Law. Eventually, the government realized that farmer cooperatives need to be legalized as soon as possible (Xu, 2014). Besides, farmer cooperatives tend to seek for help from the government if they are not able to achieve normalization under the framework of the Law, which may have a negative impact on the independence of cooperatives (Xu, 2005).

Mischler (1957) argues that a cooperative must be organized and operated within the terms in the law. Principles of cooperatives are usually specified in the law. Compliance with these principles is one of the important factors for evaluating performance of cooperatives (Rathbone & Wissman, 1993). Incompliance with the law generates costs, such as litigation (Mischler, 1957). In China, those farmer cooperatives behave beyond the Law would be excluded from the list of pilot cooperatives and may be not able to acquire subsidy from the government. Xu (2014) demonstrates that Chinese farmer cooperatives’ noncompliance with the Law would lead to that “elite” farmers obtain most of economic benefits that partially belong to common members. These benefits include the profits from marketing of products and the subsidies from the government. However, the law cannot remain static and needs to be adjusted such as when the environment changes. Hence, additional changes, amendments, or complete revision of the law may be seen to fit the current needs and demands of the organizations concerned.

This article reviews provisions regarding the governance structure of farmer cooperatives in the Law in China and presents data in terms of ownership rights, decision rights, and income rights to characterize and to evaluate the compliance of cooperative practices with the Law. To be specific, we focus on the following research questions: Is the actual governance of Chinese farmer cooperatives in line with the Law? What are the governance characteristics in terms of ownership rights, decision rights, and income rights? Topics highlighted are the distribution of

votes among members, the way in which decision rights are allocated, the decision rules, the duties and responsibilities of the boards, the equity capital structure, and the residual payment schemes in fruit and vegetable cooperatives in the Chinese province Zhejiang.

This study has various contributions. First, data is presented regarding enterprise characteristics and governance features of farmer cooperatives in one of the most developed provinces in China (Zhejiang). We distinguish core and common members in farmer cooperatives in China and relate this distinction to the governance structure features. Second, we address the provisions in the Law and the actual practice in Chinese farmer cooperatives. Third, the benefits and possible problems pertaining to the governance features of Chinese farmer cooperatives are addressed.

The article is organized as follows. The methodology is presented in the next section. Section 3 compares the cooperative Law with the actual practices of cooperatives. Section 4 discusses the results. We conclude in section 5.

## 2. METHODOLOGY

In order to evaluate the Cooperative Law, we surveyed a sample of fruit and vegetable cooperatives in the Zhejiang province. Zhejiang is located in the southeast of China and is one of the most developed provinces in China. The GDP per capita of the Zhejiang province was \$7690, ranked first among the provinces in China, while the GDP per capita of China was \$4382 on average in 2010.<sup>5</sup> However, the average plantation land area per capita is smaller than 0.4 mu (1 hectare = 15 mu) in Zhejiang, while the national average plantation land area per capita is 1.38 mu in 2010.<sup>6</sup> Because of its scarcity of land and its relatively developed economy, Zhejiang specializes in high value-added products, such as fruit and vegetables.

Zhejiang province was chosen as the survey area for two main reasons. The first reason is that Zhejiang is leading the way in 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.<sup>7</sup> At the end of 2010, there were 20,678 farmer cooperatives with a membership size of 768,000.<sup>8</sup> Of these cooperatives, more than 70% of them are planting cooperatives, whereas the other 30% are breeding and raising cooperatives. Fruit and vegetable cooperatives are the two most common types of planting cooperatives. Fruit cooperatives account for around 40% of planting cooperatives, while vegetable cooperatives account for around 30%. The number of cooperatives has been increasing fast and farmer cooperatives are playing an increasing role in agricultural markets in Zhejiang, and elsewhere in China.

Second, at the beginning of 2005 Zhejiang put into practice the Zhejiang Farmer Cooperative Law, which is the first provincial and official cooperative law in China. The National Farmer Cooperative Law in China was promulgated on July 1, 2007 and was based on the Zhejiang Cooperative Law.

The development and position of cooperatives in agricultural market differ substantially across different food sectors and countries (Bijman, et al., 2012). For instance, cooperatives have the largest market share in dairy in European Union countries, followed by fruit and vegetable, wine, olives, and so on. However, cooperatives are most important in fruit and vegetable sectors in China. Specifically, we focus on fruit and vegetable cooperatives during the field investigation for two reasons. First, fruit and vegetable cooperatives together account for almost 70% of cooperatives. Vegetable cooperatives account for 39.7% of all the cooperatives, whereas fruit cooperatives accounting for 30.0% (Data source: Statistical data from the Agriculture

<sup>5</sup>Data source: China Statistical Yearbook 2011.

<sup>6</sup>Data source: Ministry of Land and Resources of the People's Republic of China. Available at <http://www.mlr.gov.cn/>

<sup>7</sup>Data source: Agricultural Department of Zhejiang Province. Available at <http://www.zjagri.gov.cn/html/main/gb2312/index.html>

<sup>8</sup>Data source: Zhao et al. (2011).

Department of Zhejiang Province). Others are tea (16.2%) and grain (12.3%) cooperatives. Second, we choose only fruit and vegetable cooperatives in order to ensure relative homogeneity of cooperative enterprises.

Data is collected from both documents and first-hand interviews. First, documents such as statutes and bylaws of cooperatives were collected. Second, face-to-face individual interviews with some members as well as chairpersons or managers at each cooperative were conducted. We chose 50 fruit and vegetable cooperatives randomly from the documented name list of provincial pilot cooperatives.<sup>9</sup> These 50 farmer cooperatives are distributed over different cities of the Zhejiang province. Interviews are based on a semistructured questionnaire and were carried out by the authors personally during March 2011 and June 2011. There were two respondents in each cooperative. First, the chairperson or some other board member of a cooperative was interviewed with the questionnaire. Second, a common or nonboard member of the cooperative was interviewed. We were not able to collect data from five cooperatives that we initially chose because of unavailability of interviewees. Therefore we interviewed members from 45 farmer cooperatives. A questionnaire was counted as valid when there were no significant inconsistencies between the information collected from the two respondents of a cooperative and no important information was missing. An example of an inconsistency of information is a substantial difference between the capital share reported by the chairperson and that reported by the common member. One reason may be that a chairperson may try to hide the truth about his capital share by offering wrong information when he owned a share beyond the share ceiling 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 eight of them were discarded because of missing information or informational inconsistencies. We have therefore a data base consisting of 37 cooperatives.

### 3. DATA AND RESULTS

Data is coded by grouping, averaging, and summing and is presented by descriptive analysis. All the cooperatives in the survey are fruit and/or vegetable cooperatives founded between 2001 and 2006. The average membership size of the cooperatives is 171. The total sales value of cooperatives is 3,240,000 dollars<sup>10</sup> on average. There are, on average, six core members in the cooperatives in the survey, accounting for 3.5% of the membership. Almost all cooperatives have three, five, or seven core members. Four characteristics regarding the governance of farmer cooperatives are compared with the Law: democratic decision making procedures (section 3.1), participation in decision-making (section 3.2), member exit (section 3.3), and profit allocation (section 3.4).

#### 3.1. Democratic Decision-making Procedures

Farmer cooperatives are owned collectively by members. Collective ownership requires a method for decision making, which is usually specified as democratic decision-making in cooperative Law. The allocation of voting rights between the members in the democratic decision-making procedure differs between countries. Some countries subscribe to the principle of “one member, one vote” by law, but there are also countries where this is not specified in the law and a “one member, multiple votes” scheme have been adopted. Most of the cooperatives in the

<sup>9</sup>Pilot cooperatives are a subset of the cooperatives functioning properly (footnote 4). There are three levels of pilot cooperatives in China, that is, the state level, the provincial level, and the city/county level. The others are ordinary cooperatives. The classification of cooperatives is done by the Agricultural Departments of corresponding levels based on a list of standards. Pilot cooperatives have the priority to receive subsidies as well as technical guidance from the government.

<sup>10</sup>The total sale value was 21,039,000 Chinese Yuan on average. Based on the exchange rate at the time of the survey, 1 Chinese Yuan equals to 0.154 dollar.

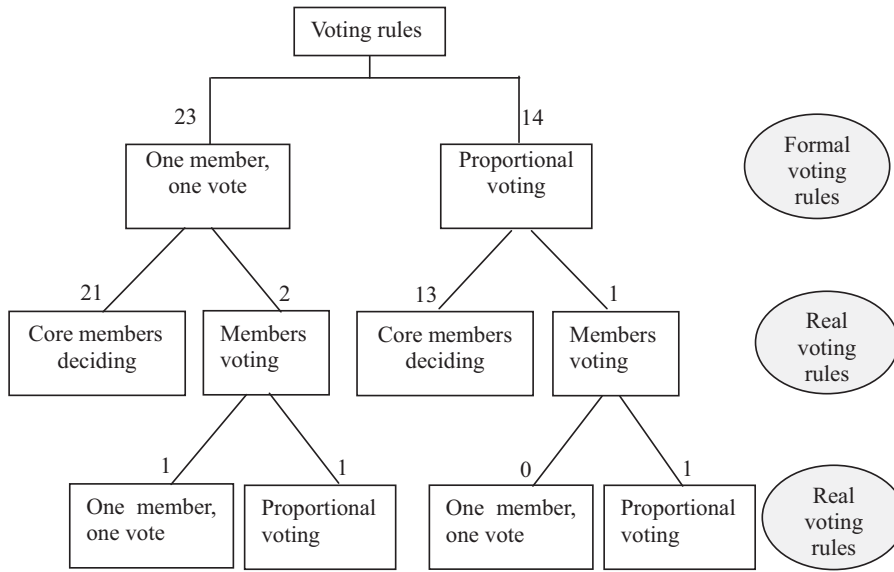


Figure 1 Democratic Decision-Making Procedures.

US have a “one member, one vote” rule, whereas cooperatives in various countries in Europe adopt a proportional voting rule (Bijman, et al., 2012).

**3.1.1 Specifications in the Law.** The Chinese Cooperative Law specifies that cooperatives are collectively owned and democratically controlled by members. According to Chinese Farmer Cooperative Law, “One member, one vote” is the basic voting rule in farmer cooperatives in China. However, members with larger production sizes may have extra votes. The ceiling of the extra votes for a single member is 20% of the total number of votes. Based on these statements in the Law, we assert that farmer cooperatives in China are collectively owned and controlled by members.

**3.1.2 Facing the Law.** 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” rule, whereas for general assembly meetings, both the “one member, one vote” and the proportional voting rule are allowed by the Law. Of the 37 cooperatives in the survey, 23 (62.2%) have the “one member, one vote” rule, whereas 14 (37.8%) have the proportional voting rule, according to the bylaws of the cooperatives.

Empirically, there are usually two decision-making procedures. One is that core members propose some decision options and all the members vote in favor of 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. The data shows that 34 (92%) of the cooperatives surveyed use the latter decision procedure.

Figure 1 presents the formal and the real voting rules of the 37 cooperatives. Of the 23 cooperatives with the “one member, one vote” as the formal rule, decisions in 21 of them actually are made by only core members, whereas in two of the cooperatives decisions are made generally by the membership. Furthermore, though the “one member, one vote” is specified in the bylaws of the two cooperatives, only one of them applies the “one member, one vote” rule, whereas the other uses the proportional voting rule. Of the 14 cooperatives with the proportional voting rule, 13 of them are characterized by decisions being made by core members, whereas

only one of them follows the bylaws that decisions are made by proportional voting of the membership.

**3.1.3 Summary.** Farmer cooperatives in China are characterized for their noncompliance with the general cooperative principle of member control. Ownership rights nominally reside with (the majority of) the farmers in a cooperative in China. All the members have rights to vote formally, but the number of votes differs between members. Formally, in Chinese cooperatives both “one member, one vote” and proportional voting are allowed by the Law. The Law specifies that the ceiling regarding voting rights of a single member is 20%. The practice is that common members delegate and relinquish voting rights to core members, because core members are crucially important to the development and success of farmer cooperatives.<sup>11</sup>

### 3.2. Participation in Decision-Making

The distinguishing feature of a cooperative is member dominance. This is reflected in democratic decision-making. Decision-making based on democracy reflects the vesting control of the membership.

**3.2.1 Specifications in the Law.** The general assembly meeting is the ultimate decision-making body in a cooperative, according to Chinese Farmer Cooperative Law. Members present in the general assembly meeting should account for more than two thirds of the membership. The main functions and power of the general assembly meeting are: modifying cooperative Regulation; electing board members; making decisions on property disposition, external investment, external security, and other key issues; voting on yearly business reports, distribution of profits, and loss treatment; deciding the merging, division, dissolution, and liquidation of the cooperative; deciding the number and tenure of external managers and technicians; debriefing reports from the board of directors; and others specified in the cooperative Regulation.<sup>12</sup>

**3.2.2 Facing the Law.** The data shows that all the cooperatives in the survey have a merged body of the management and the board. The management therefore consists of both the board of directors and the board of supervisors. Members of the management team are core members. According to the Chinese Cooperative Law, the board of directors is a body of members who oversees activities such as (a) organizing technical training and decision making through general assembly meetings, (b) presenting information about the performance of the past year as well as future challenges, and (c) 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 (a) ensuring the enforcement of decisions made through general assembly meetings and technical trainings,

<sup>11</sup>The skewed distribution of ownership rights is addressed in a number of articles. Control over the assets should lie with the agent, or simple majority voting among the group of agents, when an agent or a group of agents is key to an asset (Hart & Moore, 1990; Hendrikse & Veerman, 2001). Madhok (1996) shows that the network partner with higher capabilities should have a higher degree of control. Within a pyramid hierarchy, some agents specializing and others coordinating with them, is an efficient decision making structure (Hart & Moore, 2005). Similarly, 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.

<sup>12</sup>Cooperatives may seem to be hampered by having the ownership rights allocated collectively to members, but there are many possibilities for structuring the bylaws, in terms of decision rights, in order to design incentives to elicit efficient behavior. One possibility is to distinguish formal and real authority. The costs of collective decision making may be reduced by delegating formal decision rights informally to another party. Formal authority resides with the members, whereas real authority can be either centralized or decentralized (Aghion & Tirole, 1997; Baker, Gibbons, & Murphy, 1999; Hendrikse, 2005). Enterprises assign their formal rights of control to their owners, but the decision rights are generally exercised by them in an indirect way through voting for the board of directors, who then selects the management of the firm. Real authority is delegated by the members to the management in farmer cooperatives.



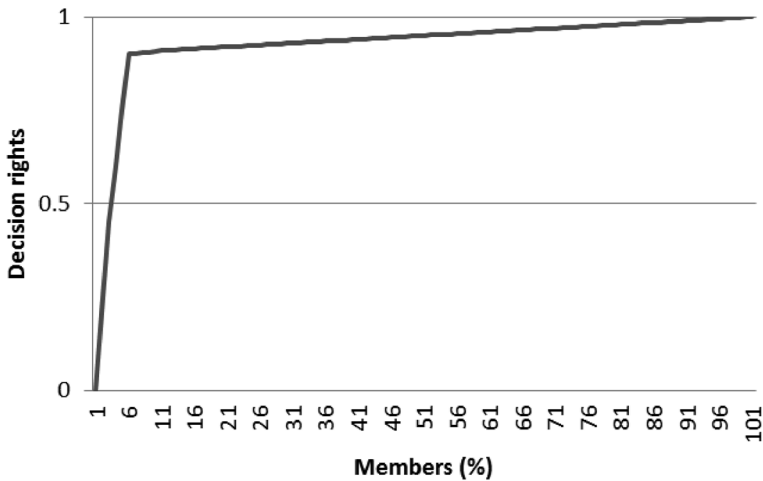


Figure 2 Distribution of Members' Participation in Decision-Making.

(b) supervising financial issues, (c) monitoring the enforcement of duties of directors, and (d) recording the delivery quantity and quality of director members. Both board of directors and board of supervisors are elected from members by the general assembly meeting.

There are on average three general assembly meetings in 2010 in each cooperative. However, most of the general meetings are held for the sake of production technical trainings, rather than decision-making or voting. Key decisions are made through board meetings. There are on average five and a half formal board meetings in 2010 in the cooperatives in the survey. According to the voting rules presented in Figure 1, decisions are made only by core members in 34 cooperatives. Common members participate in the other three cooperatives, but core members still dominate in decision-making, because the proportional voting rule is applied in two of the three cooperatives. Core members have more votes than common members. Core members apply "one member, one vote" in board meetings.

Figure 2 presents a distribution of members' participation in decision-making reflecting this observation. The horizontal axis stands for members ranging from core members to common members. The vertical axis refers to the extent of members' participation in decision-making. We assume that at least 92% (34 divided by 37 cooperatives) of decision-making is participated only by core members and the extent of participation is averagely distributed among the six core members. We therefore conclude that decisions in the cooperatives are made mainly by core members, instead of the membership.

**3.2.3 Summary.** To sum up, the management in farmer cooperatives in China differs from cooperatives in other countries because of core members being owners and in the meantime in charge of the management of cooperative enterprises (Lin & Huang, 2007; Huang & Xu, 2008; Xiong & Zheng, 2008). Common members in cooperatives in China do not participate in the decision making frequently or at all. Real authority lies with the management, rather than the membership.

### 3.3. Member Exit

Hirschman (1970) argues that exit is an important part of bargaining power. It is in accordance with Holmström's (1999) statement that those who have good market alternatives will surely be well taken care of. 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). Therefore a member will not easily withdraw unless he has access to alternative outlets. Besides, members have already invested in the cooperative over the years. Their shares may not easily or sufficiently be recouped by transferring or selling, which may also prevent them from exit.

**3.3.1 Specifications in the Law.** According to Chinese Farmer Cooperative Law, members have exit rights. A member (an enterprise member) who intends to quit has to report to the chairperson or the board of directors at least 3 (6) months before the end of the current financial year. This member is paid back the equity capital and privileged equity under his/her name and additionally receives the return of the current year.

**3.3.2 Facing the Law.** A member who exits the cooperative is reimbursed his initial share capital as well as the accumulated part of his capital which includes the privileged equity and the current year return. If a member exits the cooperative, then there are two ways to transfer 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 possibility is that he withdraws his shares directly from the cooperative. In the latter case, total capital of the cooperative would be reduced and meanwhile shares of each current member increases.

**3.3.3 Summary.** Members’ exit right can prevent core members’ opportunistic behaviour to a large extent. 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 realized. Common members’ exit may therefore lead to the failure of the cooperative and sequentially curtailing of core members’ ambitions. Henriksen et al. (2012) also consider that the exit of members threatens the stability and viability of Danish dairy cooperatives. They have similar arguments for the threat. For one thing, the exit of members may increase average cost. For another thing, exit would increase the liability of members who remained. In addition, the exit of one or a few members may cause the exit of more members (Henriksen et al., 2012; Rey & Tirole, 2000). It is therefore desirable for cooperatives to formulate proper governance to limit members’ exit and create member loyalty.

### 3.4. Profit Allocation

Ownership of the cooperative is important for the members, but the actual payments are often more important for them. There are many degrees of freedom to structure the income rights in a cooperative. LeVay (1983) states even that “cooperatives may behave no differently from other types of enterprise” (p. 5). It turns out that the income rights in informal, repeated relationships can be structured in such a way that exactly the same distribution of power results in a cooperative as in other enterprises (Baker, Gibbons, & Murphy, 2002; Hendrikse, 2007). However, the actual composition of income rights reflects often that a cooperative is collectively owned by many independent suppliers.

Income rights have also to be determined regarding capital or investment oriented capital. Return on capital may cause deviation from cooperative principles (Dunn, 1988). There are two concerns. First, it will cause a divergence between users and the ownership structure. The distribution of earnings among members will be different than the distribution of votes among members. Second, return to the equity capital will place pressure on the cooperative to become investment-oriented and maximize short-run profitability. Hence, most cooperatives return profits on the basis of delivery or patronage. For example, return on capital is limited in the US. Cook and Plunkett (2006) state that cooperative founders in the United States take three hard-core principles, “one member, one vote,” service at cost, and limited return on equity capital. Most state incorporation statutes place specific limits on the rate of profit allocated based on equity capital. Baarda (1986) reports a rate of 8%.



TABLE 1. Education Levels and Working Experiences of Chairpersons

		Number of cooperatives	Proportion (%)
Total number of cooperatives		37	100
Education levels of chairpersons	Below primary school	1	2.7
	Primary school	8	21.6
	High school	20	54.1
	Senior high school	7	18.9
	College and university	1	2.7
Working experiences of chairpersons <sup>a</sup>	was a village head or worked in a governmental department	15	40.6%
	Did product transportation and sale	11	29.7%
	Ran a company	6	16.2%
	Was a large farmer	5	13.5%

<sup>a</sup>Sultan and Wolz (2012) classify them as bureaucratic entrepreneurs, agricultural entrepreneurs, business entrepreneurs, and farmers, which is consistent with our classification.

**3.4.1 Specifications in the Law.** The income rights distribution mechanism in cooperatives in China deviates from the principles regarding profit distribution of US cooperatives. Although the Law requires that most of the profits should be allocated to members based on patronage, there is much more freedom for the proportion of profits allocated based on the provision of capital. To be specific, the Law specifies that at least 60% of distributable profits are returned on the basis of patronage, whereas at most 40% are allocated based on equity capital.

**3.4.2 Facing the Law.** Farmers obtain the membership by buying capital shares. According to our investigation, in most cooperatives a farmer needs to buy at least one share of capital. However, in a small proportion of cooperatives, one share is bought by more than one member when they lack money.<sup>13</sup> One share of capital can range from 500 Chinese Yuan (77USD) to 2000 Chinese Yuan (308USD). Cooperatives therefore are usually under-financed by members. Subsidies from the government are another important source of financial support (Liang & Hendrikse, 2013; Sultan & Wolz, 2012).

Information about capital share distributions between core members and common members is presented in Table 2. Core members, accounting for 3.5% of the membership, hold nearly half of the equity capital. Besides, chairpersons of cooperatives are the largest shareholders among core members.

The capital share distribution of the 37 cooperatives is presented in Figure 3. The horizontal axis ranges from core members to common members, whereas 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 3 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, the chairperson has on average 16.0% of the capital shares, which determines the starting point of the line in Figure 3. Core members (including the chairperson), accounting for 3.5% of the membership, have 49.1% of the capital shares, which determines the kink of the line in Figure 3.

Total profits are firstly reserved in the cooperative for risk and future investment, and then allocated to members at the end of the production year. The allocation of profits to farmers is based on patronage, capital share, or both. As Figure 4 shows, 73.0% of the cooperatives in the survey distribute profits to farmers on the basis of both patronage and capital share, whereas 21.6% of the cooperatives distribute profits solely based on patronage and 5.4% solely based on capital share. Among the cooperatives that distribute profits according to both patronage and

<sup>13</sup>We do not have the data regarding the proportion of cooperatives in which a member was required to have at least one share of capital and that of cooperatives in which one share is owned by several members.

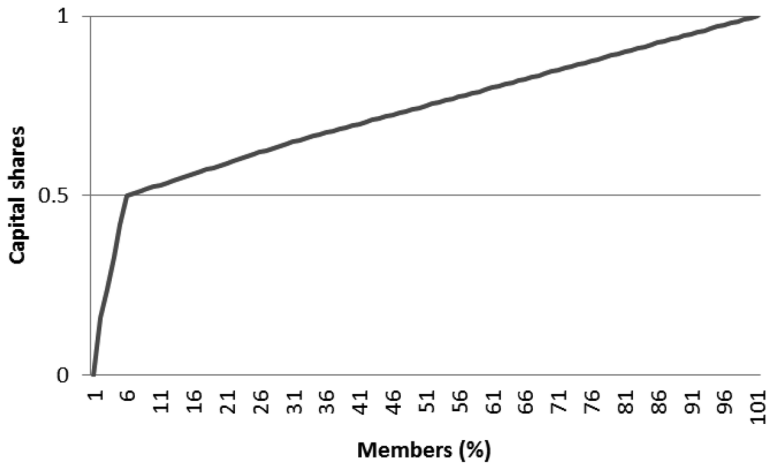


Figure 3 Distribution of Equity Capital.

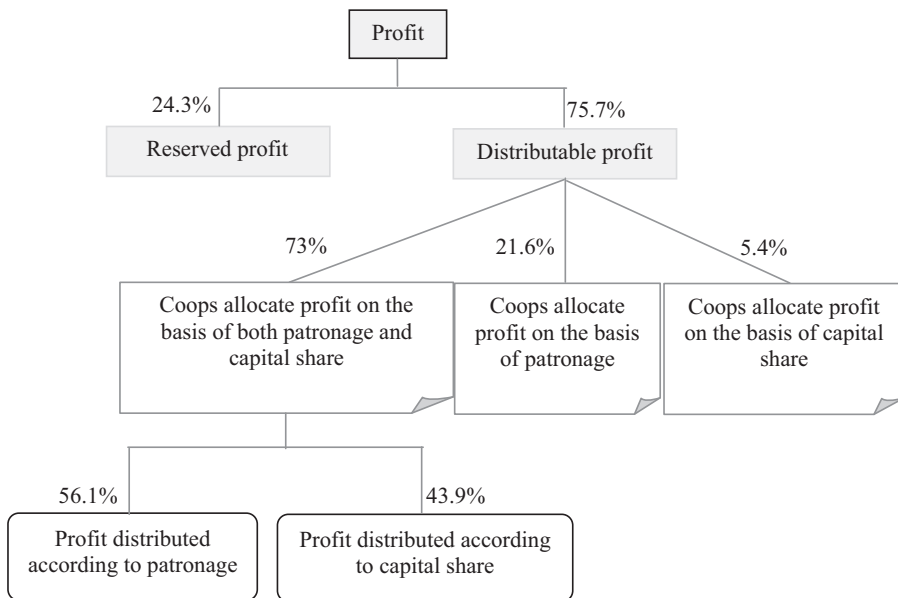


Figure 4 Average Profit Distribution of Cooperatives.

capital share, on average 56.1% of the profits are distributed on the basis of patronage, whereas 43.9% are distributed on the basis of capital share.

Data regarding the income of farmers is not available. However, Figures 3 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 patronage and capital share. Figure 3 reflects that core members have significantly more equity capital shares than common members. However, Table 1 shows that only 13.5% of the core members are large farmers, that is, most core members do not produce more 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 ranges from core members to common

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 (%)	3.5
Average shares that all core members hold (%)	49.1
Average shares that the chairperson holds (%)	16.0

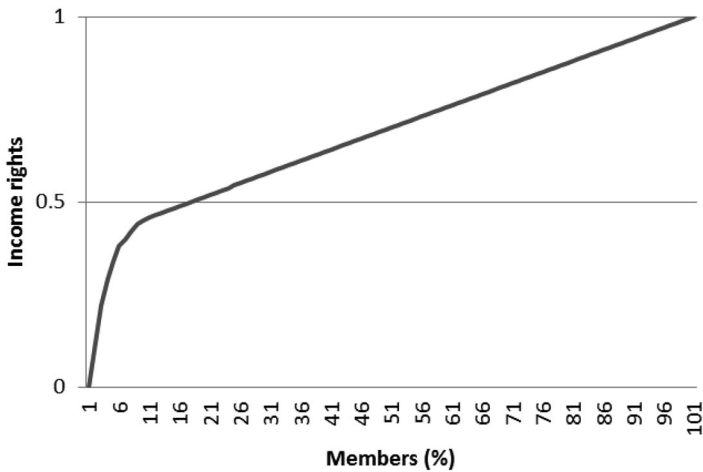


Figure 5 Distribution of Income Rights.

members, whereas the vertical axis refers to the percentage of profits allocated to farmers (based on patronage and capital share).

**3.4.3 Summary.** Data presented in section 4 show that nearly half (43.9%) of the profits are distributed on the basis of equity capital, whereas the other 56.1% of profits are distributed based on delivery. China's National Cooperative Law specifies that at least 60% of profits distributed to members should be based on patronage, which is not strictly practiced.

#### 4. DISCUSSION

This section will discuss the practices adopted by farmer cooperatives in China in terms of ownership rights, decision rights, and income rights.

##### 4.1. Ownership Rights

Debates on the ownership of cooperatives happen in China, as well as in Western countries. Many cooperatives have nowadays outside investors. For example, the Nedato potato cooperative in the Netherlands founded Nedato company, with two thirds of the capital shares held by the Nedato cooperative and the remaining one-third is held by an outside investor. New cooperatives in Turkey tend to take in outside capital as well. This raises the question whether these cooperatives financed by outsiders are real cooperatives (Bijman, et al., 2012). The upper limit on the shares of outside investors must not exceed 49%. Therefore cooperatives are still controlled by members, although the interests of outside investors need to be taken into consideration. Hence, both core member dominating the ownership rights and control

rights in Chinese farmer cooperatives, and outside investors holding a small part of shares of cooperatives, are examples of hybridization of cooperatives and should be tolerated.

It is not desirable for cooperatives in China to blindly comply with traditional cooperative principles and it is also not possible, considering the different and changing environments (Xu, 2005). It is important that cooperatives learn from history and experiences of developed countries and even more important to develop and adapt to the local economic and cultural environment. A vital feature of cooperatives in China is therefore that they attract key production factors. Cooperatives in China are incapable to retain good managers at this stage. Substantial authority may therefore be allocated to core members.

The fact that core members have most authority may cause opportunistic behaviors (Fulton, 1995; Harris, Stefanson, & Fulton, 1996; Huang, 2008). Thus, it is important to alleviate members' opportunistic behaviour, which can be done in formal as well as informal ways. Voting and voice rights are formally allocated to the whole membership, no matter whether they are used or not. Common members have the rights to vote and voice against decisions when they are dissatisfied. The formal voting and voicing rights can effectively limit core members from being overly opportunistic. Common members are willing to relinquish their decision rights to core members or not using the right as long as they are satisfied with the benefits derived from joining the cooperative.

#### 4.2. Decision Rights

A challenge for cooperatives is to balance between efficiency and equity. Decision-making authority being concentrated in a few management committees is not uncommon in other countries as well (Lemeilleur & Codron, 2011). The poorer farmers tend to be excluded from decision-making in producer organizations or even from organizations. A few studies find that class distinction or limited members' participation in decision making may cause the failure of cooperatives (Braverman, Guasch, Huppi, & Pohlmeier, 1991; Brass, 2007; Mujawamariya, D'Haes, & Spielman, 2013). Bernard and Spielman (2009) confirm the importance of members' participatory decision-making to the success of cooperatives, based on a sample of producer organizations in Ethiopia.

However, according to our study, the practice that real authority lies with the management, rather than the membership, may be attractive for a number of reasons. First, democratic processes are usually slow and costly. Democratic decision-making entails a collective action problem. When ownership is distributed among many members, owners may be less inclined to participate in decision making because each owner regards the results of the decision as a public good (Olson, 1965). Holmström (1999) regards it infeasible to have a large number of people directly involved in corporate decision-making. The empirical study by Lemeilleur and Codron (2011) shows a high collective decision-making cost in Turkey's traditional cooperatives. Credit cooperatives characterized by more concentrated authority have therefore been developing.

Second, democratic decision-making may elicit influence activities in the decision-making process (Milgrom and Roberts, 1992). Common members may seek to influence decisions. They spend time and energy to influence decisions made by core members, whereas core members spend time and energy to respond to these influence activities as well. Besides, common members may also behave opportunistically by shirking on quality or by delivering through alternative outlets. The cooperative therefore needs to supervise common members' behaviors, which is also costly. Influence activities in cooperatives are observed to be costly (Cook, 1995; Iliopoulos & Cook, 1999). Efficient organizations anticipate these observations and design their information and decision processes in such a way that these activities are channeled in value creating directions.

Third, a member manager is likely to have more knowledge of production as well as the membership, whereas an outside manager is probably more professional in management and marketing (Sexton & Iskow, 1988). Different from the situation in China that decision rights reside with core members, professional management, rather than member managers, increasingly

plays an important role in the decision making of farmer cooperatives in western countries (Bijman et al., 2012; Liang and Hendrikse, 2013). Many cooperatives in the Netherlands have experienced a shift of decision making authority from the board to the professional managers. Chinese cooperatives seldom have professional management or marketing. All CEOs and the chairpersons in the cooperatives in the survey were also members. Huang and Xu (2008) argue 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. One reason is that it is not desirable to hire outside managers when cooperatives in China are short of asset capital at this stage. The same challenge is also faced by traditional cooperatives in Turkey (Lemeilleur & Codron, 2011). Another reason is that these core members, after investing a large quantity of capital in the cooperative, have interests similar to the cooperative firm. They would devote most of their resources such as asset capital, human capital, and social capital to cooperatives in order to gain more benefits for themselves and meanwhile for the cooperatives as well.

However, the members are facing control problems because of the delegation of decision responsibilities to managers. A cooperative lacks a source of information compared to an investor-owned-firm, that is, a public listing. This makes the provision of incentives and the monitoring of the managers different than in a publicly listed investor-owned-firm (Feng & Hendrikse, 2012; Huang, 2008; Royer, 1999; Staatz, 1987).

Besides, because of the merged management and board and the dominant position of the management, the board of supervisors may collude with, rather than supervise, the board of directors. Core members will favor their own benefits at the expense of common members when there are conflicts of interests (Xiong & Zheng, 2008). Core members tend to overuse their rights, including decision rights and income rights, to receive additional rents. Core members may capture rents because of having on the one hand superior information regarding market demand and subsidies from the government and on the other hand the cost for common members to supervise core members' behaviors and performance. 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. 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. Revenues from the orchard are distributed on the basis of equity capital and merely between board members, whereas costs of both renting and production of the orchard are covered by the cooperative, that is, the membership. An effective supervising mechanism is therefore needed to constrain core members' behaviors.

### **Income Rights**

Limited return on equity capital is one of the principles of cooperative in various countries. In the US the rate of profits allocated based on equity capital is 8% (Baarda, 1986). Cooperatives in the Netherlands, such as Friesland Campina and De Producent, allocate profits on delivery as well. However, Chinese farmer cooperatives have alternative ways of profits distribution. Profits are allocated to members on the basis of both capital shares and delivery. A core member generally holds relatively more shares of the cooperative and correspondingly has more income rights. In spite of the restriction by the Law that a single member cannot own more than 20% 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 setting a ceiling amount of shares that each common member can buy, which contributes to the skewed distribution of equity capital.

The current structure of profit distribution is the combined result of both the interaction between heterogeneous members and government guidance. The allocation of profits based on both patronage and capital share may be desirable in cooperatives in China. On the one hand, if all the profits are distributed on the basis of patronage, core members would be 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. Lemeilleur and Codron (2011) investigate the benefits allocation system in Turkish cooperatives and argue that profits distributed proportional to patronage and not to members' capital contribution lead to underinvestment among members. 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 sales revenues and they will lack the motivation to join cooperatives. Hence, in order to balance the interests between core and common members, China's National Cooperative Law requires that the profit distributed on the basis of patronage must be more than 60% of total distributable profit. 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.

## 5. CONCLUSION AND FURTHER RESEARCH

Farmers in China differ in asset capital, human resources, and social resources. Some farmers have substantial asset capital, marketing capabilities, or social relations. These entrepreneurial farmers organize common farmers into farmer cooperatives. Common members are aware of their lack of these capabilities and relinquish parts of their rights to core members. Chinese farmer cooperatives therefore are characterized by a skewed allocation of ownership rights, decision rights, and income rights between core and common members.

The practices of Chinese cooperatives are not in line with the statements in the Law. Core members hold substantial rights over common members. There are advantages of governance featured by core members holding most power and more income rights, such as 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 promote the coordination and motivation of various members and limit the opportunistic behavior within cooperatives, formal institutions in terms of members' ownership, decision rights, and income rights specified in the Cooperative Law are important. As farmer cooperatives in China develop, members as well as memberships will stabilize and cooperative enterprises' capital accumulation capability will improve; and simultaneously some degree of democracy may be realized in farmer cooperatives in China. For example, the 60/40 return allocation policy may be restructured to 70/30.

The current article is devoted to a description of the governance structure of cooperatives in China. This is informative for the study of the governance structure of cooperative enterprises in transition countries. It is important to recognize that cooperatives in different parts of China vary in their stage of development. Cooperatives emerged first 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. Additional empirical studies in other parts of China regarding ownership rights structure, decision rights, and income rights distribution of farmer cooperatives are desirable. We use a database of 37 fruit and vegetable cooperatives to represent cooperatives in China. Although fruit and vegetable cooperatives account for the most proportion of farmer cooperatives in China, governance of cooperatives varies among alternative sectors (Bijman et al., 2012). Studies on the governance structure of Chinese farmer cooperatives based on a sample of cooperatives in alternative sectors or a larger sample comprised of cooperatives of various products would be interesting. The third possible domain for future research is the effect of the State's institutional arrangements on the structure of farmer cooperatives in China. Carroll, Goodstein, and Gyenes (1988) show, based on an empirical study on farmer cooperatives in Hungary, that the structure of the state has significant effects on the organizational structure as well as the behavior of farmer cooperatives. This may result in another life cycle of cooperatives in China than in other parts of the world.



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## REFERENCES

- Baarda, J. R. (1982). State incorporation statutes for farmer cooperatives. Washington, D.C.: USDA ACS Coop. Info. Rep. 30, Oct.
- Baker, G., Gibbons, R., & Murphy, K. (1999). Information authority in organization. *Journal of Law, Economics, and Organization*, 15(1):56–73.
- Baker, G., Gibbons, R., & Murphy, K. (2002). Relational contracts and the theory of the firm. *Quarterly Journal of Economics*, 117(1):39–84.
- Baker, G., Gibbons, R., & Murphy, K. (2008). Strategic alliances: Bridges between ‘islands of conscious power’. *Journal of the Japanese and International Economics*, 22(2):146–163.
- Bernard, T., & Spielman, D. J. (2009). Reaching the rural poor through rural producer organizations? A study of agricultural marketing cooperatives in Ethiopia. *Food Policy*, 34(1):60–69.
- Bijman, J., Hendrikse, G. W.J., & Oijen, A. (2013). Accommodating two worlds in one organisation: Changing board models in agricultural cooperatives. *Managerial and Decision Economics*, 34(3–5): 204–217.
- Bijman, J., Iliopoulos, C., Poppe, K.J., Gijssels, C., Hagendorn, K., Hanisch, M., Hendrikse, G.W.J., Kuhl, R., Ollila, P., Pyykkonen, P., & van der Sangen, G., 2012. Support for farmers’ Cooperatives, Final report, Wageningen UR.
- Brass, T. (2007). How agrarian cooperatives fail: Lessons from 1970s Peru. *The Journal of Peasant Studies*, 34(2):240–287.
- Braverman, A., Guasch, J., Huppi, M., & Pohlmeier, L. (1991). Promoting rural cooperatives in developing countries: The case of Sub-Saharan Africa. World Bank Discussion Papers, No. 121. The World Bank, Washington DC.
- Carroll, G. R., Goodstein, J., & Gyenes, A. (1988). Organizations and the states: Effects of the institutional environment on agricultural cooperatives in Hungary. *Administrative Science Quarterly*, 33(2):233–256.
- Cook, M. L. (1995). The future of US agricultural cooperatives: A neo-institutional approach. *American Journal of Agricultural Economics*, 77(5):1153–1159.
- Cook, M.L., & Plunkett, B. (2006). Collective entrepreneurship: An emerging phenomenon in producer-owned organizations. *Journal of Agricultural and Applied Economics*, 38(2):421–428.
- Dunn, J. R. (1988). Basic cooperative principles and their relationship to selected practices. *Journal of Agricultural Cooperation*, 3:83–93.
- Feng, L., & Hendrikse, G. W. J. (2011). Coordination and governance: The case of cooperatives versus IOFs. Paper presented at the EAAE 2011 Congress “Change and Uncertainty: Challenges for Agriculture, Food and Natural Resources,” Zurich, Switzerland, Aug. 30–Sep. 2.
- Feng, L. (2011). Motivation, coordination and cognition in cooperatives. ERIM PhD series in Erasmus University Rotterdam, EPS-2010-220-ORG, ISBN 978-90-5892-261-8.
- Feng, L., & Hendrikse, G. W. J. (2012). Chain interdependencies, measurement problems and efficient governance structure: Cooperatives versus publicly listed firms. *European Review of Agricultural Economics*, 39(2):241–255.
- Fulton, M. (1995). The future of Canadian agricultural cooperatives: A property rights approach. *American Journal of Agricultural Economics*, 77(5):1144–1152.
- Hansmann, H. (1996). The ownership of enterprise. Harvard University Press.
- Harris, A., Stefanson, B., & Fulton, M. (1996). New generation cooperatives and cooperative theory. *Journal of Cooperatives*, 11:15–28.
- Hart, O., & Moore, J. (1990). Property rights and the nature of the firm. *Journal of Political Economy*, 98(6): 1119–1158.
- Hart, O., & Moore, J. (2005). On the design of hierarchies: Coordination versus specialization. *Journal of Political Economy*, 113(4):675–702.
- Hendrikse, G. W. J. (2007). Two vignettes regarding boards in cooperatives versus corporations: Irrelevance and incentives. In K. Karantininis, & J. Nilsson (Ed.), *Vertical markets and cooperative hierarchies*. Dordrecht: Springer; pp. 137–150.
- Hendrikse, G. W. J., & Veerman, C. P. (2001). Marketing co-operatives: An incomplete contracting perspective. *Journal of Agricultural Economics*, 52(1), 53–64.
- Henriksen, I., Hviid, M., & Sharp, P. (2012). Law and peace: contracts and the success of the Danish dairy cooperatives. *Journal of Economic History*, 72(1):197–228.
- Hirschman, A. O. (1970). Exit, voice, and loyalty: Responses to decline in firms, organizations, and states. Cambridge, MA: Harvard University Press.
- Holjman, D. A., & Szeidl, A. (2008). Core and periphery in networks. *Journal of Economic Theory*, 139(1):295–309.

- Holmström, B. (1999). Future of cooperatives: A corporate perspective. *The Finnish Journal of Business Economics*, 4:404–417.
- Huang, S. (2008). Analysis on the behavior of farmer cooperatives in transforming time in China. Zhejiang University Press: Hangzhou.
- Huang, S., & Xu, X. (2008). Analysis on member heterogeneity and organizational structure of farmer cooperatives. *Journal of Nanjing Agricultural University (Social Science Version)*, 8(3):1–7 and 43.
- Iliopoulos, C., & Cook, M.L. (1999). The efficiency of internal resource allocation decisions in customer-owned firms: The influence costs problem. Paper presented at the 3rd Annual Conference “The International Society for New Institutional Economics”, Washington D.C., Sep. 16–18.
- Lemeilleur, S., & Codron, J. (2011). Marketing cooperative vs. commission agent: The Turkish dilemma on the modern fresh fruit and vegetable market. *Food Policy*, 36 (2):272–279.
- LeVay C. (1983). Agricultural co-operative theory: A review. *Journal of Agricultural Economics*, 34(1):1–44.
- Liang, Q., & Hendrikse, G. W. J. (2013). Core and common members in the genesis of farmer cooperatives in China. *Managerial and Decision Economics*, 34(3–5):117–361.
- Lin, J., & Huang, S. (2007). Member heterogeneity and ownership rights in farmer cooperatives. *Agricultural Economy Issue*, 10:12–17.
- Ma, Y., & Meng, C. (2008). The dual-agency relations in farmer cooperatives in China: The problem and improvement ideas. *Agricultural Economic Issue*, 5:55–60.
- Madhok, A. (1996). The organization of economic activity: transaction costs, firm capabilities, and the nature of governance. *Organization Science*, 7(5):577–590.
- Milgrom, P. R., & Roberts, J. (1992). *Economics, Organization and Management*. Englewood Cliffs, NJ: Prentice-Hall.
- Mischler, R. J. (1957). Agricultural cooperative law. *Rocky Mountain Law Review*, 30:381–400.
- Mujawamariya, G., D’Haes, M., & Speelman, S. (2013). Exploring double side-selling in cooperatives, case study of four coffee cooperatives in Rwanda. *Food Policy*, 39:72–83.
- Olson, M. (1965). *The logic of collective action*. Cambridge MA: Harvard University Press.
- Pencavel, J. (2001). *Worker participation: Lessons from the worker co-ops of the Pacific Northwest*. Russell Sage Foundation Publications.
- Rathbone, R., & Wissman R. (1993). Equity redemption and member equity allocation practices of agricultural cooperatives. United States Department of Agriculture research, report 124.
- Rey, P., & Tirole, J. (2000). Loyalty and investment in cooperatives. IDEI Working Papers 123, Toulouse.
- Royer, J. S. (1999). Co-operative organizational strategies: A neo-institutional digest. *Journal of Cooperatives*, 14(1):44–67.
- Sexton, R. J., & Iskow, J. (1988). Factors critical to the success or failure of emerging agricultural cooperatives. Working paper, Giannini Foundation Information Series No. 88–3.
- Staatz, J. M. (1987). A game-theoretic analysis of decision making in farmer cooperatives. In J.S. Royer (Ed.), *Cooperative Theory: New Approaches (ACS Service Report 18)* The U.S. Department of Agriculture: Washington, D.C.; 117–147.
- Sultan, T., & Wolz, A. (2012). Agricultural cooperative development in China and Vietnam since decollectivization. Paper presented the 2<sup>nd</sup> eRNAC Conference on Agricultural Cooperatives: Cooperative Values in Internationalized Operations, Helsinki, Finland, June 14–16.
- Williamson, O. E. (2000). The new institutional economics: taking stock, looking ahead. *Journal of Economic Literature* 38(3):595–613.
- Xiong, J., & Zheng, Y. (2008). Analysis on agency cost in farmer cooperatives controlled by minority members in China. *Agricultural Economy*, 11:76–78.
- Xu, X. (2005). *Institutional analysis on farmer specialized cooperatives in China*. Beijing: The Publishing House of Economic Science.
- Xu, X. (2014). The government’s action logic in the development of farmer cooperatives in China: Based on the perspective of empower theory. *Issues on Agricultural Economy*, 1:19–29.

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