Agricultural Cooperative Enterprise in the Transition from Socialist Collective Farming

by
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Abstract

Cooperative enterprise has appeal as a means of filling gaps in the economic institutions of the rural sectors of the transition economies of Central and Eastern Europe and the former Soviet Union. But in addition to problems that have faced cooperatives in the West because of their inherent characteristics, the Soviet-era legacy created cultural burdens that cooperatives will have to overcome. A review of countries' experiences since 1989 indicates some commonalities in attempts to create "new cooperatives," but also instructive differences across countries. The evidence so far is unfavorable for cooperatives in agricultural production. In marketing and input supply the current situation is more promising. In both production and marketing, the economic institutions remain in flux. Unique approaches involving cooperatives may take permanent root, but their long-term prospects are in doubt.

The collapse of the command economy of the Soviet Union and countries within its sphere of influence in 1989-91 provided the opportunity for many economic adventures. One of these was the opportunity for new roles for cooperatives. The collapse created an institutional vacuum surrounding large "farm enterprises"– the dominant organizational form in former socialist agriculture – in which basic economic functions were not being performed. While the idea of rural cooperation has had a mixed history in the world's market economies, conditions in the former Soviet Union and other formerly collectivized farm sectors in Central and Eastern Europe appear in important respects promising for the cooperative form of

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business. So far, however, cooperative enterprise has not taken off as a means of economic organization. This paper considers the record and the reasons for it.

Economic Environment of the Early 1990s

In general the agricultural sectors of the formerly centrally planned economies were in a state of disarray and economic crisis in the period after the socialist governments fell. The former command system disappeared almost overnight while new market structures had not yet emerged, and state support provided to the large farm enterprises was largely withdrawn. An immediate outcome of this transition shock was a sharp decline in both agricultural output and the sector's GDP (value added) in the early 1990s. However, the countries of Central and Eastern Europe (CEE) recovered from this initial decline much faster than the former Soviet republics in the Commonwealth of Independent States (CIS). Gross agricultural product in the CEE countries stabilized after 1994, while the decline in CIS agriculture continued for four more years, until 1998 (**Table 1, Figure 1**). The principal reason for the difference appears to be the more resolute adherence of CEE governments to reform policies throughout their economies. Agricultural labor in CEE countries as a group declined all through the 1990s, as growing economies provided alternative employment opportunities to some in the relatively large rural population (**Table 1, Figure 2**). In CIS, on the other hand, the shrinking economy triggered a substantial increase in agricultural labor during that period, in a sharp contrast to the pre-1990 pattern, when Soviet labor was shifting from agriculture to other sectors of the economy. The differences in the behavior of agricultural output and labor between CEE and CIS produced sharp differences in productivity of agricultural labor: it generally increased in the CEE countries, while declining through 1998 in CIS (**Table 1, Figure 3**). Although total factor productivity or technical efficiency changes are more difficult to estimate because of severe data limitations, some attempts have been made and the findings are similar to those for labor productivity. Kim et al., 2005, undertook technical efficiency growth comparisons for 22 CEE and CIS countries over the 1992-2001 period. They found higher rates of increase in the CEE countries, and moreover variations in efficiency gains across countries in the CEE group were positively associated with measures of economic reform.

Table 1. Agricultural output, agricultural labor, and agricultural labor productivity for CEE and CIS, 1990-2002 (percent of 1990)

	Ag output		**Ag output**		**Ag labor productivity**	
Year	CIS	CEE	CIS	CEE	CIS	CEE
1990	100	100	100	100	100	100
1991	89	95	107	94	84	101
1992	85	82	113	90	76	**94**
1993	83	79	112	85	76	**99**
1994	73	**76**	110	84	67	**98**
1995	70	**81**	114	80	63	**113**
1996	67	**81**	116	80	60	**113**
1997	67	**81**	116	77	60	**118**
1998	**65**	**80**	117	75	**57**	**121**
1999	**68**	**78**	121	74	**59**	**123**
2000	**68**	**75**	122	71	**59**	**124**
2001	**75**	**79**	125	66	**64**	**143**
2002	**75**	**79**	124	63	**69**	**147**

Bold numbers mark the recovery period after the turnaround.
Source: Lerman et al. (2004) based on official country statistics.

Fig. 1. Gross Agricultural Output 1990-2002

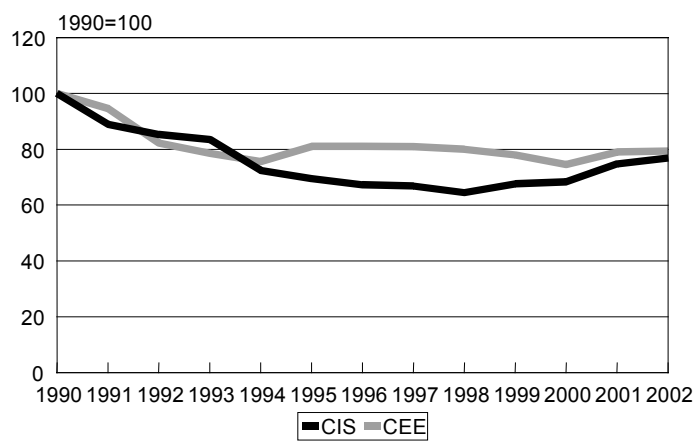


Fig. 2. Agricultural Labor 1990-2002

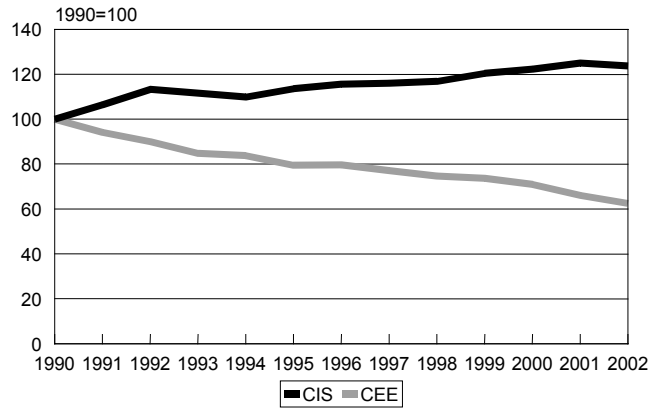
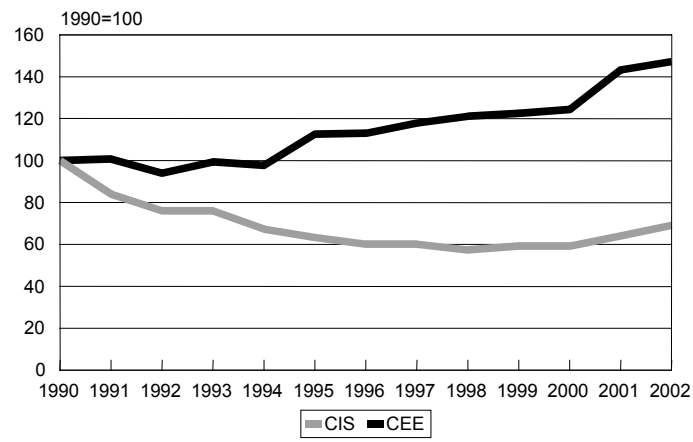


Fig. 3. Agricultural Labor Productivity 1990-2002



Analysts in the CEE and CIS countries as well as outside observers have undertaken efforts to understand the sources of problems in the agriculture sectors, and to recommend policies to improve economic performance. These have ranged from simple ideas such as raising commodity prices to fundamental reforms of the legal and institutional arrangements governing property and contracting. In this context it is natural to consider new roles for cooperatives among the options.

Potential for Cooperatives

The ideals of cooperative enterprise in agriculture have had a long history of acceptance and even enthusiastic advocacy in CEE and CIS countries. This legacy was tarnished by experience of State control of cooperatives. The International Labour Office recently summarized the situation as follows (Couture et al., 2002:2):

> The State-controlled period was characterized by government interference in cooperative affairs at all levels. Most of the time, member registration was compulsory, and the directors and staff were not appointed by the members, but directly appointed by the State. In many countries, cooperatives were not particularly concerned about profitability since they were subsidized by the government and received preferential treatment. In the same way, they were subject to rigid State planning, which did not provide them with the possibility to develop their own entrepreneurial strategies. Their business affairs were often restricted to a small range of products and services, and State control extended to instructions and directives concerning, for example, the number of employees and their wages.

The large collective farms that had these characteristics were administered under the label of cooperatives in the formerly socialist countries, even when they had not evolved out of voluntary associations but were imposed from above in a forced collectivization process. Consequently, among many of the rural population the concept of cooperation in agricultural production appears to have lost, if it ever had, the positive and idealistic connotations it has had in the traditional cooperative movement throughout Europe and North America. In its place, we find a strong psychological resistance to cooperation, bred from years of abuse of the whole concept by socialist regimes. As noted by the Plunkett Foundation (1995),

> The use of the word "co-operative" in Central and Eastern Europe will not only create the wrong impression, it will also create barriers to progress. The old style of co-operative or collective has no relevance in the new free-market approach.

The predominance of "old-style" production cooperatives in socialist agriculture as of 1970 is shown in **Table 2** (the numbers do not include state farms).

Table 2. Share of Production Cooperatives in Socialist Agriculture (%, 1970 data)

	USSR	Bulgaria	Czecho-slovakia	Hungary	Poland	Romania	East Germany
Agricultural land	37.5	68.0	55.7	67.6	1.2	53.9	72.0
Number of employed	64.2	58.7	60.5	75.5	0.9	82.0	72.2
Productive assets	42.4	56.7	47.9	--	1.4	23.6	--
Gross product	40.0	62.6	53.2	45.8	1.1	42.3	--
State purchases:							
grain	51.9	81.0	64.5	79.8	1.3	71.0	79.3
meat	33.3	44.7	50.0	--	1.3	20.6	--
milk	36.5	59.7	53.4	43.3	0.6	28.7	--

Source: GSE 1973, vol. 13:102.

The Soviet model of agriculture that emerged in the process of collectivization during the 1930s was automatically imposed by the USSR upon the CEE countries after World War II. Collectivization of agriculture in these countries was part of an extensive process of land reform, which included distribution of large estates to smallholders. Contrary to the Soviet Union, which eliminated all private land ownership immediately in October 1917, land in these countries was never completely nationalized, and production cooperatives were created on private land contributed by joining members. The original landownership records of cooperative members survived the Communist era in these countries. In all other respects, the production cooperatives in CEE were basically similar to Soviet collective farms: they were large-scale horizontally integrated multifunctional entities operating in a centrally controlled environment, which had a responsibility for both economic and social aspects of rural communities and whose members were largely treated as hired hands. The collectivized agriculture in CEE developed the same duality as Soviet agriculture, with large-scale production cooperatives coexisting symbiotically with small household plots of their members.

Table 2 illustrates the very large share of Soviet-model collective farms in the agricultural sector of most countries in the region. The difference to 100% is

largely made up by state farms, not the quasi-private household plot sector. A notable exception in CEE was Poland, where collectivization had not been forced and agriculture remained largely based on individual peasant farms (a similar system prevailed in Yugoslavia). Without large-scale multifunctional collectives, Poland retained a relatively receptive environment for agricultural service and credit cooperatives. In 1970, the Polish marketing cooperatives purchased over 75% of farm products from peasant farms (GSE 1973, vol. 13:106). In general, throughout the rest of the region, various service and consumer cooperatives have not been eradicated as completely as in the USSR. In Hungary, 70% of consumer services were provided by cooperatives; in Czechoslovakia, Romania, Hungary, Poland, and East Germany, consumer cooperatives handled over 30% of all retail trade (1971 data) (GSE 1973, ibid.).

While the end of State support created severe economic problems for agriculture in the transition economies, the end of State supervision created opportunities. Given the institutional inheritance of large collective farming operations, with management and on-site infrastructure for large-scale enterprise remaining largely intact, the idea was that autonomous cooperatives might solve some of these problems, especially in input provision and output marketing. The main competing idea, development of individually owned and operated farm enterprises along the predominant Western model, was hindered by the lack of property ownership in land, lack of competitive market sources of inputs, and lack of access to credit.

Proponents of cooperatives as a means of progress in the agricultural sectors of transition economies, at a conference of the International Cooperative Alliance in 1995, formulated the following principles of "genuine" cooperation (Couture et al., 2002:2):

- democratic member control (generally 'one-member, one vote')
- voluntary and open membership
- member economic participation (on the basis of equity provided by members, with limitations on individually held equity)
- distribution of surpluses or profits as patronage refunds
- social consciousness (providing training and information, and community services).

These principles are essentially congruent with U.S. statements of what distinguishes cooperatives from other forms of business, namely: "First, persons who own and finance the cooperative are those that use it. Second, control of the cooperative is by those who use it. Third, benefits of the cooperative are distributed to its users on the basis of their use." (Barton, 1989:1).

Could the prospects for such cooperatives overcome the historically validated negative impressions of the past in the minds of agricultural producers or potential new farmers? If so, the new cooperatives would then have to overcome the classical economic problems that have been blamed for the failure of cooperatives in agricultural production in the West – problems of incentives of managers and workers (in allocation of on-farm effort, mobilization of members' savings, distribution of the cooperative's net returns, and means of treating off-farm income earned by members), of raising capital for investment , or of reaching collective decisions needed for example to adopt new technology or change the product mix to meet market trends. It seems likely that exposure to the negative side of Western debates on cooperatives would resonate with some whose experience with State-directed collective farming was disheartening, even if for different reasons.

Experiences with New Cooperatives

Different countries in the region have pursued different farm restructuring strategies. Albania, Romania, Armenia, and to a certain extent also Georgia rapidly disbanded the collective farms and divided their land into very small private farms during 1991-92. In other countries, dismantling is a rare phenomenon and the traditional collective and state farms are generally required to reorganize into new corporate forms with market-sounding names, such as joint-stock company, limited liability partnership, etc. "Agricultural cooperative" is one of the corporate forms explicitly recognized by company laws in transition countries for the successors of former collectives. Agricultural cooperatives are observed quite frequently, as is evident from the data for Russia, Ukraine, and Moldova in **Table 3**. Yet agricultural cooperatives in transition countries are not really cooperatives in the Western sense of the word and they are virtually indistinguishable from other corporate farms. In a recent interview with the manager of a large agricultural cooperative in Hungary, it turned out that the farm was actually owned by the manager's extended family and it was simply registered as a cooperative for legal and administrative considerations. The term "cooperative" thus appears to be a misnomer for farms in transition countries. This may explain why comparative productivity studies consistently fail to detect any performance differences between agricultural production cooperatives and other corporate farms in CIS and CEE (see, e.g., Curtiss et al., 2004; Schulze et al., 2001).

In most CIS countries land was generally privatized starting in 1991-92 through a mechanism involving distribution of "land shares" – paper certificates of entitlement. These certificates could be converted on request into specific physical plots for individual farming, but most landowners simply turned around and

entrusted their land shares to the managers of the former collectives for joint cultivation. Survey results consistently indicate that the new landowners overwhelmingly preferred the security of the cooperative umbrella to the risks and uncertainties of individual initiative

Table 3. Number of agricultural production cooperatives in selected CIS countries in the early 2000s

	Agricultural production cooperatives	**All corporate farms**	**Agricultural cooperatives in percent of all corporate farms**
Russia (2001)	15,314	24,995	61%
Ukraine (2000)	3,325	13,487	25%
Moldova (2003)	166	1,527	11%

Source: Official country statistics.

(Lerman et al., 2004). These preferences are particularly strongly underscored by the landowner attitudes in Moldova and Ukraine, where land shares have been recently converted by law into fully titled and demarcated physical plots, so that special request is no longer required in order to obtain land. In Moldova, only one-third of individual landowners cultivate their land independently, while fully two-thirds entrust their land through various leasing arrangements to managers of newly created corporate farms, many of them registered as "agricultural cooperatives" (2000 World Bank survey). In Ukraine (2005 FAO survey), only 20% of rural landowners cultivate their own land, while two-thirds (as in Moldova) leave their land in joint cultivation in the local large enterprise (the remaining 13% lease their land to individual farmers).

This attitude is also prevalent in the CEE countries, which unlike CIS have followed the strategy of restitution to former owners. Thus, half the restitution beneficiaries in Bulgaria and a significant proportion in Hungary have also chosen to remain in agricultural production cooperatives, while in Romania, where collectives were forcibly dismantled, fully 48% of land originally distributed to private farms is now in various informal farmers' associations (Lerman et al., 2004). Members of former collective farms are thus voting "with their feet" for perpetuation of the cooperative framework, at least in the immediate future, probably because of the sense of security it affords to individuals in a highly uncertain and rapidly changing environment.

Two conferences, one at which Western and Eastern European proponents of cooperation assessed the record as of 2001 and the other a more scholarly conference sponsored by the European Association of Agricultural Economists in 2005, provided several informative case studies. Bulgaria is notable in that after the legislated liquidation of Soviet-style cooperatives and distribution of land holdings to individuals, at least on paper, in 1991, the way was clear, and encouraging, for the formation of new cooperatives. Most of the landowners chose "to unite their land and other resources in agricultural production cooperatives." (Doitchinova et al., 2004:2). By 1998 the number of such "new" cooperatives reached 3,268, which with an average of 742 hectares and 234 members accounted for 42 percent of Bulgaria's land in cultivation. However, the expansion occurred despite growing problems in maintaining viability in a difficult economic environment, caused partly by State credit that, in retrospect, was too easily granted. After a new Law for Cooperatives in 1999, which attempted to stem the budgetary costs of aid to cooperatives, the cooperatives accelerated moves already under way to devolve their assets to members, e.g., by renting land to non-members and their own members ("A strange thing is happening – the cooperators are renting land from themselves" (Ganev, 2001:36)). Many cooperatives were liquidated – essentially a declaration of bankruptcy – and the number remaining in operation dropped from about 3,300 in 1999 to 1,750 in 2003 (Doitchinova et al., 2004).

Although it is still believed by some that "the fate of Bulgarian agriculture rests with the fate of agricultural cooperatives" (Ganev, 2001:35), the trend appears firmly in the direction of individual farms and larger agricultural holdings, essentially registered profit-seeking corporations, which grew to number 4,300 in 2003, averaging 214 hectares in size and accounting for 30 percent of Bulgaria's cultivated land (Doitchinova et al., 2004:6). Doitchinova et al. (2004) conclude with an assessment of what might be done to cure the problems of production cooperatives. The problems are seen as stemming from difficulties in resolving differences in interests of members, the distribution of income, mobilizing capital for investment, and ensuring labor participation of members, Several ideas for contractual arrangements among members are discussed, but the most promising alternative is seen as follows: "Most of the contradictions between the different groups of cooperative members can be solved by transforming the cooperative [to become] a limited liability company" (Doitchinova et al., 2004:8). This is not of course the end-state envisaged in the cooperative movement.

The Czech Republic on the eve of transition in 1989 had an almost entirely collectivized agriculture, with 99 percent of both land and production attributed to large-scale collective and state farms. There were over 3,000 small, individually owned farms, but they accounted for less than 1 percent of the country's land and production (Curtiss et al., 2004:4). The cooperative movement had had a strong

presence in Czech agriculture for over 150 years (Moznar, 2001). The intellectual foundation was there for cooperatives to play a major role in picking up the pieces in the transition period of the 1990s. Indeed, the mandatory breakup of former collective farms resulted as of 2000 in a roughly even split of agricultural land between cooperatives of several kinds, business companies of several kinds, and owner-operated small farms (Moznar, 2001:44). The last category was expected by some to become predominant, and had expanded to an estimated 23 percent of Czech agricultural land by 1995; but from that point various larger-scale enterprises held their own (Curtiss et al., 2004:5).

Hungary had some experience with cooperatives before 1948, but the Soviet-style collective farm, where the residual profits were extracted by the State and the members were not independent owners, "was alien to the Hungarians, who had an entirely different tradition" (Sebestyen, 1993:301). The result was that the collective farm concept was transformed in the Hungarian context. Farmland was not nationalized and remained the property of the members (even if they could not farm all the land as individuals). As of 1990 there were 1,360 cooperative farms in operation, which accounted for 80 percent of all farmland. Of their one million members, half were active and half were pensioners (Filipsz and Szabo, 2001), and within these cooperatives there were about 40,000 relatively independent farming units, about 30 of them on average per cooperative. These were, for example, machinery-services units that rented equipment from the cooperative (Sebestyen, 1993).

Hungary's history of flexibility of organization within a broadly Soviet-style collective farm system provided a useful starting point for the more drastic changes that had to be undertaken with the end of State support and direction after 1990. Laws governing compensation of former owners and reorganization of cooperatives were in place by 1992. The laws provided for the division of cooperatives' assets among existing members (as well as former members and their heirs), permitted members to withdraw from the cooperative along with their share of assets, and specified that cooperatives may transform themselves into a limited liability or joint stock corporation. Enterprises that remained cooperatives were not entitled to special tax or credit treatment (Sebestyen, 1993).

In these circumstances, the number of agricultural cooperatives in Hungary has declined substantially, to about 800 in 2000, which cultivated about a third of the country's farmland and employed about 135,000 (compared to the 500,000 active members mentioned above for 1990). The cooperatives that disappeared often did so essentially through bankruptcy liquidation, with assets going either to former members or to corporate enterprises. As in the previously discussed countries, the cooperative as a means of organization of agricultural production is proving unviable as compared to the alternatives.

Rizov and Mathijs (2003) attempt to explain the survival and growth of farms in Hungary using characteristics of the farms as explanatory variables, but they do not consider organizational form as a causal factor. Ferto and Fogarasi (2004) undertake an explanation of organizational form in Hungarian agriculture through application of ideas of transaction-cost economics as developed in Allen and Lueck (1998). The general hypothesis is that certain organizational forms, with a focus in these studies on family farms as compared to corporate farms, are best suited to particular economic environments. The particular hypotheses that receive most attention are that high transaction costs, for example in mobilizing capital or dealing in labor or product markets, favor large corporate farming in which more decisions are handled through internal management instructions rather than priced transactions (following Coase's classic article, 1937); and that when price-based transactions are necessary, they are done at a scale sufficient to minimize high costs per transaction. Ferto and Fogarasi (2004) do not find empirical evidence that transaction-cost factors are important in explaining the prevalence or success of family farming as compared to larger-scale corporate farming, and they do not attempt to investigate whether the decline of cooperative farming might be linked to transaction-cost factors. Their work provokes the thought, however, that transaction costs should be considered in the analysis of fate of agricultural cooperatives, especially their devolution to much smaller individual farms. These small farms unquestionably face high transaction costs in both input acquisition and product marketing, and that could be a reason for cooperative enterprise to play a role in the farming economy even if not as the internal management mechanism for large farms.

The study of Romanian organizational structure by Rizov (2002) suggests similar reasons for farmers becoming individual owner-operators, part-time farmers, or "association farmers" (essentially smaller-scale cooperative ventures for purposes of pooling capital). It is noteworthy that remaining a large-scale cooperative is not even considered a possibility in the Romanian context, given the "spontaneous privatization" with which many cooperatives were broken up by members upon their first opportunity to do so in 1991 (Rizov, 2002:172).

Marketing and Input-Supply Cooperatives

In considering cooperatives in agricultural production we have been looking where their prospects are in general weakest. In the United States, for example, all manner of experiments have been undertaken in cooperative and communal farming over the past 150 years, and they have almost without exception been commercial failures and have not survived; yet cooperatives in the broader

agricultural economy have thrived. In 1915 marketing cooperatives sold $624 million of farm products, amounting to 8 percent of U.S. farm output, In 2002 they sold $70 billion of products (including processed products), about 15 percent of the aggregate U.S. wholesale value of the products. Farm input and service cooperatives have grown to a volume of business of about $26 billion in 2002 (USDA, 2004). Farm production cooperatives are too negligible to have any statistics reported on them.

Many observers have noted that conditions in the transition economies that make farming economically most difficult involve marketing and even more so input supply. Often this is attributed to monopolies on either the buying or selling side, but it may equally well be a problem of high transaction costs in an environment of generally not well developed marketing infrastructure, including information, transportation, and storage services. Could cooperative enterprises owned by farmers remedy these problems? Certainly the hopes for this remain and are being implemented. In the case of Hungary, while farming cooperatives are not passing the survivor test, a substantial number of new cooperatives have been established in marketing and input supply. Legislation of 1999 provided financial support for the formation of such cooperatives and attempted to ensure access to working capital. As of 2000 there were estimated to be 500 new local cooperatives, including specialized ones for the marketing of fruits and vegetables, pigs, poultry, sheep, and for crop warehousing (Filipsz and Szabo, 2001).

Legislation in transition countries is finally beginning to differentiate between production cooperatives and service cooperatives. This is a notable departure from earlier cooperative laws in the CIS, which distinguished between "consumer cooperatives" and "producer cooperatives", indiscriminately lumping both production and service cooperatives in the latter category. Thus, the Ukrainian Law on Agricultural Cooperation adopted in July 1997, after a general definition of a cooperative as a voluntary association of members established for the pursuit of a common agricultural activity, specifies that production cooperatives (those created for joint farming activities) must be based on members' labor and are therefore organized as associations of individual farmers, whereas service cooperatives (those created to provide farm support services to their members) may employ hired labor and their membership may therefore include both individual and corporate farms. The cooperative laws in Russia and Moldova, on the other hand, still restrict cooperative membership to individual farmers.

No official statistics are available on service cooperatives in CEE and CIS, and we have to rely on farm-level surveys to provide some information on cooperation among farmers in transition countries. Despite the resistance to cooperatives stemming from the long-term abuse of this concept under the Soviet regime, we are witnessing the emergence of new forms of cooperation among individual farmers

in transition countries (**Table 4**). This is voluntary cooperation, often informal and sporadic, that stands in stark contrast to the all-pervasive mandatory cooperation of the socialist era. Cooperation is quite strong in many areas, with the notable exception of processing and credit. Consistently with theoretical considerations, the level of cooperation is lower in Poland, where the market environment is substantially more developed than in the other countries. In another series of surveys conducted in CEE back in 1993 (Euroconsult, 1995), 45% of Romanian private farmers, 30% of Bulgarian farmers, and 15% of Hungarian farmers indicated that they participated in cooperative farm-support activities.

Table 4. Cooperation in farm services among private farmers (percent of respondents)

	Russia	**Ukraine**	**Belarus**	**Armenia**	**Moldova**	**Poland**
Some form of cooperation	74	82	60	44	30	20
Consulting	58	64	33	9	10	8
Marketing	33	24	13	10	11	8
Input supply	30	20	7	1	7	5
Machinery	43	45	37	19	19	7
Production services	27	34	17	10	11	6
Processing	8	6	0	1	7	2
Credit	37	16	10	0	2	2

Source: World Bank surveys 1994-2000.

Cooperation in machinery – a high-cost lumpy asset – is understandably one of the major areas of cooperation among individual farmers in transition countries. Through cooperation, the actual access of individual farmers to machinery and machinery services is much higher than that suggested by machinery ownership rates. Thus, in Armenia only 14% of farmers own farm machinery (either individually or jointly with their relatives and neighbors). Machinery pools and service cooperatives, however, ensure that fully 80% of individual farmers in this country have access to machinery or mechanical field services (Lerman and Mirzakhanian, 2001). In Moldova, fewer than 30% of peasant farmers participating in the 2000 World Bank survey have their own machinery; another 40% have access to machinery through joint ownership (a kind of low-level cooperation) or rental; finally, over 30% buy mechanical field services. It is not clear how much of the machinery rentals and custom machinery services originate from cooperatives

and how much from private rental companies, but we have seen in **Table 4** that about 20% of farmers have cooperation in machinery.

New forms of cooperation compensate in part for the absence of crucial markets in products and services. As markets become more developed, the ways in which farmers cooperate are likely to evolve as well.

Summary

Developments since the demise of socialist agriculture in the economies of Central and Eastern Europe and the former Soviet Union provide a set of experiments in economic organization whose outcome will be crucial for the future of agriculture in those countries. For the agenda of this *Journal*, it is notable that a large element of these experiments involves the role and functioning of cooperatives.

Two distinct roles of cooperatives are prominent in both on-the-ground means of replacing the former collective farm system and in legislation that attempts to facilitate the successor system. The first role is the cooperative as a means of business organization, one which follows the principles of farmer-members owning, controlling, and capturing the fruits of a relatively large-scale farming enterprise as a self-governing entity. The second role is the cooperative as a means of obtaining market power for farmers in relation to buyers of their products and providers of goods and services to the farm enterprise.

While both of these roles have been alive and well in proposals and new laws in the transition economies, experience so far parallels the longstanding outcome in Western market economies: cooperatives have been overwhelmingly failures in the first role, but have been moderately successful in the second. The second role is important in farmers' estimation when they see themselves as being exploited by monopoly or monopsony power among businesses that sell products to them or buy from them, and it is important in fact when perceptions of exploitation are accurate. It seems highly likely that such market failures exist in the economic environment of the transition economies, where former State monopolies have been transferred to private hands, and in this respect farmer-owned cooperatives can be useful in fostering competition, or in some cases hastening the creation of selling and buying channels which have not yet arisen in the transition.

Cooperatives as a means of organizing multi-farmer agricultural production enterprises, despite some initial and continuing enthusiasm, have run afoul of the same weaknesses that underlie their general failure in the West: the seeming impossibility of implementing the basic principles. The central issues involve management decision-making and coordination. These tasks according to cooperative principles are essentially ones of self-government by equally

empowered farmer-members, i.e., they are issues of politics. These arrangements can work successfully for homeowner associations, labor unions, and clubs of many kinds, so why not for farms? The difficulties pointed to in the Central and Eastern European cases are ones of getting agreement on many managerial decisions and on mobilization of capital for investment in the cooperative, but most of all on the division of revenues or profits among members whose contributions to the business vary. The difficulties lead to a tendency toward devolution of responsibilities, assets, and revenues toward individual members (leading to a loose association of independent farmers), or alternatively to managerial decision-making by a hired executive or outside entity (converting the enterprise to a corporation or subsidiary of a non-agricultural enterprise).

Even for cooperative enterprises in marketing and processing, or in supply of farm inputs and services, it is not clear how far the cooperative principles of management will prove viable. The Western story is moving toward cooperatives becoming managerially more and more like corporations, with ownership and management by persons other than the farmer-members. Indeed it is arguable that cooperatives still flourish more because of favorable tax and regulatory treatment than the advantages of cooperative principles as mechanisms of economic organization for the business. Can the story be different in the transition economies?

The evidence on the fate of agricultural cooperatives in the CIS and CEE countries remains sketchy. The most useful findings at this time involve not conclusions, but questions for further investigation. One line of research that should prove fruitful is to analyze in more detail the experiences of individual farms. In a recent detailed study of Russian farm enterprises, we found a tremendous variation in the efficiency of production from farm to farm, not just by small margins but with large groups of farms getting 3 to 4 times the output from given resources as other farms (Grazhdaninova and Lerman, 2005) . This occurs not only between farms of different organizational forms, but even within the set of former collective farms within a given region. It is likely that different farms chose different ways of solving the managerial problems that arose following the demise of the collective-farm system. Among other differences, the extent to which cooperative principles were followed, and how they were implemented, are likely to vary among these farms. It could be illuminating to see the extent to which differences in the economic performance of these farms line up with differences in managerial strategies and procedures.

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