TITLE: MARKETS, HISTORY AND THE DEVELOPMENT OF PRIVATE FARMING IN EAST CENTRAL EUROPE: A COMPARATIVE ANALYSIS OF BULGARIA AND HUNGARY

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CONTENTS

Summary ........................................................................................................... i

Introduction ........................................................................................................ 1

Theoretical Background ..................................................................................... 2
  The Rationale for Decollectivization ................................................................. 2
  Alternative Perspectives .................................................................................. 2

Case Comparisons--Background ........................................................................ 4
  Historical Traditions: Private and Cooperative Farming ................................. 4
  Market Development Prior to 1989 ................................................................ 8
  Geography and Crop Mix ............................................................................... 10
  Legal Conditions of the Land Reform ............................................................ 10

Outcome of the Reforms .................................................................................... 12
  Early Changes .............................................................................................. 12
  Progress of the Reform .................................................................................. 13

Explaining the Differences: A Simple Model ................................................. 13

Discussion .......................................................................................................... 17

Endnotes ............................................................................................................. 19

Tables ................................................................................................................. 20

References ......................................................................................................... 23
Markets, History and the Development of Private Farming in East Central Europe: 
A Comparative Analysis of Bulgaria and Hungary¹

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Summary

The end of state ownership and central planning promised the rebirth of private farming in East Central Europe [ECE]. With this change, many analysts expected improved efficiency in agriculture, as incentives for work and management were increased. Contrary to expectations, cooperative farms have been remarkably persistent throughout the region.

This paper examines the question of why private farming has not displaced cooperatives, through an examination of the transition processes in Bulgaria and Hungary. These cases present an interesting contrast. In many ways, the countries are similar. They have similar geographies and similar agricultural histories—weak agricultural development prior to WWII and collectivized agriculture after the war.

Despite these similarities, differences in the history and current policies of Bulgaria and Hungary appear to play a significant role in the process of agricultural restructuring. In particular, Hungary experienced greater development of agricultural input markets and commercial farming prior to collectivization and greater latitude for their continued development under central planning. In addition, the land reform process chosen by Hungary appears to have further contributed to the development of input markets by reducing transactions costs. Perhaps most importantly, private forms of agriculture have emerged at a much faster rate in Hungary than in Bulgaria. In 1994, Hungarian cooperatives controlled only 29% of agricultural land (40% of arable land), while Bulgarian cooperatives continued to control about 70% of agricultural land.

In the second section of the paper, I review recent contributions to the field of institutionalist economics which appear to offer partial analytical explanations for the persistence of cooperatives in East Central Europe. This review suggests that the level of development of markets for agricultural inputs and products may figure importantly in the rate of emergence of private farming. The review also emphasizes the potential influence traditional institutions and social norms may have on agents’ choice of private or cooperative farming.

In the third section of the paper, I offer a detailed comparison of the historical and legal background of the two reform processes, highlighting differences in market development and social norms and traditions which are likely to be important in view of the theory reviewed in Section II. While the two cases are very similar in general terms, the theoretical framework points to the potential importance of subtle differences in determining the distinct pace of change in the two countries.

The fourth section of the paper contains separate econometric tests of the relationship between market development, social norms, and levels of cooperativization of land for Hungary and Bulgaria in 1992 and 1994. The tests suggest that both market development and social factors have a significant relationship to the level of cooperativization of land. However, the impact of social factors has declined by 1994. In Hungary, where little land remained in cooperatives in 1994, market development also no longer plays a significant role.

The data does not permit an econometric test of the role of differences in market development and social norms in explaining the differences in the pace of agricultural restructuring in the two countries. However, the consistent findings from the two separate case studies strongly suggest that the differences in historical and legal context in the two countries outlined in Section III play an important role in the different outcomes.

The analysis also highlights the complex relationship between land privatization and the development of land markets. Privatization of land has often been seen as a prerequisite for the development of land markets. However, the Hungarian case illustrates that once markets are established as a means of moving resources, they may be an effective mechanism for expanding private control of land. The Hungarian experience also illustrates that markets need not be very deep in order to permit such a movement of resources.

Based on the analysis provided here, in Section VI suggest that simple policy interventions may effectively facilitate the entry of private farmers into ECE agriculture. Once the playing field is made more level, private farmers may quickly challenge the dominance of cooperatives in large scale agriculture, as they have done in Hungary.
I. Introduction

The end of state ownership and central planning promised the rebirth of private farming in East Central Europe. With this change, many analysts expected improved efficiency in agriculture, as incentives for work and management were increased.

Contrary to expectations, private farming has been slow to replace cooperatives as the dominant form of agricultural production in ECE. Instead, cooperative farms have been remarkably persistent throughout the region. Why has private farming not displaced cooperatives as expected? Does it matter?

In this paper, I examine the causes and implications of the persistence of cooperatives in two ECE countries: Hungary and Bulgaria. These cases present an interesting contrast. In many ways, the countries are similar. Small, open, agrarian economies, they had experienced only limited capitalist development in agriculture before collectivization. The majority of land was farmed in collective farms during the socialist period, but during the 1980s, the socialist governments in both Hungary and Bulgaria promoted limited private farming as a way of improving resource utilization and food supplies. Finally, agriculture in both countries is dominated by large scale grain production (wheat and maize) in extensive plains, but both countries also have significant mountainous and hilly areas, better suited for small scale production.

Despite these similarities, differences in the history and current policies of Bulgaria and Hungary appear to play a significant role in the process of agricultural restructuring. Despite the limited development of pre-war agriculture, Hungary had much stronger traditions of private commercial agriculture and the use of markets to allocate agricultural resources than Bulgaria. These differences were magnified during the socialist period. In the post-socialist period, the method of land reform chosen in Hungary left large blocks of land concentrated in the hands of cooperatives. The Bulgarian reform decentralized nearly all land ownership to a multitude of individual households.

Land has been moved out of cooperative farms at a much faster rate in Hungary. By 1994, only 29% of agricultural land remained in cooperatives in Hungary (40% of arable land), whereas in Bulgaria cooperatives still controlled about 70% of agricultural land (HNIS, 1995; NIS, 1994:223). This is a somewhat paradoxical outcome, in that political forces presiding over the land reform in Hungary were much more sympathetic to some continued role for cooperatives than were the political forces presiding over the formative period of Bulgarian reform.

Separate analyses of the two cases suggest two explanations for these differences. The cases provide evidence that cooperatives persist where weak market development prevents private farmers from efficiently adjusting resource combinations. Under those conditions, cooperatives may serve as an alternative means of coordinating resources and potentially raise efficiency above that achievable by private farmers. The cases examined here also suggest, however, that efficiency considerations may not be the only factor driving land into cooperative production. Social traditions and norms influence
change through their impact on agents' knowledge and acceptance of new or different institutions. Economic incentives may encourage experimentation with new institutions, but time may be needed for general knowledge and norms to change.

While social factors played a significant role, the data examined here suggest that their impact faded relatively quickly. Market development was a more consistently important factor in the emergence of private farming. This suggests a number of policy interventions which may help to level the playing field between cooperative and private farming. These are discussed in Section V. Cooperative forms of production may well persist as markets develop, but the competitive challenge from emerging private farmers should improve incentives and overall agricultural performance.

II. Theoretical Background:

A) The Rationale for Decollectivization

In discussions about rural transformation in the ECE after 1989, the desirability of private over collective agriculture was frequently asserted, accompanied by an assumption that producers would prefer this form (Brooks, 1991). Support for this position can be found in the analysis of incentive problems in cooperative production. Cooperatives tend to have excessively egalitarian incentive schemes, which cause households to under-allocate labor to cooperative production (Sen, 1966). Further, difficulties in measuring labor input contribute to free-riding, in which each member hopes to shirk undetected while still claiming his or her full share of remuneration (see Alchian and Demsetz, 1972). Management incentives may also be inadequate in cooperative farms, due to dispersed ownership and free-riding in monitoring management (1.)

However, the incentive problems are often overstated. As in other organizational forms, labor effort will approach optimal levels to the extent that effort can be efficiently priced and contracts can be enforced at minimal cost (Meurs, 1991). A number of authors have shown that adequate incentive schemes are feasible in cooperatives. Whether these are chosen will depend on the degree to which cooperatives are effectively and democratically governed (so residual claimants can take positive action to adjust pricing and enforcement) (Puttermann, 1987), and the degree to which a sense of solidarity exists among cooperative members, creating social pressures for honoring contracts (Ostrom, 1990; Ireland and Law, 1988).

B) Alternative Perspectives

Other literature suggests that despite that above-described problems, economically rational producers may choose collective over private farming, and that this may even offer a more efficient means of organizing production under certain conditions. Where markets are well developed, individual households can easily adjust farm size through markets, and cooperative production should offer no particular advantages. Where markets for inputs and agricultural products are weakly developed,
however, individual households may be unable to adjust production efficiently. In this case, production cooperatives may offer a means for increasing the range of possible input combinations or increasing the market power of farmers.

In particular, in East Central Europe three aspects of weak market development may undermine the efficiency of private production and thereby influence households' choices of organizational form. In the immediate post-reform period, many ECE households find themselves with combinations of land, labor, and agricultural machinery which result more from historical accident than choice (see below for discussion of how land and assets are allocated). Some households may have more land than they are interested in working, but many will have too little land to form an efficient production unit. If land, labor and machinery markets are not well-developed, adjusting the input combinations will be difficult.

In addition, the grain crops (wheat and maize) important across East Central Europe exhibit economies of scale under the available technology. In principle, economies of scale are unimportant for the choice of organizational form, since any producer can, in principle, achieve scale economies by buying or hiring sufficient inputs. If markets for land, labor, credit or machines are missing or poorly developed, however, individuals may face substantial barriers to achieving scale economies.

Expected returns to individual farmers may also be influenced by the degree of competitiveness in input and output markets. In a post-central planning context, markets are often highly concentrated, putting unorganized individual producers in a weak bargaining position with respect to input suppliers and processing firms. Thus, prices offered to private producers may not reflect the best possible exchange.

Cooperative farms may face equally uncompetitive and weakly developed markets, but the cooperatives have two advantages in dealing with these limitations. They have retained (in Hungary) or quickly acquired (in Bulgaria) extensive resources through non-market mechanisms, and they can continue to adjust resources through established bargaining channels. For example, in Bulgaria old cooperative leaders often worked to coordinate villagers' use of their property coupons (issued to members at the liquidation of the collective farm) to collectively purchase machinery for the new cooperative. Land allocation to cooperatives also often took place through negotiations, where cooperative leadership used its position in the village to meet with groups of villagers collectively to discuss land use--rental price was rarely an important aspect of these negotiations. Individual households cannot easily replicate these bargained allocations.

The above analysis thus suggests that allocating land to cooperative forms of production may offer efficiency benefits over private farming under certain conditions, and this may explain the persistence of this form of organization. Such an analysis assumes, however, that farmers choose solutions freely from a complete set of theoretically possible organizational forms, based on efficiency considerations. Under this assumption, where markets do work efficiently, they will be used to allocate
resources among competing uses. Contradicting this assumption, increasing numbers of economists are arguing that agents may turn, in their search for organizational solutions, to arrangements which are readily available in the historical and social context (Elster, 1989). Agents' choices may be constrained by knowledge, social norms, or the legal context, which may rule out or inhibit certain forms of organization (Folbre, 1991; North, 1990). Wegren (1994) and Thiesenhusen (1995) have argued that these cultural elements have undermined institutional change in Russian agriculture.

Of course, social norms do change over time and new organizational forms are adopted to replace old, accepted ways of doing things. But such change involves costs—in terms of social disapproval, setting up and learning to use new organizational forms, and the risk that these will fail. Significant profit margins between the old and new forms may have to exist before economic agents are willing to bear the costs of experimenting with new organizational forms, and time may be needed for knowledge and acceptance to reach critical levels.

As a result, the choice between individual and collective farming is far from simple. Asset holders may be influenced by a wide range of social, political, and efficiency considerations. A comparison of the Hungarian and Bulgarian processes sheds some light on the relative role each has played in agricultural restructuring in ECE.

III. Case Comparisons—Background

Bulgaria and Hungary differ significantly in terms of historical traditions available to rural households, the legal structuring of land reform, and the development of agricultural markets through which households could adjust resource allocations to desired proportions. These differences have clearly played an important role in the pace and form of emergence of private farming in the two countries.

A) Historical Traditions: Private and Cooperative Farming

1) Bulgaria

Prior to WWII, Bulgaria was a country of small-holding peasants. In 1946, 69% of land holdings were under 5 ha but these landholders controlled only 38% of agricultural land, while 0.6% of households had landholdings over 20 ha and controlled 6% of land. Household land was not consolidated, but rather scattered around the village, with each family holding an average of 17 units (Stoyanova, 1992). Still, most households had some land. Landlessness was rare.

The small and fragmented holdings greatly complicated attempts at modernization—the implementation of irrigation, machine cultivation, or even crop rotation. In 1944, there were 4,500 tractors in Bulgaria, concentrated on the largest farms. Most villagers continued to use either a traditional wooden plow, or a steel plow drawn by live horsepower.

The small farmers produced mainly for subsistence and only secondarily as a commercial
venture. Of the more successful farmers, older Bulgarians from poor households recall: "...their homes were poor. They worked a lot too, but unlike us they worked their own land" (Life History Interviews, 1992). Under these conditions, private agriculture did not offer a visible path to economic improvement.

To promote agricultural modernization, a number of political parties supported rural cooperatives beginning in the early 1900s. By 1939, over 3,500 cooperatives with 956,000 members serviced about a third of the economically active population in the country. The most widespread form of cooperative was the credit union--in 1944, these accounted for 76% of all rural cooperatives. Apart from their usual functions, these unions also sold villagers industrial goods, and served as purchasing points for agricultural production. Some cooperatives also processed the agricultural goods--especially tobacco, wine, milk, sugar, and fruits and vegetables (Stoyanova, 1993).

While cooperatives were initially resisted by villagers, they became a central plank of the program of the populist Bulgarian Agrarian National Union (BANU) during the first decade of the 20th century. The program envisioned an agricultural sector based on smallholders organized into cooperatives along the line of the German Raiffeisen model (Lampe, 1986:29-30). Rural support for this program became so extensive that the peasant-based BANU was able to form a government in 1919, which lasted until 1923.

The Bulgarian Workers' Party (BWP, precursor to the Bulgarian Communist Party) was also involved in promoting the early cooperative movement, especially after World War I. In the 1920s the BWP formed an its own cooperatives, eventually attracting 68,000 members (Stoyanova, 1993:19).

Under the socialist government, state-sponsored agricultural cooperatives developed relatively smoothly. Resistance was strong, and even violent, in some areas. But many households, both rich and poor, supported collectivization as a means of promoting land consolidation and agricultural development (Life History Interviews, 1992; Survey Data, 1992). By 1956, 77% of arable land was in collective farms, rising to 93% by 1958 (Trifanova, 1975:289-293; 305-310).

Collective farms, based on the collectivization of private plots, completely dominated Bulgarian agriculture throughout the socialist period. In 1989, 86% of total agricultural land was in either state or collective farms (85% of arable land) (CSO, 1992).

Some land continued to be farmed privately under socialism. An average of 11% of agricultural land was allocated for individual household use between 1958-1989. The "personal" (LPS) plot averaged 0.3 ha in 1986 (Dobreva and Meurs, 1992) and supplemented yards surrounding private homes as a basis for subsistence production. Households also produced some surplus for sale to the state, the production of which was subject to substantial state control (McIntyre, 1988). A few households also produced for local peasant markets. As a result of the LPS plots, most households had uninterrupted experience with private production under socialism, but the experience was, like in the pre-war period, mainly with small-scale, subsistence production and involved little entrepreneurial
activity. For most households, private farming was not an important source of upward mobility under socialism.

A few well-connected individuals did, however, benefit from loosened agricultural regulations in the late 1970s and early 1980s. In 1979, a reported 5000 people left skilled jobs in other sectors to raise large numbers of animals under subcontracts from collective farms (100 sheep or pigs or up to 20,000 chickens) (Kapitanski and Hristozov, 1984:78-79). For these individuals, private agriculture paid an income several times higher than that available in the state sector (Popov, 1976:313-314).

The post-1989 land reform law (to be discussed below) reflected the high degree of legitimacy attached to the small and relatively equally distributed pre-war holdings. Given households' limited experience with commercial production in either the pre-war or socialist periods, the liquidation of the cooperatives did not receive similar support among rural households. In the post-1989 period, the Bulgarian Socialist Party (successor to the Bulgarian Communist Party) has maintained strong support in much of the countryside through a program of support for collective forms of agricultural production.

2) Hungary

Private commercial farming has a much stronger history in Hungary. After the abolition of serfdom in 1849, the new capitalist relations were grounded in a relatively unchanged structure of large estates and small peasant units. In 1935, 73% of land holders had less than 5 holds (3 ha), but controlled only 10% of agricultural land, while under 1% of landholders owned over 100 holds (57 ha) and controlled 48% of agricultural land (Orosz, 1965).

Despite the continued dual structure, from 1895 to 1935, a stratum of relatively rich peasant-owners emerged, possessing 50-100 holds (29-57 ha). These households increasingly specialized and intensified their production, producing vegetables and other products for domestic and export markets. The number of these market-oriented small farmers did not exceed 22,000-23,000, barely 2 percent of all peasant enterprises. Still, for this thin social group, agriculture represented a path of social mobility. For others, it represented the potential of private, middle-peasant farming (Kovach, 1996).

As in Bulgaria, agricultural cooperatives figured importantly in pre-WWII Hungarian agriculture. By WWI there were over 2000 credit cooperatives and another 2000 or so consumer cooperatives serving Hungarian villages. Cooperatives were also formed for the processing and distribution of agricultural goods.

The cooperative movement was made up of a number of separate cooperative associations, some of which, organized along "Rochdale principles," served mainly smallholders. Mainly, however, the Hungarian agricultural cooperatives were organizations of the modernizing aristocratic landowners (UHCS, 1934). In addition to their other roles, the cooperatives served as a means of pooling political connections to promote legislation in the interests of medium and large producers.

The cooperatives therefore did little to improve the welfare of small producers. Instead, the main
alternative historically visible to poor and landless peasants was the upwardly mobile entrepreneurial small holder.

No political party offered an alternative organizational program for the small peasantry either. The Small Holders Party, which gained significant political support in the 1920s, mainly promoted limited land reform policies benefitting the more prosperous medium farmers. The reform did little to benefit the poor peasants, who also lacked capital and access to credit. The left-leaning Social Democratic Party, which wielded greater power in parliament, focused almost exclusively on the problems of urban workers.

The Communist Party, which gained power for a few months in the revolution of 1919, failed to win support for collective production, even among the poorest peasants. Refusing to recognize Hungarian peasants' fervent attachment to small-scale agriculture, the Communist Party faced a neutral or openly hostile countryside during the few months of Communist government in 1919 (Kovach, 1996).

When the Hungarian Communist Party regained power in 1946, collectivization was fiercely resisted. The government was able to "complete" collectivization in 1960, when 49% of agricultural land was collectivized, but only with significant compromises toward private farming. Private ownership of agricultural land was initially limited to yards surrounding private homes, and approximately .43 ha for subsistence use, but the restrictions were quickly loosened. By 1954, some collective farms were already using forms of sharecropping on collectivized land, permitting significant private control of both agricultural production and its products. By the first half of the 1960's, an estimated one third of the agricultural work on cooperatives was done under sharecropping arrangements (Kovach, 1988), producing an estimated one-third of crop production (Peto and Szakacs, 1985), and about half of the income of cooperative households (Swain, 1985:49; Juhasz, 1982).

Reforms associated with the New Economic Mechanism in the 1960s and accelerating during the late 1970s and 1980s significantly increased the possibilities for private farming in socialist Hungary. After these reforms, access to land for small scale agriculture became more and more independent of the membership in a cooperative, and at the beginning of the 1980s some two-thirds of the small scale producers were not employed in agriculture. This allowed households which had no history in agricultural production to enter the field. Altogether, some 60-65 percent of all households took part in small scale agricultural production during this period, and by the 1970s substantial amounts of production were oriented for sale to state firms or in farmers' markets, financing rapid improvements in rural living standards (Kovach, 1996).

Both the Hungarian experience with private farming in both the pre-war and central planning periods has generally supported the belief that private farming is a feasible means of wealth accumulation and economic success. The Hungarian land reform law passed in April 1991 reflects the
lack of legitimacy of the pre-war land holding structure, but private farming enjoys widespread support. At the same time, it is important to note that Hungarian cooperatives also enjoy broad support. By the 1980s, they had developed a reputation as efficient producers of export products and providers of support services for private farmers. There was little support for their complete liquidation after 1989.

The historical traditions of private and cooperative farming clearly differ significantly between Bulgaria and Hungary. In both the prewar and socialist periods, rural Hungarians have had much more extensive experiences with and seen more positive potential in private agriculture than their Bulgarian counterparts. While cooperatives have strong historical traditions in both countries, in Hungary the cooperatives have long serviced successful entrepreneurial farmers, in addition to helping poorer households. In Bulgaria, the cooperative tradition is more predominately one of protecting subsistence farmers from ruin.

This difference in production traditions has its counterpart in the distinct rural political contexts. In the pre-war period, those Hungarian political parties which addressed rural problems limited their attention to the problems of entrepreneurial producers, but this did not result in support for the pro-collective Communist Party among the impoverished rural populous. In the 1980s, the Communist Party instead gained a limited base of support among farmers by promoting large-scale private farming through leasing cooperative or state property. Rural support for the Communist Party is much more longstanding and widespread in Bulgaria, where the Communist Party consistently has supported a program of modernizing agriculture through cooperative production.

B) Market Development Prior to 1989

1) Bulgaria

As noted above, prior to WWII, the development of markets for agricultural inputs in Bulgaria was limited. While land was bought, sold, and rented and labor was hired, households mainly farmed their own land with their own labor. Richer households farmed their land and perhaps a bit more with the help of some hired labor, while poorer households farmed their own small plots, then hired out surplus family labor to supplement household income. In a 1992 survey, only 5% of households recalled that the family had hired labor in before the war, while another 13% recalled hiring labor out. Only 1% recalled hiring in land, while another 1% hired land out (Survey Data, 1992).

Some farmers practiced intensive farming for urban markets (Lampe, 1989:56), but most focused on subsistence. Commercial producers faced highly monopolized output markets. Beginning in the 1930s, the state expanded its control of agricultural marketing cooperatives to form a purchasing monopoly in grains, sugar beets, cotton, tobacco and other products. In 1932, delivery quotas were established at low, state-determined prices, and requisitions were continued by the German occupation (Lampe, 1986:82).

Market development did not expand much under central planning. The purchase of agricultural
land or machinery by private parties was prohibited, and inputs and utensils for private farming were sold in very limited amounts and exclusively by the state. What additional seeds and manure households needed, they traded with neighbors or borrowed from the collective farm. In other cases, collective farms simply serviced the members' LPS plots.

Beginning in the mid-1970s, the Bulgarian government did begin to encourage production for sale. Provisions were introduced to facilitate sales of LPS production in free cooperative markets (SN, 26, 1970; SN, 5, 1971). In addition, the Bulgarian Peoples' Bank was encouraged to extend loans to small producers at 2% interest for the construction and repair of buildings. New shops were to be opened to sell seeds and farm inventories directly to LPS producers, and to rent agricultural machines. Even the ownership of small-scale agricultural machinery was once again permitted. Still, only about 6% of rural households made sales of output on "cooperative markets" in 1986 (Town and Village, 1986). Instead, the majority of household production was consumed or sold to the state at fixed prices in exchange for inputs.

2) Hungary

In pre-war Hungary, where only some 30% of peasants could support their families on their land and landlessness was common, land and labor markets were well developed. Many former serfs rented small subsistence plots from the large estates where they worked or received these as payment in kind. Agrarian capitalists also participated in land markets, as newcomers rented large estates from the old feudal landlords (Kovach, 1996).

Commercial production was widely developed. Areas around cities developed market gardening, but more distant areas also began to specialize in the early 1900s. Mako, for example, became well-known for onion production.

The degree of market development should not be overestimated, however. The preservation of fee-tails prevented full commodification of land, and workers on large farms continued to receive a high proportion of their income in kind. As late as the 1930s and 1940s, commercialization of agriculture remained limited—an estimated 70% of all agricultural production was for self-provisioning (Gunst, 1987). Agriculture continued to serve as a means of absorbing family labor capacity. Those who did produce commercially in the first half of the 20th century were often obliged, as in Bulgaria, to deliver their products to the state at fixed prices.

Under the long period of central planning, however, market development continued. In 1965, obligatory plan targets for agriculture were abolished, and in 1968 price regulation was ended on 12% of agricultural products and limited to ceilings on 70% of agricultural products (Belassa, 1985:265; Voyges, 1980:387; Fischer and Uren, 1973:75). Still, peasant families produced primarily for household use through the 1960s.

In the 1970s and 1980s, the government took steps to further expand market relations with
private farmers. Procurement prices were raised, the minimum taxable income derived from small-scale agriculture increased, and farmers were given increased freedom regarding production and marketing (Cochrane, 1993:81). At the same time, state organizations were mandated to improve the supply of inputs and services to private farmers through quasi-market relations, leasing land and buildings to interested producers (Belassa, 1985:277).

By the middle of the 1970s, the number of households engaging in commodity production exceeded those producing only for self-provisioning. This marked an historical peak in small scale commodity production: at the beginning of the century, the proportion of agricultural products sold on the market was estimated to have been 20-30 percent; by the 1980s, the proportion had risen to 70 percent (Juhasz, 1982; Kováč, 1988;1992)! Much of private production was sold to state agencies, but production for sale on "free" cooperative markets was also substantial.

C) Geography and Crop Mix

Both Bulgaria and Hungary have mountainous and plains regions. In Bulgaria, the plains regions are located in the northeast and, to an even greater extent, in the northwest, while the center of the country and the southern regions tend to be more mountainous. In Hungary, the mountainous areas are concentrated in the northeast, while the western Transdanubia and especially the southeastern Great Plains are flatter.

As a result of this geographical mix, both countries produce a mix of vegetables, grain and livestock. In Bulgaria, slightly over 50% of agricultural land was planted in corn and wheat, and another 10% in other grains, in the late 1980s. Grazing land made up about another 25% of agricultural land.

In Hungary, corn and wheat production covered about 46% of agricultural land, while pastures made up only 12% of agricultural land. Vegetable and fruit production cover slightly more than 1% of agricultural land, compared to one-tenth of 1% of land in Bulgaria.

The importance of plains region grain production suggests that economies of scale are important on at least half of Bulgarian and Hungarian land. Given the available technology, very small farms are likely to forego significant productivity gains. While economies of scale may be slightly more important in Bulgaria, the difference does not appear to be large enough to explain organizational differences.

D) Legal Conditions of the Land Reform

1) Bulgaria

In Bulgaria, where the egalitarian pre-war landholdings were viewed as legitimate, restitution was chosen as the means of privatizing land. The Ownership and Use of Farm Land Act, passed in April 1992, mandated the restitution of all collectivized land to its previous owners or their heirs. Land was to be returned in its original boundaries, although land equivalent in size and quality could be given in order to consolidate a household's land holdings or where the original plot no longer existed. Land received through the restitution could be freely bought and sold, but land could not be purchased by
foreign citizens, and for two years following the reform, land could not be purchased in excess of 30 ha per family. Landless persons and those with very small holdings could receive land from national and municipal land reserves if land was available.

The Bulgarian method of privatization implied the stripping of all land from the old cooperatives, recreating the structure of small landholdings which existed before WWII. In addition, because of the rapid urbanization of Bulgaria since the 1950s and the aging of the rural population, the method of privatization extended land ownership to a large number of people who were not willing or able to farm it.

2) Hungary

In Hungary, where pre-war holdings had been highly unequal, agrarian reforms after 1991 did not involve the restitution of land to its pre-collectivization owners. Instead, in April 1991 the Hungarian government passed a Compensation Law, compensating Hungarian citizens whose assets or land were confiscated prior to 1948. The compensation was partial and declined with the level of the damages claimed by the individual; total compensation was limited to 5 million forints. Cooperative members whose families had entered no land in the cooperative could also be compensated for their labor contribution, receiving compensation proportionate to their period of service.

Compensation took the form of coupons, which could be used in a combination of the following three ways: 1) to purchase a small business, apartment, or shares in Hungarian companies, 2) to purchase annuities that provide an annual flow of income for life, 3) to purchase land, under the condition that the claimant continue to cultivate the land for at least five years. A land buyer not interested in cultivation could, however, lease the land or, after three years, sell the land to someone who will cultivate it.

Claimants seeking land had until December 16, 1991 to present their claims to the County Compensation Offices for settlement. These offices then reported to the local cooperatives the value of claims filed against their land. The farms had 30 days to designate the land to be made available for compensation—land of equivalent quality to the restitution claims filed in the villages in which the cooperative operated.

Auctions of the designated cooperative and state farm land were held beginning in 1992. To protect against speculation in agricultural land, only the original owner of a voucher could use it to buy land. While many of those purchasing land planned to farm it, many also purchased land for other reasons (Swain, 1995).

Importantly, the reform did not involve the removal of all land from the cooperatives. The total land to be used for compensation was estimated to be about 40% of the arable land held by these organizations (Agocs and Agocs, 1994). The cooperatives also continued to control large blocks of
other assets, which became the property of cooperative members as a group. Over time, cooperatives continued to spin off additional assets into Limited Liability Companies or through liquidation.

E) Economic Viability of Farming

With demand falling and input prices adjusting to world levels, agricultural producers across East Central Europe were caught in a price scissors. In Hungary, by 1992 prices of industrial products used in agriculture had reached 450% of their 1980 level, while agricultural procurement prices reached only 225% of those levels, and the price scissors continued to widen over the next 2 years (Agocs and Agocs, 1994; HNIS, 1995:198). In Bulgaria, industrial prices had reached 759% of their 1985 level by 1992, while agricultural prices had risen to only 674% (NIS, 1993:75). The gap between input costs and output prices is likely to be larger than is reflected in the Bulgarian data, since agricultural producers must pay retail, and not producer, prices for their inputs.

While in both countries there is a significant gap between input and output prices, the relative gap in Hungary is larger. The extent of the price increase is much larger in Bulgaria, however, suggesting a greater increase in the need for working capital in Bulgaria, and perhaps a greater disadvantage for private farmers in acquiring the needed inputs.

IV. Outcome of the Reforms

A) Early Changes

The conditions described in Section III) underlay the very different restructuring processes which unfolded in Bulgaria and Hungary after 1989. Survey data gathered from rural households in Hungary in 1991 and Bulgaria in 1992 provide a picture of private farming in 1991(3.)

Already in 1991, Hungary's private farming sector appeared much better prepared to take advantage of the opening created by the end of central planning. Private Hungarian agricultural producers continued to farm small plots, averaging 3 ha. Plot sizes varied widely however, with 6% of households working farms of over 10 ha. Some households worked very large farms--up to 577 ha (Survey Data, 1991). A relatively large number of households owned some machinery--12% owned a rototiller and about 3% owned a tractor.

Many households already used markets to adjust production inputs. Forty-one percent of farming households hired machinery or draft services in 1991, 8% rented in land, buildings or machinery, 5% hired agricultural labor and slightly over 1% borrowed money for agricultural purposes.

Continuing their pre-1989 focus on commercial production, 65% of Hungarian private production was marketed. Thirty-three percent of the farms were highly specialized, with 75% or more of gross value earned from one product. Another 23% specialized to a lesser degree. This pattern contrasts sharply with the Bulgarian situation after 1989. In 1991, Bulgarian rural households farmed an average of 0.5 ha--1/6 the size of the average Hungarian plot. Under 1% of households farmed more
than 2 ha. While 2.6% of households owned some form of tractor, only 1.5% owned a rototiller. Another 10% owned some kind of mechanized tool.

With the exception of machine services, reliance on markets for adjusting inputs was extremely rare. Perhaps due to the shortage of owned machinery, 50% of households hired machine services. But in 1991 no households reported hiring labor or borrowing for agricultural purposes, while 3% reported hiring land.

The majority of Bulgarian farmers produced mainly for subsistence. In 1992, only 30% of surveyed farm households reported earning some income from agriculture. (See Table 1.)

B) Progress of the Reform

After 1991, land moved out of cooperatives and into private forms of agriculture much faster in Hungary than in Bulgaria. In June of 1992, Hungarian cooperatives farmed 48% of agricultural land and owned 45%. By this point, the mandated amount of arable land had already been moved out of Hungarian agricultural cooperatives. Nonetheless, through 1994 the share of land in cooperatives continued to fall, as private producers and LLCs bought and leased increasing amounts of land. By 1994, the cooperatives worked only 29% of agricultural land (40% of arable land), although they remained the most important single organizational form.

In Bulgaria, cooperatives farmed about 70% of agricultural land in 1992 and this number remained essentially unchanged in 1994 (NIS, 1993:197; 1994:223). As land was restituted to private owners, it moved rapidly from private hands back into cooperatives.

IV. Explaining the Differences: A Simple Model

The theory outlined in Section II suggests that the differences outlined above may have contributed to the different paces of change in Hungary and Bulgaria. In particular, differences in market development may influence the rate at which private farming expands. Where markets are weakly developed, private resource holders may be unable to easily adjust their holdings to desired or efficient levels. Assets allocated to a cooperative may provide higher returns than other feasible allocations.

The theory outlined above also suggests, however, that efficiency considerations will not always drive institutional choices. Agents may lack knowledge of certain institutions, or the use of those institutions may violate social or political norms. Private farming may therefore be slow to develop even if it does offer efficiency advantages. The gap between returns of private farming and returns of cooperatives may have to be quite large before agents are willing to risk experimentation with unknown or socially unacceptable institutions. To test the relative importance of market development and other social and historical factors in the persistence of agricultural cooperatives, we developed separate models of county-level cooperativization rates in Bulgaria and Hungary.
The models are based on survey data collected in Hungary and Bulgaria in 1992 and 1994, as well as on other secondary data sources. The Hungarian sample included 1800 rural households, a representative sample of the 35,000 “commercial farmers” identified in the 1991 agricultural census. The Bulgarian data included 600 rural farming households, drawn from a nationally representative sample of rural households surveyed in 1986.

The basic structure of the model was the same for both countries. To measure the impact of market development on the persistence of cooperativization, we developed an index of marketization for each county. This index is based on household survey data (Survey Data, 1992; 1992b; 1994; 1994b), in which households reported their use of land, labor and credit markets. Percentages of households using each market were calculated by county. Counties were then given a quartile ranking in each category, and an overall ranking (MRKTIND) based on the average of all categories. Based on the discussion in Section II, we expected higher levels of market development to be negatively correlated with the persistence of collective farming.

The prevalence of grain in the region was expected to increase the importance of economies of scale and thus of market development. To capture this effect we included the variable GRAIN, the share of county land devoted to grain production (CSO, 1987; CSOb, 1987). We expect high values of GRAIN to encourage the development of cooperatives in the context of weakly developed markets (CSO, 1987).

To examine the role of history in suggesting solutions to coordination problems, we included the prevalence of cooperatives in the county in the period before 1944 and political traditions as expressed in pre-collectivization voting. Here, however, the expected results of the model differed between the two countries. In Bulgaria, pre-war cooperatives were part of a consciously elaborated alternative to individual farming, one aimed at farmers who were unable to escape poverty through private production. As such, cooperatives represented a traditional form of economic coordination distinct from, and perhaps antithetical to, private farming. Areas where cooperatives had been important prior to WWII, measured in number of cooperatives in 1934 (COOPS) (Sofia, 1942), were expected to have higher levels of land still in cooperatives. Support for the Communist and Agrarian Parties, longtime supporters of agricultural cooperatives, reflected a similar set of institutional knowledge and social norms, and the share of seats won by these parties in the 1946 elections (VOTE) (Election Statistics, 1946) was expected to have a similar impact.

In Hungary, however, cooperatives were closely linked to wealthy, capitalist farmers. While cooperatives did offer an historically known form of economic coordination distinct from markets, the cooperatives were used mainly by agents who were also well versed (and successful) in the use of markets. The presence of pre-war cooperatives (COOPS), measured in number of cooperatives by county (Hungarian Yearbook of Cooperatives, 1933), might therefore actually reflect greater
willingness and ability to adopt market mechanisms for allocation. The Communist Party had few supporters in the countryside, where voters instead supported the Small Holders Party. Like the cooperatives, this party supported the interests of emerging capitalist farmers and areas where the Small Holders Party won more parliamentary seats in the 1937 elections (VOTE) were expected to lead the way in the restructuring of agriculture.

To capture the impact of current social norms on organizational choices, we included the share of a county's parliamentary seats won by the Communist Party in the most recent election (VOTE91 and VOTE94) (Koulou, 1995; Szoboszlai, 1990; Parlamenti Valasztasok, 1994). Here again, the expected impact of the variable differs across countries. As noted above, the Bulgarian Communist Party has continued to resist the replacement of cooperative with private farming. The Hungarian Communist Party, on the other hand, played an important role in the establishment of many of the new commercial farmers. In Bulgaria, the social norms reflected in Communist Party support were therefore expected to slow the emergence of private farming, while in Hungary, support for the Communist Party might reflect support for the "Green Baron" path of large scale private agriculture.

Limitations in existing data make it difficult to precisely estimate the relative productivity of private and cooperative farming and thus the incentive to undertake the risk and social pressure which may accompany institutional innovation. We posited that private farming would at least have to be seen as profitable by households before they would undertake the costs of developing new institutional forms. Drawing again on the household surveys, PROFIT in the Bulgarian case measures the percent of surveyed households in each county that reported private farming to be a profitable activity (Survey Data, 1992; 1994). In Hungary, PROFIT measures the county's average profitability ranking for all crops reported by all surveyed producers (3=profitable; 2=breaking even; 1=unprofitable) (Survey Data, 1992b; 1994b). Both were expected to be negatively correlated with the share of land remaining in cooperatives.

The regression results from both Hungary and Bulgaria suggest both market development and social factors have played a role in the persistence of cooperative farming. As seen in Table 2, recent voting behavior was significantly related to cooperativization levels in both countries in 1992 (p<.05). As expected, in Bulgaria support for the Communist Party coincided with higher rates of persistence of cooperative farming, while in Hungary, support for the Communist Party was negatively correlated with the share of land held by cooperatives.

Market development was also significantly related to cooperativization rates. In Bulgaria, MRKTIND had a strong negative relation to cooperativization levels, while in Hungary, the impact of market development was seen only indirectly, through GRAIN. Market development was, as we have seen, much more advanced in Hungary than in Bulgaria by 1992, and perhaps no longer constrained farmers who did not need large concentrations of resources to achieve efficient scale. Together, the
variables in the model account for 34% of the variation in the Bulgarian data and 46% of the variation in the Hungarian data.

Interestingly, the data also suggests that both market development and social factors become less important as market development progress. In 1994, market development was still an important factor in Bulgaria, but only as seen through the impact of GRAIN. The limited growth in agricultural input and output markets may have been sufficient to facilitate private production of vegetables or other less scale-sensitive crops. Political affiliation (VOTE) and the other proxies for social norms and traditions were no longer significantly related to cooperativization of land. Still, in Bulgaria where market development remained very limited, the model's explanatory power actually increased in 1994, when it explained 54% of variation in the data.

In Hungary, where commercial farmers actively used agricultural resource markets to acquire the resources for large scale grain farming, GRAIN was no longer significantly related to cooperativization levels in 1994. In fact, none of the variables considered here was significantly related to cooperativization levels (at p< .05). The model explained only 7% of the variation in the data.

These results suggest that a fairly low level of market development can provide adequate opportunities for private resource holders to make adjustments without turning to cooperatives. In addition, the results suggest that the impact of traditional social norms on agents' decisions can be eroded quite quickly. If a few innovators experiment with new institutions and, in doing so reap visible economic benefits, social acceptability may follow quickly.

The variable PROFIT, which is not significant in any of the equations, is unfortunately a very weak proxy for the relative profitability of private farming. Economic theory would suggest that once markets begin to develop and limiting social norms eroded, the relative profitability of the two forms of organization should become more important in determining the rate of agriculture restructuring. Despite the lack of significance of PROFIT, relative profitability of the two forms of organization seems a likely explanation for continued differences in levels of cooperativization across Hungarian counties.

An alternative explanation may be that MRKTIND, as measured in Hungary, does not capture differences in the competitiveness of markets in different counties. Where markets are available for resource adjustment but are distorted by monopoly or monopsony power, cooperatives may continue to offer advantages over private farming. Additional data, to become available this fall, may permit an better initial testing of these hypotheses.

Differences in the two data sets also prevented a direct econometric test of the extent to which differing social context and levels of market development explain the differing speeds of decollectivization of farming in Hungary and Bulgaria. Nonetheless, the individual case studies confirm the consistent importance of the factors outlined here, factors which do differ significantly between the two countries.
V. Discussion

While social factors did contribute to the persistence of cooperative farming, the importance of these factors faded quite quickly. As more farmers experimented with private farming, familiarity with the use of market mechanisms spreads and social sanctions became harder to enforce. Instead, market development is consistently a more important factor in the emergence of private farming.

What led markets to develop so much faster in Hungary than in Bulgaria? In the case of land markets, the historical background reviewed in Section III suggests two explanations. The first is Hungary's long tradition of land markets. The high degree of inequality in land holdings in pre-war Hungary resulted in extensive use of land (rental) markets to transfer land to both land-poor households and emerging capitalist farmers. Under collectivization, quasi-market transactions in land continued, as many households obtained relatively large amounts of land from cooperatives in exchange for a share of production. Bulgaria, with its relatively even distribution of land in the prewar period, had less widespread experience with land markets. Under central planning, Bulgarian households had much more restricted access to land, which was allocated for "subsistence" purposes only.

A second explanation of differential rates of land market development may lie in the distinct structures of the two land reforms. In Hungary, cooperatives were not liquidated, but continued to own large blocks of land and to function as commercial enterprises. Many of these farms were willing to lease out land, and they served as a clearly visible source of large, contiguous parcels of agricultural land. In Bulgaria, in contrast, nearly all land was restituted in small parcels to hundreds of thousands of individuals. Leasing a viable farm under those conditions required negotiating with a large number of owners of contiguous parcels, a time-consuming process which might easily fail, given people's discomfort with market transactions in land.

The continued concentration of land in the hands of Hungarian cooperatives thus appears to have contributed to the use of land markets. It seems worth noting, in Tables 2 and 3, that while MRKTIND was not significantly related to rates of cooperativization, it nonetheless had a positive coefficient. While we had expected lack of market development to result in land remaining in cooperatives, the share of land in cooperatives may have contributed (although not significantly) to market development.

This analysis highlights the complex relationship between land privatization and the development of land markets. Privatization of land has often been seen as a prerequisite for the development of land markets. However, as the Hungarian case illustrates, once markets are established as a means of moving resources, they may be an effective mechanism for expanding private control of land. Privatization may not be a prerequisite, but an outcome, of land market development. The Hungarian experience also illustrates that markets need not be very deep in order to permit such a movement of resources.

Like land markets, other agricultural markets also appear to have developed more quickly in
Hungary than in Bulgaria. As was seen above, in 1991 Hungarian farmers were much more likely than their Bulgarian counterparts to use market transactions to acquire labor, machine, or other inputs needed for farming. By 1994, Bulgarian farmers had surpassed the 1991 Hungarian levels of market use in agricultural labor and machinery services, but not in the use of credit or land and building markets. While the 1994 Hungarian data is biased upwards by its focus on commercial farmers, it shows significant continued growth in Hungarian labor and machine service markets.

History and the structure of land reform are difficult to change, but some policy remedies may be possible for countries where private farming has been slow to challenge old cooperative forms. Where land reform structures have resulted in dispersed ownership, as in Bulgaria, it may be possible to replicate some of the transactions cost benefits of concentrated ownership through land exchanges. Like the municipal labor exchanges which already exist in Bulgaria, local land exchanges could provide a centralized location for buyers and sellers to meet and exchange information. Such exchanges would have the added benefit of potentially offering competing buyers and sellers for any one exchange, an improvement over the Hungarian situation where cooperatives may have substantial market power.

As with land markets, thin markets in machine services can be augmented through simple policy interventions. State-backed credit may be offered to machine service cooperatives which service private farmers or to private farmers themselves. Currently, the majority of state-backed credit is used for planting and is issued to the large cooperatives which offer more collateral and have better connections to banks.

Where weak market development prevents adequate resource adjustment among private farmers, cooperatives can play an important role in maintaining agricultural production and efficiency. Under these conditions, agricultural policy needs to address these organizations as well. Incentive problems in existing cooperatives may be reduced through programs to train members and management in modern methods of cooperative organization.

As markets develop and level the playing field, however, the Hungarian experience suggests that private farmers will rapidly challenge cooperatives even in the large-scale, mechanized crops they have traditionally controlled. As this happens, the choice between private farming and cooperatives should depend increasingly on the relative productivity and benefits of the two forms under local conditions and management. Organizational form will no longer be of policy interest.
1. Although the de facto state ownership of collective farms formally concentrates ownership, this just transforms the incentive problem. Since citizens cannot effectively monitor the state, the state in turn is not motivated to monitor managers.

2. After the victory of the Socialist party in national elections held in December of 1994, amendments to the land law were passed which slightly limited the rights of owners as outlined above. The amendments were then overturned by the Constitutional Court, and as of late 1995 the legal battle continues. Since these changes took place after our 1994 survey, they do not effect the analysis in this paper.

3. This data was gathered through the Institute of Sociology of the Bulgarian Academy of Sciences, with the assistance of senior researchers Veska Kouzhouharova and Stanka Dobreva, and through the Hungarian National Institute of Statistics, with the assistance of Istvan Harsca and Imre Kovach. The data was gathered from a stratified national sample of 600 rural households in 100 Bulgaria villages, representative for 24 of Bulgaria's 28 districts. In Hungary, the 1991 the data was gathered from a representative sample of 11,000 farming households drawn from the 1991 agricultural census.

4. In Bulgaria, the index also includes a measure of competitiveness of input and output markets, as a fifth element of the index. Households reported whether they could choose from 1, 2, or 3 or more sellers or buyers. Their competitiveness rating was the average of all input and output scores reported. The scores were then indexed, as the other scores, on a four point scale. Unfortunately, this data was not available for Hungary.

5. The dynamics of the cases reflect important differences, however. Efforts to analyze pooled data did not generate significant results.

6. The Hungarian data do not allow us to examine the impact of resource concentration on (potentially monopoly) pricing, however. If not controlled, the monopoly pricing impact of resource concentration could potentially outweigh the transaction costs benefits of resource concentration in market development. Further research will be necessary to establish the conditions under which this will occur.
<table>
<thead>
<tr>
<th></th>
<th>Hungary</th>
<th>Bulgaria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land Farmed (av. ha.)</strong></td>
<td>3.0</td>
<td>0.5</td>
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<td><strong>Own Machines (pct. hhs.)</strong></td>
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<td></td>
</tr>
<tr>
<td>Tractor</td>
<td>3.0</td>
<td>3.0</td>
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<tr>
<td>Rototiller</td>
<td>12.0</td>
<td>2.0</td>
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<tr>
<td><strong>Use Markets (pct. hhs.)</strong></td>
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<td></td>
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<td>8.0</td>
<td>3.0</td>
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<tr>
<td>Labor</td>
<td>5.0</td>
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<td>Credit</td>
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Table 2
Regression Analysis

Cooperativization of Land by County, 1992

Bulgaria (n=24)
Indep. Var.: % Households Incorporating Land

<table>
<thead>
<tr>
<th>Variable</th>
<th>Var. Mean</th>
<th>S.D.</th>
<th>Beta</th>
<th>T</th>
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</thead>
<tbody>
<tr>
<td>COOPS</td>
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<td>22.88</td>
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<tr>
<td>PROFIT</td>
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<td>-1.85</td>
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<td>GRAIN</td>
<td>44.17</td>
<td>18.99</td>
<td>-0.52</td>
<td>-1.82</td>
</tr>
<tr>
<td>VOTE91</td>
<td>45.58</td>
<td>12.61</td>
<td>0.68 *</td>
<td>3.07</td>
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Adjusted R Square: .34

Hungary (n=19)
Indep. Var.: % Agricultural Land in Cooperatives

<table>
<thead>
<tr>
<th>Variable</th>
<th>Var. Mean</th>
<th>S.D.</th>
<th>Beta</th>
<th>T</th>
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</thead>
<tbody>
<tr>
<td>COOPS</td>
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<td>32.09</td>
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<td>-0.6</td>
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<tr>
<td>GRAIN</td>
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<td>7.3</td>
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<td>3.06</td>
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<td>2.62</td>
<td>-0.51 *</td>
<td>-2.51</td>
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</table>

Adjusted R Square: .46

* = significant at p<.05.
Table 3
Regression Analysis
Cooperativization of Land by County, 1994

Bulgaria (n=24)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Var. Mean</th>
<th>S.D.</th>
<th>Beta</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1.82</td>
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<tr>
<td>VOTE</td>
<td>69.13</td>
<td>10.06</td>
<td>0.05</td>
<td>0.24</td>
</tr>
<tr>
<td>GRAIN</td>
<td>44.17</td>
<td>18.99</td>
<td>0.60 *</td>
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<td>VOTE94</td>
<td>57.63</td>
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Adjusted R Square: .54

Hungary (n=19)

<table>
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<tr>
<th>Variable</th>
<th>Var. Mean</th>
<th>S.D.</th>
<th>Beta</th>
<th>T</th>
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<tbody>
<tr>
<td>COOPS</td>
<td>31.11</td>
<td>32.09</td>
<td>-0.14</td>
<td>-0.56</td>
</tr>
<tr>
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<td>-0.76</td>
</tr>
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</table>

Adjusted R Square: .07

* = significant at p<.05.
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