

Super-large Farms: The Importance of Institutions

Ulrich Koester

University of Kiel, Germany
UKoester@agric-econ.uni-kiel.de



Paper prepared for presentation at the 102nd EAAE SEMINAR
SUPERLARGE FARMING COMPANIES: EMERGENCE AND POSSIBLE IMPACTS.
Moscow, Russia. May 17-18, 2007.

Copyright 2007 by Ulrich Koester. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.

Super-large Farms: The Importance of Institutions

Abstract

There are many reasons for the evolution of super-farms in some of the CIS. This paper does not intend to elaborate on the whole set of reasons. There are already many studies which provide surveys on the background and the rationale of these organisations. This paper aims at focusing on one specific determinant of the rise of super-large farms, namely institutions. The focus is chosen as this determinant seems to have been overlooked, partly because it is completely beyond the neoclassical approach. Institutions as rules of the game can be classified into four levels according to Williamson. The paper mainly deals with embedded institutions. It is shown that these institutions are country-specific and vary widely across countries. It is argued that the evolution of super-large farms could only arise because cooperative and corporate farms survived up to bankruptcy and because embedded institutions impeded the foundation of family farms. Mental models of policy makers did contribute to the amalgamation of corporate and cooperatives into super-large farms. However, it is noted that embedded institutions had such strong effects because markets did not work adequately and legislation and its enforcement was not supportive for the foundation of family farms. The paper ends with an evaluation from the economic point of view of the existence of super-large farms and with a projection of what may happen in the future.

Introduction

It is obvious that the farm structure in former planned economies still differs significantly from that in western market oriented countries. This phenomenon can hardly be explained by neoclassical economics. This part of economics only focuses on the private sector and includes the following three main elements (Weintraub, 2007):

1. People have rational preferences among outcomes.
2. Individuals maximize utility and firms maximize profits.
3. People act independently on the basis of full and relevant information.

Based on these assumptions the past does not matter much. If people are maximizing utility or profit the farm structure in any country would only differ due to differences in product and factor prices. As international trade will contribute to product and factor price equalization one could expect that the structure of farms across countries show great similarity. Some differences might be due to significant differences in wage rates and disequilibrium situations due to delays in adjustment. However, the trend should be quite clear: Convergence of farm structures. Reality does not confirm theory. Obviously, this theory is not adequate to explain reality in the case under consideration.

This paper aims at contributing to an explanation of the differences by referring to the consolidated findings of institutional economics. Consequently, the paper starts with identifying some institutions

which might explain the evolution of super-large farms in some former socialist countries. In contrast to neoclassical economics, history plays a major role in the explanation of the present state of the economy. Hence, the explanation of the existence of super-large farms has to take into consideration people's experience in former socialist times, reasons why family farms did not emerge as expected and why highly indebted cooperatives and corporate farms could survive up to the point of time they became part of a holding. Of course, the reasons for the evolution are manifold and may differ from case to case. Hence, it will not be possible in this paper to deal in detail with each individual case. Instead, the focus will be on one specific commonality: The importance of first level or embedded institutions.

Term and classifications of institutions

The widely accepted definition of the term institution is the following: "Institutions are rules of human interaction that constrain possible opportunistic and erratic behaviour, thereby making human behaviour more predictable and thus facilitating the division of labour and wealth creation" (Kaspar and Streit, 1999, p. 30). According to North, institutions can be termed as 'rules of the game'. It is quite obvious that the outcome of farm adjustment results from behaviour of people and, thus, different outcomes may be due to different institutions (rules). Neoclassical economics assumes that behaviour of people is guided by maximization of utility or profit and specific given constraints, such as income and prices for individual consumers and by factor endowment and input prices. Consequently people behave the same in all societies. In contrast, institutional economics emphasizes differences in attitudes of people leading to a huge variance in objectives and behaviour. Moreover, constraints for the individual's behaviour are not only materialistic, but also - or even more specific - depending on the social, legal and economic environment. Unfortunately, rules which constrain individual behaviour differ widely across countries; institutions are country-specific and even person-specific. Hence, any analysis of the importance of institutions for the present state of an economy has to be country-specific. A discussion of the individual institutions which may influence the development of the farm structure and the evolution of super-large farms has to highlight the country-specific character of institutions.

Institutions can be classified in alternative ways. In our presentation we follow the classification of Williamson (2000). First level institutions are termed 'embedded'. They are deeply ingrained in the behaviour of people; these rules are accepted by individuals without any reflection on the origin of the rule and on the rationale of it. It is obvious that these institutions mainly derive from culture, tradition, and the social and economic environment. As this type of institutions has been completely neglected by neoclassical economics the presentation will mainly focus on this type of institutions. Second level institutions include the institutional environment, such as laws and property rights. They can be compared to the formal rules of the game. Third level institutions concern the play of the game, aligning governance structure with transactions. Finally, fourth-level institutions concern the rules for resource allocation and employment. Even if the specifics of all four types of

institutions have contributed to the evolution of super-large farms we concentrate - due to specific importance and lack of space - on first level institutions.

Embedded institutions and the comparative advantage of individual types of farm

Super-large farms could only emerge over the last decade because dissolution of the collective and state farms had not led to family farms as expected by western observers, but to cooperative and corporate farms. These farms were often somewhat smaller in area than their predecessors, but much larger than farms in the western part of Europe (Lerman, Csaki and Feder, 2004). Hence, the explanation of the super-large farms has to start with explaining why family farms did not become dominant following the dissolution of the state and collective farms and why cooperative and corporate farms could survive as long. It is argued that embedded institutions contributed significantly to the past development. As policy reform is not just a technical matter, but based on some consensus in the society, it is reasonable to investigate the embedded institutions which may have guided the main stakeholders in the reform process. Changes in policies are driven by the interests and the interactions between the main stakeholders. Hence, it is worthwhile to investigate the embedded institutions which may have guided the main stakeholders. These are:

- the general public respectively the electorate or the society at large,
- the rural population and workers on the farm,
- the managers of the cooperatives and corporations, and
- the policy makers.

Embedded institutions which may have guided the society at large

One main determinant of the present farm structure in Eastern Europe and some East Asian countries is the prevailing cultural belief as part of first level institutions in these countries. “Cultural beliefs are the ideas and thoughts common to several individuals that govern interaction – between these people and between them, their gods, and other groups and differ from knowledge in that way that they are not empirically discovered or analytically proved”. (Greif, 1994). Cultural beliefs make up mental models. These models contain “deeply ingrained assumptions; generalizations, or even pictures or images that influence how we understand the world and how we take actions” (Senge, 1990). A mental model consists of beliefs, inferences, and goals that are first-person, concrete, and specific. It is a mental map of how the world works.

Mental models partly explain the behaviour of the society at large, of the could-be family farmers, of the policy makers and of all parties which are stakeholders in agrarian change. It is reasonable to assume that these mental models differ significant across countries. Fortunately, there are some worldwide surveys on human values available across countries. Some elements of mental models which are relevant for the transition of large farms to family farms are listed in Table 1 and Table 2. It is quite obvious that the willingness to start an own business as a private farmer depends very much on personal values. The surveys prove that the relevant values listed in the two tables differ

significantly between the two western countries, the USA and West Germany on the one side and Russia and Hungary on the other side. It seems that the legacy of the socialist period has affected the propensity of people to start an own business, to undertake initiative and to accept responsibility. Being brought up in an environment where private property was limited and where most people were employed by state companies (farms) or cooperatives (collective farms) people do not appreciate individual entrepreneurship. The percentage of the population which think that owners should run their own business or should appoint the manager is much smaller than in typical traditional market economies.

**Table 1: Attitude with respect to work and business:
Percent of agreement**

	Age			Income		
	16-29	30-49	50+	Lower	Middle	Upper
	Good chances for promotion are important					
Russia	20	16	17	15	17	22
Hungary	41	44	42	43	42	40
West Germany	50	44	38	37	46	46
USA	67	58	52	56	60	58
	It is important to use initiatives					
Russia	29	30	27	26	30	33
Hungary	34	40	34	32	35	52
West Germany	66	67	48	46	61	70
USA	47	55	51	41	52	63
	It is important to have a job where I can achieve something					
Russia	34	28	23	23	27	33
Hungary	64	60	54	52	59	69
West Germany	65	63	59	55	62	68
USA	71	71	72	68	71	77
	It is important to have a responsibility on the job					
Russia	15	22	23	19	21	23
Hungary	41	53	53	48	52	52
West Germany	52	56	52	45	54	63
USA	54	57	56	50	58	62
	The owners should run their own business or should appoint the managers					
Russia	16	12	08	10	12	14
Hungary	19	27	24	20	24	39
West Germany	39	45	55	45	46	50
USA	52	51	65	55	57	58
	I like to assume responsibility					
Russia	20	24	28	21	28	28
Hungary	38	60	50	47	53	67
West Germany	53	59	53	47	54	65
USA	56	67	57	60	59	69

Source: Inglehart, R. M. Basanez and A. Moreno, 1998.

Reliance on a self-employment as a farmer implies dependence on division of labour and, thus, on exchange of products and services on markets in a market economy. Trust in partners of exchange is an important determinant of the intensity of exchange. If people do not trust each other they will limit transactions and they will prefer barter transactions. Trust is of special importance on agricultural markets. Food is generally not a search good where one knows the quality of the product. Most farm product are either experience goods, of which you learn the quality only with consuming the product and or credence goods, where the consumer neither knows the quality of the product nor the production process, so has to trust quality. In addition to trust in the quality of the product, trust in the behaviour of the partner of exchange is an important determinant of the intensity of transactions. Take the following example: The would-be farmers may need machinery to start farming, but may not have the financial means to pay cash. The potential seller may not be willing to sell on credit as he does not trust in the buyer's capability and willingness to pay the agreed instalments. Hence, the would-be farmer may not be able to start farming due to lack of trust in his behaviour by the potential partner of exchange.

**Table 2: Attitude with respect to trust and legal system.
Percent of agreement**

	Age			Income		
	16-29	30-49	50+	Lower	Middle	Upper
	I trust my family completely					
Russia	50	55	58	53	54	58
Hungary	97	96	96	95	97	98
West Germany	95	96	94	92	96	96
USA	98	98	99	97	99	99
	Trust people of my own nationality					
Russia	41	43	49	42	47	45
Hungary	49	49	57	53	51	59
West Germany	56	63	74	66	67	65
USA	72	74	78	75	74	77
	Do you trust the legal system					
Russia	35	33	47	38	38	36
Hungary	65	53	64	60	59	59
West Germany	62	63	70	64	65	67
USA	56	61	57	60	56	60
	Confidence in the state (The state should take more responsibility to ensure that everyone is provided for)					
Russia	32	31	34	35	30	2749
Hungary	49	49	51	58	46	41
West Germany	26	21	21	27	23	18
USA	18	13	11	15	14	12

Source: Inglehart, Basanez and Moreno, 1998.

Table 2 informs on differences of trust. It may be a surprise that even trust among family members in Russia is significantly less than in the western countries and than in Hungary. In contrast, trust in the State is higher in Russia than in the US.

It should be noted that these differences do not necessarily express cultural differences, but also the personal experience of people. If Russian and Hungarian people had no experience with potential transaction partners they have not been able to build up trust.

Data in Table 1 and 2 are derived from a survey across the total population in the countries. The values for the rural population may differ; however, most likely not in supporting the emergence of family farmers.

Embedded institutions which may have guided rural population and could-be family farmers

Table 3 conveys the main reasons why employees of farm entities did not want to start farming. First level institutions play an important role. More than half of farm employees in Russia and even 72 percent in Ukraine were not willing to change their life style. Obviously, their attitude to work and self-expression is very different of those who are eager to start their own business in a market economy. Of importance is also the embedded institution with respect to ownership of land and to transfer of land. The negative attitude towards private land ownership in Russia is clearly expressed in interviews. For example, about 90 percent of respondents in a survey conducted in Russia (Serova, 2000) disagreed with the concept of land reform and seemed to be against private land ownership. Interviews in Novosibirsk and Shitomir revealed that only 33 percent of the farmers were willing to mortgage their land (Schulze et al., 1999). Owners seem to be afraid of losing their land because land may be considered as an important asset in risk hedging. Given the constraints on the land market due to the mental models of landowners and the rural population, it is difficult for the sector to adjust to the rapid changing environment during the transition period. If, in addition, the initial land allocation is inefficient, this situation can be exacerbated. A survey conducted in Novosibirsk province revealed that 78.6 percent of respondents working in agriculture disapproved selling and buying of farm land (Tillack and Schulze, 2000). This may partly explain why land is even idled in some of these countries, in spite of rural unemployment. Anyhow this attitude with respect to ownership of land affects transfer of land negatively. Hence, the starting point in the farming structure matters.

Noteworthy is also the willingness to accept risk. It is well known that some societies are more risk averse than others. People in the former planned economies seem to be very risk averse as compared to the population in other countries. A farmer has always to bear risk. The result of his economic activities shows up only after he has invested in the production process some time before. It is reasonable to assume that the willingness to bear risk is also dependent on education and personal experience during childhood and work. However, education in the planned economies was not apt to educate entrepreneurs and workers were not trained to undertake risky activities. Hence, the number

of potential entrepreneur- farmers in a transition country was likely limited (Djankov et al., 2005). It was limited not only because of the attitude towards risk, but also because of

- the magnitude of the risk,
- the possibilities to cope with risk of the risk and
- the survival alternatives.

Table 3. Reasons Not to become a private farmer (percent of rural households surveyed)

	Russia	Ukraine	Moldovia
Insufficient capital	75	71	52
Difficulties with inputs	59	84	48
Afraid of risk	56	84	48
No wish to change lifestyle	56	72	33
No legal guaranties	40	65	20
Source: Lerman, Z.,C. Csaki and G. Feder, 2004. P. 159.			

Due to the past structure in rural areas employees on agricultural entities had the alternative to continue working on the former collective or state farm and generating an income by farming the household farm more intensively. Access to the social net of the large farms and the potential to improve living by extending the household farm may have withheld some could-be family farmers from starting their own family farm. Thus, it is not surprising that most first-generation private farmers in Russia were not former farm workers, as was established in a survey , which revealed that 75 percent of early private farmers were ex-urbanites, and only 5-7 percent were former members of state and collective farms. “Romantics of the rural way of life” and demobilized military personnel accounted for 20 percent of private farmers (Wegren and Durgin, 1997). Thus, outsiders were first generation of new farmers in Russia. It is difficult to assess which had the most impact on this outcome: embedded institutions or rational economic behaviour, especially when the less risky alternative of working on the household plots under the umbrella of the large farm cannot be ignored. Anyway, the preferences of employees on agricultural entities are highlighted in Table 4. Only 2 percent of the employees considered starting as a private farmer in Russia in 1995 and only one percent considered selling their plot of land.

The risk for setting up a family farm was higher than in western market economies because of badly functioning markets, in particular land and credit markets, the unstable macroeconomic environment and lack of experience as a private farmer. The possibility to cope with risk was lower than in western style market economies because of low income and privately owned assets as well as because of badly functioning credit and insurance markets.

**Table 4: Preferences of Employees of Agricultural Entities
with respect to use of land (In percent) Russia 1995**

Intention	Average of surveyed ag. entities	Variations across ag entities
Leave in collective use	78	59-94
Sell	1	0-3
Lease	4	0-13
Increase the size of private residence	4	0-9
Start a private farm	2	0-3
Uncertainty	11	2-27
Source: Bogdanovsky, 2000		

Moreover, some of these societies seem to express an unwillingness to take credit. Of course, to take credit implies to bear risk as the ability to repay is determined by unknown factors in the future. Hence, risk aversion may explain the low propensity for taking credit. In addition, some societies are reluctant to fall into debt. It is considered as something which ‘one should not do’ as ‘it expresses living beyond one’s means. This cultural belief can be quite important for restructuring the farm sector in transition countries. It is known from countries, which have undergone a significant restructuring of the agricultural sector by implementing a new agricultural structure with a new generation of farmers that many of the new farmers had to give up farming after few years. These persons were either not able to be a good farmer as they lacked the necessary skills and did run into debt or they preferred an alternative job. However, moving from a planned to a market economy will most likely be accompanied with exit and expansion of farms. Hence, the willingness to run into debt is one prerequisite for setting up a family farm.

Summing up, family farms did not evolve as expected in most of the CIS because of embedded institutions affected the behaviour of could-be and would-be family farmers.

Embedded institutions guiding the managers of large farms

Managers of large farms were educated in a planned economy where the focus was on large agricultural enterprises. Hence, it should have been no surprise that they strongly believed in the comparative advantage of large farms. Hence, they were not supportive for setting up small family farms. According to their belief would-be private family farmers would not serve the interest of the society in the best possible way.

“Under the former socialist system, farms were expected to produce in accordance with central plans and production target. Considerations of cost minimization or profit maximization were of secondary importance compared with the goal of maximizing production to meet the plan. ... The traditional production orientation dies hard (Lerman, et al., 2004) or embedded institutions survive long. No surprise, that surveys evidenced that managers still placed some priority, however with decreasing extent, to maximizing production. Moreover, these managers had never been trained to collect all the information needed for maximization of profit and to use the calculus of marginal analysis in maximizing profit.

Based on their training and experience in a socialist society many of these managers still felt committed to support the so-called social sphere on the country-side which was very helpful in stabilizing welfare of the rural population, but it conflicted with the goal to set up a market oriented competitive agriculture farm structure. Thus, it could be expected that these stakeholders in policy reform were reluctant to support a genuine policy reform aiming at restructuring the agricultural sector. Moreover, it could hardly be expected that they were to implement a policy which conflicted with their mental models and their personal interests.

Embedded institutions play also a significant role for the management of large-scale farms in the form of juridical entities. Some societies strongly emphasize kinship. It goes without saying that people in charge for hiring, monitoring, granting licenses etc. favour their relatives. This fact has implications for managing a farm which relies on many wage earners. It is expected that labour contracts are monitored and enforced by the managers in a functioning market economy. Hence, the manager is supposed to assess the individual performance. If the manager is not the owner there is a principal agent problem. The manager is the agent of the owner, which could be a juridical person, and at the same time the principal of the worker. If the employed manager does not fulfil his obligation in monitoring and enforcing the labour contract he breaches his contract with his manager. It could be considered as corruption. He receives a benefit in exchange for granting a favour to specific employees, but the burden has to be carried by his principal.

Embedded institutions guiding policy makers acting in favour of the survival of cooperative and corporations in agriculture

Embedded institutions guided the behaviour of the policy makers to a large extent. The main elements of the mental models seem to be:

1. Perceptions on the superiority of large-scale farms as compared to medium size family farms. Structural adjustment of agriculture in many of the transition countries is limited by policies, which aim to preserve the past structure, i.e. large-scale agriculture in the form of cooperative or corporations or in any other organisational form. This situation, which exists in most of CISs, results from the perception of policy makers and other important stakeholders that large farms are superior

to other farm structures. Serova (2000) found that this tendency is of particular importance in countries, which have given rise to collective ownership in the privatisation process.

2. Perception on the role of the state, in particular with respect to income provision. Interviews of the farming population in the CIS often reveal that people blame their bad economic situation mainly on the failure of the government and not on themselves (Serova, 2000). Hence, policy makers feel that they are obliged not to negatively affect the well-being of any individuals. This understanding has important implications for the selection policy reform measures.

3. Perception on food security. Policy makers in transition countries tend to believe that domestic production is needed to secure food on the aggregate level, and that low food prices are the first best policy to secure food for poor households. Shrinking of production below the level of 100 percent self-sufficiency of a specific agricultural product was often considered as a failure of policies. Needless to say that these perceptions have had a strong impact on the design of agricultural policy during transition.

4. Attitude with respect to changes. During transition, policies must change but also people's attitude must change. Socialist societies with job security and limited labour mobility did not require significant changes of the population in a short period of time. The same holds true for policy makers and other stakeholders.

Table 5 summarizes the embedded institutions which have guided the main stakeholders in transition countries. It is obvious that it could not be expected to achieve a fast change in the farming structure.

Why did institutions support the survival and decline of corporate and cooperative farms?

It has been highly visible for a long time that many of the cooperatives and corporate farms were loss making and had been near insolvency for some time. The survival has been possible due to first level and second level institutions on the side of the owners of the capital, the farm managers and the policy makers.

The owners of the land were not willing to take out their land as they did not want to start a family farm (see above) and because it was difficult due to administrative matters to take out the land. The administrative difficulties were partly due to the management of the farms, but also due to the bureaucracy in the rayons and due to the mental models and other constraints of policy makers who did not design adequate laws for a change.

Policy makers even supported the large farms if they had become nearly insolvent; they were afraid that the dissolution would have had negative impacts on food security and social conditions in rural areas. The production of public goods of the large farms weakened the profitability of these farms, but did create sympathy by policy makers to support them. Soft budget constraints contributed to the survival and the linkage between household farms and the large entities enhanced the erosion of the production potential of the large farms (Koester and v. Cramon-Taubadel, 1997; Amelina, 2000).

Moreover, the mental models of the policy makers believing in the superiority of large farms suppressed the emergence of family farms and the dissolution of large farms.

Why did institutions contribute to the evolution of super-large farms?

The emergence of super-large farms was highly path-dependent. It became evident even for conservative policy makers that many of the cooperatives and corporations could not economically survive under the given market environment. One alternative would have been to force them to bankruptcy. However, policy makers did not favour this alternative. First, they widely believed in superiority of large farms and, hence, preferred to avoid dissolution. Bankruptcy had most likely led to a split up of the entities. Second, policy makers still believed in their obligation to secure food security on the regional level by provision of stable food supply from regional production. Bankruptcy of the large farms would have led to uncertainty in food production. Bankruptcy might have destabilized regional production. Third, bankruptcy would have impaired the social sphere in rural areas.

Policy makers were likely right to assume that stabilization of food production was much more certain than opting for the alternative ‘dissolution of large farms by bankruptcy’. It was known that revival of agriculture needed a significant inflow of capital. However, rural credit markets did not function well and, hence, new farmers cultivating land of segmented large farms could hardly expect to start farming with an adequate capital endowment. Thus, the establishment of super-large farms as part of holdings was considered as an adequate mean to revitalize agriculture.

Of course, there was also an interest of the integrating agro-industries, the banks or large companies which were not directly related to agricultural input or output markets. Some of them were just looking for profitable investment and found that investment in agricultural was expected to be profitable. Some of them wanted to secure the credits which they had provided to the cooperatives and corporations in the past and some of them wanted to secure supply of raw material for their processing company. However, it should be recognized that the integrating companies may have not realized their plans if policy makers and could-be family farmers had not been guided by strong embedded institutions. These embedded institutions determined very much the positive environment for the integrating companies. Moreover, these institutions also affected policy makers in facilitating the integration. There are even cases where policy makers directly interfered in favour of the integrating company (See for example Wandel, 2007).

Table 5 presents an overview in form of a summary of the mental models of the main stakeholders in agrarian reform in Russia.

Table 5: Mental models and main stakeholders in Russian agricultural policy reform

Elements of mental models	Policy makers on different regional levels	Academics	Bureaucrats	Agribusiness managers	Farm managers	Land owners	Public at large
Perception on the role of the state, in particular with respect to income provision	The state as grabbing hand, acceptance of social responsibility	State as helping hand	State as helping hand and grabbing hand	State as conserver of the status quo	State as conserver of the status quo	Inactive	State as helping hand
Attitude with respect to provision of information	Negative	Negative	Negative	Negative	Negative		Negative
Perception about food security	State responsibility	State responsibility	State responsibility	State responsibility	State responsibility	Inactive	State responsibility
Land ownership, willingness to transfer ownership	Negative to positive	Negative	Negative	Negative	Negative	Positive; reluctant	Negative
Perceptions about the superiority of large-scale farms as compared to medium size family farms	Favour large farms	Favour large farms	Favour large farms	Favour large farms	Favour large farms	Favour family farms	Favour large farms
Attitude with respect to risk	Risk averse	Risk averse	Risk averse	Heterogeneous	Heterogeneous		Widely risk averse
Attitude with respect to changes	Heterogeneous	Negative	Negative	Changes over time	Changes over time	Reluctant	Reluctant

Source: Author's compilation from Bodganovsky, 2000; Serova, 2000.

Assessment of the economic impact of super-large farms

The evolution of the super-large farms has a specific sectoral as well as an overall economic impact. The sectoral impact seems to be positive as efficiency of this part of the agricultural sector has improved. The increased inflow of capital and technology has led to higher yields and higher labor productivity. However, it should be noted that the main positive effect of the super-large farms in comparison to the other part of the agricultural sector mainly derives from badly functioning credit and land markets.

The assessment from an economic point of view (macroeconomic view) looks very different. There are some positive and some negative effects. Better access to capital has likely improved the allocation of capital across sectors in the economy and has contributed to a higher GDP. The inflow of human capital and changes in management may have led in the same direction. However, on the negative side the increase in rural unemployment and the worsening of social conditions for the rural population have to be booked.

Further dissolution of collective farms and the new creation of large-scale private farms will have some serious implications on the social sector, on rural employment, and on the political market. Lerman and Csaki (1999) reported that most collective enterprises provided merit and public goods to the rural community - although in a declining amount over time - and only few had transferred their social assets as required by law. It is questionable whether the new farms will contribute to the well-being of the rural population to the same extent as the collective farms did. Of course, this does not mean that restructuring is not needed. However, it would have been accompanied by less social hardship if the law on transferring the social assets had been observed and if the communities had got a chance to gain access to financial resources allowing them to provide social services. The formal institutions concerning social assets were not set in place efficiently and, thus, the creation of new organisations (players in the game) gives rise to concern.

The new farms will increase capital intensity, will change the production pattern to more capital intensive products and will lay off workers. Rural unemployment will likely increase significantly. Hence, workers will get additional incentives to leave rural areas and skilled workers may take up this challenge. This may even happen if they are employed because availability of public and merit goods will decline.

The new emerging structure will also have an impact on the political market in the rayons and the oblasts.

Inherent dangers of the new structure are:

- Political influence
- Effect on production pattern

- High capital intensity
- Neglect of the social sector
- Increase in rural unemployment

Prospects

The prospects for the super-large farms depend very much on the economic and social environment and political decisions. It is difficult to make a projection of these determinants. I suggest approaching the problem in two ways: First, I assume that changes in the farm structure will be driven by pure market forces and that markets function well in the near future. Second, I assume a more realistic approach, namely that the change in the structure is driven by policies and markets do not work well.

Scenario market driven structural change

Market forces would eventually lead to an optimal farm size and a legal form (corporate, cooperate, partnership or single owner) which is the most competitive.

First I discuss the question of an optimal farm size. There is nothing like the optimal farm size. Those agricultural economists who “believe” in the comparative advantage of family farms emphasize the high transaction costs on the farm for monitoring workers (farm internal transaction costs) (Allen and Lueck, 1998); furthermore, they tend to neglect economies of scale and farm external transaction costs which arise in buying inputs and selling outputs. Costs for supervising farm workers for a given farm size (measured in revenue or area cultivated) have declined over the last two decades and will continue to decline. The main cause of the decline was the reduction in labor force per unit of production. Large farms which used 12 to 14 workers per 100 ha in East Germany employ less than one worker or 0.5 workers per 100 ha in these days. Thus, the work force for a 2000 ha farm dropped from 240 to 20 workers. Moreover, nowadays it is easier to monitor workers due to the use of computers and internet. A farm manager who may be in charge for some agricultural enterprises can check the daily performance of the workers at the end of the day even without having been to the establishment. The use of google earth will allow controlling workers even on the field from far away locations. Therefore, I assume that internal transaction costs are less important nowadays as in the past and they will become less important in the future. In contrast, economies of scale seem to have increased over the last decade and will likely decline further. Moreover, economies of scale are related to the know-how of the management and to the ability of the management to collect information on new technologies. It can be assumed that some of the new technologies are dependent on the scale of the farm; larger farms have a comparative advantage in using the total set of technologies.

There seems to be strong evidence that the present technology in production and in monitoring labour contracts as well as external transaction costs favour farm sizes which are significantly larger than the present family farm in Europe or US.

Moreover, the future basis for family farms seems to be weak in CIS. The constitutive elements of family farms are: 1) The farmer owns most of the capital (including land); 2) the farmers' family supplies a high share of the labor force and 3) the farmer makes the main decisions on the farm. It is unlikely that the first condition can be met in a foreseeable future. As ownership transfer of land is limited in any country changes in farm sizes are accompanied by a higher share of rental area.

Whether the present large holdings will be competitive depends very much on management. There are cases which support the survival of large entities in some countries, such as Hungary. The modern communication technology helps to manage these large farms. However, apart from the farm size the legal form matters. Monitoring the management and workers by the owners of the capital is more difficult for corporations than for single-owner enterprises or for partnerships. Moreover, it is more difficult to control the management in a very diverse enterprise where the agricultural holdings play a minor role for the entity. It is unlikely that the management of the holding and the owners of the capital have the information and expertise to monitor the management of the sub-units adequately. Hence, I would expect that large holdings could possibly survive if the main activity is related to agriculture and agriculture related activities.

Scenario: Policy driven structural changes

It is most likely that markets will not work adequately for many years to come. Moreover, political interference may be the driving force of changes in the agricultural structure. It can be assumed that the present agro-holdings will have political clout to change legislation and political interference in their favour. These agglomerates will further impede the evolution of private farms. The tendency to introduce capital intensive methods will continue, in particular because labor markets do not function well and wage rates are likely too high for securing full employment. The countryside will likely only provide opportunity to work for a declining number of people in agriculture. The drop in agricultural employment will negatively affect the prospect for rural areas. This development will be less negative for the population if employment opportunities in the cities improve significantly. However, such a development will likely not happen as labor markets, credit markets and housing markets will continue to work inadequately. Hence, the danger for increasing rural poverty is likely even if the agricultural sector may become technically more efficient and produces more than in the past. It should be noted that there is likely a significant difference between sectoral and overall efficiency. The first is granted if the sector produces cost efficient at prevailing market prices. Overall efficiency will be lower if market prices are distorted and the overall economy does not use all factors of production efficiently. If there is unemployment the shadow price of labor is near zero, however, the enterprises may be faced with highly positive wage rates. Hence, enterprises may prefer to employ more capital and less labor and, thus, improving their profit but deteriorating the

employment situation in the country. The society would be better off if more labor would be employed with the same volume of capital.

References

- Alesina, A. and N. Fuchs-Schuendeln. 2006.** Good-bye Lenin (or not)? The effect of communism on people's preferences for redistribution. *Beyond Transition Newsletter*. Vol. 16. No. 2. <http://web.worldbank.org/WBSITE/EXTERNAL/NEWSLETTERS/>
- Allen, D. W. and D. Lueck, 1998.** The Nature of the Farm. *Journal of Law and Economics*. Vol. XLI. Pp. 343-386.
- Amelina, M. 2000.** Why Russian Peasants remain in collective farms: A Household perspective on agricultural restructuring. *Post-Soviet Geographic and Economics*. 41. No. 7. pp. 483-511.
- Bogdanovsky, V. 2000.** Land reform: Expectations and social consequences. In: A.L. Norsworthy, ed., *Russian views of the transition in the rural sector*, pp. 57–66. Washington, DC, World Bank.
- Csaki, C., Z. Lerman and S. Sotnikov. 2001.** Farm Debt in the CIS. A Multi-Country Study of the Major Causes and Proposed Solutions. *WORLD BANK DISCUSSION PAPER NO. 424*.
- Djankov, S., G. Roland, E. Miguel, Y. Qian, and E. Zhuravskaya. 2005.** Russian Entrepreneurs: Tell me who your friends and family are. *Beyond Transition Newsletter*. Vol. 16. No. 1.
- Fairbanks, M. 2000.** Changing the Mind of a Nation: Elements in a Process for Creating Prosperity. In: Harrison, L.E. and S.P. Huntington, eds., 2000, *Culture Matters. How Values Shape Human Progress*. Basic Books, New York; pp. 268-281.
- Greif, A. 1994.** Cultural beliefs and the Organization of Society: A Historical and Theoretical Reflection on Collectivist and Individualist Societies. *Journal of Political Economy*. Vol. 102, NO. 5, pp 912-950.
- Huntington, S.P. 2000.** Foreword: Culture counts. In L.E. Harrison & S.P. Huntington, eds. *Culture matters: How values shape human progress*, p. xiii. New York, Basic Books.
- Inglehart, R. M. Basanez and A. Moreno. 1998.** Human values and beliefs: A Cross-Cultural Sourcebook. Political, Religious, Sexual, and Economic Norms in 43 societies: Findings from the 1990-1993 World Value Survey. The University of Michigan Press. Ann Arbor.
- Kasper, W. and M. Streit. 1999.** *Institutional Economics*. Edward Elgar. Cheltenham, UK and Northampton, MA, USA.
- Koester, U.; and B. Brümmer. 2006.** Institutional changes for agricultural and rural development in the CEEC and CIS region. "Journal of Agricultural and Development Economics", Vol. 3 (2006), No. 2, pp. 144-179.
- Koester, U. 2005.** A revival of large farms in Eastern Europe-how important are institutions? *Agricultural economics*. vol. 32, issue 1, pages 103-113.
- Koester, U. and S. von Cramon-Taubadel. 1997.** Die Wettbewerbsfähigkeit der ukrainischen Landwirtschaft. In: Hoffmann, L. and A. Siedenberg (eds.), *Aufbruch in die Marktwirtschaft. Reformen in der Ukraine von innen betrachtet*. Campus Verlag Frankfurt/New York 1997, pp.126-142. Published also in Ukrainian and Russian.
- Lerman, Z., C. Csaki and G. Feder. 2004.** *Agriculture in Transition. Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexington Books, Lanham, Boulder, New York, Toronto, Oxford
- Lerman, Z., Csaki, C. & Feder, G. 2002.** Land policies and evolving farm structures in transition countries. World Bank policy research working paper no. 2794. Washington, DC, World Bank.
- Lindsay, S. 2000.** Culture, mental models and national prosperity. In L.E. Harrison & S.P. Huntington, eds., *Culture matters: How values shape human progress*, pp. 282–295. New York, Basic Books.
- Norsworthy, A.L., ed. 2000.** *Russian views of the transition in the rural sector*. Washington, DC, World Bank.
- North, D.C. 1990.** *Institutions, institutional change and economic performance*. New York, Cambridge University Press.
- Porter, M.E. 2000.** Attitudes, values, beliefs and the microeconomics of prosperity. In L.E. Harrison & S.P. Huntington, eds. *Culture matters: How values shape human progress*, pp. 14–28. New York, Basic Books.
- Senge, P. 1990.** *The fifth discipline*. New York.
- Serova, E. 2001.** Public opinion on Russian agrarian reforms. *Problems of Economic Transition*. Vol. 44. No. 5. pp. 51-77.

- Serova, E. 2002.** Evolution of the Farm structure in Russia's agriculture: Background and Perspectives. In: Proceedings of International Seminar ? Pre-Accession Strategy of Czech Agriculture towards EU!. Prague, VUZE. Pp.62-177
- Serova, E. 1998.** The changes in farms' economic behaviour during the economic reforms in Russia in the 1990s. Mimeo
- Schleifer, A. and Treisman, D. 2000.** Without a map: Political tactics and economic reform in Russia. Cambridge, MA, The MIT Press.
- Schulze, E., Tillack, P., Dolud, O. and Bukin, S. 1999.** Eigentumsverhältnisse landwirtschaftlicher Betriebe und Unternehmen in Russland und in der Ukraine. Discussion paper no. 18. Halle, Institute of Agricultural Development in Central and Eastern Europe.
- Schulze, E., P. Tillack, O. Dolud, and S. Bukin, 1999.** Eigentumsverhältnisse landwirtschaftlicher Betriebe und Unternehmen in Russland und in der Ukraine. Discussion Paper No. 18, Institute of Agricultural Development in Central and Eastern Europe, Halle.
- Stiglitz, J.E. 2000.** Whither reform? Ten years of the transition. *In* B. Plekovic & J. Stiglitz, eds. World Bank conference on development economics, pp. 27–56. Washington, DC, World Bank.
- Wandel, J. 2007.** Integrated Structures, Market Forces and Competition in Russia's Agro-Food Sector: An Assessment from the Perspective of the Austrian School of Economics. Paper presented at this conference.
- Weintraub, E.R. 1993.** Neoclassical Economics. The concise encyclopaedia of economics. Liberty Fund, Inc. Ed. David R. Henderson. Library of Economics and Liberty.
<<http://www.econlib.org/library/Enc/NeoclassicalEconomics.html>
- Williamson, O.E. 2000.** The new institutional economics: Taking stock, looking ahead. *Journal of Econ. Lit.*, 38(3): 595–613.