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Working Paper

Embedded institutions and the persistence of large farms in RussiaEmbedded institutions and the

Discussion paper // Leibniz Institute of Agricultural Development in Central and Eastern Europe, No. 131

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Leibniz Institute of Agricultural Development in Central and Eastern Europe (IAMO)

Suggested citation: Koester, Ulrich; Petrick, Martin (2010) : Embedded institutions and the persistence of large farms in Russia, Discussion paper // Leibniz Institute of Agricultural Development in Central and Eastern Europe, No. 131, urn:nbn:de:gbv:3:2-10847 , http://hdl.handle.net/10419/45696

DISCUSSION PAPER

Leibniz Institute of Agricultural Development in Central and Eastern Europe

EMBEDDED INSTITUTIONS AND THE PERSISTENCE OF LARGE FARMS IN RUSSIA

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DISCUSSION PAPER NO. 131
2010

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ISSN 1438-2172

ABSTRACT

Differences in farm structures between Russia and western market economies can hardly be made consistent with the neoclassical textbook idea of a technologically determined farm size operating in a perfect market environment. The main aim of the paper is to identify embedded institutions that provide an explanation for the persistent differences. It is shown that these institutions vary widely across countries. We argue that the historical contingency of a patrimonial society that is both hierarchical and egalitarian also has an important bearing on the current persistence of large farming structures in Russia. The cultural beliefs based on this contingency explain the relative absence of entrepreneurial attitude in the rural society, the lack of trust in formal transactions with strangers, and the unwillingness to deviate from collective behaviour. Managers of former collective farms together with regional government authorities had strong incentives to secure their status-quo rents by inhibiting individualisation in agriculture. In addition, based on their ideological background in communism and their lifelong experience, many of them simply could not imagine how food security and social safety in the countryside should be provided without large farms. 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 corporations and cooperatives into super-large 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.

JEL: P32, P52, Q12, Q15

Keywords: Embedded institutions, agricultural transition, farm restructuring, agroholdings, Russia.

ZUSAMMENFASSUNG

DIE BEDEUTUNG EINGEBETTETER INSTITUTIONEN FÜR DEN FORTBESTAND LANDWIRTSCHAFTLICHER GROßBETRIEBE IN RUSSLAND

Die Unterschiede in den Betriebsstrukturen zwischen Russland und den westlichen Marktwirtschaften lassen sich kaum mit dem neoklassischen Lehrbuchmodell einer technologisch determinierten Betriebsgröße in einem vollkommenen Markt in Einklang bringen. Das Hauptziel des Artikels besteht deshalb darin, die eingebetteten Institutionen zu identifizieren, die für die anhaltenden Unterschiede eine Erklärung liefern können. Es wird gezeigt, dass diese Institutionen von Land zu Land stark variieren. Wir vertreten den Standpunkt, dass die historische Bedingtheit der russischen Gesellschaft, die sowohl hierarchisch als auch egalitär geprägt ist, einen bedeutenden Einfluss auf das derzeitige Weiterbestehen der großbetrieblichen Strukturen in Russland hat. Die so geprägten kulturellen Vorstellungen und Überzeugungen der Handelnden erklären den relativen Mangel von unternehmerischem Verhalten in der ländlichen Gesellschaft, das fehlende Vertrauen in formale Transaktionen mit Fremden und den Unwillen, vom Kollektivverhalten abzuweichen. Die Leiter der ehemaligen Kollektivbetriebe und regionale Verwaltungen hatten starke Anreize, die Status-quo Renten ihrer Einnahmen zu sichern, indem sie eine Individualisierung der Großbetriebe verhinderten. Hinzu kommt, dass sich viele von ihnen

aufgrund ihres ideologischen Hintergrunds im Kommunismus und ihrer lebenslangen Erfahrung einfach nicht vorstellen konnten, wie Nahrungsmittelsicherheit und soziale Absicherung auf dem Lande ohne Großbetriebe funktionieren sollten. Es wird vermutet, dass sich die neuerdings entstandenen, riesigen Agroholdings nur entwickeln konnten, weil die bisherigen Großbetriebe nicht liquidiert wurden und eingebettete Institutionen die Gründung von Familienbetrieben verhinderten. Die mentalen Modelle der Politiker trugen daher zum Verschmelzen der Großbetriebe zu Agroholdings bei. Der Artikel schließt mit einer Bewertung der Agroholdings aus ökonomischer Sicht und einem Ausblick in die Zukunft.

JEL: P32, P52, Q12, Q15

Schlüsselwörter: Eingebettete Institutionen, Transformation im Agrarsektor, Umstrukturierung, Agroholdings, Russland.

Резюме

Неформальные институты и выживание крупных сельскохозяйственных предприятий в России

Различия в организационных структурах предприятий между Россией и западными рыночными экономиками едва ли могут быть согласованы с неоклассической учебной моделью, в рамках которой размер предприятий в условиях совершенного рынка определяется технологией. Поэтому основная цель статьи состоит в идентификации существующих неформальных институтов, с помощью которых можно объяснить устойчивые различия. В статье показано, что данные институты очень сильно варьируют от страны к стране. Наша точка зрения заключается в том, что историческая обусловленность русского общества, которое может быть охарактеризовано такими понятиями как иерархичность и равенство, оказывает значительное влияние на сохранение в настоящий момент крупных производственных структур в России. Обусловленные культурные представления и убеждения хозяйствующих субъектов объясняют таким образом относительное отсутствие предпринимательского поведения в сельском обществе, отсутствующее доверие при сделках с незнакомцами и нежелание отклониться от коллективного поведения. У руководителей прежних колхозов и региональных властей были сильные стимулы для того, чтобы гарантировать себе status quo доход, препятствуя тем временем индивидуализации крупных предприятий. Кроме этого, многие из них из-за идеологической составляющей и жизненного опыта просто не могли себе представить, как должны функционировать продовольственная и социальная безопасности в сельской местности без крупных производств. В статье утверждается, что возникшие в последнее время огромные агрохолдинги смогли развиться только в результате того, что прежние крупные предприятия не были ликвидированы, и существующие неформальные институты препятствовали созданию семейных предприятий. Таким образом, мысленные модели политиков действительно поспособствовали слиянию крупных предприятий в агрохолдинги. В конце статьи приводится оценка агрохолдингов с экономической точки зрения, и даются прогнозы на будущее.

JEL: P32, P52, Q12, Q15

Ключевые слова: Неформальные институты, трансформация в аграрном секторе, изменение структуры, агрохолдинги, Россия.

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1 INTRODUCTION

It is now a well-documented phenomenon that farm structures in the land-rich successor countries of the Soviet Union differ significantly from those in western, market-oriented economies. The agricultural sector of these successor countries is dominated by corporate farms cultivating several thousand hectares each (LERMAN et al., 2004, chapter 4). More recently, even super-large structures of 50,000 hectares and more emerged, so-called agroholdings. This persistence of large farm structures can hardly be explained by textbook neoclassical economics. Neoclassical economics only focuses on the private sector and includes the following three main elements (WEINTRAUB, 1993): (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 and given a certain production technology, 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 shows great similarity. Some differences might be due to varying 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 with theory. Obviously, this theory is not adequate to explain reality in the transition countries under consideration.

This paper aims at contributing to an explanation of the differences in farm structures by referring to the consolidated findings of institutional economics. Further developing the argument in KOESTER (2005), the paper identifies some institutions which might explain the persistence of large farms, with a focus on Russia. In contrast to neoclassical economics, history plays a major role in the explanation of the present state of the economy in this approach. Hence, the explanation of the existence of large and super-large farms has to take into consideration people's historical experience, reasons why family farms did not emerge as expected and why highly indebted cooperatives and corporate farms could survive up to the time where they became part of a holding. In the following, the focus will be on one specific explanation: The importance of first level or embedded institutions.

We develop our argument as follows. In section 2, we clarify the terms and the level of analysis. In section 3 we show how embedded institutions guided the behaviour of the main stakeholders of the transition process, and thus led to the persistence of large farm structures. Section 4 takes up the emergence of agroholdings in the context of embedded institutions. Section 5 concludes and speculates about some future prospects for farm structures in Russia.

2 DEFINITION AND CLASSIFICATION 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" (KASPER and STREIT, 1999, p. 30). According to NORTH (1990), 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 specifically – 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. 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. As first-level or embedded institutions have widely been neglected by neoclassical economics, the following presentation will mainly focus on this type of institutions.

3 HOW EMBEDDED INSTITUTIONS HAVE FAVOURED THE PERSISTENCE OF LARGE FARMS IN RUSSIA

A useful starting point for explaining the persistence of large-farm structures is to look for reasons why family farms did not become dominant following the dissolution of the state and collective farms in Russia. We hypothesise that embedded institutions contributed significantly to this phenomenon. 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 among 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 farms,
- the managers of the cooperatives and corporations, and
- the policy makers.

3.1 Embedded institutions which may have guided the society at large

An important part of embedded institutions are cultural beliefs, which GREIF (1994) defines as "the ideas and thoughts common to several individuals that govern interaction – between these people and between them, their gods, and other groups and [which] differ from knowledge in that way that they are not empirically discovered or analytically proved". 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 significantly across countries. In the following, we briefly investigate some cross-country survey results on human values. 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 seems likely 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
	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 et al. (1998).

Reliance on 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
	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	27
Hungary	49	49	51	58	46	41
West Germany	26	21	21	27	23	18
USA	18	13	11	15	14	12

Source: INGLEHART et al. (1998).

Table 2 informs about differences in 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 may not have been able to build up trust.

To assess the relevance of embedded institutions that guide the Russian society at large it is instructive to highlight some of the historically determined characteristics of its culture. Following LEIPOLD (2006, ch. V-4), Russian society can be described as both strongly hierarchical and egalitarian. The absence of humanism, renaissance and reformation and the close alliance between government authority and the orthodox church in Russia led to a strongly patrimonial character of society. According to this view, the different phases of tsarist, communist and capitalist power and ideology only slightly dressed up the same patrimonial system. In turn, no work ethic compared to Calvinism could develop and an active civil society emerged to a much lesser extent than in west Europe. Contrary to the exercise of government power which was often perceived as autocratic or even violent, the century-old institution of the village community is seen as an arena of solidarity and reciprocity in which family ties play a dominant role. This institution induced the ideal of egalitarianism and a tendency towards

conformism that can still be observed as important in contemporary rural Russia (PAXSON, 2002). Many authors draw a direct line from the institution of the village community across communist collectives to the contemporary hesitation to embrace individualistic modes of economic organisation, particularly in rural areas (LEONARD, 2000; MACEY, 2002). SCHMEMANN (1997, p. 314) notes:

"The communal mentality of the prerevolutionary countryside was only strengthened by collectivization, and those peasants who stayed on the land stayed there precisely for the sense of collective security offered. To grab a large piece of land for oneself and to milk it for money was to spit in the face of the collective and to lose its protection."

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

Table 3 conveys the main reasons why employees of farm entities did not want to start farming. There are several hints that 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. Apparently, their attitude to work and self-expression is very different of those who are eager to start their own business in a market economy. Furthermore, 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 disagreed with the concept of land reform and seemed to be against private land ownership (SEROVA, 2001). 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 rapidly 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 (SCHULZE et al., 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. In addition to the arguments related to egalitarianism and conformism noted in the previous section, this is another reason why 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 and
- the survival alternatives.

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

	Russia	Ukraine	Moldova
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 et al. (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 one's 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. This was the outcome of a survey by WEGREN and DURGIN (1997) 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. Thus, outsiders were the 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 of 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 a few years. These persons were either not able to be a good farmer as they lacked the necessary skills 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, it seems quite likely that family farms did not evolve as expected in many former Soviet countries because embedded institutions affected the behaviour of could-be and would-be family farmers to a considerable extent.

3.3 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, 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, p. 144). In other words, embedded institutions survive long. Not surprisingly, 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 in 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 farm managers were to implement a policy which conflicted with their personal interests. They benefitted from the pre-reform status quo, because it assured them access to income, local power and prestige. PETRICK and CARTER (2009) present a theoretical model of decollectivisation that combines this insight with the above-mentioned egalitarian and conformist attitude in the countryside. Assuming that workers have preferences for behaving in conformity with peers, managers may find it expedient to manipulate their workers in a way that they reject any organisational change as being not conform with the norm. Following SCHAFFNER'S (1995) analysis of Latin American land reform, PETRICK and CARTER call this "limiting the horizon of farm workers". ALLINA-PISANO (2008) provides empirical evidence that is consistent with this view. For example, collective chairmen signalled apparent compliance with reform legislation to the national government but locally shielded workers from any meaningful change. The author reports how reform-willing farm workers were deliberately excluded from public meetings or denied meeting space, and how managers intervened through back room deals with local state officials to prevent land distribution to individuals. She describes how chairmen of collective farm successors and other local authorities were attempting to turn public opinion against private farming by launching critical articles in the local press,

publicly belie it as something strange, suspicious and worthy of ridicule, up to acts of open violence against family members of private farmers. The fact that many of these independent farmers emerged from marginal groups of the rural society, such as single women or members of ethnic minorities, was publicly denounced, and representatives were insulted and called "Gypsies".

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

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

First, there was the perception that large-scale farms were principally superior 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. SEROVA (2001) found that this tendency is of particular importance in countries which have given rise to collective ownership in the privatisation process. It seems likely that it is strongly influenced by some of the a-priori doctrines about agriculture in Marxist ideology. According to these doctrines, large farms can be better mechanised, allow a more rapid adoption of technological progress, and thus are subject to significant economies of scale. On the other hand, Marxist ideology looked at the peasantry with much condescension and regarded the peasants as objects of policies who are unable to understand their own best interests (see PRYOR, 1992, ch. 2, for an overview on Marxist ideology with regard to agriculture).

Second, policy makers held certain perceptions on the role of the state, in particular with respect to income provision. Interviews of the farming population in the successor countries of the Soviet Union often reveal that people put the blame for their bad economic situation on the failure of the government and not on themselves (SEROVA, 2001). 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 of policy reform measures.

Third, they also had perceptions 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. Self-sufficiency of less than 100 percent in a specific agricultural product was often considered a failure of politics. Needless to say that these perceptions have had a strong impact on the design of agricultural policy during transition.

Fourth, behaviour of policy makers was guided by their 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's mind-set in a short period of time. The same holds true for policy makers and other stakeholders.

Table 5 summarizes the mental models which have guided the main stakeholders in transition countries. Many of the mental models reported seem inconsistent with a fast change in the farming structure.

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***
Perceptions 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
Perceptions 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 BOGDANOVSKY (2000); SEROVA (2001).

4 EMBEDDED INSTITUTIONS AND THE EVOLUTION OF SUPER-LARGE HOLDING STRUCTURES IN RUSSIAN AGRICULTURE

For many observers, the devaluation of the Russian ruble in 1998 was an expression of economic weakness and the failure of the reform agenda in the first years of transition. However, it also brought an increase in competitiveness to the domestic food sector vis-a-vis western importers. This was likely one of the major factors that sparked interest among non-agricultural investors in the ailing Russian farm sector. Starting in the end of the 1990s, a new type of agricultural structure emerged in the country, the so-called agroholdings. Two main characteristics are their enormous size covering several ten up to hundred thousand hectares of land plus several stages of production and processing, and the dominance of investors from trade, processing, or energy whose core activity was different from agricultural primary production (see RYLKO et al., 2008 for an overview). Such structures are practically unknown in western market economies and their emergence marked a further shift away of the Russian agricultural sector from the organisational mode typical of (other) capitalist economies. In the following, we discuss some reasons for the emergence of agroholdings in the light of embedded institutions and comment on their likely economic impact.

4.1 Agroholdings as a response to the specific Russian institutional environment

The emergence of agroholdings to some extent mirrors the importance of large vertical networks between business and politics that dominate the Russian economy in general. Following LEIPOLD (2006), their existence can be interpreted as the flip side of the patrimonial constitution of society mentioned above. The patrimonial state unified political power and ownership of resources, both during tsarist and communist times. As a result, the law was primarily regarded as an instrument to foster the interests of those in power, and was applied and observed arbitrarily. According to HEDLUND (2005), Russian society has been characterised by a "rule of men" rather than a "rule of law". The consequence is a prevalent mistrust in the state, its agencies, and the juridical system. A competitive market system based on anonymous transactions among atomised agents is hard to develop under such conditions. Hierarchically integrated structures can hence be regarded as a rational response to this weakness of legal institutions, as they create delimited spheres of power in which the "rule" of the managers or owners can be enforced.

During the transition period, it became evident even for conservative policy makers that many of the agricultural cooperatives and corporations could not economically survive under the emerging market environment. One alternative would have been to force them to bankruptcy. However, for the reasons given in the previous section, policy makers did not favour this alternative. Bankruptcy had most likely led to a split up of the large farms which they wanted to preserve. Moreover, bankruptcy of the large farms may have led to food insecurity. It might have destabilized regional production and impaired the social sphere in rural areas. Indeed, policy makers were likely right to assume that stabilization of food production was much less risky than opting for bankruptcy. It was known that a 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 politically as an adequate mean to revitalize agriculture, given the risky alternatives and the lacking supportive environment.

WANDEL (2010) analysed the legal institutions along Russian food chains. According to his study, the key deficits are weak property rights in land, a weak enforcement of bankruptcy and underdeveloped financial intermediation. In line with the argument of the previous paragraphs, he also makes the case that the emergence of agroholdings is a direct response to these weaknesses.

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 lucrative investment and found that investment in agriculture 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 (RYLKO et al., 2008). 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 together with weaknesses in the enforcement of the rule of law contributed to the positive environment for the integrating companies. Moreover, these circumstances also induced policy makers to facilitate the integration. There are even cases where policy makers directly interfered in favour of the integrating company (WANDEL, 2010).

4.2 The economic impact of agroholdings

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. The assessment from a macroeconomic view looks 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 domestic product. 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 corporate farms will have some serious implications on the social sector, on rural employment, and on the political market. LERMAN and CSAKI (2000) 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 accept 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, as the new owners and managers will gain political influence.

5 CONCLUSIONS AND OUTLOOK

We started from the observation that differences in farm structures between Russia and western market economies can hardly be made consistent with the neoclassical textbook idea of a technologically determined farm size operating in a perfect market environment. The main aim of the article was to identify embedded institutions that provide an explanation for

these persistent differences. We argue that the historical contingency of a patrimonial society that is both hierarchical and egalitarian also has an important bearing on the current persistence of large farming structures. The cultural beliefs based on this contingency explain the relative absence of entrepreneurial attitude in the rural society, the lack of trust in formal transactions with strangers, and the unwillingness to deviate from collective behaviour. As a result, mostly outsiders to the rural communities set up individual farms in Russia. Managers of former collective farms together with regional government authorities represented the local power elite and had strong incentives to secure their status-quo rents by inhibiting individualisation in agriculture. In addition, based on their ideological background in communism and their lifelong experience, many of them simply could not imagine how food security and social safety in the countryside should be provided without large farms.

Similarly, the recent rise of super-large agroholdings can be explained against the background of a society in which the "rule of law" is commonly dominated by a "rule of men". Aside from the profit interest induced by rising agricultural terms of trade in Russia, we argue that huge vertically integrated holdings were a response to weak property rights, lacking bankruptcy enforcement, underdeveloped financial markets, and an insecure supply of raw material from agricultural primary production. Policy makers at the regional level wishing to revitalise agriculture often promoted the emergence of agroholdings and became an integral part of their business network.

Acknowledging the importance of embedded institutions raises difficult normative questions concerning the further reform agenda. If such institutions are an integral part of societies' belief system it is clearly inadequate to base recommendations on an abstract theoretical model – such as the neoclassical textbook model – that assumes these institutions are absent. Recommendations to harden property rights and to liberalise factor markets will have only a limited impact, at best. After all, reform attempts aiming at economic growth or efficiency improvements need to tackle the cultural basis of the economy. For example, LEIPOLD (2006, 232) recommends to functionally specialise and pluralise the Russian society by supporting the engagement of citizen groups. Unfortunately, this seems a particularly difficult undertaking in economically deprived and socially marginalised rural areas. Furthermore, it will be a very long-term project.

We conclude with some speculations on future developments of farm sizes. On the one hand, there are reasons to believe that future farms in the West will be bigger than their contemporary counterparts. Those agricultural economists who defend the comparative advantage of family farms emphasize the high transaction costs on the farm for monitoring workers, or farm internal transaction costs (ALLEN and LUECK, 1998). However, 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 in East Germany which used to have 12 to 14 workers per 100 ha on their payroll employ less than one worker 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 availability of new information technologies, such as the internet and navigation satellite systems. A farm manager can check the daily performance of the workers at the end of the day even without having been to the establishment. The use of internet-based services similar to "Google Earth" will allow to control workers even on the field from far away locations. Therefore, we assume that internal transaction costs are less important nowadays than 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 increase 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.

On the other hand, whether the present super-large agroholdings in Russia will be competitive depends very much on their management. There are cases which support the survival of large entities in some countries, such as Hungary. 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 operations play a minor role for the entity. It is unlikely that the management of the parent company and the owners of the capital have the information and expertise to monitor the management of the sub-units adequately. RYLKO et al. (2008) argue that these managerial dilemmas of agroholdings are not solved. Interestingly, they observe the emergence of new types of family farms within the agroholding structures. With strong upstream- and downstream-linkages to the holding company, these internal quasi-individual farms are operated by single families. This nascent re-sizing of agricultural operations suggests that there still may exist economic constraints that favour specific forms of agricultural organisation over others, both in the east and the west.

ACKNOWLEDGEMENTS

The authors are grateful to Gabi Mewes, Silke Scharf, Jürgen Wandel and Siarhei Ziamtsou for helpful comments and assistance in preparing the manuscript.

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