Are Social and Human Capital Important in Promoting Continuity of Farming? Evidence from Polish Farmers

Axel Wolz*, Jana Fritzsch and Klaus Reinsberg**

Abstract

Agricultural development in Central and Eastern Europe has not been that successful as anticipated at the start of the transformation process. New agricultural production entities emerged, but private farming does not play such an important role like in Western Europe with the exception of Poland and former Yugoslavia where agricultural production had not been collectivised. Nevertheless, these "private" farmers used to be closely linked to the state-owned upstream and downstream sectors. With the transformation, in these like in all transition countries the organisations in support of the agricultural producers had to be re-organised. The former socialist type of mass organisations had become obsolete, membership-oriented ones which are independent from any outside interference had to be established, in most cases, from scratch. As it could be observed during the last decade, quite a number of private farmers had been very successful. The reasons have to be analysed as most of the production factors have been more or less equal.

In this paper we want to analyse the role of formal organisations in promoting agricultural development in transition economies using primary data from Polish farmers. We assume that successful private farmers more eagerly join organisations in support of agricultural producers. Hence, our analysis is based on the central hypothesis that, besides the provision of physical, financial and human capital, social capital can be identified as a significant factor in promoting agricultural income and the continuity of farms. Our findings reveal that social capital is an important factor contributing to the material welfare of agricultural producers in Poland, but not as strong as anticipated. Our hypothesis is not fully supported by our analysis, but not rejected either. Similarly, the impact of human capital is not that significant as assumed. More in-depth research is needed.

1 Introduction

Economic development in the rural areas of the transition countries has not been that successful so far as expected in 1989/90. Although the transformation of former agricultural production co-operatives and state farms into production entities compatible with the market-economic system had been accomplished relatively quickly and the number of registered and, particularly unregistered, private farms increased rapidly, their share in agricultural production is in general much lower than in the EU-15. The major reasons why (private) farming did not materialise as expected had been analysed by various authors (see e.g. Bezemer: 1303-1304). The situation in two countries, i.e. Poland and former Yugoslavia, is somewhat exceptional as there had been no collectivisation of agricultural production during the socialist regime. But also in these countries the agricultural sector developed very slowly during the last decade. However, as could be observed during the last decade, quite a number of private farmers had been very successful. The reasons have to be analysed as most of the production factors have been more or less equal.

* Correspondence: Theodor-Lieser-Str. 2, D - 06 120 Halle (Saale), Germany, wolz@iamo.de.

** Institute of Agricultural Development in Central and Eastern Europe (IAMO), Halle (Saale), Germany.

But the transformation of the agricultural sector refers also to all those organisations in support of the newly-established agricultural producers to become competitive in a market-economic system. Those agricultural organisations integrated in the centrally managed mass organisations under the guidance of the socialist party had become obsolete. New organisations which are membership-oriented and independent from any outside interference had, in general, to be established from scratch. Basically, these supporting organisations can be differentiated into those with a major lobbying function like farmers' unions, economically-oriented ones like producer associations, supply and marketing co-operatives, credit unions, etc. and those specialised in information gathering and extension, like specialised agricultural associations. All these organisations have been set up in all CEEC, but they are still in an infant stage compared to EU-15 where an extensive network of supporting organisations is highly effective.

In this paper we want to analyse the role of formal organisations in promoting agricultural development in transition economies. We assume that successful private farmers more eagerly join organisations in support of agricultural producers. Hence, our analysis is based on the central hypothesis that, besides the provision of physical, financial and human capital, social capital can be identified as a significant factor in explaining economic development at the national, regional and, finally, at the local levels. This paper is structured as follows: In the next chapter the concept of social capital, its definition and options of its measurement are discussed. The major part will be made up by the analysis of data about Polish farmers whether membership in agricultural organisations and human capital indicators have an influence on their material welfare. A short concluding chapter follows.

2 Concept of Social Capital

While the term "social capital" has been applied for quite some time, the concept had been become more popular during the 1980s, particularly by the studies of sociologists like Bourdieu (1983) and Coleman (1988) and political scientists like Putnam (1993). Intuitively, its basic idea says that one's family, friends, associates, business partners, fellow-members in organisations and networks, etc. constitute an important asset for the individual; one that can be called upon in crisis, enjoyed for its own sake or leveraged for material gain. In economics, the concept gained prominence with the execution of 'social capital initiative' by the World Bank during the second half of the 1990s. When analysing economic performance the ambitious claim had been put forward that social capital might constitute an independent, and hitherto underappreciated, factor of production. The classical economists identified land, labour and physical capital (that is, tools and technology) as the three basic factors shaping economic growth. During the 1960s, the neoclassical economists introduced the notion of human capital, arguing that a society's endowment of educated, trained and healthy workers determines how productively the orthodox factors can be utilised. Now, advocates of the social capital concept argue that the most innovative ideas will amount to little unless that person also has access to others to inform, correct, assist with and disseminate their work. In essence, where human capital resides in individuals, social capital resides in relationships (Woolcock 2002: 20-21).

The growing theoretical and empirical literature has helped to fuel a resurgence of interest in the social dimension of development. A range of new research has shown that communities endowed with a rich stock of social networks and civic associations are in a stronger position to resolve disputes, share useful information, set up informal insurance mechanisms, implement successful development projects, and confront poverty and vulnerability (Isham et al.: 6). However, there had been a lot of criticism about the vagueness of the concept. There are simply too many meanings associated with this concept and a consensus about a commonly acknowledged one is still missing. Therefore, some economists are very sceptical whether this concept should be applied in studying economic issues (e.g. Manski: 121-123).

Others argue that these differences and disagreements are a good measure of the intellectual excitement of the current social capital literature and urge to go on with the debate (e.g. Durlauf: 418).

The major reason for the large spread of different understandings of social capital can be seen in the fact that different authors focus on different dimensions which in reality are interdependent and overlapping. Since individual authors emphasise different aspects of the various dimensions, it is no surprise that the adopted definitions of social capital vary to a large extent. Some authors have tried to cover as many dimensions as possible, which means that the adopted definitions are very broad-ranged. It follows that it is almost impossible to quantify or to measure them. Therefore, voices became louder and called for a more tightly focused micro definition of social capital and advocated a 'lean and mean' conceptualisation focusing on the sources – that is, primarily social networks – rather than its consequences (which can be either positive or negative, depending on the circumstances), such as trust, tolerance and co-operation. The focus is on the micro level and the structural elements. The upside of this approach is that it is more or less clear about what is, and what is not, social capital, making for cleaner measurement and more parsimonious theory building; the downside is that it tends to overlook the broader institutional environment in which communities are inherently embedded (Woolcock: 22).

In our analysis we will follow this approach and rely on Rose who defines social capital as follows: "Social capital consists of informal social networks and formal organisations used by individuals and households to produce goods and services for their own consumption, exchange or sale" (Rose 2000: 1). In general, informal social networks comprise face-to-face relationships between a limited number of individuals who know each other and are bound together by kinship, friendship, or propinquity. Informal networks are 'institutions' in the sociological sense of having patterned and recurring interaction. However, they lack legal recognition, employed staff, written rules and own funds. Formal organisations are legally registered and, hence, have a legal personality. They are rule-bound and have to follow formal procedures in their management. In general, they have a secured annual budget which might be made up by their members, the market and/or the state. A formal organisation can have as its members both, individuals and/or other organisations (Rose 1999: 149).

Closely linked to the discussion about the definition of social capital is the question of how to quantify and measure it. Like human capital, social capital is difficult, if not impossible, to measure directly; for empirical purposes the use of proxy indicators is necessary. Depending on the definition adopted, the number of indicators varies which make any comparison of social capital studies almost impossible. In line with the call for a more tightly focused micro or more pragmatic definition of social capital the number of indicators can be reduced. This school of researchers focuses on one type of proxy indicators dealing with membership in associations. Other promising avenues to measurement are indicators of trust and adherence to norms and an indicator of collective action (Grootaert/van Bastelaer: 346) which cannot be discussed within the scope of this paper. The most easiest way to measure social capital is to record the number of organisations and informal networks of which one is a member. Under the label "Putnam's Instrument" the density of voluntary organisations at national, regional and local levels are assessed. How many such organisations does A belong to. It is a way to measure an aspect of people's ability to work together (Hjollund et al.: 3).

3 Own Analysis

While the number of studies dealing with the social capital have increased rapidly during the last decade, not that many authors have adopted this approach when analysing agricultural development in transition economies, so far. Rose (1999 and Rose et al. 1998) and O'Brien (2000) have carried out first researches in rural areas, but their focus had been on the actual existence of social capital among the rural population and not agricultural development itself. Chloupkova and Bjornskov (2002) did a preliminary

analysis of social capital among private farmers in Czech Republic. But, in general, it can be concluded that there is a lack of information regarding the economic effects of social capital on agricultural development in transition economies. In our study we want to focus on the organisational aspects of social capital as well as on human capital among agricultural producers in the CEEC. While in Poland agricultural production had not been collectivised during the socialist period, the "private" farmers were closely tight to the state-owned upstream and downstream sectors. Therefore, the organisational network supporting the newly established agricultural producers had to be re-build since 1989. We want to test our main hypothesis whether membership in agricultural organisations, i.e. social capital, has an influence on the level of farm income and hence promote the continuity of farming. In addition, we want to assess whether there is any impact of human capital indicators.

In 2000 IAMO executed a survey among Polish farmers about their access to viable financial services. It has to be admitted that the objective of this survey had not been the analysis of social and human capital. But there had been questions about membership in organisations and some human capital indicators. It can be assumed that the respondents have answered them truthfully. Therefore, it had been decided to use these data for a first test about our hypothesis. Nevertheless, the authors are aware of the objection that a secondary analysis of a survey designed for different purposes cannot be expected to cover the full set of relationship between social and human capital and material welfare. In our (secondary) analysis the focus is on the micro level and on the structural elements of social capital. At this stage, just the membership in organisations could be recorded but not the costs involved in becoming and remaining a member.

This survey consists of a random sample of 464 farms representing different legal forms in the former voivodships of Szczecin, Tarnów, and Rzeszów. It had been executed during 2000 and refers to the budget year of 1999. The respondents had been farm managers and household heads (see for more detailed description of the survey: Petrick). For the analysis of our hypothesis we are concentrating on private farmers only. The total number of valid cases comes up to 410. The farms were differentiated according to the major farming systems. Those farms with more than 70 percent of their gross farm revenue derived from crops (including the value of subsistence products) were classified as crop production farms, those farms with more than 70 percent of their gross farm revenue derived from animal production as animal husbandry farms while the remaining ones were grouped together as mixed farms. In addition, these three dominant farming systems were divided into those farms smaller than 10 hectares and those equal and bigger than 10 hectares. This border line has been set deliberately as we assume that those farms cultivating less than 10 ha will be among the first ones to give up farming once more other sources of income will become available.

In the original survey the focus had been on the following aspects: the farm household, agricultural production, off-farm employment, assets, investment, access to and opinions about financial services, farm management issues and plans about the future. One question dealt with their membership in various types of organisations. Respondents had been asked, whether they were member of a co-operative bank, a credit union, any other type of co-operative, a farmers' union, and/or a political party. The answers were combined into a simple unweighted index of Social Capital I, amounting from 0 to 1, i.e. member in no organisation comes up to zero, member in one to 0.2, etc. In addition, respondents had been asked whether they were elected leaders in various organisations. They were asked whether they were an elected member of the supervisory board of a co-operative bank, a delegate to the Chamber of Agriculture and/or an elected member of regional authoritative bodies. Those who have been elected can be seen as leaders of the farming population and we assume that they are somewhat better-off than the others. The answers were combined with those of membership to a second simple unweighted index of Social Capital II, amounting again from 0 to 1. Those farmers being a member in no organisations and no elected representative were valued at zero while those being member in all 5 organisations and elected representatives to all three options got one.

In addition, it had been looked at the major human capital indicators. The variable "education" has been defined as an index and comes up from 0 to 1, i.e. not completed primary school is set at zero, completed primary school at 0.25, completed vocational school at 0.5, completed secondary or technical school at 0.75, and completed university at 1. As a second variable we have defined "job experience" as the number of working years given by the respondents. On average, respondents worked for about 22.1 years. As a third variable we looked at the "manager experience" whereby it had been asked for the actual number of years managing the private farm as the decision-making agricultural household head (excluding the years as helping family member). On average, respondents were managing their farms for about 16.4 years. Finally, the age of the respective farm household heads had been recorded as well. With an average age of 43.8 years this variable is rather low in the survey.

We will analyse the data in two steps: Due to space limitation we will concentrate on the most important ones based on our analysis. First, we discuss the importance of the major factors characterising the farms, i.e. the age of the household heads, the relevance of subsistence production in relation to the gross agricultural farm revenue, the educational level and job experience of the household head as human capital indicators and finally the significance of social capital. The discussion is based on the comparison of the average values adopting (a) the Kruskal-Wallis-Test when comparing the three farming systems and (b) the Mann-Whitney-Test when comparing the two different farm size groups within the respective farming system. This analysis is followed by a correlation analysis in order to test whether we can support or have to reject our basic hypothesis.

First round of analysis: Comparison of means

At first, we want to investigate, how human capital, social capital and the rate of subsistence production differ between three dominant farming systems. As it is shown in Table 1, we compare the variables on the level of all farms.

Table 1: Comparison of Major Farming Systems with respect to Human Capital, Social Capital and the Rate of Subsistence Production for All Farms (N=410)

	N	Average	Median	Mean Range
Education				
Crop Production Farms	89	.65	.75	244.28*
Mixed Farming	145	.59	.50	204.10*
Animal Husbandry Farms	176	.55	.50	187.05*
Job Experience				
Crop Production Farms	89	18.2	20.0	163.34*
Mixed Farming	145	22.7	20.0	209.04*
Animal Husbandry Farms	176	23.6	23.5	223.90*
Age of Farm Head				
Crop Production Farms	87	42.7	43.0	190.76
Mixed Farming	142	44.4	43.0	204.89
Animal Husbandry Farms	174	43.9	43.0	205.26
Social Capital I				
Crop Production Farms	89	.20	.20	197.29
Mixed Farming	145	.20	.20	199.45
Animal Husbandry Farms	176	.23	.20	214.64
Social Capital II				
Crop Production Farms	89	.16	.13	201.24
Mixed Farming	145	.14	.13	198.71
Animal Husbandry Farms	176	.17	.13	213.25
Rate of Subsistence Production				
Crop Production Farms	89	12.05	.00	130.85*
Mixed Farming	145	26.33	22.26	253.68*
Animal Husbandry Farms	176	16.74	13.07	203.56*

* Significance at 0.05 level.

Source: Own calculation with data from the IAMO Poland farm survey 2000 (Petrick 2001).

The Kruskall-Wallis-Test shows significant differences between the farming systems for the educational level, the job experience and the rate of subsistence production. Looking at the mean ranges, we conclude that the educational level is highest among the heads of crop production farms and lowest among those of animal husbandry farms. The job experience is lowest among crop production farms and highest among animal husbandry farms. The rate of subsistence production is highest among mixed farms and lowest among crop production farms.

With respect to the two farms size groups the picture looks as follows: On the level of small scale farms (see Table 2), we can show significant differences for the educational level, both social capital variables and the rate of subsistence production. According to the mean ranges, the educational level is highest among crop production farms and lowest among animal husbandry farms whereas social capital is highest among animal husbandry farms and lowest among crop production farms. The rate of subsistence production is highest among mixed farms and lowest among crop production farms. For the large scale farms (not shown in a table), we found significant differences in the educational level, the job experience and the rate of subsistence production. The educational level is highest among crop production farms and lowest among animal husbandry farms whereas with respect to job experience it is the opposite. The rate of subsistence production is highest among mixed farms and lowest among crop production farms.

Table 2: Comparison of Major Farming Systems with respect to Human Capital, Social Capital and the Rate of Subsistence Production for Small Scale Farms (N=231)

	N	Average	Median	Mean Range
Education				
Crop Production Farms	34	.67	.75	143.71*
Mixed Farming	88	.58	.50	115.14*
Animal Husbandry Farms	109	.55	.50	108.06*
Job Experience				
Crop Production Farms	34	20.0	20.0	95.78
Mixed Farming	88	24.4	25.0	117.61
Animal Husbandry Farms	109	24.3	25.0	121.01
Age of Farm Head				
Crop Production Farms	34	46.2	46.0	120.44
Mixed Farming	86	46.6	44.0	116.46
Animal Husbandry Farms	108	44.9	44.0	111.07
Social Capital I				
Crop Production Farms	34	.12	.00	94.40*
Mixed Farming	88	.16	.20	108.35*
Animal Husbandry Farms	109	.22	.20	128.92*
Social Capital II				
Crop Production Farms	34	.11	.13	98.96*
Mixed Farming	88	.12	.13	107.36*
Animal Husbandry Farms	109	.16	.13	128.29*
Rate of Subsistence Production				
Crop Production Farms	34	27.17	12.36	96.88*
Mixed Farming	88	36.26	34.51	145.53*
Animal Husbandry Farms	109	21.07	17.28	98.12*

*Significance at 0.05 level.
Source: Own calculation with data from the IAMO Poland farm survey 2000 (Petrick 2001)

The analysis shows, that the heads of crop production farms are more educated but not so experienced in their job whereas the heads of animal husbandry farms are more experienced but not so educated. We could not prove differences in the age between the three farming systems but we are aware that more experienced farmers are also older farmers and a higher level of education means less years working in the job. Therefore we conclude that younger, more educated farmers specialise in crop production than in animal husbandry. Older more experienced farmers are not ready to give up their traditional production structure. The results found with respect to the rate of subsistence production are not surprising. Subsistence farms are, in general, mixed farms in order to provide the family with a wide range of food. More interesting is the result for the social capital variables. The analysis proves that on

the level of small scale farms social capital is more accumulated in animal husbandry farms than in crop production farms. We did not find the same result for large scale farms where social capital is on the same level for all farm types.

In a second step, we looked more closely at the effects of both variables, i.e. farm size and farming system, together, i.e. small and large scale farms and the three types of farming systems separately. Due to limits of space, these figures are not shown in a table. With respect to farms specialised in **crop production**, we found significant differences between small and large scale farms for the age of the farm household head, both social capital variables and the rate of subsistence production. Farmers of smaller farms are older than farmers of larger farms. Social capital is higher among larger farms than in smaller farms. The rate of subsistence production is higher among smaller farms than in larger farms. With respect to **mixed farms**, the job experience, the age of the farm household head, both social capital variables and the rate of the subsistence production differ significantly between small and large scale farms. The heads of smaller farms are more experienced and older than the managers of larger farms. Social capital is higher in larger farms than in smaller farms. Similar to crop production farms, the rate of subsistence production is higher in smaller farms than in larger farms. With respect to the **animal husbandry farms**, we found only differences between small and large scale farms for the rate of subsistence production in the way that among smaller farms a higher percentage of the production is used for own consumption.

Summarising the findings of the comparisons of means it can be concluded as follows: The impact of the human capital and social capital variables differ between farming systems and farm size. Older and more experienced farmers manage smaller farms with a higher share of animal husbandry. Younger and more educated farmers prefer larger farms with a higher share of crop production. Subsistence farms are small mixed farms whereas subsistence production losses importance in larger more specialised farms. It can be argued that the main objective among smaller farms is the provision of a wide range of food for the farm family and surplus production only will be sold. Social capital is higher in larger farms than in smaller farms. Obviously, membership in (formal) organisations does not seem to be an important issue in raising farm income in smaller farms. With respect to larger farms it can be assumed that membership in organisations will have a more important impact on farm income.

One aspect which is not shown in the tables is the fact that regardless of farm size and farming system there seems to be almost no problem in finding a successor for the farm. Contrary to expectations also small farmers have no problems in handing over their farms. This might reflect the high unemployment rates in Poland as it is highly difficult to find non-farm jobs. Under that scenario, it seems to be more rational to continue farm production, ensure the subsistence of the farm family and "survive" in the rural setting instead of being unemployed elsewhere. But we doubt whether these farms will be managed in the long run.

Second round of analysis: Correlation analysis

How these social and human capital indicators had an influence on the level of agricultural income had been calculated in a correlation analysis with Kendall's tau (τ) as correlation coefficient. Due to a high degree of inconsistency with respect to the recorded variables of agricultural production, it had not been possible to come up with reliable cost figures and, hence, of the net farm income. Therefore, this analysis had to be restricted to gross agricultural farm revenue, only. Several rounds of correlation analyses had been executed with respect to the two distinguished farm size groups. In a first step, the impact of social capital and human capital variables on the total gross agricultural farm revenue had been analysed. Since it can be argued that the farm size does have an effect on farm revenue, i.e. the bigger the farm size the higher the gross agricultural farm revenue, it had been looked in a second step

whether social and human capital indicators had an effect on farm efficiency, i.e. the gross agricultural farm revenue per hectare. The results of this correlation analysis are summarised in Table 3.

Table 3: Correlation of human and social capital with gross agricultural farm revenue (total and per hectare) among small and large scale farms of the sample of Polish farmers

	Gross agricultural farm revenue	
	total	**per hectare**
All Farms (N=410)		
Social Capital I	.193**	.014
Social Capital II	.187**	.016
Education	.055	-.050
Job Experience	-.132**	.091**
Manager Experience	-.099**	.042
Small Scale Farms (< 10 ha, N=231)		
Social Capital I	.128*	.061
Social Capital II	.106*	.043
Education	-.013	-.054
Job Experience	-.102*	-.017
Manager Experience	-.147**	-.063
Large Scale Farms (≥ 10 ha, N=179)		
Social Capital I	.161**	.077
Social Capital II	.200**	.094
Education	.103	-.013
Job Experience	-.015	.209**
Manager Experience	.041	.179**

* Correlation is significant at 0.05 level (2-tailed).
** Correlation is significant at 0.01 level (2-tailed).
Source: Own calculation with data from the IAMO Poland farm survey 2000 (Petrick 2001).

When looking at the impact of social capital on the gross agricultural farm revenue, the findings reveal that it is highly significant with respect to the large-scale farms and all farms. It is also significant with respect to the small scale farms. This lower degree of significance might be expected as smaller farms concentrate more on subsistence production and do not depend that much on selling their products. However, the coefficients are relatively small. In this respect, it can be concluded that social capital has a certain degree of influence on the gross agricultural farm revenue of private farms. When looking at the effects of social capital on the gross agricultural farm revenue per hectare no significant impact - regardless of the farm size - could be measured. Therefore, it can be concluded that there is a significant influence of social capital on farm revenue, but the correlation is not as strong as anticipated. The coefficients are too small to confirm our hypothesis fully. But it cannot be rejected either.

A number of reasons for these (at the first sight unexpected) findings can be given. We assume that not all organisations representing social capital had been ascertained by the survey, i.e. our variables "Social Capital I" as well as "Social Capital II" do not represent social capital fully. With respect to elaborating a special survey on social capital among agricultural producers, it shows that not only membership of all relevant formal organisations has to be thoroughly assessed, but also all types of costs in joining and remaining member of the respective organisations. In addition, the relevance of informal networks has to be analysed more closely, as it can be assumed that they are of high relevance for small scale farmers. Similarly, more in-depth thought has to be given to calibrate the idea to come up with a 'lean and mean' concept of social capital; i.e. whether there is a direct and relatively simple relationship between membership in organisations and material welfare.

When taking the human capital variables into account, there is also no clear-cut evidence. The effects of the variable "education" are - regardless of the farm size - not significant, the coefficients are small and when analysed in relation to gross revenue per hectare even negative. This might be explained that up to now the successor takes over the farm in line with the inheritance rules without any regard to the educational level. The other two variables, i.e. "job experience" and "manager experience", clarify the picture a bit. With respect to the total gross agricultural farm revenue both variables are negative and highly significant among all farms and particularly among the smaller farms. This means that those

farmers with a longer job and management experience record lower farm revenues. At the first sight, this result is surprising but can be explained as follows: Older farmers cultivate smaller farms which might be due to the fact that they are not that energetic anymore. Younger farmers cultivate larger areas which reflects their intention to earn an adequate farm income. However, they are more specialised in crop production, while the older farmers rely more on animal husbandry as a source of income. Concerning the larger farms both variables are not significant at all. On the other side, both variables are highly significant among the large scale farms when testing their influence on the farm revenue on a per hectare basis. This shows that both variables have an effect on the farm efficiency. Surprisingly, all our three human capital variables show a negative sign when assessing their impact on farm efficiency among small-scale farms. This might reflect the fact that the continuity of these farms depends on other factors, e.g. provision of off-farm jobs. But all these parameters are not significant. In total, it can be concluded that the human capital variables exert a certain level of influence on the farm revenue but, again, not as strong as anticipated.

4 Conclusions

The findings reveal that social as well as human capital are important factors contributing to the material welfare of agricultural producers in Poland, but not as strong as anticipated. Our hypothesis is not fully supported by our analysis, but not rejected either. However, the presented case study has not been executed in analysing these factors but was planned with other objectives in mind. Therefore, more detailed studies explicitly focusing on the impact of social capital on the wellbeing of agricultural producers are urgently needed. Nevertheless, the question comes up how social capital among agricultural producers might be built up or strengthened, e.g. by the national or regional governments. There is almost common agreement that social capital is hard to construct through external intervention, or that these institutions can "invest" in social capital. But there is evidence that support can be provided indirectly in creating a legal and economic environment conducive to building social capital from the bottom. Such efforts amount, for example, to creating a proper legal framework in which small groups are accepted as legal entities, thus enabling them to execute business activities. In general, governments should assure that the barriers to informal co-operation and the formation of voluntary organisations are minimised. In case business networks are already operational governments might strengthen them through facilitating the exchange of information and/or providing limited financial support in making them more competitive, like e.g. the establishment of agricultural producer associations in the EU over the first few years (see e.g.: Chloupkova/Bjornskov: 248).

References

Bezemer, Dirk (2002). Credit Markets for Agriculture in the Czech Republic. *Europe-Asia* 54 (8): 1301-1317.

Bourdieu, P. (1983). Ökonomisches Kapital, kulturelles Kapital, soziales Kapital. In: Kreckel, R. (ed.). *Soziale Ungleichheiten*. Göttingen: Otto Schwarz & Co., 183-198.

Chloupkova, J. and C. Bjornskov (2002). Could social capital help Czech agriculture? *Agricultural Economics* 48 (6): 245-248.

Coleman, J. S. (1999). Social Capital in the Creation of Human Capital. In: Dasgupta, P. and I. Serageldin (eds.). *Social Capital. A Multifaceted Perspective*. Washington DC: World Bank (reprint from 1988), 13-39.

Durlauf, S.N. (2002). Symposium on Social Capital: Introduction. *The Economic Journal* 112, F417-F418.

Grootaert, C. and T. van Bastelaer (2002). Conclusion: measuring impact and drawing policy implications. In: Grootaert, C. and T. van Bastelaer (eds.). *The Role of Social Capital in Development. An Empirical Assessment*. Cambridge: Cambridge University Press, 341-350.

Hjollund, L., G.T. Svendsen and M. Paldam (2001). Social Capital in Russia and Denmark: A comparative study. Paper prepared for the 5th International Conference "Institutions in Transition". Otocec, Slovenia, July 13-14, 2001, CD-ROM.

Isham, J., T. Kelly and S. Ramaswamy (2002). Social Capital and well-being in developing countries: an introduction. In: Isham, J., T. Kelly and S. Ramaswamy (eds.). *Social Capital and Economic Development – Well-being in Developing Countries*. Cheltenham: Edward Elgar, 3-17.

Manski, C.F. (2000). Economic Analysis of Social Interaction. *Journal of Economic Perspectives* 14 (3), 115-136.

O'Brien, D. (2000). Social Capital and Community Development in Rural Russia. Paper prepared for the World Bank's Initiative on Defining, Monitoring and Measuring Social Capital. Washington DC (www.worldbank.org/poverty/scapital/library/obrien.pdf).

Petrick, M. (2001). Documentation of the Poland Farm Survey 2001. *IAMO Discussion Paper No. 36*, Halle (Saale), IAMO.

Putnam, R.D. (1993). *Making Democracy Work: Civic Tradition in Modern Italy*. Princeton: Princeton University Press.

Rose, R. (1999). Getting Things Done in an Antimodern Society: Social Capital Networks in Russia. In: Dasgupta, P. and I. Serageldin (eds.). *Social Capital. A Multifaceted Perspective*. Washington DC: World Bank, 147-171.

Rose, R. (2000). Measures of Social capital in African Surveys. Report prepared as part of the World Bank Social Capital Initiative. Glasgow, Centre for the Study of Public Policy, (www.socialcapital.strath.ac.uk/africaindex.html).

Rose, R., W. Misher and C. Haerpfer (1998). *Democracy and its Alternatives. Understanding Post-Communist Societies*. Oxford: Blackwell.

Woolcock, M. (2002). Social capital in theory and practice: where do we stand?. In: Isham, J., T. Kelly and S. Ramaswamy (eds.). *Social Capital and Economic Development – Well-being in Developing Countries*. Cheltenham: Edward Elgar, 18-39.