The impact of structural social capital on farm income in the Czech Republic

Vliv strukturálního sociálního kapitálu na zisk zemědělských farem v České republice

A. Wolz [1], J. Fritzsch[1], J. Pencáková[2]

[1]*Institute of Agricultural Development in Central & Eastern Europe (IAMO), Halle (Saale), Germany*
[2]*Research Institute of Agricultural Economics (VUZE), Prague, Czech Republic*

Abstract: The change of the economic system from the socialist central planning system to the market economy required the reorganisation not only of agricultural production, but also of the organisations supporting it. In the Czech Republic, agricultural production is characterised by a dualistic structure, i.e. private farmers on the one side and corporate farms on the other. However, among both groups some had been economically more successful than others. In general, a varying adoption of production factors, i.e. land, labour and capital is identified as being of influence. Namely, their ability to collaborate with other farms which is discussed under the concept of social capital, will be analysed in this paper. Based on the findings of a survey among a sample of 62 farms by adopting factor and multiple regression analysis, it can be deduced that social capital is indeed a significant factor determining farm income.

Key words: corporate farms, private farms, cross sectional models

Abstrakt: Změna hospodářského systému ze socialistického centrálního plánování na tržní ekonomiku vyžadovala reorganizaci nejen zemědělské výroby, ale i organizací, které ji podporují. V České republice je zemědělská výroba charakterizována dvojí strukturou, tzn. soukromými zemědělci na straně jedné a zemědělskými podniky na straně druhé. Avšak v obou těchto skupinách mají někteří zemědělci větší ekonomické úspěchy než ostatní. Zejména na to má vliv odlišné přijímání výrobních faktorů, tj. půdy, pracovních sil a kapitálu. Schopnost zemědělců spolupracovat s dalšími farmami, která je diskutována v konceptu sociální kapitálu, bude předmětem tohoto článku. Na základě zjištění z průzkumu, který byl proveden na vzorku 62 farem pomocí faktorové analýzy a mnohonásobné regrese, je možné vyvozovat, že sociální kapitál je skutečně důležitým faktorem určujícím výši zisku farmy.

Klíčová slova: zemědělské podniky, soukromé farmy, průřezové modely

At the eve of the transformation from socialist central planning to the market economy in Central and Eastern Europe, it had been assumed that the collective and state farms would relatively quickly be transformed into private farms or even family farms. This seemed to be the conclusion not only in line with the historical experience but also of most neo-classical and neo-institutional economists (see for a summary discussion: Schmitt 1993: 143–159). While many persons took up private farming, they have not become that important as anticipated. Particularly, in East Germany, Hungary, Slovakia and Czech Republic, agricultural production is dominated by corporate farms, i.e. transformed agricultural co-operatives, joint-stock companies and limited liability companies. In these countries, a typical bimodal or dualistic pattern of agricultural producers can be observed, i.e. private farmers on the one side and corporate farms on the other.

Almost 15 years after transformation, while still not as prosperous as anticipated at the start, a relatively diverse picture emerges. Many factors seem to be of influence, of which the major ones can be summarised as follows (Rozelle, Swinnen 2004): Underdeveloped rural financial systems and the complicated mode of farm restructuring led to a limited access to loans due to lack of profitability, collateral problems, risks and uncertainty. Similarly, the farm sector was characterised by a weak human capital structure to manage private farms, fragmented land ownership, rapid changes in agricultural policies and an incomplete legal framework.

As an additional reason, it had been argued that a low level of social capital has led to a poor economic

performance (e.g. Paldam, Svendsen 2000). Whether this concept constitutes an additional factor increasing economic welfare will be the focus of this analysis. We will test this hypothesis by making use of the data of an empirical survey among agricultural producers, both private farmers as well as corporate farms, in the Czech Republic which had been executed in 2003.

CONCEPT OF SOCIAL CAPITAL

The concept of social capital had been adopted fairly recently in social and economic sciences. Conventionally, in economics, growth and development are based on the efficient adoption of the major production factors, i.e., in general, land, labour and capital, and since its recognition in economics during the 1960s, human capital. However, during the last years, it has become more and more realised that similar endowments with production factors do not necessarily lead to similar patterns of economic growth and development.

In this connection, the concept of social capital is being discussed. It is based on the idea that social networks are vital in managing one's daily life. These networks, however, are not naturally given but have to be built up through investment strategies oriented to the institutionalisation of group relations, usable as a source of other benefits (Portes 1998: 3). Social capital is seen to affect economic development mainly by facilitating transactions among individuals, households and groups in society. This facilitating function can take the following forms: (1) Participation by individuals in social networks increases the availability of information and lowers its cost. (2) Participation in local networks and attitudes of mutual trust makes it easier for any group to reach collective decisions and to implement collective action. (3) Networks and attitudes reduce opportunistic behaviour by group members. Social pressures and fear of exclusion can make individuals behave in certain group-beneficial ways (IFPRI 2004: 46–47).

One of the major critiscms concerning social capital refers to the broad ambiguity and vagueness associated with it. A consensus about a commonly acknowledged definition is still missing. Therefore, some economists are very sceptical about its use (e.g. Manski 2000: 121–123). Others called for a more tightly focused micro-definition and advocated a 'lean and mean' conceptualisation to ensure a certain degree of comparability. The focus should be on the micro level and the structural elements. The disadvantage of this approach, however, is seen in the fact that the broader institutional environment is overlooked (Woolcock 2002: 20–22).

In our analysis, we will follow this more pragmatic approach. In line with other authors (e.g. Sobel 2002: 139), we use a quite narrow definition of social capital. We refer to Rose (2000: 1) who defines social capital as follows: "Social capital consists of informal social networks and formal organizations used by individuals and households to produce goods and services for their own consumption, exchange or sale". In this respect, the focus is laid on the membership in formal organisations, i.e. the structural side. The cognitive side of social capital is bypassed at this stage. Closely linked with the discussion about the definition is the question of how to quantify and measure social capital. The number and focus of the adopted indicators differ both geographically and sectorally (Grootaert and van Bastelaer 2002: 6–7). In line with the call for a more tightly focused definition of social capital, the number of relevant indicators is supposed to be reduced. In our analysis, we could make use of a limited range of indicators, only, and concentrate on membership in formal organisations.

OVERVIEW OF MAJOR CZECH AGRICULTURAL ORGANISATIONS

Quite a number of organisations in support of agricultural producers have been set up since 1990. They either had been established from scratch or the former socialist mass organisations had been transformed into membership-oriented ones. The most important ones are briefly discussed below (Bavorova 2004: 240–245):

- Agrar Chamber (AC): It has been established in 1992 by law. The main objectives are to represent the interests of its members, i.e. all enterprises with respect to agriculture, food industries, and forestry. Three major groups of members are the corporate farms, the private farmers and the agro-industrial enterprises. The organisational degree of the two groups of agricultural producers is highly different. While just about 4% of private farmers are members, about two-thirds of the corporate farms have joined. Particularly the transformed agricultural co-operatives and joint stock companies have become members.
- Agricultural Association (AA): This organisation has been registered in 2001 and it was transformed from the former Association of Agricultural Co-operatives which had been set up in 1968. Therefore, it could make use of all the assets of its predecessor organisation. It is the political lobbying organisation of all large farms which employ staff regardless of their legal form. More than one third of all corporate

farms have become members. The average farm size of the corporate member farms comes up to about 690 ha (AA 2005). This by is about 200 ha smaller than the average farm size of all corporate farms. It can be assumed that larger-scale corporate farms do not see the need of forming or joining this formal organisation for their support.

– Association of Private Farmers (APF): It has been founded in 1999. Its main task is to defend the economic, social and professional interests of individual farmers. It is guided by the belief that family farms form an important part of modern agriculture and a developed countryside. It is a merger of three small predecessor organisations which had been set up during the early 1990s. All of them started from scratch. Just about 6% of all private members have joined, particularly the larger ones (Šebek 2005).
– Marketing co-operatives: They were being set up since the early 1990s. In 2002, their number stood at 84 spread all over the country (N.N. 2002: 4). Their main role is to strengthen the position of agricultural producers towards consumers, trading and agricultural processing companies. Particularly, since the late 1990s, it has also been the objective to strengthen the position of Czech producers in the future EU common market. Very often, the formation of marketing co-operatives has been supported by the AC and the government. They mainly focus on strengthening the bargaining position of agricultural producers which is reflected in higher farm gate prices for agricultural products and lower input prices. However, quite a number of marketing co-operatives failed during the 1990s, so their reputation is not so good among agricultural producers.
– Professional organisations: Their number increased rapidly since 1990. They can be seen as specialised societies which promote information sharing, extension and the interests of their members with respect to political bodies but also the society at large. Their goal is to permanently increase the quality and the economic performance with respect to the respective product at the farm level. In 1996, it has been estimated that there are in total about 360 professional organisations in the Czech Republic (Brokl 1997: 153). While there is no detailed information with respect to their total number, 21 different ones could be identified in the survey.

Out of this discussion, two preliminary conclusions can be drawn: (1) There is a marked dual farm structure in the Czech Republic. Private farms are important in number, but not that much when it comes to land area and production. They could not resume their significance as before the collectivisation and do not play such an important role like in Western Europe. Corporate farms dominate agricultural production. (2) The corporate farms are by far better organised than their private competitors. This seems to support the thesis that particularly private farmers have a low stock of social capital which explains their relatively modest economic success. They seem to be disorganised, but they had to build up an organisation to their support from scratch.

However, there is not only the dichotomy of private versus corporate farms, but also a marked difference of economic success within these two groups. As, for example, could be deduced, the largest corporate farms do not seem to have joined their 'obvious' organisation of support, i.e. the Agricultural Association. Does that mean that these largest corporate farms have also a lower stock of social capital, like the private farmers?

DATA ANALYSIS AND METHODOLOGY

Our analysis is based on the hypothesis that economic welfare of agricultural producers is, at least to some extent, determined by their membership in formal organisations. We could test it in making use of the data of an empirical survey among agricultural producers in the Czech Republic. The survey was developed by the VUZE (Prague) and had been executed during late summer of 2003 referring to the figures of 2002. For this analysis, four different districts of the country had been identified. These four regions were selected according to their natural production conditions (highland or lowland) and their economic indicators (farm size, yields, gross value added) based on the FADN-data. The survey was performed in the highland districts of Klatovy and Strakonice and the lowland districts of Pardubice and Litoměřice, respectively. It included 42 corporate and 20 private farms. All calculations were done by the software package SPSS.

Descriptive statistics

Ten explanatory variables could be put together under six categories (i.e. labour, land, capital, social capital, production intensity and legal form). These categories were used in the quantitative analysis below. As dependent variables, we applied two variables of economic performance (i.e. total output and gross farm income). In the following text, we describe the 12 variables separated according to the legal form of the farm, i.e. corporate and private farms:

Labour: Labour input is measured as the sum of the total annual working time calculated from the total number of the work force multiplied by 2 000 hours for full-time workers and 1 000 hours for part-

time workers. The median labour input comes up to 148 000 hours per corporate farm and 4 000 hours per private farm, respectively.

Land: This indicator covers the total size of land operated by the farm including permanent pastures, perennial crops, and land under buildings. Corporate farms are, with the average size of 1 723.5 ha, remarkably larger than private farms operating about 112.0 ha. These figures are almost double of the average size of corporate farms and about six times larger than the average private farms in the country. Therefore, we have to admit that our sample does not represent the national average, but the larger agricultural producers.

Capital: The questionnaire did not collect data about the value of capital (buildings, machines, animals, etc.). However, it asked about the value of the annual depreciations per farm. Therefore, we have used this variable as a proxy indicator for the capital of the farm. The average depreciations for corporate farms amount to 5 609.0 thousand CZK[1] and 350.0 thousand CZK for private farms.

Production intensity: The intensity of production has an undisputed effect on economic performance. As almost all farms grow cereals, we decided that the average yield of cereals can be seen as a viable proxy of production intensity. Nevertheless, we are aware that production intensity is not only dependent on the economic and human production factors, but also reflects natural conditions. The corporate farms yielded on average 3.5 t/ha whereas private farms harvested 3.8 t/ha. The difference is statistically not significant (Mann-Whitney-Test).

Social capital: The focus of this paper is on social capital. As discussed above, we had to restrict the analysis on its structural form. Therefore, no variables reflect the informal side or, even, the cognitive side of social capital. At this stage, we focus on different indicators describing passive membership in formal organisations and in two different marketing channels. In total, there had been five different variables referring to social capital.

With respect to formal organisations, four different types could be distinguished: (a) the Agrar Chamber, (b) political lobbying organisations, (c) professional organisations, and (d) marketing organisations. As discussed above, the Agrar Chamber plays a distinguished role. The membership in the Chamber is for both corporate farms as well as private farms very high in our sample. 83.3% (35 of 42 farms) of the managers of corporate farms and 80.0% (16 of 20 farms) of the heads of private farms stated that they were members. One reason for this high level of membership seems to be the fact that the representatives of the Chamber were handling the interviews in three of the four districts. The membership in lobbying organisations like the Agricultural Association of the Czech Republic and the Association of Private Farmers shows a slightly different picture. About two thirds of the corporate farms were members of the Agricultural Association, while about one third of the private farmers had joined the Association of Private Farmers (Figure 1). Again, corporate farms were better organised, but when compared with the national level, the organisational degree of both forms in the sample is very high.

Since membership in lobbying organisations focuses more on the representation of interests with respect to policy makers, it is therefore not directly connected with farm production as such. In order to get professional information and to improve technological knowledge, farmers join specialised organisations. Membership seems to be motivated by the production profile of the farm. Since corporate farms are larger than family farms and have therefore a more diversified production profile, they are members in more professional organisations (up to 5 in our sample) than family farms (up to 3 in our sample). Only 26.2% of the corporate

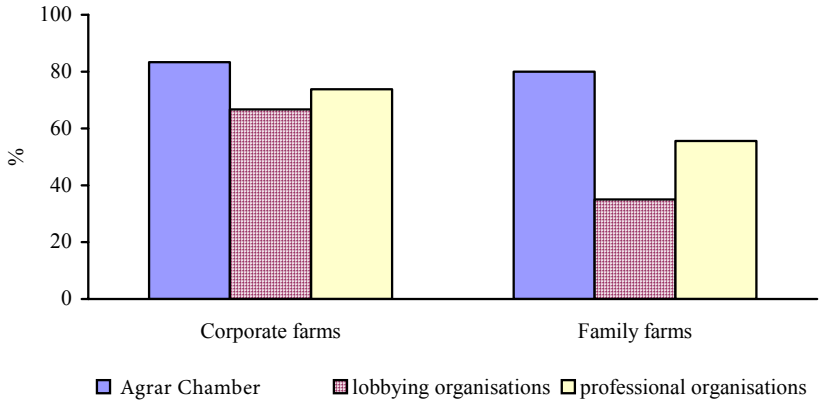

Figure 1. Membership in formal organisations for corporate farms and family farms (percentage of farms)

Source: Own calculation with data from the VUZE farm survey 2003.

[1]CZK: Czech Koruna, 1 US$ = 32.81 CZK, 1 € = 30.91 CZK in 2002 (OANDA 2005).

farms are not members in at least one professional organisation, whereas 44.4% of the private farms did not join any (Figure 1). For the calculation, we used the absolute number of memberships.

The used marketing channels are a good proxy-indicator for the ability of managers to build up networks promoting their economic situation. We are concentrating on two marketing channels only. "Joint marketing through marketing co-operatives" based on voluntary membership forms one side. As quite a number of them failed during the 1990s, their image is not that good among agricultural producers. All sales by other marketing channels are seen as "own" sales and stand for the second marketing channel in our survey. A third option concerns the self-consumption of farm products. While marketing through joint marketing organisations requires the build-up of social capital with other farms, own sales do not need this type of capital. Therefore, we see high shares of sales by joint marketing organisations as a proxy for a high level of social capital whereas high shares of own sales stand for a lack of social capital.

Farm directors and managers were asked about the share of production sold by the two marketing channels in 2002. Both marketing channels amount in average to about two fifths of the sales and have therefore the same importance in our sample. The differences between corporate and private farms are not significant for both marketing channels (Mann-Whitney-Test).

Legal form: The survey includes corporate as well as private farms. In total, 42 corporate farms and 20 private farms responded to the questionnaire. For our regression analysis, we coded corporate farms with 0 and private farms with 1.

Economic performance: We used two indicators to measure economic performance (as dependent variables). The first indicator refers to the total output and includes not only the turnover of agricultural production but also other types of income, i.e. services and tourism. With respect to corporate farms, the average total output came up to about 48.4 million CZK; with respect to private farms it amounted to about 1.9 million CZK. As the second indicator, we refer to the gross farm income calculated as the total output minus intermediate consumption, i.e. specific costs and farming overheads. This variable will be used as a proxy for farm performance. In average, gross farm income amounted to about 11.5 million CZK for corporate farms and about 600 000 CZK for private farms.

Factor analysis

The focus of this paper is to test the influence of social capital on total output and gross farm income. Therefore, it is necessary to make sure that social capital is not correlated in the sample with other influencing variables like the value of capital or the amount of used land. Factor analysis is a multivariate procedure that extracts independent factors from a set of correlated variables. The extracted independent factors can be used in further, more advanced calculations. As input data, a matrix of correlation coefficients (Kendall's tau) was used. The Kaiser-Meyer-Olkin criterion (MSA: measure of sampling adequacy) came up to 0.69 proving the matrix as mediocre but suitable for factor analysis (Backhaus et al. 2003: 276). By principal component analysis with varimax rotation and Kaiser normalisation, four factors could be extracted from the set of nine variables explaining 79.2% of the total variance in the included variables. Only factors with an eigenvalue greater than 1 are used in the further analysis because a factor should at least explain as much variability as one variable causes (Kaiser criterion). Hence, the factors with a lower eigenvalue are not further considered.

Table 1 summarises the results of the calculations by showing all factor loadings and those greater than 0.6 or less than –0.6 in bold letters for the nine variables on four factors. We labelled the four factors according to the variables that have factor loadings greater than 0.6 or less than –0.6. Factor 1 summarises the three variables that describe the classical production factors land, labour, and capital. Two factors indicate partial aspects of social capital. We named them marketing through joint marketing organisations (factor 2) and membership in supporting organisations (factor 3). Factor 4 stands for the production intensity.

At this stage, it can be concluded that factor analysis separated the classical production factors clearly from factors indicating social capital. The membership in supporting organisations and the use of different marketing channels are independent on farm size or the volume of capital. Or, in other words, it also shows that farm size *per se* in our sample is not related to the membership in formal organisations, and hence to a higher level of social capital. Therefore, we feel encouraged to proceed with a more in-depth analysis.

In the final step, the factor scores for the four independent factors were computed to replace the nine correlated variables in the multiple regression models and to test whether the two social capital related factors have a significant effect on the total output and gross farm income.

Multiple regression analysis

In the last step of the analysis, the following linear multiple regression models were calculated to test

Table 1. Factor loadings for nine variables on four factors (principal component analysis, varimax rotation with Kaiser normalisation)

Variable	Factor			
	1	2	3	4
Production intensity	–0.014	0.054	0.009	**0.974**
Total annual working time	**0.908**	–0.027	0.094	–0.008
Used land	**0.888**	0.017	0.160	–0.060
Membership in the Agrar Chamber	–0.106	–0.031	**0.844**	–0.060
Membership in lobbying organisations	0.300	0.113	**0.716**	–0.039
Membership in professional organisations	0.380	–0.020	**0.608**	0.289
Percentage of total agricultural sales by joint marketing organisations	–0.020	–0.947	–0.065	0.012
Percentage of total agricultural sales by own sale	–0.024	**0.946**	–0.015	0.073
Depreciations	**0.875**	0.008	0.089	0.074
Eigenvalue	**2.63**	**1.81**	**1.64**	**1.05**

Note: Relevant factor loadings greater than 0.6 or less than –0.6 are in bold letters
Source: Own calculation with data from the VUZE farm survey 2003

whether there is any significant impact of social capital factors on total output and gross farm income:

$$Z\_TO = legal\_form + \sum_{i=1}^{4} b(i) * factor(i) \quad (1)$$

$$Z\_GFI = legal\_form + \sum_{i=1}^{4} b(i) * factor(i) \quad (2)$$

Z_TO = standardised total output
Z_GFI =standardised gross farm income
legal_form = dummy variable (0 = corporate farm, 1 = private farm)
$b(i)$ = coefficient for the ith factor, i = 1 ... 4
factor(i) = scores for the ith factor, i =1 ... 4

In addition to the four factors, a dummy variable was introduced with respect to the legal form of the farm. Due to the missing values and one outlier, the total number of observations came up to 53 farms in equation 1 and to 43 farms in equation 2, on whose data the calculations of the regression analysis were based. The calculation started with the full model which was backwards reduced so that non-significant factors were excluded step by step from the model. A factor was treated as non-significant if its level of significance was higher than 0.10. Table 2 summarises the results of the regression analyses, i.e. on one side the coefficients of all five factors and on the other, of the significant ones, only.

With respect to the total output (equation 1), the results show that the classical production factors land, labour, and capital and the production intensity have a significant impact, only. Our two social capital variables as well as the legal form of farms are not significant. The measurement of determination is satisfying high with 0.85 and demonstrates that our model includes most of output-determining factors. The coefficient of the factor 'land, labour, and capital' is positive indicating that larger farms have higher outputs. That is not surprising and in concordance with neoclassical economic theory. The likewise positive factor 'production intensity' shows that farms using modern technologies and/or operate under favourable conditions obtain higher outputs.

The second model (equation 2) tests the impact of the five factors on gross farm income. The measurement of determination stands at 0.52. Hence, the model explains more than half of the variability in gross farm income. The model is significant. Like in the first model, the two factors 'land, labour, and capital' and 'production intensity' increase gross farm income. As expected in our hypothesis, the social capital related factor 'marketing through joint marketing organisations' shows a significant impact on gross farm income. Its coefficient is negative. Since there is a negative factor loading of the variable 'percentage of total agricultural sales by joint marketing organisations' on this factor, the negative coefficient stands for increasing gross farm income for higher percentages of sales by joint marketing organisations. Hence, our hypothesis that social capital increases the economic performance of agricultural enterprises in the Czech Republic is confirmed by our results.

The second social capital factor 'membership in lobbying organisations' is not significant in both

Table 2. Results of the multiple regression analyses

	Model with all factors		Model with significant factors only	
	b(i)	level of significance*	*b*(*i*)	level of significance*
Dependent variable: standardised total output *N* = 53				
Land, labour, and capital	0.746	0.000	0.785	0.000
Marketing through joint marketing organisations	0.070	0.135		
Membership in supporting organisations	0.065	0.210		
Production intensity	0.096	0.041	0.082	0.078
Legal form	–0.085	0.407		
Corrected R^2		**0.85**		**0.85**
Dependent variable: standardised gross farm income *N* = 43				
Land, labour, and capital	0.601	0.000	0.647	0.000
Marketing through joint marketing organisations	–0.226	0.048	–0.177	0.093
Membership in supporting organisations	–0.034	0.775		
Production intensity	0.184	0.077	0.171	0.096
Legal form	–0.366	0.224		
Corrected R^2		**0.52**		**0.52**

* A significance level lower than 0.10 stands for a significant effect of the factor on the dependent variable

Source: Own calculation with data from the VUZE farm survey 2003

models. We conclude that it is not passive membership that increases economic performance but active participation in formal organisations as shown by Wolz et al. (2005). As there were no data about active membership collected in this survey, we cannot assess this question in more detail. The social capital factor 'marketing through joint marketing organisations' showed a positive impact on gross farm income, only, but not on total output. Since higher prices for common sales are one objective of joint marketing organisations, this result seems a little surprising. But marketing organisations are not only supposed to achieve higher prices due to common sales but also lower prices due to common input purchases whereby the costs of production decrease. This cost-decreasing effect becomes stronger taking into account that marketing through joint marketing organisations also decreases marketing costs and provides the farmers with useful information about prices and qualities. Therefore, we suggest that the cost-decreasing effect of marketing through joint marketing organisations outnumbers the return-increasing effect. The legal form of the farms shows no significant influence on both dependent variables, so we cannot conclude that family farms are more or less successful than corporate farms.

CONCLUSIONS

In this paper, we discussed the impact of social capital on farm performance. We could draw on the empirical survey among farm managers (N = 42) and private farmers (N = 20) spread over four districts in the Czech Republic. The survey has been executed during late summer 2003. It has been the objective of this survey to test the hypothesis whether social capital does have an impact on farm performance.

By running factor analysis, it could be shown that two social capital related factors, i.e. 'marketing through joint marketing organisations' and 'membership in supporting organisations' could be clearly separated from the classical production factors. Therefore, we continued in testing our hypothesis by running a regression analysis. As expected by the neoclassical theory, farm performance is significantly determined by the traditional production factors, i.e. land, labour and capital and by production intensity. The legal form of the farms, however, does not show any significant influence on economic performance. Therefore, we cannot conclude that private farms are more or less successful than corporate ones.

With respect to the impact of social capital, the results confirm our hypothesis to some extent only. The social capital related factor 'membership in sup-

porting organisations' did not have any significant influence on farm performance. We suggest that it is not passive membership in a supporting organisation which could only be assessed in this survey, but active participation which will have an effect on farm performance. With respect to the second social capital related factor 'marketing through joint marketing organisations', it could be shown that it had no significant impact on the first performance variable, i.e. standardised total output, but a significant one on the second performance related variable, i.e. standardised gross farm income.

At this stage, it can be concluded that social capital has a significant positive influence on farm performance in the Czech Republic. Our hypothesis has been confirmed by the analysis. Therefore, a first recommendation can be drawn: Both types of farms, i.e. corporate and private farms, can improve their income if they join marketing co-operatives. The main benefit seems to be the cost reducing effects through the joint purchase of inputs and not higher product prices.

REFERENCES

Agricultural Association of the Czech Republic: Self-Presentation. www.zemsvazpraha.cz (Accessed: 19 April 2005).

Backhaus K., Erichson B., Plinke W., Weiber R. (2003): Multivariate Analysemethoden. Springer, Berlin, 10th edition.

Bavorová M. (2004). Interessenkonflikte in der tschechischen Landwirtschaft. In: Osteuropa-Wirtschaft, *49*: 237–246.

Brokl L. (1997): Reprezentace zájmů v politickém systému České republiky (Representation of Interests in the Czech Political System). Slon, Praha.

Grootaert C., Bastelaer T. van (2002): Introduction and overview. In: Grootaert C., Bastelaer T. van (eds.): The Role of Social Capital in Development. An Empirical Assessment. Cambridge University Press, Cambridge, pp. 1–15.

IFPRI (International Food Policy Research Institute) (ed.) (2004): Agriculture and Achieving the Millennium Development Goals. Draft Report. Washington DC, IFPRI.

Manski C.F. (2000): Economic analysis of social interaction. Journal of Economic Perspectives, *14*: 115–136.

N.N. (2002): Trade Organizations of Agricultural Producers. Journal of Agricultural Information (Zemedelec), *47*: 4.

OANDA (2005): http://www.oanda.com/convert/fxhistory (Accessed: 10 November 2005).

Paldam M., Svendsen G.T. (2000): An essay on social capital: Looking for the fire behind the smoke. European Journal of Political Economy, *16*: 339–366.

Portes A. (1998): Social capital: Its origins and applications in modern sociology. Annual Review of Sociology, *24*: 1–24.

Rose R. (2000): Measures of Social capital in African Surveys. Report prepared as part of the World Bank Social Capital Initiative. Centre for the Study of Public Policy, Glasgow; www.socialcapital.strath.ac.uk/africaindex.html (Accessed: 27 September 2001).

Rozelle S., Swinnen J.F.M. (2004): Success and failure of reform: Insights from the transition of agriculture. Journal of Economic Literature, *XLII*: 404–456.

Schmitt G. (1993): Why Collectivization of Agriculture in Socialist Countries Has Failed. A Transaction Cost Approach. In: Csaki C., Kislev Y. (eds.): Agricultural Co-operatives in Transition. Westview Press, Boulder, pp. 143–159.

Sobel J. (2002): Can we trust social capital? Journal of Economic Literature, *XL*: 139–154.

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

Wolz A., Fritzsch J., Reinsberg K. (2005): The Impact of Social Capital on Agricultural Income among Corporate Farms in the Czech Republic. Paper presented at the XIth Congress of the European Association of Agricultural Economists (EAAE) "The Future of Rural Europe in the Global Agri-food System", Copenhagen, Denmark, 24–27 August; http://www.eaae2005.dk/CONTRIBUTED_PAPERS/S46_285_Wolz_etal.pdf (Accessed: 21 November 2005).

Personal Communication

Sebek J., Secretary of the Association of Private Farmers, Prague, 19 September 2005.

Arrived on 24th March 2006

Contact address:

Jitka Pencáková, Research Institute of Agricultural Economics, Mánesova 75, 120 58 Prague 2, Czech Republic
tel: +420 732 215 802, e-mail: kosinova@centrum.cz