What motivates farms to associate? The case of two competing Czech agricultural associations.

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Abstract

The study investigates determinants of affiliation with the two strongest associations in Czech agriculture. These represent Agricultural Association grouping large-scale enterprises and Association of Private Farmers, respectively. Our objective is to analyze whether associations with different types of members (large-scale enterprises vs. private farmers) experience different motives for joining or lapsing. Moreover, we investigate if there are characteristics of the associations' members which positively correlate to membership. The results imply that political lobbying is the main entry incentive for both large-scale enterprises and individual farmers. Informal information exchange is a more significant motivation for private farmers than for agricultural enterprises. To the question of who affiliates, we found that the probability of association membership of individual private farms significantly increases with employment of external workers and their commercial orientation, and the probability of association membership of large-scale agricultural enterprises significantly increases with the increasing share of livestock production on the total agricultural revenues and the increasing share of employee ownership.

1 INTRODUCTION

During the socialist period in Central and Eastern European Countries (CEECs), only associations that were linked to the ruling regime were permitted. The main objectives of these associations were the dissemination of communist ideals and the support of government policy. Consequently, independent businesses and business associations which could express their collective interests did not exist (McMenamin 2001). With political reform, the conditions for associations' development began to evolve. The associations' emergence and their role in the transition process has been described in several politic science studies (Olson 1997, Brokl 1997) which emphasize the relevant role of associations in building democracy since they intermediate between the voters and the government. The studies find that the creation and development of associations is hindered by weak civil societies in Central and Eastern Europe as a heritage of decades of totalitarianism. Sociologists see the reason for weak civil society in the lack of social capital in CEECs (Paldam and Svedsen 2000, Raiser et al., 2001), and the reason for the lacking trust in joining a group in the past obligatory membership in politically-oriented groups. Despite weak civil societies and an anti-membership attitude in the post-socialist countries, the growing number of associations shows that more and more people and companies opt for membership. Nevertheless, the "joiners'" motives to affiliate have, in post-socialist countries, not been investigated yet. Therefore, the main objective of this study is to investigate the incentives for association membership and to analyze farm characteristics thought to be decisive for choosing membership in the transition region.

Czech agriculture, with its dual farm structure and competing agricultural associations, seems to be a relevant case for analyzing the logic of association membership in the post-socialist countries. There are two strong interest factions in Czech agriculture: the Agricultural Association, with strong historical ties, representing mostly large-scale

agricultural enterprises, and the Association of Private Farming, representing individual farms. Thus, we are able to investigate whether there are differences in members' motivation between these two groups.

The following section provides a theoretical discussion on members' motivation to affiliate into business groups. Section 3 describes the used data, defines variables and shortly describes the analytical tools (on the ground of special limitations, short descriptive analysis of the evolution and resources of the two strongest Czech agricultural associations is included in Appendix). Section 4 provides survey results and discussion of the incentives for association membership, as well as results from a qualitative response model on membership choice. Section 5 summarizes and concludes.

2 THEORETICAL CONCEPTS OF MEMBERS' MOTIVATION TO AFFILIATE INTO BUSINESS GROUPS

In this study, we use the terms business group, and association, as well as business association, interchangeably. A business group can be defined as "a long-term association of a great diversity of firms and the men who own and manage these firms" (Leff, 1978) or "a set of firms which, though legally independent, are bound together by a constellation of formal and informal ties and are accustomed to taking coordinated action" (Khanna and Rivkin, 2001). As earlier field research suggests, these group members are "linked by relations of interpersonal trust, on the basis of a similar personal, ethic or commercial background" (Leff, 1978).

We employ the New Political Economy (NPE) approach to explain the motivation of organization in agricultural associations in Czech Republic. NPE explains the motivation to join association with the help of economic theories in which the rationally-behaving individual, with a cost-profit consideration is presumed. It assumes that the rationally-behaving individual expends resources for membership in an association until the marginal

cost of lobbying is equal to the expected marginal returns. As the group struggles to gain new members in order to raise its power in the political process[1], it has to supply benefits that would motivate businesses to join the association. Olson (1965) divides the benefits of collective action into collective and selective goods. The NPE sees the political rents for their members - subsidies, regulations, entry barriers, etc. - as the most important collective good provided by business associations. These goods can be achieved from governments through lobbying activities with the purpose of increasing the profit of enterprises in the sector. Both members and the non-members can profit from collective goods, as they are public goods[2]. As the collective goods can be enjoyed without incurring the costs for collective action (membership fees, time) the free rider problem[3] appears. In large groups it is more difficult to overcome the free rider problem than in small groups (Olson, 1965).

Olson (1965) tried to explain why large groups providing collective goods exist despite the free rider problem: he points out that selective incentives (private goods), accessible only to groups' members, must be possessed in the absence of a compulsion to avoid free riding. The selective benefits outweigh the cost of membership and convince the rationally-behaving individuals to expend the costs of membership. Activities which belong to this group of incentives are mostly services for association members such as advisory and consultancy activities, joint training of skilled managers, formal and informal information exchanges, and discounted input prices. Most of these services improve the knowledge base of the top members of the association[4].

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[1] As politicians are rational individuals who maximize the votes to be voted in the election, they exchange economic support for a group for the votes they will win from this group. If the group has many members (more votes) it has higher political power.

[2] Public goods are characterized by non-rivalry and non-excludability.

[3] Free-riding is a situation commonly arising in public goods contexts in which players may benefit from the actions of others without contributing themselves. Thus, each person has an incentive to allow others to pay for the public good and not personally contribute.

[4] Considering informal information exchange, Ingram and Simons (2002) argue that a group's co-membership improves opportunities and motivations for transferring experience, as well as the capacity for organizations to successfully apply the experience of others.

The motivation to associate differs between company members and individuals due to the way in which association costs are paid - from potential profits or from personal income - with individuals being more sensitive to paying membership fees than company members (Bennett, 2000). Consequently, motivation through selective goods as input price discounts or information providing and consultation, which can directly raise personal income, will be more important for individuals. In support of this finding, Salisbury (1984) argues that the individuals (or small firms) can seldom afford to pay for services from consultancy or other specialist firms, and therefore association membership is the "cheap way" of obtaining these services. Otherwise, the large-scale companies can afford to pay for the individual business service, so it is not always the decisive factor for joining. Also, the importance of providing information is higher for small firms than for large companies which have more resources for securing important information (Marsh, 1976). Marsh also found that large firms did not value associations as an opportunity to meet other industrialists, and thus be involved in informal information exchange.

These theoretical arguments and empirical results suggest:

Hypothesis 1: Selective goods will be more significant motivation for private farmers than for agricultural enterprises.

Hypothesis 2: Informal information exchange will be more significant motivation for private farmers than for agricultural enterprises.

The study by Marsh (1976) shows that associations seem to be valued by their members (both small and large) largely for their representational function, their influence on government and their counter-balance to the trade union movement. Economic rents derived from lobbying often outweigh the cost of a company's membership (large companies). The profit of collective goods by individuals often falls very short and can't be directly taken into account, as it is difficult to monetize them.

Hypothesis 3: Both agricultural enterprises and private farmers will highly value the representation function at the political level.

Hypothesis 4: Nevertheless, agricultural enterprises will appreciate collective goods more than private farmers.

Hansen (1985) also analyses the influence of environment on joining behavior and membership by studying the role of threatening times. He states that people are more easily mobilized in response to threats than in response to prospects. In threatening times, political benefits that avoid losses are weighted more heavily than political benefits that promise gains. In the transition after the breakdown of socialist regimes, the importance of agriculture for the economy decreased, and this period (until EU accession in 2004) could be described as "threatening times" for farmers. In socialism there existed only agricultural enterprises, which were partly replaced through private farmers and partly transformed after 1989. Therefore, it can be supposed that this type of enterprise feels more threatened than private farmers, and consequently has a higher motivation for membership. On the other hand, the existence of a competing group in a sector can evoke a threatened feeling in members of the opposing group.

3   DATA DESCRIPTION AND METHODOLOGY

The data set available for the analysis consists of (a) data on 163 agricultural enterprises (legal entities) and 62 individual farms from an extensive survey in the Czech Republic during 2004. The agricultural enterprises have various legal forms – limited companies, joint stock companies, and cooperatives. Despite the fact that legal entities are large scale farms, the agricultural enterprises in the sample vary significantly in size. The individual farms are also very heterogeneous in their size, even if farms cultivating less than 10 hectares were excluded form the survey. Table 1 provides some size characteristics differentiating to two farm groups in the sample.

TABLE 1   Size Characteristics for Individual Private Farms and Agricultural Enterprises

Individual private farms	Mean	Std. Dev.	Min	Max
Total annual revenues (1,000 CZK)	2528.88	2460.82	215.13	16618.12
Labor (1,000 annual work. hours)	5.55	2.95	1.80	15.83
Land (ha)	118.53	142.65	13.00	882.89
Animals (livestock units)	32.72	36.96	0.00	208.68
Agricultural enterprises				
Total annual revenues (1,000 CZK)	69555.93	55771.12	2276.49	407541.00
Labor (1,000 annual work. hours)	158.42	107.8	14.01	645.27
Land (ha)	1724.75	1031.82	137.97	8846.00
Animals (livestock units)	999.18	653.00	41.17	4147.48

The survey provided information on the farms' association membership, motivations for membership, and also a number of farms and farmers' (managers') characteristics, which will be analyzed in the context of association membership choice. These variables partially differ among the two groups of enterprises since they are significantly heterogeneous in their ownership and managerial structures. The analyzed characteristics of agricultural enterprises are: membership in AA (ASSOC1MEM), the legal form as a dummy variable indicating the form of cooperative (COOPS), share of revenues from crop production on overall agricultural revenues representing the farms' production specialization (SPEC), participation in publicly beneficial activities such as road maintenance or transportation (PUBLBENACT), director's subjective perception of the enterprise's economic situation (ECONSIT), size of the enterprise expressed in total annual working hours (SIZE), share of employed owners to total number of employees (WORKEROWN), directors' age (DIRAGE), average age of remaining managers (MANAGAGE), and directors education (DIREDUC).

The characteristics of individual farms used for the analysis of the association membership choice are as follows: membership in the APF (ASSOC2MEM), employment of external workers (EXTWORK), performing non-agricultural activities in addition to agricultural production (NONAGRACT), farmer age (FARMERAGE) and education (FARMEREDUC), and using extension services (EXTSERVICE). Variables SPEC,

PUBLBENACT, SIZE and ECONSIT are used and defined for individual farms analogically to the agricultural enterprises. It must be mentioned that the choice of variables is influenced by the preliminary correlation analysis of a larger spectrum of farms' characteristics, which is, due to spatial reasons not described in this paper. The description of the variables is completed by more information and statistics in Table 2.

TABLE 2   Descriptive Statistics of Analyzed 2004 Survey Data

Variables (SFA notation)	Mean	Min	Max	Description (frequencies)
Individual private farms				
ASSOC2MEM (z_1^1)	0.32	0	1	Yes = 1 (32%), No = 0 (68%)
SPEC (z_2^1)	0.58	0.18	1	
NONAGRACT (z_3^1)	0.35	0	1	Yes = 1 (35%); No = 0 (65%)
FARMERAGE (z_4^1)	48	27	71	
FARMEREDUC (z_5^1)	1.92	1	3	High school = 1 (32%), high school with state exam = 2 (45%), college = 3 (23%)
EXTSERVICE (z_6^1)	2.18	1	4	Yes, frequently = 4 (17%); not frequently/not rarely = 3 (21%), rarely =2 (25%), no = 1 (37%)
SIZE (z_7^1)	5.55	1.80	15.83	Thousand hours
EXTWORK	0.32	0	1	Yes = 1 (32%); No = 0 (68%)
ECONSIT	3.75	1	5	Good = 5 (37%), 4 (25%), 3 (23%), 2 (7%), very bad = 1 (8%)
PUBLBENACT	2.58	1	4	Very frequently = 4 (18%), frequently = 3 (42%), exceptionally = 2 (20%), never = 1 (20%)
Agricultural Enterprises				
ASSOC1MEM (z_1^2)	0.72	0	1	Yes = 1 (72%), No = 0 (28%)
COOPS (z_2^2)	0.53	0	1	Coop = 1 (53%); Other legal form = 0 (47%)
PUBLBENACT (z_3^2)	0.77	0	1	Yes = 1 (77%); No = 0 (23%)
DIRAGE (z_4^2)	52	30	67	
MANAGAGE (z_5^2)	48	35	58	
DIREDUC (z_6^2)	2.62	1	3	High school = 1 (3%), high school with state exam = 2 (31%), college = 3 (66%)
SIZE (z_7^2)	158.42	14.01	645.27	Thousand hours
SPEC	0.51	0.12	0.89	
ECONSIT	3.86	1	6	Very good = 6 (3%), 5 (29%), 4 (31%), 3 (25%), 2 (10%), very bad = 1 (2%)
WORKEROWN	0.55	0.02	1.00	

We use expert interviews and the questionnaire survey to analyze the associations' activities. Further, we use the statistics from the structured questionnaire for a descriptive analysis of the

motives for membership and degree of satisfaction with the association's activities. Since the farm's choice of association membership is a traditional binomial discrete choice problem, we utilize qualitative response models to analyze the choice. All qualitative response models obtain the values of the parameters of the assumed choice-influencing factors by deriving a function for the choice probability. They thus calculate the probability that an individual or a firm will make a discrete choice from a set of alternatives (in our case two) given the assumed explanatory variables. The explanatory variables assumed to influence the association membership choice are uncorrelated variables from the variables listed in Table 1. For almost all qualitative response models, the appropriate estimator is the Maximum Likelihood estimator. We distinguish the qualitative response models based on the assumption we make on the probability function of the choice, which depends on a vector of independent variables and a vector of unknown parameters. If the distribution is assumed to be standard normal, we speak about a Probit model, and if it is logistic, we estimate a Logit model (Greene 2000). Since the question of which distribution to use is in the binomial case is unresolved and they mostly provide similar results (Greene 2000), we provide estimates of the Probit model only.

4 RESULTS AND DISCUSSION

The most important incentive for membership in both associations is the advancement of farmers' interests at the political level (question A and B in Table 3). This opposes Olson's theory that collective incentives, since they can be a subject to free riding by non–members, are not a joining motive for rational members. Our finding supports the finding by Marsh (1976) which shows the importance of the lobbying function for associations' members. It is remarkable that for individual private farms the enforcement of economic interest through lobbying is just as significant as it is for agricultural enterprises. This is again the assumption that small-scale private farmers expect economic collective goods enforced by the association (economic rents) to have a small impact on their profits and therefore aren't the decisive

incentive for joining. The non-economic collective good "public activities and popularization of agriculture" is a slightly more important incentive for the enterprises than for private farms. The largest difference in motivation between the two groups is in the associations' support of a collective (Agricultural Association) or private (Association of private farmers) form of undertaking. This non-economic collective good was significantly more important for individual farmers. Since the agricultural enterprises cultivate approximately 70% of the agricultural area in the Czech Republic, and the Social Democratic Government (since 1998) supports this form of undertaking, the individual farmers supposedly feel threatened. We presume that the individual farmers feel threatened by the enterprises and therefore the support of the private form of undertaking is an important incentive. Moreover, many of the individual farmers have negative experiences with the collectivization of land in the 1950s, and connect agricultural enterprises with the injustices that their families suffered at that time.

The selective goods (services) available only to members, such as the advisory and consultancy services and lectures and seminars, are very important incentives for both groups. For the individual farmers, informal opinion exchange between farmers and processors is more important than for enterprises. This result supports the research by Marsh (1976) who finds that large firms did not value the associations as opportunities to conduct informal information exchange as much as small firms.

Using the non-parametric Mann-Whitney test of two independent groups, statistically significant differences in the incentives among the two farm groups were found with respect to the support of collective forms of entrepreneurship viewed as important by agricultural enterprises (versus support of the private form of entrepreneurship preferred by individual farms) and the incentive to informally exchange knowledge and experience with others in the group, which is asserted to be more of a motivating factor by individual farmers.

TABLE 3 Czech Farms' Incentives for Association Membership, 2004 Survey Results

Agricultural enterprises					Individual private farmers				
4	3	2	1	Aver. score	4	3	2	1	Aver. score
Collective incentives									
A) Enforcement and shield for farmers' interests at the political level									
51%	39%	6%	4%	3.37	67%	19%	7%	7%	3.44
B) Enforcement of agrarian producers' economic interests (increase of agricultural product prices etc.)									
49%	38%	9%	4%	3.33	54%	36%	7%	4%	3.39
C) Entrepreneurial and expert missions abroad									
6%	13%	36%	45%	1.79	0%	19%	22%	59%	1.59
D) Support of the collective / private form of undertaking									
18%	32%	29%	21%	2.46	68%	18%	0%	14%	3.39
E) Public activities and popularization of agriculture									
25%	49%	15%	11%	2.87	26%	37%	15%	22%	2.67
Selective incentives									
F) Advisory and consultancy, information service, lectures and seminars.									
32%	57%	9%	2%	3.20	37%	48%	7%	7%	3.15
G) Indirect economic income from interaction with other members (cooperation, services, certainty of realization of production, etc.)									
21%	46%	22%	11%	2.76	33%	37%	19%	11%	2.93
H) Possibility of informal opinion exchange (chats) between farmers and processors									
27%	44%	24%	6%	2.92	50%	39%	7%	4%	3.36

Note: The numbers 4 and 1 in the second row denote high motivation and no motivation, respectively. The remaining numbers capture the motivation gradation in-between.

Individual farmers are, in general, slightly more satisfied with the activity of the APF than the agricultural enterprises are with the AA. Both groups of farms are more satisfied with the provision of advisory and consultancy activities, information services, lectures and seminars than they are with the political lobbying activity of either association. Individual farmers more positively value the informal exchange function of the association than do agricultural enterprises, which could imply the APF's stronger social role among individual farmers.

Estimates of the qualitative response models presented in Table 4 disclose that there are not many characteristics which distinguish farm members from non-farm members in either of the farm groups. As the varied nature of the individual farms and agricultural enterprises suggests, different factors play a role in the membership choice between these two farm groups. The probability of an individual farm choosing an APF membership is significantly

higher if the farm employs external workers and is thus less traditional in the family farming sense of the word. There is also a significantly lower probability that an individual farm will choose membership if it is more concerned with the community and the farm's role and possible contribution to it. Therefore, members in an APF can be expected to be farms which are less socially and more commercially concerned. Size is not included in the model for individual farms since it correlates with the variable external worker employment, EXTWORK. A model tested with the size variable without EXTWORK, however, did not confirm size as a significant factor for increasing the probability of APF membership choice. Nevertheless, this could be a consequence of the sample construction, which excluded farms cultivating less than 10 hectares since they are very rarely APF members.

The discrete choice analysis of the agricultural enterprises' membership choice in AA provided a different picture. Factors significantly influencing the probability of AA entry relate to ownership structure of the enterprise and its production specialization. The Probit model parameters suggest that the higher the share of workers who are simultaneously owners of the enterprise, the higher the probability of AA membership. As Curtiss et al., (2004) in their study of ownership development in Czech agriculture found, employee ownership is characteristic for less transformed and reorganized enterprises; ownership tendencies are towards ownership concentration. In the context of the present study, this suggests that firms which are more similar to their pre-reform form are more likely to be grouped in the AA, with its many historical ties, than are more reformed enterprises. These could also be enterprises which are motivated by the opportunity of political lobbying for large-scale and collectively-owned agricultural firms which received only little political support, especially at the beginning of the political reforms in the early 1990s.

Another significant indicator of higher probability of AA membership choice is the higher share of the more technologically complex livestock production on revenues from

agricultural production. This is given by the negative parameter of the variable SPEC, which stands for the share of crop production's total agricultural revenues. This could imply the farm's perception of the importance and positive effect of the selective incentives in the form of consultancy, information provision, seminars, etc., for more technological, progress-demanding technologies.

TABLE 4   **Probit Model Results for the Probability of Agricultural Association Membership Choice using 2004 Czech Survey Data**

Individual farms – APF membership			Agricultural enterprises – AA membership		
Explanatory variable	Parameter	P value	Explanatory variable	Parameter	P value
Constant	1.591	0.280	Constant	-5.259	0.021
SPEC	-0.421	0.618	SPEC	-2.016*	0.073
ECONSIT	0.149	0.350	ECONSIT	0.152	0.284
PUBLBENACT	-0.387**	0.050	PUBLBENACT	0.142	0.677
FARMERAGE	-0.025	0.200	DIRAGE	0.029	0.165
FARMEREDU	-0.136	0.587	DIREDUC	0.438	0.121
NONAGRACT	-0.234	0.590	MANAGAGE	0.048	0.156
EXTWORK	0.853**	0.042	WORKEROWN	1.645***	0.004
EXTSERVICE	-0.105	0.544	SIZE	0.000	0.123
			COOPS	0.363	0.249
Log (likelihood)	-32.166		Log (likelihood)	-47.984	

*, **, and *** indicate significance at the 10%, 5% and 1% significance level, respectively.

5   CONCLUSIONS

The findings imply that individual private farms with stronger commercial interests choose association membership rather than traditional family farms. Among the large-scale farms, enterprises with less transformed organization and more need for information support opt significantly more for the association membership. Our study further rejects the hypothesis that selective goods are a more significant motivation for private farmers than for agricultural enterprises. One exception is informal information exchange, which is a more significant motivation for private farmers than for agricultural enterprises. The hypothesis that both agricultural enterprises and private farmers will highly evaluate the representation function on

the political level was confirmed. The results didn't support the expectation that agricultural enterprises appreciate collective goods more than private farmers.

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