SOCIAL RESPONSIBILITY OF AGRICULTURAL HOLDINGS IN RELATION TO THE MUNICIPALITIES

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Abstract

Agricultural production takes place at particular area of municipalities' cadastre. Therefore, the socially responsible behaviour of agricultural holdings towards municipalities is important. The aim of the paper is to answer what factors influence the decision of farm's managers to support social life in municipalities in the cadastre where they operate.

We performed primary research among representatives of agricultural holdings and municipalities in 2018 that questioned them about the social responsibility. On average agricultural holdings supported 6 activities in municipalities out of 14 named in the questionnaire. 46.6% of firms realized more than average number of activities. We used logistic regression to estimate what factors influence *to what extent the agricultural holding supports the activities in the municipality where it operates*.

We found out that number of employees, education of the representative of the agricultural holding and whether the activities of the municipality are observed has statistically significant impact on the level of support (number of activities in the municipalities supported by the agricultural holding). The larger is the holding, the more activities it supports. The higher representative's education and when the activities of municipalities are observed influence the chance that agricultural holding support the life in the municipality more.

Key words: agricultural holding, logistic regression, social responsibility

JEL Code: M14, C25, Q12

Introduction

Corporate social responsibility has attracted increased attention of firms. "Over the last few decades, corporate social responsibility (CSR) has spread extensively within the global community on the part of both practitioners and researchers." (Pisani et al., 2017). The reasons for implementation of CSR principles could be various. Mostly, the authors state that CRS is or should be exclusively profit-driven. However, some authors argue that firms can conduct

CRS based on intrinsic, social motivation. Also, certain role is attributed to the stakeholders that can develop a pressure and stimulate the firms and their managers to implement CSR. Similarly, there is not a single definition of CRS as it has many aspects (see Isa, 2012). Carroll (1991) introduced a pyramid of CRS where its four components are ordered as follows: economic responsibility (be profitable is a base upon which are all others), legal (to obey the law), ethical (to do what is right, just, and fair), philanthropic (contribute resources to the community; improve quality of life).

Agriculture holdings are in a special situation as their production takes place on large areas of land and has certain ecological and social consequences. "The increasing environmental concerns and public scrutiny present challenges for agricultural producers to maintain stakeholder support..." (Knook, Eastwood and Pinxterhuis, 2021). Stakeholder is a person or group that can influence the firm and on the other hand is influenced by the firm. Typically, they are suppliers, customers, employees and management of the firm, non-profit organization, state, municipality's representatives etc. Stakeholder analysis is usual procedure that is performed while forming new strategy of a firm and a cooperation with stakeholders is one pillar of CRS, because of their influence. As stated by Freemand and Moutchnik (2013), firms have to understand stakeholder behaviours, values and backgrounds or contexts, including the societal context. According to them the business is not only about transactions, but about relationship with customers, suppliers, employees, communities, and finances. Each group of stakeholders has different expectations regarding the CRS from agricultural holdings. Therefore, Carroll (1991) created a stakeholder/responsibility matrix to define the stakeholders, their stakes and what CRS the firm have to the stakeholders.

There are few studies that focus on agricultural holdings and their relation towards stakeholders. Bavorová et al. (2021) analysed the relation of agricultural holdings towards local communities in Siberia, Russia. Based on primary survey they found out that farm managers who did engage in social activities seem to have been of intrinsic nature, stemming from their feeling of being responsible for the future of the village and a conviction that this was a role which no one can take over.

According to Mazur-Wierzbicka (2014) "applying Corporate Social Responsibility in agriculture would contribute to improving the image of farmers as perceived by stakeholders, as well as bringing notable economic, social and environmental benefits." It is widely acknowledged nowadays that agricultural production has to comply not only with the economic and legal requirements, but also with the ethical responsibilities. (de Olde and Valentinov, 2019).

2 Methodology and Data

The aim of the paper is to answer what factors influence the decision of farm's managers to support social life in municipalities in the cadastre where they operate. We assumed that farm's characteristics (legal form, number of employees) and respondent's features (function in the holding, whether living in municipality where the agricultural holding is farming, sex, age, education) can influence the scope of cooperation. Also, the fact whether the managers of agricultural holding consider the communication with stakeholder as important and whether they observe the activities in municipalities can play a role. Therefore, we observed variables stated in Table 1 and included them into the logistic regression model.

So-called logit model is used when dependent variable is of a binary character (dummy taking values 0 or 1). In the logistic model, the log-odds (the logarithm of the odds) for the value 1 is a linear combination of one or more independent variables / explanatory variables / predictors. The independent variables can each be also binary or a continuous variable. The model examines the log-odds (a ratio of expected number of successes to each failure) that are computed as (1) (see e.g. Šimpach, 2012):

$$\ln\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_k x_i \,,$$

where p is probability function for y (y is explained dummy variable taking value 0 when the firm support less than average number of activities and 1 when more than average); x are explanatory variables (listed in Table 1); k is the number of explanatory variables and $i = 1, \ldots N$ the number of observations.

The data were gathered during primary survey on a sample of 133 representatives of agricultural holdings in 2018. Part of the research asked those representatives about their activities and relations towards the municipalities where they farm. Key question was: *Does your company in any way support the social life in the municipality(s) in cadastre you operate in the following areas?* Then 14 areas were named, and respondents assessed the frequency how often their agricultural holding realizes this kind of support (5 times per year and more, 3 – 4 per year, 1 – 2 per year, less often, not at all, cannot assess).

As can be seen from Tab. 1, every agricultural holding participated in some way in the life of the municipality. Although companies differ in the frequency (level) of activities, they

generally always support at least one area of social life in the municipality. Only one company stated that it does not participate at all. The events were the most often held once a year – mainly due to their nature (annual events of the company or municipality, harvest festivals, parties and balls). However, some of them could be supported by farms more often (e. g. sport events, voluntary work of employees, short-term students' internships). There were some activities and clubs that were supported only by few firms. Material support for events, provision of services for free or with discount, involvement in Local Action Groups and sponsorship of the fire brigade and of local associations were done only by low percentage of respondents. Majority of answers were "not at all".

Tab. 1: Does your company in any way support the social life in the municipality(s) in cadastre you operate in the following areas?

Activity	5 per year and more	3 – 4 per year	1 – 2 per year	Less often	Not at all	Cannot assess
Cultural events organized by the municipality	2.3%	12.0%	70.7%	6.8%	7.5%	0.8%
Annual events of the enterprise / municipality	0.0%	1.5%	56.4%	18.0%	23.3%	0.8%
Harvest festival	0.0%	0.0%	56.4%	6.0%	37.6%	0.0%
Social entertainment, balls	3.0%	3.8%	51.9%	6.0%	35.3%	0.0%
Students' internships	10.5%	24.1%	42.9%	6.0%	16.5%	0.0%
Voluntary work of employees	0.8%	3.0%	4.5%	10.5%	79.7%	1.5%
Material support (donation for events)	4.5%	8.3%	66.9%	10.5%	9.8%	0.0%
Charitable activities for local community	0.0%	0.0%	12.8%	18.0%	68.4%	0.8%
Provision of services (discount / for free)	5.3%	2.3%	7.5%	8.3%	76.7%	0.0%
Involvement in Local Action Groups	2.3%	2.3%	6.8%	0.8%	87.2%	0.8%
Sponsorship of the fire brigade	3.0%	3.0%	67.7%	3.8%	22.6%	0.0%
Sponsorship of sport events and clubs	3.0%	1.5%	32.3%	8.3%	53.4%	1.5%
Sponsorship of local associations	0.0%	3.8%	36.8%	25.6%	33.8%	0.0%
Sponsorship of NGOs	3.8%	3.0%	19.5%	16.5%	55.6%	1.5%

Source: Own elaboration

Then we created an explained variable for social responsibility. We consider as important, if the agricultural holding supports particular activity at least once a year. Then the activity achieved score 1. If it was only occasionally, not at all or cannot be assess we assume that this activity is not supported by the holding at all (the activity achieves score 0). Only one firm does not support any activity and any farm supported all 14 activities. Half of firms supported more than 6 a half less than 6 activities. Average number of activities was 6.4. Then

we divided the sample on 2 parts where one group of firms support more activities than average and the second less activities. We consider as more socially responsible the first group.

Over 40% of firms are joint-stock companies and 38 % cooperatives. This legal form is considered as linked to the social issues (see e.g. research of Bavorová). The larger is the firm in terms of the number of employees, the more probable that the firm could have resources to support the life in a municipality (see e.g. Udayasankar, 2008).

Then respondent's characteristics were examined – sex, age and education. There were only minority of women among respondents. Women are seen to be more caring about the surrounding, so we may expect that when they can influence it, they would support the life in the municipalities via their companies more. See e. g. research of Hatch and Stephen (2015) who found that "women believe that organizations should be more beneficial to society than men, which translates into a higher quality of corporate social responsibility". Age of a respondent can reflect experience. The higher is the education the more probable is that the scope of socially responsible activities will be larger. Study of Liu et al. (2018) "revealed an inverted U-shaped relationship between top management team age heterogeneity and CSR, in which top management team interaction played a moderating role; however, top management team education did not moderate the relationship."

Position of the respondent also may play a role. If the respondent is in the top management (director / chairman / chairman of the board, managing director) the chance that he or she can influence the scope and areas of social responsibility activities is higher.

An absolute majority of the interviewed representatives lived in the municipalities where their agricultural enterprise operates. It can therefore be expected that this variable will have positive impact on relationship with the municipality. When the respondent considers the communication with stakeholders in general as important the chance that the company support the life in the municipality is higher.

Finally, last, but not least – the precondition for supporting the activities of the municipality is that the agricultural company monitors them so that it can then support them. Therefore, we assume that if the respondent watches what is happening in the village, the more the company supports life in the village.

Above stated variables included in logistic regression model are statistically described in Tab. 2.

Tab. 2: Descriptive statistics of variables included in logistic regression model (*N* = 133)

Dependent variable	Options	Share of respondents
y - Support life in municipality	More than average number of activities Less than average number of activities	46.6% 53.4%
Independent variables		
Farm characteristics		
x_1 - Legal form	Joint-stock company Limited liability company Cooperative	42.9% 19.5% 37.6%
x_2 - Number of employees	Minimum Median Average Maximum	4 40 47.9 350
Farm management characteristics		
x_3 - Respondent's sex	Male Female	82.0% 18.0%
x_4 - Respondent's age	Average 21-40 41-60 61-80	50.8 years 21.1% 63.9% 15.0%
x_5 - Respondent's education	High school, graduated University	33.8% 66.2%
x_6 - Respondent's position in firm	Director / Chairman / Chairman of the Board Managing director Deputy chairman Economist Agronomist Others	60.9% 6.8% 3.8% 19.5% 3.0% 6.0%
x_7 - Respondent lives in municipality	Yes No	59.4% 40.6%
x_8 - Communication with stakeholders is important	Very important Rather important Rather unimportant Completely unimportant	64.7% 34.6% 0.8% 0.0%
x_9 - Activities of municipality are observed	Intensively, often Occasionally Never	65.4% 34.6% 0.0%

Source: Own elaboration

2 Results

Before the construction of the model, we had to check whether there is not a multicollinearity (excessive correlation) between explanatory variables of the model. The correlation matrix demonstrated that there was no multicollinearity as all pair correlation coefficients were low and less than 0.8. Hence, the logistic regression could have been performed.

Explained variable was a dummy whether the firm support activities in the municipality in a large scope. Explanatory variables were characteristics of the farm itself and farm management. Results of the logistic regression are displayed at Tab. 3. The model was statistically significant (LR $\chi^{2(9)} = 21.73$, p-value = 0.0098). The Pseudo R^2 equalled to 0.1183. Statistically significant variables were at level $\alpha = 0.05$ number of employees (size of a firm)

and whether the activities of the municipalities were observed, and at α = 0.1 respondent's education. This low number of significant variables can be due to only 133 observations.

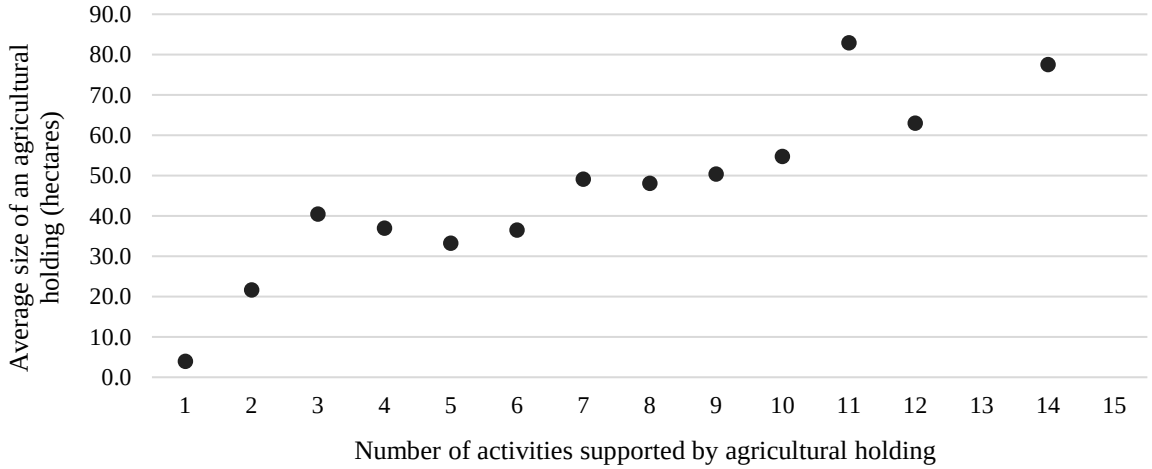
Tab. 3: Results of the logistic regression

***y* - Support life in municipality**	**Odds Ratio**	**Std. Err.**	**z**	**P>z**	**[95% Conf. interval]**	
x_0 - Constant	0.2518	0.2363	-1.47	0.142	0.0400	1.5844
x_1 - Legal form	0.9975	0.2335	-0.01	0.991	0.6304	1.5783
x_2 - Number of employees	1.0151	0.0063	2.41	0.016	1.0028	1.0276
x_3 - Respondent's sex	0.8772	0.5228	-0.22	0.826	0.2728	2.8208
x_4 - Respondent's age	0.9952	0.3241	-0.01	0.988	0.5256	1.8843
x_5 - Respondent's education	2.0976	0.8953	1.74	0.083	0.9087	4.8419
x_6 - Respondent's position in firm	1.1814	0.1867	1.05	0.292	0.8666	1.6104
x_7 - Respondent lives in municipality	0.9118	0.3742	-0.22	0.822	0.4079	2.0382
x_8 - Communication with stakeholders is important	1.4332	0.5370	0.96	0.337	0.6877	2.9872
x_9 - Activities of municipality are observed	0.3691	0.1594	-2.31	0.021	0.1583	0.8603

Source: Own elaboration

Regarding the number of employees, the larger is the firm the higher is a chance that it supports the municipality more. Research of Udayasankar (2008) found out that the least motivated are medium-sized firms that points out on U-shaped between firm size and CRS participation. In our case, we can find weaker positive linear correlation between the size of a firm (measured by number of hectares) and number of supported activities (Pearson's correlation coefficient = 0.31). From Fig. 1 can be clearly seen that more activities are supported by on average larger firms.

Fig. 1: Relation between average size of agricultural holding and number of supported activities in municipality



Source: Own elaboration

We assumed that when the representant of the agricultural holding observes the activities of the municipalities intensively rather than occasionally, the chance that the firm supports activities in the municipality is higher. Also, Pearson correlation coefficient between number of activities supported by agricultural holding and intensity of observing the activities of the municipalities was negative (-0.26). This was not confirmed by our model. Probably, people from municipality, who want to have their activities sponsored by the agricultural holding, must come directly to the manager and ask for support.

Also, education of the representant was important. The higher is the education, the higher is the chance that activities of municipalities are supported. It seems that people with higher education feel more the need to care about the stakeholder of agricultural holding, i.e. the municipality and its life. Our results show that the university is the institute where the young people shall be led to social responsibility. It is in line with research about social responsibility in education where is stressed the positive role of universities in formulation of the norms and values of the students. As Wang (2018) proclaim "higher colleges, as social thought leaders, play unique roles in perfecting the education system of corporate social responsibility, cultivating sustainable graduates with both talents and virtue, and implementing corporate social responsibility". According to this study, the education of CRS shall be provided at the universities in order to establish the norm and value system of the students.

Other variables were not statistically significant. Therefore, the challenge for the future research is to examine other determinants of social responsibility of agricultural holdings towards the municipalities. It would be also interesting to see the point of view of the representants of the municipalities – what are their needs and whether they can be fulfilled by agricultural holdings. Also, the examination of the mutual communication is important. It is necessary to assess the ways of communication and support and barriers of cooperation between those two subjects in order to develop socially responsible relation of the agricultural holding towards the municipalities and people living there.

Conclusion

Corporate social responsibility and the relation towards the stakeholders and the environment is especially important in agriculture. Our paper analysed what factors influence the decision of farm's managers to support social life in municipalities in the cadastre where they operate.

We assumed that farm's characteristics (legal form, number of employees) and respondent's features (function in the holding, whether living in municipality where farms agricultural holding, sex, age, education) can influence the scope of cooperation. Also, the fact

whether the managers of agricultural holding consider the communication with stakeholder as important and whether they observe the activities in municipalities can play a role. However, only three determinants were statistically significant in the logistic regression model. The size of the company (measured by the number of employees) affected the scope of support of municipalities' life positively. Also, when the representant of the agricultural holding has higher education, the chance of larger support to municipality is higher. Surprisingly the observation of the activities of municipalities lowered the support of the municipality.

We can conclude that willingness to support activities in municipalities increases with the size of the firm and with education of the representant of agricultural holding. Future research will try to find other significant determinants of the scope of socially responsible activities of agricultural holdings.

Acknowledgment

This paper was created within the project of the Ministry of Agriculture of the Czech Republic, institutional support MZE-RO0918, Internal Research Project no. 1117/2022. The paper was also supported by long-term institutional support of research activities by the Faculty of Informatics and Statistics of Prague University of Economics and Business.

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