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**Viability of corporate farms in the New Member States in the context of CAP direct
payments**

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Abstract

This paper aims to investigate whether distributional issues within corporate farms in the New Member States will be exacerbated by the introduction of the CAP direct payments. The paper focuses on the specific impact of the payments on the land rented to the corporate farms by private landowners. If the latter are not satisfied with the level of rent they receive, they have the option to end their rental contract and withdraw their land from the farm. Before the accession to the EU the landowners did not have strong incentives to withdraw, as the other available opportunities were not associated with higher returns on land ownership. However, this situation might change as the landowners can now cash the direct payments themselves, providing they keep their land in good agricultural and environmental condition.

Propositions generated by a simple game, representing the negotiations between a corporate farm manager and an individual landowner about the level of the rent, suggests that the CAP direct payments might induce more rent renegotiations but that overall withdrawals will be infrequent. The results from a survey of landowners in corporate farms in Slovakia and in the Czech Republic seemed to corroborate these a priori expectations. The investigation of the determinants of landowners' intended behaviour showed that what seems to be important in the decision-making is the relationship between landowners and managers. Landowners who have frequent contacts and close relations with the farm are less likely to withdraw.

Keywords: CAP direct payments, corporate farms, distributional conflicts, game theory, landowners

JEL codes: Q15, L2

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1. Introduction and context

Since 2004 farmers of the EU New Member States (NMS) have started receiving direct payments under the Single Area Payment Scheme (SAPS)¹. An important issue arising from the application of the CAP direct payments to the NMS is their potential effect on corporate farms. As these payments are allocated to farm holdings, they might exacerbate the distributional conflicts among the various stakeholders within the corporate farms, including landowners, capital holders, workers and managers. The distributional issues in the corporate farms relate to the way profit (including direct payments) is distributed between rentals, dividends, wages and investment. As noted by Brem and Kim (2000), a corporate farm can be considered as an economic organisation consisting of different interest groups (the various stakeholders) who bargain on the objectives of this organisation. The separation of ownership and control might induce managers to fulfil objectives that are not the other stakeholders' objectives, such as increasing the farm's size (Jensen and Meckling, 1976; Williamson, 1983).

As the CAP payments are paid to the farm holdings, their use is at the discretion of the corporate farms managers. The latter have several options, such as using the payments for the current business operations, for investment, for repayment of debts or for increasing the payments to the various stakeholders. Since it is assumed that the managers derive an increasing utility from the farm growth, they might prefer to use the payments for the farming business. Therefore, the CAP direct payments might exacerbate the conflicts between the managers and the other stakeholders within corporate farms regarding the use of profit.

This study focuses on the conflicts between managers and landowners. This is an important issue for some of the NMS where corporate farms (producer co-operatives, joint-stock companies and limited liability companies) cultivate the majority of agricultural land, e.g. the Czech Republic and Slovakia. Corporate farms rent most of their utilised agricultural area from individual landowners (97 percent in 2003 in the Czech Republic) (CSO, 2003). If the latter are not satisfied with the level of rent they receive from the farm, they have the option to end their rental contract and withdraw their land from the farm. Before the accession to the

¹ Slovenia and Malta are exceptions as they opted for the standard EU direct payments scheme.

EU the landowners did not have strong incentives to withdraw, as the other available opportunities were not associated with higher returns on land ownership. In particular, individual farming was viewed as non-profitable. However, this situation might change as the landowners can now cash the direct payments themselves, providing they keep their land in good agricultural and environmental condition.

This paper aims to provide an initial assessment of the potential impact of the introduction of the CAP direct payments on the corporate farms in the NMS, focusing particularly on rented land. A priori expectations are firstly generated with the help of theoretical framework based on a simple two-player one-shot game. The expectations are then compared with results from a survey of landowners in Slovakia and the Czech Republic.

The paper is structured as follows. The second section explains the game and formulates the research propositions. Section 3 presents the results from the survey and Section 4 concludes.

2. Theoretical framework

2.1. The general game

In corporate farms landowners have three options available concerning the returns on their land. The first option is the *status quo*, that is to say to keep the land in the farm for the same rent. The second option is to ask for a rent increase and the third one is to withdraw the land from the corporate farms. Landowners will choose option two if they are not happy with the current level of the rent and option three if the rent renegotiation has been unsuccessful. As the negotiations between corporate farm managers and landowners about the level of rent are at the core of the issue, game theory has been employed as a framework to aid in generating prior expectations. As the aim is to provide an easy understanding of how propositions have been generated, the game used here is kept as simple as possible.

The game includes two representative players, the manager and a landowner, and is a non-cooperative static one. The negotiation process is one-shot; the manager (F) and the landowner (L) meet together once to decide about the level of the rent and make simultaneous offers. It is assumed that only two offers are possible, a low rent, that is the rent usually paid to the landowners, and a high rent, that includes an increase following the renegotiation. Both players have thus two possible actions: offering, respectively asking for, low rent and high rent. Therefore, there are four possible payoff vectors (Table 1). If both players choose the

same action, they reach an agreement and the landowner rents the land out to the farm for the specific rent level agreed upon. If the rent is low rent, the outcome is thus “no change”, while if the rent is high, the outcome is “rent increase”. If the landowner asks for a low rent while the farm’s manager proposes a high rent, it is straightforward to assume that there is an agreement on renting the land at a high rent and the outcome is “rent increase”. Finally, if the farm’s manager offers a low rent but the landowner asks for a high rent, there is no agreement and the rental contract is ended. The landowner withdraws their land from the farm; the outcome is “land withdrawal”.

The landowner’s choice of action depends on whether they have a better opportunity elsewhere. This is modelled here by introducing two types of landowners. Type 1 (with probability p) is a landowner who has a better opportunity for the land outside the corporate farm and who represents a credible threat of withdrawal. By contrast, the type 2 (probability $1-p$) is a landowner who has no better opportunity for their land elsewhere and there is no credible threat of withdrawal. There is asymmetric information about the landowners’ type. Although managers have information about the plots’ characteristics, they are not fully informed about their landowners’ values and situation, as most of them are absentee landowners living in large cities.

The payoffs for each player and strategy are not explicitly written here, but assumptions about their ranking can be made. The farm manager prefers to give a low rent than a high rent, but the land withdrawal is costly for the farm as it reduces the area farmed and consequently decreases the revenue and farm profit. Therefore, the farm’s payoffs are ranked as follows:

$$\Pi_{low\ rent}^F > \Pi_{high\ rent}^F > \Pi_{withdrawal}^F . \quad (1)$$

As far as the landowner is concerned, whatever the type they are, they prefer to receive a high rent instead of a low rent. But if the payoffs of a withdrawal for type 1 (credible threat) are greater than the payoffs of continuing renting land to the corporate farm for low rent (Equation 2), the situation of type 2 (no credible threat) is the opposite (Equation 3):

$$\Pi_{high\ rent}^L > \Pi_{withdrawal}^{L1} > \Pi_{low\ rent}^L \quad (2)$$

$$\Pi_{high\ rent}^L > \Pi_{low\ rent}^L > \Pi_{withdrawal}^{L2} \quad (3)$$

Players choose to play the strategy that maximises their payoff. The type 1 landowner’s strongly dominant strategy is high rent and it will be played by them regardless of what might

be played by the opponent (Rasmusen, 1994). Similarly, the type 2 landowner's strongly dominant strategy is to ask for a low rent in order to avoid the termination of the rental contract. There is no dominant strategy for the manager, but a set of two best responses: low rent if the landowner plays low rent, and high rent if the landowner asks for it. If there was no information asymmetry and the landowner's type was common knowledge, then the manager would know which action would be taken by the other party. Therefore, in the case of a type 1 (credible threat) landowner, land would be rented for a high rent, while in the case of a type 2 (no credible threat) landowner, land would be rented for a low rent. This means that, in reality, if the manager had information about the landowner's type, the land would always stay within the corporate farm. If the manager could not identify the opponent's type, it is assumed that they have some beliefs about the prior probability of the landowner's types, p and $(1-p)$. Therefore, they will play the strategy that brings the greater of the possible expected payoffs. Hence, all three outcomes are possible but their frequency depends on the value of the probability p .

So far, however, the whole game has been based on the assumption that the farm is able to offer the two levels of rent. If the farm is financially constrained and cannot afford a rent increase, the game reduces to the upper half of Table 1. In such a situation, in the case of a type 2 landowner (no credible threat) the solution will still be to rent the land for low rent, but in the case of a type 1 (credible threat) the solution will be withdrawal.

In summary, the frequency of each of the three outcomes depends on the level of the probability p and of the farm financial constraints. The smaller the p , the more frequent is the outcome "no change". The more financially constrained the farms are, the more frequent are the outcomes "no change" and "land withdrawal".

2.2. Landowners' behaviour before and after the CAP application

Landowners' behaviour before the accession to the EU and CAP implementation can be summarised in the following proposition.

Proposition 1: Before the implementation of the CAP the outcome "no change" was more frequent than the outcomes "ask for a rent increase" and "withdraw land".

The outcome "no change" prevailed as many farms were financially constrained due to low profitability or loss-making, but most landowners did not have better opportunities for receiving higher returns on their land elsewhere.

After the introduction of the CAP direct payments, the following two propositions concerning landowners' behaviour can be formulated:

Proposition 2: After the implementation of the CAP the frequency of the outcome “no change” will decrease.

Proposition 3: After the implementation of the CAP the outcome “land withdrawal” will not be more frequent than the other two outcomes “no change and “ask for a rent increase”.

The frequency of the outcome “no change” might decrease following the CAP implementation as p will increase, that is to say more landowners might be able to put a credible threat of withdrawal. The Single Area Payment delivered without the requirement to produce might give incentives to landowners to manage their land themselves if the profit from it (taking into consideration the cross-compliance costs) were to exceed the rent they receive in the corporate farms. Hence, it can be expected that more landowners will want to change their situation and renegotiate their rent. However, as stated in Proposition 3, despite an increase in rent renegotiations, withdrawals are not expected to be massive for two reasons. First, the introduction of direct payments is expected to relax the financial constraints and thus fewer farms will be financially constrained and more farms will be able to offer a high rent. Second, p will not increase dramatically, that is to say the overall number of landowners with credible threat will not rise considerably in the next few years. This will be due in part to the typical small scale land ownership in the NMS and the relatively low direct payments per hectare due to the phasing in. If the landowners contemplate to withdraw land for individual management, the direct payments might not be enough to offset the costs of cross-compliance (under the assumption that the cross-compliance will be properly enforced and monitored). The other reason is that landowners, most of whom are absentee, might still prefer to have their land managed by somebody else and often the corporate farm is the obvious choice.

3. Results from a survey in Slovakia and the Czech Republic

3.1. Stated change of behaviour following the introduction of the CAP payments

The game theory framework allowed formulate prior expectations that land withdrawals will increase as a result of SAPS implementation, but still they will not be very frequent and will not undermine the viability of corporate farms. In order to see whether empirical support for

these propositions could be found, in spring 2005 a postal survey of owners of land in corporate farms was carried out in Slovakia and the Czech Republic. The questionnaire included four short sections. The first section incorporated questions regarding landowners' characteristics. In the second and third sections landowners were asked whether in the past they had asked for a rent increase or had withdrawn some land. Finally, in the fourth section landowners were provided with the Single Area Payment Scheme modalities and asked whether this scheme would induce them to renegotiate their rent or withdraw their land from the corporate farms in the next five years. In both countries landowners were chosen from cadastres in regions that are representative in terms of geographical and economic conditions. The answers of 382 landowners were received, representing a return rate of 23 percent. The usable records were 355, including 183 in Slovakia and 172 in the Czech Republic.

Table 2 provides information about the past rent renegotiations and land withdrawals. Less than 4 percent of the landowners asked for a rent increase or withdrew some of their land in the past two years. This provides support to the Proposition 1. Most of the respondents have never considered to ask for a rent increase or to withdraw their land because there were no better opportunities elsewhere or because they preferred to have their land managed by somebody else. Finally, Table 2 reports landowners' intentions within a five year horizon in the CAP context. Landowners were asked whether the introduction of the CAP direct payments would change their behaviour towards the corporate farm in which they were renting land. Although the majority claimed that their behaviour would not be influenced (75 percent), this share is smaller than the share of landowners who took no actions in respect to the land rent before the introduction of the CAP, which provides some support to Proposition 2. Only a few of the respondents would consider to withdraw their land (12 percent), supporting Proposition 3.

3.2. Factors affecting landowners' intentions

One important issue is to understand the reasons behind the landowners' choice of not changing their behaviour or asking for a rent increase, rather than withdrawing. To investigate the determinants of landowners' intentions, a multinomial logit is used. The dependent variable is categorical and takes the value of 2 if landowners intend to withdraw their land, 1 if they intend to ask for a rent increase, and 0 if they would prefer no change (the latter is taken as a reference). The factors potentially affecting the behaviour were identified based on the body of literature about farm individualisation in transition. Several studies have explored the factors affecting the choice of individuals to exit the former state and collective farms

after the fall of the central planning. Main factors relate to landowners' social characteristics and capital endowment (Rizov et al., 2001), and to the risk of farming (Mathijs and Swinnen, 1998). Social capital, i.e. networks and trust (Putnam, 1993), has also been found to play an important role in the success of agriculture during transition (Slangen et al., 2004).

In this paper the final specification of the logit model includes two social characteristics, the landowners' age and a dummy taking the value 1 if they have secondary or tertiary education. It is expected that older landowners might have less incentives to change their current situation, and that highly educated landowners would be more informed about the CAP and thus more prone to ask for a rent increase. Social capital regards the relationship that landowners have with the corporate farms' management. It is proxied, first, by the number of years that both parties have been in relation with each other and, second, by a dummy taking the value 1 if the landowner has more than one contact per year with the farm. The influence of these variables is ambiguous. Landowners who have a distant link with the farm might have less opportunity or willingness to change their current situation. However, landowners with a close relationship might also be less likely to change their contract as they might know precisely the reasons behind the level of rent they receive. Besides these landowners' characteristics, two land characteristics are included: the total area rented out in hectares and the annual rent per hectare in euros. Finally, a dummy equal to 1 for the Czech landowners and 0 for the Slovak landowners is included.

The model goodness-of-fit statistics are satisfying, including the correct share of predictions of 73.4 percent. Regarding the influence of the explanatory variables, the social characteristics (age and education) have no influence on the intention to change, but the relationship with the farm plays a role. Landowners who have frequent contact with the farm management are more likely to keep their *status quo*. Moreover, the longer the landowners have been in relationship with the management, the less likely is that they would opt for withdrawing their land. This suggests that managers who keep a close and established relationship with their landowners are less likely to experience massive withdrawals of land. Landowners' future behaviour is not influenced by the area that they rent out. However, the lower the level of rent that they currently receive, the more likely is that they will ask for a rent increase or withdraw land. Finally, the country dummy reveals that especially in the Czech Republic landowners are more likely to renegotiate their rent than to withdraw.

4. Conclusion

The widespread existence of corporate farms in the NMS has raised doubts about their viability under the CAP direct payments introduced in 2004. The preference of the newly emergent landowners in the 1990s to leave their land in the corporate farms was linked to the low level of farm profitability and a high risk in the economic environment. The accession to the EU and the introduction of the CAP support, and in particular direct payments per hectare, have improved the market conditions in these countries and have increased farm incomes. The main question is whether under these circumstances the landowners would still prefer to leave their land in the corporate farms or whether a quick disintegration of these organisations will be witnessed.

Propositions generated by a simple game, representing the negotiations between a corporate farm manager and an individual landowner about the level of the rent, suggested that the CAP direct payments might induce more rent renegotiations but that overall withdrawals will be infrequent. The results from the survey of landowners in corporate farms in Slovakia and in the Czech Republic seemed to corroborate these a priori expectations. The investigation of the determinants of landowners' behaviour showed that while a low current rent increases the probability of changing behaviour, what seems to be important in the decision-making is the relationship between landowners and managers. Landowners who have frequent contacts and close relations with the farm are less likely to withdraw, indicating that their payoffs depend not only on monetary returns by cashing the direct payments but also on non-pecuniary characteristics.

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Table 1: The payoff matrix of the game

		LANDOWNER	
		Low rent	High rent
FARM	Low rent	No change $\Pi_{low\ rent}^F, \Pi_{low\ rent}^L$	Land withdrawal $\Pi_{withdrawal}^F, \Pi_{withdrawal}^L$
	High rent	Rent increase $\Pi_{high\ rent}^F, \Pi_{high\ rent}^L$	Rent increase $\Pi_{high\ rent}^F, \Pi_{high\ rent}^L$

Note: Π_j^i denotes the payoff of the i -th player ($i=F$ for the farm manager; $i=L$ for the landowner) in the j -th situation (there are three possibilities for j : the land is rented for low rent, the land is rented for high rent, or the land is withdrawn).

Table 2: Statistics regarding the landowners' past and future behaviour with respect to their land

	Both countries	Slovakia	Czech Republic
<i>Number of usable answers</i>	355	183	172
<i>Past behaviour</i>			
Share of landowners who asked for a rent increase in the past 2 years (%)	2.5	3.9	1.2
Share of landowners who withdrew land in the past 5 years (%)	3.7	4.9	2.3
Share of landowners who never considered renegotiating or withdrawing in the past 5 years (%)	58.6	40.4	77.9
<i>Future behaviour</i>			
Share of landowners who, due to the CAP direct payments, consider in the next 5 years:			
A) changing their behaviour with respect to their land (%), including:	25.1	20.2	30.2
asking for a rent increase (%)	13.0	6.6	19.8
withdrawing land (%)	12.1	13.6	10.4
B) not changing their behaviour with respect to their land (%)	74.9	79.8	69.8

Table 3: Results of the multinomial logit on landowners' intention in the next 5 years

	Intend to ask for rent increase (1)		Intend to withdraw land (2)	
Variable	Parameter	Significance	Parameter	Significance
Intercept	-3.250	**	-0.644	
Age	-0.005		-0.005	
High education, dummy	-0.413		-0.674	
Length of relationship	-0.034		-0.047	**
Frequent contact, dummy	-1.444	***	-0.665	*
Total area rented out to the farm	0.040		0.048	
Annual rent received	-0.017	*	-0.021	*
Czech Republic, dummy	1.162	**	-0.024	
Pearson Chi-square	42.4 ***			
Nagelkerke R-square	0.18			
Percentage of correct predictions	73.4%			
Number of valid observations	282			

Notes: The reference category includes those landowners who do not intend to renegotiate their rent nor withdraw their land (0). *, **, *** denotes significance at 10, 5, 1 percent level.