The possible effects of the CAP Reform on farm employment in Hungary

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Abstract

This study analyses the possible impacts of CAP reform on farm employment in an economically disadvantaged rural region in Hungary using survey among farmers. Results show that farmers are rather pessimistic about the employment effects of CAP reformy expecting a decrease in the number of farm jobs regardless of the type. Econometric analyses suggest that farm size in terms of area is positively related to the expected number of male employment on the farms, whilst the less favoured land has negative effects on the male employment except seasonal workers. Farms employing more labour expect thet number of full time female workers to slightly increase, whilst the number of part-time and seasonal employees is expected to decrease. Less favoured areas have negative impact on the job expectancy for seasonal workers. In general, farmers' expectations contradict to the intention of CAP reform.

Keywords: *CAP reform, farm employment, Hungary*

JEL Classification: Q18

Introduction

One of the main aims of the agricultural policy is to create complementary or alternative income and employment opportunities for farmers and their families, on-farm and off-farm. Hungary joined the European Union in 2004, thus the application of the CAP in Hungary creates a new situation for Hungarian farmers. There were high expectations among farmers, but after two years they evaluate their situation under the CAP more realistically. In addition, first experiences of Hungarian farmers on the CAP may affect their perception on the possible impacts of the CAP reform between 2007 and 2013. Although there is an extensive literature documenting the effects of CAP reform using various approaches, but research on farm employment in transition countries is still incomplete. The paper tries to contribute to the literature in at least two ways. First, contrary to previous research focusing on rather ex post effects of CAP reform, this paper concentrate on the future impacts based on farmers' perception. Second, our research is one of the pioneers to deal with impacts of the recent CAP reform.

The goal of the paper is to investigate the possible effects of the CAP reform on the level of farm employment in a traditional agricultural region of Hungary. More specifi-

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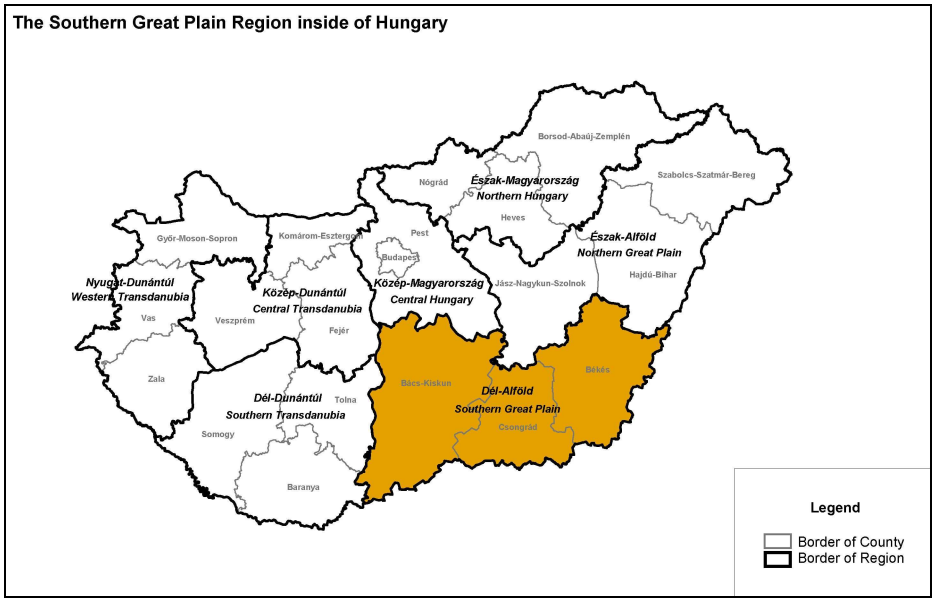
cally, we focus on the Southern Great Plain, where agriculture and related industries have always played a very important role in the regional economy and rural employment. We are interesting how agricultural policy may help to maintain the farm jobs in disadvantaged rural region.

Geographic and economic characteristics of the southern Great Plain Region

The Southern Great Plain, the largest (NUTS2) region in the country, is located in the South and South-east of Hungary. The region consists of three (NUTS3) counties (Bács-Kiskun, Békés, and Csongrád) [See Figure 1]. Despite its declining share, agriculture is dominant in the regional economy. Although, the Southern Great Plain accounts for only 9% of the total Gross Domestic Product (GDP) of Hungary, it accounts for 25% of the agricultural GDP. Agriculture's share of the regional GDP was 9% in 2002. About 62% (965 000 hectares) of the region's arable land was cultivated by private holdings in 2000 (the year of the Agricultural Census). The Southern Great Plain's economic structure differs from the national average, particularly in the agricultural and service sectors. Industry's share in regional and national GVA is about equal but regionally agriculture is over-represented by 6.7%, and services are underrepresented by 5% compared to the national figures (HCSO, 2007).

The per capita GDP for the Hungarian regions, with the exception of Central Hungary, achieved only 75% of EU average in 2002, the Southern Great Plain was at 40.4% of the EU average in terms of per capita GDP (on PPS) which put the Southern Great Plain at 242 out of the 254 regions comprising the EU. In the period between 1995 and 2003 the Southern Great Plain region had the lowest economic growth rate in Hungary. However differences in net average income are not as significant as the differences in GDP. The net average income of workers employed in the Southern Great Plain was 87% of the national average in 2003. (HCSO,



Source: Hungarian Central Statistical Office (HCSO)

Figure 1. NUTS2 and NUTS3 regions of Hungary

The employment rate for people aged 15-64 in Hungary (56.9% in 2005) corresponds with the average employment rate in the ten new member states. However, it is significantly lower than the rate of 64% for EU-15 (HCSO, 2006a). In 2004 the Southern Great Plain's employment rate for those aged 15-64, was 47.3%, compared to the national rate of 50.6% (HCSO, 2006b). In Hungary the low employment rate is not coupled with a high unemployment rate because of the high number of disability pensioners who are under retirement age. The region's has a strong agricultural character the proportion of agricultural employment is the highest of all regions (HCSO, 2007). Besides this, the ratio of people involved in the sector in some way (e.g. part-time farming or seasonal work) is 21.7%, second highest in the country behind the Northern Great Plain.

Survey design and variables

Our research is based on a survey done among farmers in Southern Great Plain. We have asked the respondents on their perceptions about the possible impacts of the CAP reform on farm employment, namely how many people will work on their farms in the coming seven years. The total number of observations is 400. After cleaning the data, final sample contains 333 observations. Table 1 present summary statistics on the variables. The average area of farms was 56.2 hectares, and the mean area of less favoured land amounted to 10.2 hectares. The average number of total employment including part-time and seasonal workers is relatively high (56 persons). About 80 percent of farmers run the farm as family farm, and the share of part-time farm was about 26 percent. 13 percent of farm owners ase female. The respondents' perceptions show a pessimistic view with regards to the possible impacts of the CAP reform on the farm employment. They expect that number of employment will decrease after seven years regardless of the type and gender of farm

Table 1. Descriptive statistics of variables

Variable	*N*	*Mean*	*Std. Dev.*	*Min*	*Max*
Total land (ha)	333	56.16	92.38	0	659
LFA land (ha)	333	10.24	43.21	0	546
Age (1-5)	333	2.95	1.07	1	5
Education (1-3)	333	1.92	0.63	1	3
Part-time farm	333	0.26	0.44	0	1
Family farm	333	0.79	0.41	0	1
Female	333	0.13	0.33	0	1
Labour	333	3.44	5.9	1	66
Change in full time male worker	333	–0.07	1.66	–9	12
Change in part-time male worker	333	0.00	1.08	–8	10
Change in seasonal male worker	333	–0.17	1.32	–10	5
Change in full time female worker	333	–0.04	1.21	–9	8

Change in part-time female worker	333	–0.08	0.85	–9	2
Change in seasonal female worker	333	–0.26	1.37	–10	5

Source: own estimations based on the survey

labour, except part-time male farm workers. Interestingly, farmers expect the largest decrease in seasonal workers following by full-time workers and part-time workers irrespective to the gender. However, the expected fall in employment is higher for female for part-time and seasonal workers.

Results

We have focused on the possible impacts of CAP reform on farm employments. Thus, we construct a variable for employment change comparing actual employment to expected employment situations. We can hypothesize that socio-economic factors of farmers can explain their perceptions for changes in farm employment. More specifically, we expect that total land size of farms (LAND), education level of farmers (EDUC), and age of farmers (AGE) is positively related to the farmers' perception, whilst being a part-time farm (PTIME), and size of less favoured land (LFA) affects negatively on their decisions. We do not have a priori expectation on the effects of number of employees (LABOUR). The impacts of labour can be positive similar logic to farm size in terms of total land. However, the higher level of employment level also may result a decrease due to technical changes enforced by various agricultural policy measurements. Finally, we test the following model:

$$\text{Emplchange} = \alpha 0+\alpha 1\text{LAND}+\alpha 2\text{LFA}+\alpha 3\text{AGE}+\alpha 4\text{EDUC}+\alpha 5\text{PTIME}+\alpha 6\text{LABOUR} \quad (1)$$

The expected signs of the variables are as follows:

$$\alpha 1>0,\ \alpha 2<0,\ \alpha 3>0,\ \alpha 4>0,\ \alpha 5<0 \text{ and } \alpha 6<0.$$

We estimate our model for each type of labour separately.

Table 2. Estimations for expected male employment changes

	full time	*part-time*	*seasonal*
LAND	0.005***	0.002***	0.002***
LFA	–0.007***	–0.003*	0.003*
AGE	0.098	–0.056	–0.000
EDUC	–0.182	0.104	–0.106
PTIME	0.053	0.167	0.047
LABOUR	0.023	–0.003	–0.095***
CONSTANT	–0.330	–0.158	0.194
R^2	0.1156	0.0302	0.1718
F test (p value)	0.000	0.1228	0.000
N	333	333	333

Note: * p < 0.1; ** p < 0.05; *** p < 0.01

Our results suggest that the size of farms in terms of area significantly related to the expected number of male employment on the farms in seven years regardless to the type of farm job (Table 2). However, the size of less favoured land has negative and significant effects on the male employment except seasonal workers. The education level and age of farm leader and being part-time farm have not significant impacts on expected farm employment. Farms with more workers have negative effects on possible job for seasonal workers.

Estimations for female workers produce poor results in terms of statistical significance. The size of labour is only significant for all estimations. Farmers with more labour expect that number of full time female workers will slightly increase, whilst the number of part-time and seasonal workers will decrease. Less favoured area has negative impact on the expected job for seasonal workers.

Table 3. Estimations for expected female employment changes

	full time	*part-time*	*seasonal*
LAND	0.000	0.000	0.001
LFA	–0.001	–0.000	–0.005***
AGE	–0.001	–0.048	0.007
EDUC	–0.087	–0.006	–0.148
PTIME	0.015	–0.073	–0.035
LABOUR	0.036***	–0.027***	–0.097***
CONSTANT	–0.005	0.171	0.329
R^2	0.0398	0.0346	0.1656
F test (p value)	0.0222	0.0729	0.0000
N	333	333	333

Note:* p < 0.1; ** p < 0.05; *** p < 0.01

Conclusions

We analyse the possible impacts of CAP reform on farm employment in a disadvantaged rural region in Hungary using survey among the farmers. Our results shows that farmers evaluate less optimistic the employment effects of CAP reform. In general, they expect the decrease in farm jobs regardless of its type. Econometric analyses suggest that only owners of larger farms believe that they will increase their employments, especially for males. In addition, the situation for part-time and seasonal workers probably will become worse compared to full-time farmers. The expected chance to get a job for males is also better than females. Farming in less favoured areas has negative effects on the possible farm employment. In short, farmers' expectations contradict to the intention of CAP reform.

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Dataset of a Survey among farmers and stakeholders.