COMBATING THE AGEING OF THE FARMERS IN THE CZECH REPUBLIC AND SLOVAK REPUBLIC: EVIDENCE FROM RURAL DEVELOPMENT PROGRAMMES

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Abstract

It is a well-known fact that the population of the farmers not only in the Czech and Slovak Republics is ageing. Common Agricultural Policy in the European Union is trying to combat the negative trends. Young farmers are additionally supported from 1st pillar. They receive an addition to their annual payment calculated as 25% of SAPS multiplied by the number of eligible declared hectares. From the 2nd pillar, from Rural Development Programmes, young farmers receive support from operation *Setting up of young farmers' business*.

The aim of the paper is to describe the past development of the age structure of the managers of the agricultural holdings in both countries and to describe the measures that were taken to attract young farmers to enter the sector and start the agricultural business. It is tested by χ^2 test in contingent table whether there is dependence between the age of the main manager and the size of the farm (measured by utilized agricultural area). The operations of the RDP of both countries are described and compared. It is analysed and concluded how they can contribute to combating the negative trend of farmers' population ageing.

Key words: ageing, agriculture, Rural Development Programme, young farmers

JEL Code: J11, Q12

Introduction

It is a well-known fact that the population of the farmers in the European Union (EU) is ageing. However, the situation is not the same in all member states. Zagata and Sutherland (2015) found out that "the apparent shortage of young farmers occurs in countries where small-scale holdings are more prevalent, particularly Portugal, Italy, Romania and Greece." On the other hand, situation in the Czech Republic is not that bad. However, lack of successors may cause a problem in the future.

According to Potter and Lobley (1992) the significant amount of rural land that is presently under the ownership or management control of elderly farmers in the EU suggests

an important future role for this section of the farming community as government subsidised producers of public environmental goods. However, older age might be related to lower innovative potential. As Galanopoulos et al. (2011) proclaimed "the old age of the farmers and the lack of successors is often the main reason for poor adoption levels of novel production techniques and improved management systems, which in turn, can only be realized under the presence of economies of scale." Pechrová (2015) found that Czech young farmers in the sample were more efficient (from 67.6%) than other farmers (59.1%), but the differences were not statistically significant. Nevertheless, it is needed to support the generation change.

One of the reasons, why young people do not want to enter the sector can be that the prestige of the agricultural job is not sufficient. A social, cultural, moral or ethical image of the farmer, from the rural geography perspective is linked to the (deficient) conditions of daily life. Economic situation of many farmers is poor (their income is lower than average income in national economy), leading in some cases to exit from the sector. According to Peel, Berry and Schirmer (2016) "as prices rise and fall and market conditions change, farmers adjust to the circumstances and, for some, the most viable option is to leave the farm".

In Slovakia there prevail farms with senior management from 45 to 64 years. The average age of workers, especially managers are yet one of the factors for the successful implementation of innovative approaches to production and thereby to bring about change in the amount of value added in production. (MoA SK, 2015)

To combat the negative development, there are several measures set under the Common Agricultural Policy (CAP) of the EU in order to reverse the negative trend of agricultural workers' population ageing and to promote structural changes. (Šimpach and Pechrová, 2015). Young farmers are supported from both pillars of CAP. Under the 1st pillar they receive an additionally addition to their annual payment calculated as 25% of Single Area Payment Scheme (SAPS) multiplied by the number of eligible hectares that the farmer has declared. Under the 2nd pillar of CAP, there were two possibilities how to ensure the change of the generations. One of the schemes was the support for early retirement of farms' owners over 55 years old and the second the support of young farmers (less than 40 years old) for setting up their businesses. Both measures were part of the Rural Development Program of the Czech Republic for the years 2007–2013 (RDP), but the first mentioned was not implemented in the end. For the new programming period 2015–2020 there is a similar measure proposed: Setting up of young farmers' business (under operation 6.1.1. in Czech and 6.1 in Slovak RDP). Eligible beneficiary is a starting young farmer under the age of 40 who firstly initiating the agricultural activity, have agricultural qualifications (or have the

opportunity to obtain it), and run agricultural production for maximum 36 months. He or she will also have to submit a business plan that he or she will implement it. Particular conditions in CR and SR RDP differ. Therefore, our article focuses on comparison of both RDP in terms how they support young farmers.

1 Material and Methods

The data about the farm managers in the EU's Member States were obtained from Eurostat (2016). Rural Development Programs are available at internet pages of the Ministries of Agriculture of particular country (MoA CR, 2016 and MoA SR, 2015).

First, the situation about how many agricultural holdings are managed by young farmers in both countries is described and illustrated in graphs. Then it is tested by χ^2 test in contingent tables, whether there is dependence between the age of the farmer and the size of the farm measured in hectares of the agricultural land. The null hypothesis assumes independence of the variables 1 and 2. Alternative hypothesis states that there is a dependence between any values in row (r = 5) or column (s = 9). (1).

$$H_0 : n_{ij} = \frac{n_{i\bullet} n_{\bullet j}}{n} \text{ for all } i \in \{1,2,...5\}, j \in \{1,2,...9\} \qquad H_A : non\ H_0 \quad (1)$$

where $n_{i\bullet}$ and $n_{\bullet j}$ are marginal frequencies, sums of frequencies in rows and columns, respectively, and $n_{i\bullet} = \sum_{j=1}^{s} n_{ij}$, $n_{\bullet j} = \sum_{i=1}^{r} n_{ij}$. Real absolute frequencies (n_{ij}) are compared with expected ones (e_{ij}) which would occur if the both statistical codes were independent. Expected frequencies are calculated as (2):

$$e_{ij} = \frac{n_{i\bullet} n_{\bullet j}}{n} \qquad (2)$$

Finally, the test criterion G has χ^2 distribution with (r-1)(s-1) degrees of freedom (3).

$$G = \sum_{i=1}^{r} \sum_{j=1}^{s} \frac{\left(n_{ij} - n_{ij}^{'}\right)^2}{n_{ij}^{'}} \qquad (3)$$

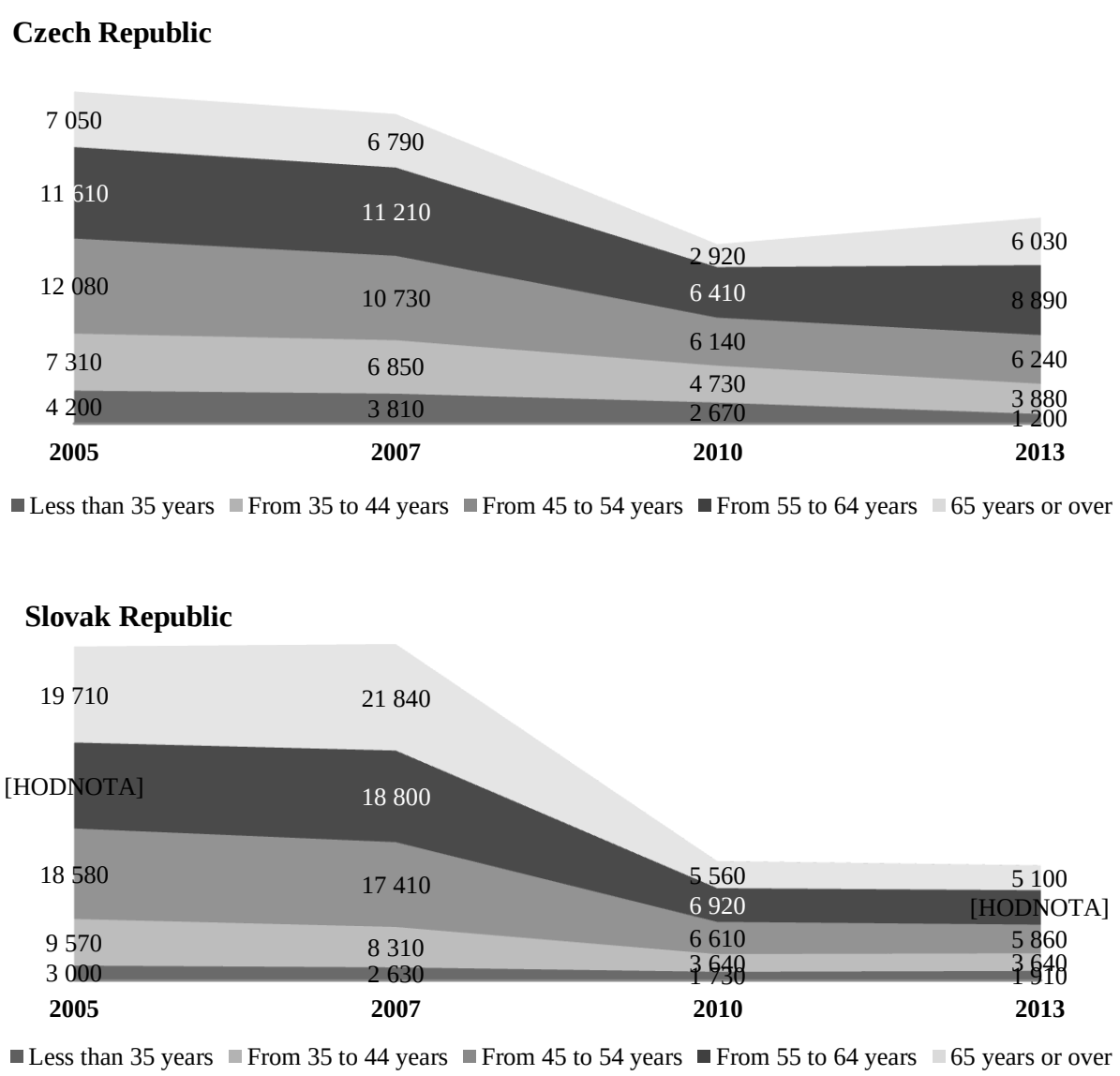
When test criterion G exceeds table critical value $\chi_{1-\alpha}^{2\left[(r-1)(s-1)\right]}$, null hypothesis is rejected and the variables are dependent. Intensity of the dependence was assessed by Cramer contingent coefficient (4) where its value 0 means independence of observed variables.

$$C = \sqrt{\frac{G}{n.\min\left(r-1, s-1\right)}} \qquad (4)$$

3 Results and Discussion

Total number of agricultural holding in total decreased in both countries during the examined period. In the Czech Republic the total decrease was from 46 250 to 26 250 and in Slovakia even from 68 490 to 23 570 while the average acreage of one farm increased (in the CR amounted to 84 hectares at the beginning and 133 hectares at the end, and in SR to 27 hectares in 2005 and to 81 hectares in 2013). The development of the number of agricultural holdings according to the age category of the main manager is displayed at Fig. 1.

Fig. 1: Number of holdings according to the age of manager



Source: own elaboration based on data from Eurostat (2016) [ef_kvage]

The agricultural holdings were in mostly managed by farmers in age category from 55 to 64 years (34% of them in the CR and 30% in SR) in 2013. In the CR the share of managers under 35 year was 10% in 2005 and 2007, but decreased to 5% in 2013. In absolute terms the number decreased 3.5 times from 4200 to 1200. Situation in the SR is different, the share had increased from 4% to 8%. In absolute terms, the decrease was not that significant – the number of households managed by farmers under 35 years decreased by 1000 from 3000 holdings in 2005 to 1910 in 2013.

The highest share of people between 45 to 54 years managing the farms was in year 2005 and decreased since that. But not in favour of young farmers under 35 years (the share of them decreased even on 5% in 2013), but the farmers moved to higher age category from 55 to 64 years in 2007 (the share of this category in was 28% in year 2007 and 2010). In year 2013 the share increased on 34%.

In Slovakia, there was also the lowest number of farmers in the category under 35. But, unlike in CR, the highest share in 2005 and 2007 was in category over 65 years. In this terms, the situation got better in lager years, as the managers were from "younger" category between 55 to 64 years. Never the less, the share of farmers between years 35 to 44 stayed the same in 2010 and 2013.

In the CR mostly young farmers manage large agricultural holdings (There were 480 of those over 100 hectares in 2005, but the number has decreased to 310 in 2013.). Utilised agricultural area did not change during the years much, but the total utilized agricultural area decreased. There were the less farmers in category without the land (i. e. having only animal production). The majority of farmers were from category 55 to 64 years as same as in case of farms up to 2 hectares. The managers in this age category preveiled also in holdings from 5 to 49 hectares and over 100 hectares. Only the farms from 50 to 99 hectares are managed mostly by the farms in age category from 45 to 54 years in 2013. Farms up to 2 hectares are mostly owned by farmers over 65 years old, while holdings from 2 to 9 hectars by farmers from 55 to 64. The agricultural holdings with 10 to 49 hectars are mostly managed by farmers from 45 to 54 years.

It is tested in contingent tables, whether there is a dependance between the age of the farmer and the size of his or her farm in year 2013. In the CR and SR, the test criterions (G = 1795 in the CR and G = 1486 in SR) were higher than the table value of χ^2 distrubution at 1-α (where α was chosen to be 0.05) significance level with 32 degrees of freedom ($\chi^{2}_{1-\alpha}{}^{[(r-1)(s-1)]}$ = 20). It means that the null hypothesis was rejected. With 95% probability it was proved that

the size of the holding depends on the age of manager. Regarding the intensity of the dependance, based on Cramer contingence coefficient, it can be considered strong.

The main policy measures taken to combat the negative development of the farmers' ageing are introduced in the RDP of the CR and SR. There are aimed at investment support of the starting managers of the agricultural holdings. A certain amount of finances (45 000 eur in the CR and 50 000 EUR in SR) is granted to the farmer to implement his or her business plan (that is compulsory part of the application of the grant). The financial support takes into account the amount of support the socio-economic situation in the respective state. While in the CR, the amount is paid in three installments (50% when the business plan is approved and the the subsidy agreement signed; 45% after two years, investments stated in business plan must had been done; 5% after the implementation of the project – maximally 5 years), SR pays the finances in two installments (70% after signing subsidy agreement, 30% after the implementation of the project – maximally 5 years).

There are several other requirements that must be met. Firstly, young farmer is considered to be less than 40 years old. He or she has to start the agricultural activity for the first time and have appropriate education or training in the agriculture (or it has to be supplemented within 24 months). In SR the farmers has to become active in the meaning of the provision about direct payments (1st pillar of the CAP). The farm has to produce at the beginning certain standard output (between minimal and maximal theresholds). The interval of standard output differs in each country. In the CR, the minimal level was calculated according to the specialization of the production and ranges from 240 000 CZK in cattle breeding to 570 000 CZK in milk production. Maximum thereshold was set to 3 437 500 CZK[1]. In the SR the intervals are from 10 000 EUR to 50 000 EUR. While the minimum thereshold has to be fulfilled by the farmer during the whole period of support, the maximum can be overreached after the 5 years. Minimum agricultural qualification should ensure future development of the agricultural holding. Form confirming the share of incomes from agricultural primary production shall, on the other hand, make sure that the firm will fulfil its purpose and the financial support is target correctly.

The RDP in both countires have the potential to combat the main problems of their rural areas. CR wants to solve the problems with "ageing population, along with the trend of young people moving to the cities and hence the loss of the rural population. (MoA CR, 2016) In SR there are especially problems with the "depopulation and marginalization of rural areas,

[1] The calculator is available at www.szif.cz and is compulsory part of the submission for subsidy.

continued exodus of young people to the larger cities or abroad, where many of them work as unskilled labour in the sectors of agriculture, lack of interest of young people in working in agriculture, in public research and consultancy" (MoA SK, 2015).

Conclusion

The paper was focused on the problem of farms' managers ageing in the Czech and Slovak Republic. The aim was to introduce the past development of the age structure of the managers of the agricultural holdings in both countries and to describe and compare the measures that were taken to attract young farmers to enter the sector and start the agricultural business. Setting up of the young farmers' businesses is supported in those countries from both pillars of the Common Agricultural Policy of the European Union. From the 1st pillar they receive an addition to their annual payment calculated as 25% of SAPS. From the 2nd pillar, from Rural Development Programmes (RDP), young farmers receive support for investments under operation *Setting up of young farmers' business*. While in the SR, the support is 50 000 EUR paid in two instalments during the five years, in the CR, the finances are lower (45 000 EUR) and paid in three instalments conditioned upon the realization of business plans of the farmer.

The χ^2 test in contingent table revealed that there is dependence between the age of the main manager and the size of the farm (measured by utilized agricultural area). One fourth of young farmers (up to 44 years according to Eurostat categorization) manage farms larger than 100 hectares in the CR. In SR, around one fifth of young farmers up to 44 years are the managers of holdings from 2 to 4 hectares. This corresponds to the general situation that the agricultural holdings in SR are smaller than in the CR. In the CR, the share of young farmers was the highest in 2010, while in SR in 2013. Despite that the total number of young farmers is following the general trend and is decreasing over years. RDP of both countries have the potential to reverse the trend, because they are providing the financial support aimed at investments needed while starting the agricultural business. Besides, minimal agricultural qualification is required to obtain the subsidies. Hence, the entrance to the sector and withstand in it shall be easier.

Acknowledgment

The research was financed from thematic task no. 4107/2016 of the Institute of Agricultural Economics and Information.

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