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Agriculture and Agricultural Science Procedia 10 (2016) 566 - 577

5th International Conference "Agriculture for Life, Life for Agriculture"

# Farm Structure and Land Concentration in Romania and the European Union's Agriculture

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#### Abstract

The present paper aimed to make an empirical analysis of farm structure and land concentration in Romania and the EU-28 in the period 2003-2013. Index method, comparison method, Gini coefficient and index, and concentration index were used to characterize the dynamics and structure of the number of holdings, utilized agricultural area, standard output, average farm size in terms of land area and standard output, concentration degree of land in the top 10 % largest farms. While the number of farms is going down, the average holding size increased to 3.66 ha/farm in Romania and 16.1 ha the EU-28. About 0.57 % of farms with more than 50 ha are working 52.43 % of the utilized land. Economic efficiency of the Romanian agriculture is the smallest in the EU, Euro 3.30 thousand/farm, 10.7 times less than the EU average. About 83 % of the farms produced less than Euro 4,000/holding. The unequal concentration of farms in Romania is attested by Gini value 0.582, and Concentration index 73 % meaning that the top 10 % farms keep a huge agricultural land, compared to the farms belonging to other size classes. Romania comes on the following positions in the EU-28: 1st position for the number of holdings (33.6 %), 6th position for the utilized area (7.47%), 26th position for average farm size (3.6 ha), 27th position for the number of farms with more than 50 ha (0.57 %), 20th position for the land worked by the farms with over 50 ha (52.13 %), 28th position for standard output/farm (Euro 3.3 thousand), 6th position for its contribution to the EU standard output, 6th position for Gini coefficient value and Concentration index which included the country in the sharp dual category. So, farm structure and land concentration in Romania is running on the right way, but it is still a long-term process to the optimal farm size which could assure a higher economic efficiency.

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Peer-review under responsibility of the University of Agronomic Sciences and Veterinary Medicine Bucharest *Keywords:* farm structure, Gini coefficient, Gini Index, Concentration Index, EU-28, Romania

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#### 1. Introduction

The variability of land policy applied in the CEEs has had a deep impact on the actual farm structure in the EU, characterized by a large range of farm types, sizes, endowment, productivity, and efficiency. Most of farms are mainly family subsistence or semi-subsistence small farms, with a traditional agricultural system, limited material and financial resources, low productivity and self-consumption. This "image" of agriculture has normally lead to a slow process of land concentration in the transition countries (Lerman et al., 2002).

The EU enlargement has resulted in an increased diversity of farm structure. In 2013, the EU-28 had 10.8 million farms working 174.6 million ha, meaning 16.1 ha/farm. This was because in the period 2003-2013, about 4 million farms have disappeared from the EU map. However, the merge process is running slowly (Bourgeais et al., 2015).

Romania comes on the top position in the EU regarding the number of farms, 3.63 million in 2013, representing 33.61 % of the EU holdings (Nitu, 2015). Also, about 60.2 % of the EU farms are in Romania and consume 50 % of agricultural production for family needs (Postoiu et al., 2015). Romania's agricultural land (14.7 million ha, of which 61.7 % arable land) is fragmented into millions of plots, which do not allow intensive agriculture, with a few exceptions (Manescu, et al., 2014, Turtoi et al, 2007). The farm structure in Romania is dominated, like in the EU, by family farms, but their size is very small, just 3.66 ha. Due to the scarce resources, production performance, productivity and Standard Output are very low (Gavrilescu et al., 2012, Otiman, 2012, Turek et al., 2012, Buliga-Stefanescu et al., 2016).

The utilized agricultural land is not equally distributed among farms. The smallest farms, accounting for about 97% of the total number of farms, have less than 10 ha (Timofti et al, 2015). The largest farms (over 100 ha) represent less than 1% of the total number of farms, but they are working about 51% of land and, being well endowed, and practicing intensive agriculture, have high productivity and product quality. (Bianu et al., 2014). The utilized agricultural land in Romania is shared by different sized farms: 40% by the smallest farms with less than 5 ha (2.8 million farms), 40% in farms with over 1,000 ha (4 million ha) and 20% in farms whose size vary between 5 and 50 ha.( Chiritescu et al., 2015). Both in the EU and Romania, the number of farms has slightly declined in the last decade, confirming that farm size is growing slowly as well as standard output (Agricultural Census Romania, 2010, Eurostat).

The Romanian farms achieve a lower Standard Output compared to the EU average. The most farms produce less than Euro 2,000/year, indicating about 2.8 million semi-subsistence farms lacked of competitiveness and efficiency (Adenauer-Stiftung, K., 2015). The variety of agrarian structure and agriculture performance led to different direct payments. For Romania with many small, the average direct payment is much lower than in the EU-15 (Gazinski, 2016)

In this context, the present paper aimed to analyze the trend of the number of holdings, average holding size and the differences exiting among various countries, farm distribution by area size class, the share of agricultural holdings with over 50 ha and the land area worked by this type of farms, total Standard Output, standard output/holding and its distribution by area size class, farm concentration in terms of Gini Coefficient, Gini Index and Concentration Index of the utilized agricultural area in the top 10 % largest farms. These aspects were approached in Romania and in the EU-28, pointing out Romania's position among other EU countries.

#### 2. Materials and Methods

#### 2.1. Data collection

In order to set up this paper, the data were collected for the period 2003-2013 from Eurostat Database (Farm structure survey 2013, Eurostat, News release 206/26 Nov.2015, Farm Structures Statistics Explained Agriculture Statistics, The evolution of farm holdings).

#### 2.2. Indicators and methods

The following indicators were taken into consideration to characterize farm and agricultural land concentration: (i) Number of agricultural holdings (NAH) analyzed in dynamics in absolute figures and indices and the share of

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