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SPATIAL DIMENSION OF PIG AND POULTRY SUBSECTORS DEVELOPMENT IN ROMANIA

ABSTRACT

The paper investigates the evolution of territorial concentration in pig and poultry production in Romania after EU accession, based on data regarding live weight of slaughter pigs and slaughter poultry in the year 2007 and 2013, by counties and types of holdings, using Struk coefficient of territorial distribution, and the coefficient of relative structural modifications. Main finding is that, continuing certain local traditions, and similarly to the evolution in other EU member states, a tendency of territorial concentration of the pork and poultry meat production can be noticed in Romania, in the case of pork in the western part of the country, and in the case of poultry meat around Bărăgan Plain in the southern part, an area in the proximity of Bucharest.

Key words: pig meat production, poultry meat production, Romania, localization of production.

JEL Classification: Q02, Q11.

1. INTRODUCTION

In Romania, the meat production measured in the live weight of slaughter animals for consumption has followed a decreasing trend for many years; its level in 2007 was about 1.5 million tons, while in 2013 it reached 1.3 million tons. Pigs and poultry are two important categories of slaughter animals, together having an increasing share in total slaughtered animals (from 70% in 2007 to 77% in 2013). Analyzed separately, the evolutions of the two meat productions are different (Table 1): the share of slaughtered pigs is slightly decreasing (under the background of a significant decrease in absolute figures by about 100 thousand tons live weight in the period 2007-2013, while the share of slaughtered poultry is increasing (also with an increase in absolute figures by about 50 thousand tons live weight).

Table 1
Share of pigs and poultry in total slaughter animals for consumption in Romania (%)

	2007	2008	2009	2010	2011	2012	2013
Pigs	42.7	42.4	40.5	42.3	41.0	41.7	42.1
Poultry	27.7	28.8	33.9	34.2	35.2	35.3	35.1

Source: NIS Tempo online.

The post-accession evolution of pork and poultry meat reveals a diminution of the contribution of individual agricultural holdings to the supply of slaughter animals for consumption (Table 2).

Table 2
Contribution of individual holdings to the supply of slaughter pigs and poultry for consumption in Romania (%)

	2007	2008	2009	2010	2011	2012	2013
Pigs	72.6	68.6	60.9	56.3	48.7	52.0	51.3
Poultry	31.6	36.4	32.0	31.0	24.6	24.8	25.9

Source: NIS Tempo online.

The diminution of individual holding importance in the activity of pig and poultry farming can be noticed both in absolute terms, by the diminution of the number of animals on this category of holdings in the period 2007-2013 (in the case of pigs from 5.2 million heads in late 2007 to 3.5 million in 2013, while in the case of poultry from 59 million heads to 53 million, in the same period), and in relative terms (Table 3).

Table 3
Share of pig and poultry numbers from the individual holdings in the total number of pigs and poultry in Romania (%)

	2007	2008	2009	2010	2011	2012	2013
Pigs	79.9	78.0	73.6	67.8	70.2	68.5	67.5
Poultry	72.0	74.6	71.5	66.6	67.3	67.7	67.7

Source: NIS Tempo online.

However, the individual agricultural holdings continue to have more than half of the pig and poultry numbers at the end of the year.

2. MATERIAL AND METHOD

The analysis was based on data regarding live weight of slaughter pigs and slaughter poultry in the year 2007 and 2013, by counties and types of holdings, and the comparison between the share of the two types of holdings at national and county level, for the identification of counties with a higher concentration of pork or poultry production.

The analysis of the live weight evolution of slaughter pig and poultry for consumption in Romania, in the period 2007-2013, by counties, was completed with an instrument of territorial distribution, Struk coefficient, in order to reveals

the concentration of production after the moment of accession, and an coefficient of relative structural modifications for the period 2007-2013 that can reveal modifications that were produced in certain counties.

3. RESULTS AND DISCUSSIONS

3.1. CHANGES IN LOCALIZATION OF PORK PRODUCTION IN ROMANIA AFTER THE ACCESSION TO THE EU

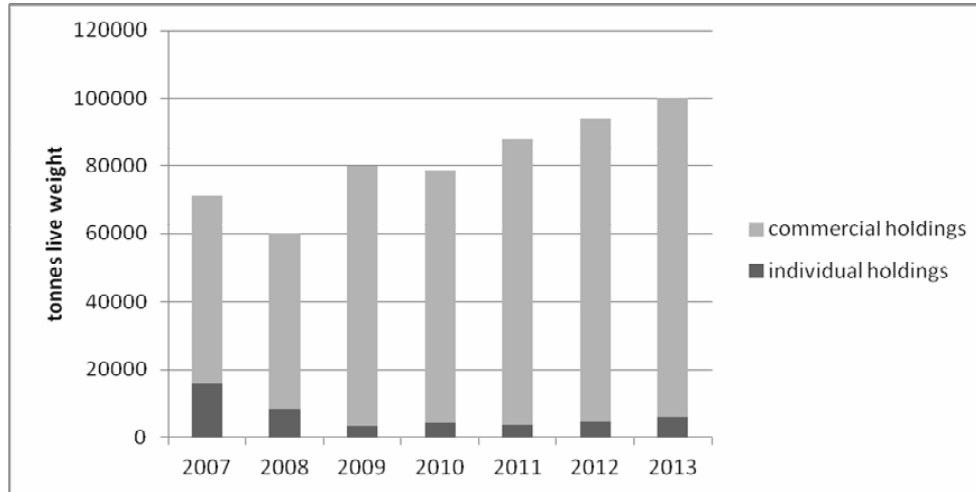
The live weight of slaughter pigs in the year 2007, by counties and types of holdings, is represented in Figure 1 from Annex. The share of the two types of holdings at national level reveals the higher share of production from individual holdings, with 72.6% of total production, compared to only 27.4% from the commercial holdings. The counties with a higher concentration of pork production were Timiș, Brăila and Călărași.

In the year 2013 the situation changed, by the increase of the share of commercial holdings and a higher concentration of pork production in the western part of the country, the production being measured by the live weight of slaughter pigs (Figure 2 from Annex). The share of the production of the two types of holdings at national level was still favourable to the individual holdings, with 51.3% compared to 48.7% of production on the commercial farms. The counties with a higher concentration of pork production were Timiș, Arad and Brăila (in decreasing order).

The analysis of the live weight evolution of slaughter pigs for consumption in Romania, in the period 2007-2013, across counties, by the Struk (territorial distribution) coefficient of pork production confirms the concentration tendency at national level, the value of the Struk coefficient in 2007 being 0.1057, while its value in 2013 was 0.1764. The coefficient of relative structural modifications of pork production for the period 2007-2013 was 0.4317.

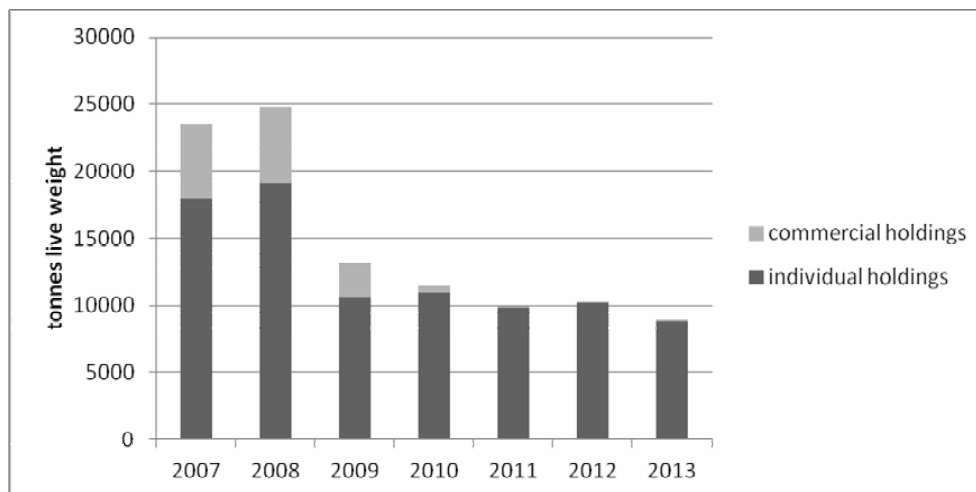
In the period 2007-2013, 9 counties had a positive dynamics. The counties with the highest increase of pork production were the following: Timiș (Figure 1), Arad, Vrancea and Brăila. The increase of the live weight of slaughter pigs was mainly noticed on the commercial farms.

In the period 2007-2013, 33 counties had a negative dynamics. The counties where pork production had a most significant decrease were the following: Gorj (Figure 2), Ilfov, Neamț and Cluj. Both the commercial farms and the individual holdings contributed to the decrease of live weight for slaughtering, yet differently across counties.



Source: processing of NIS Tempo online data.

Figure 1. Evolution of the live weight of slaughter pigs for consumption in the county Timiș, by type of holding, in the period 2007-2013.



Source: processing of NIS Tempo online data.

Figure 2. Evolution of the live weight of slaughter pigs for consumption in Gorj county, by type of holding, in the period 2007-2013.

3.2. CHANGES IN LOCALIZATION OF POULTRY MEAT PRODUCTION IN ROMANIA, AFTER THE ACCESSION TO THE EU

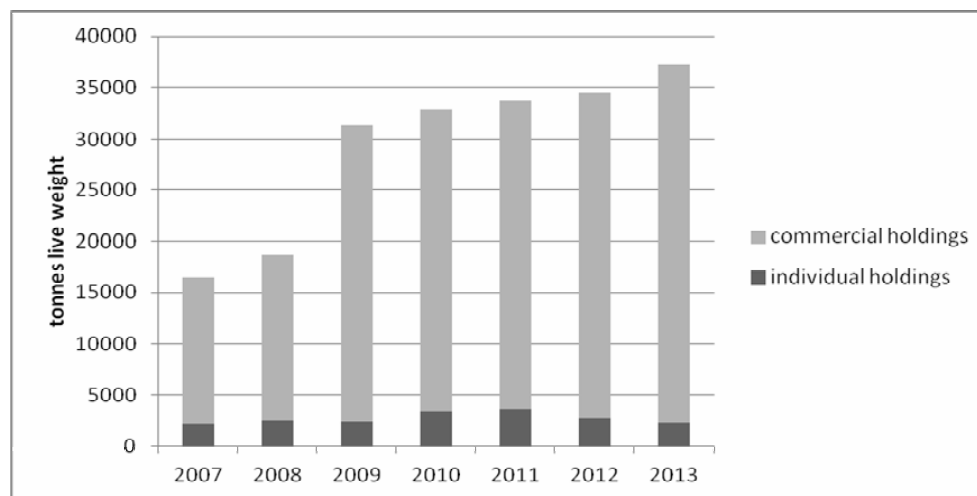
The live weight of poultry for consumption in the year 2007, by counties and types of holdings (Figure 3 from Annex) reveals the share twice as high of

production from commercial farms, compared to the individual holdings (individual holdings: 31.6%; commercial farms: 68.4%). The counties with higher concentration of poultry meat production were Călărași, Vaslui and Alba.

The live weight of slaughter poultry in the year 2013 (Figure 4 from Annex) reveals even a higher concentration of production on the commercial farms, i.e. almost three quarters of production (25.9% on the individual holdings, 74.1% on the commercial farms). In the territory, the counties with a higher concentration of poultry meat production were Călărași, Dâmbovița and Buzău.

The analysis of the live weight evolution of slaughter poultry for consumption in Romania, in the period 2007-2013, by counties, based on Struk (territorial distribution) coefficient of poultry meat production reveals a slow concentration after the moment of accession, from 0.1549 in 2007 to 0.1694 in 2013. The coefficient of relative structural modifications of poultry meat production for the period 2007-2013 is 0.6647, higher than in the case of pork production, revealing certain important modifications that were produced in certain counties.

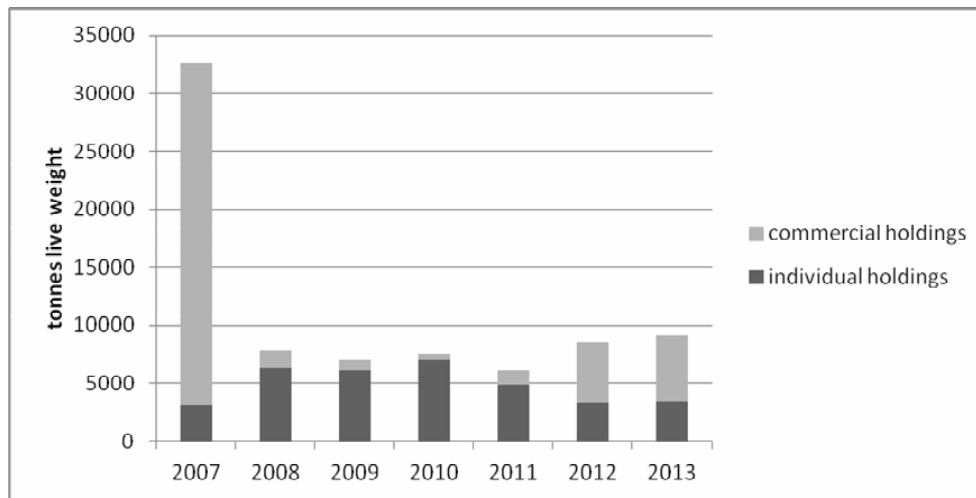
In the period 2007-2013, a positive dynamics of production was noticed in 17 counties. The counties with the highest increase of poultry meat production were Dâmbovița (Figure 3), Prahova, Buzău and Vâlcea. The increase of the live weight of slaughter poultry resulted from the production increase on the commercial farms.



Source: processing of NIS Tempo online data.

Figure 3. Live weight evolution of slaughter poultry for consumption in Dâmbovița county, by types of holdings, in the period 2007-2013.

In the period 2007-2013, a negative dynamics of production was noticed in 25 counties. The counties with the greatest decrease of poultry meat production were: Vaslui (Figure 4), Giurgiu, Gorj and Alba. The negative trend was the result of the decrease of the live weight of slaughter poultry on the commercial farms.



Source: processing of NIS Tempo online data.

Figure 4. Live weight evolution of slaughter poultry for consumption in the county Vaslui, by types of holdings, in the period 2007-2013.

4. CONCLUSIONS

Continuing certain local traditions, and similarly to the evolution in other EU member states, a tendency of territorial concentration of the pork and poultry meat production can be noticed in Romania.

In the case of pork, there is a concentration tendency of production in the western part of the country (Timiș, Arad, Bihor); at the same time, a few production centers with tradition are maintained outside this area, in Brăila, Brașov, Călărași and Neamț.

In the case of poultry meat, production tends to be concentrated around Bărăgan Plain (counties Călărași, Dâmbovița, Buzău, Prahova and Ialomița); at the same time, there is an area in the proximity of the capital city Bucharest, without excluding certain production centers outside this area: Bacău, Brașov, Alba, Satu Mare, and Iași.

5. ACKNOWLEDGEMENT

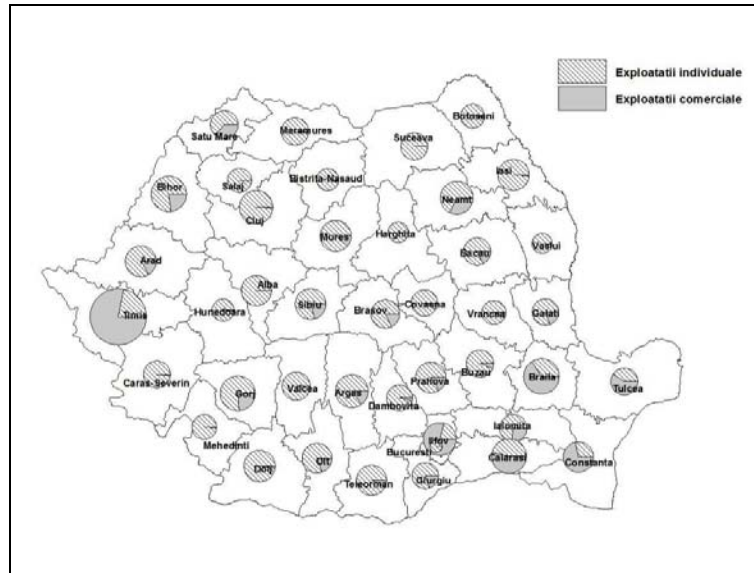
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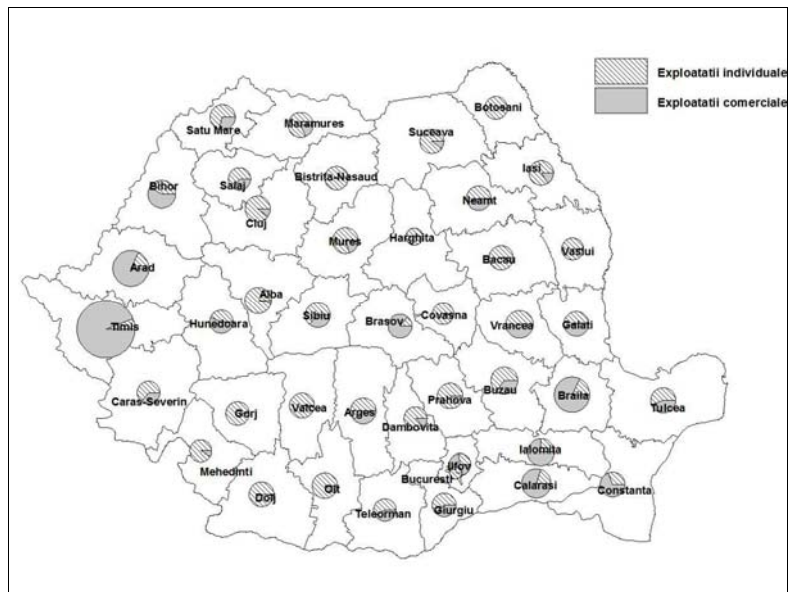
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Annex. Localization of pig and poultry production in 2007 and 2013



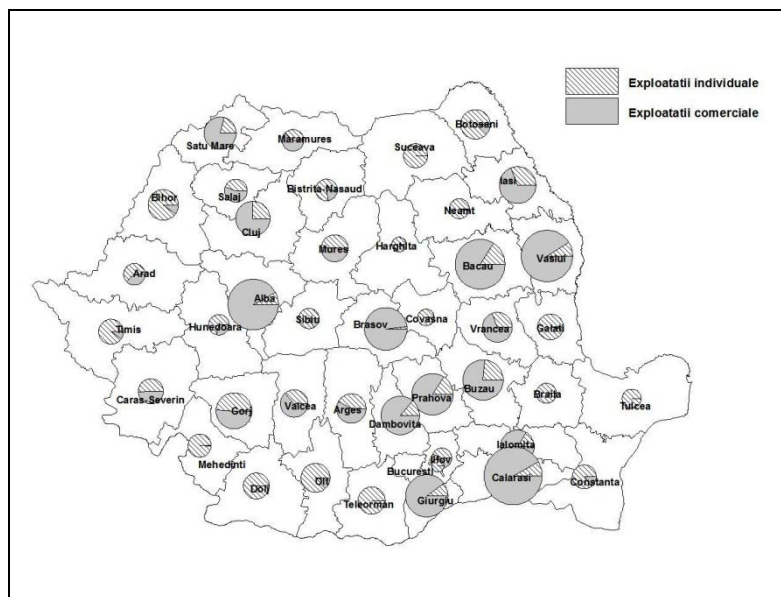
Source: diagram map based on NIS Tempo online data.

Figure 1. Live weight of slaughter pigs in Romania in the year 2007, by counties and types of holdings.



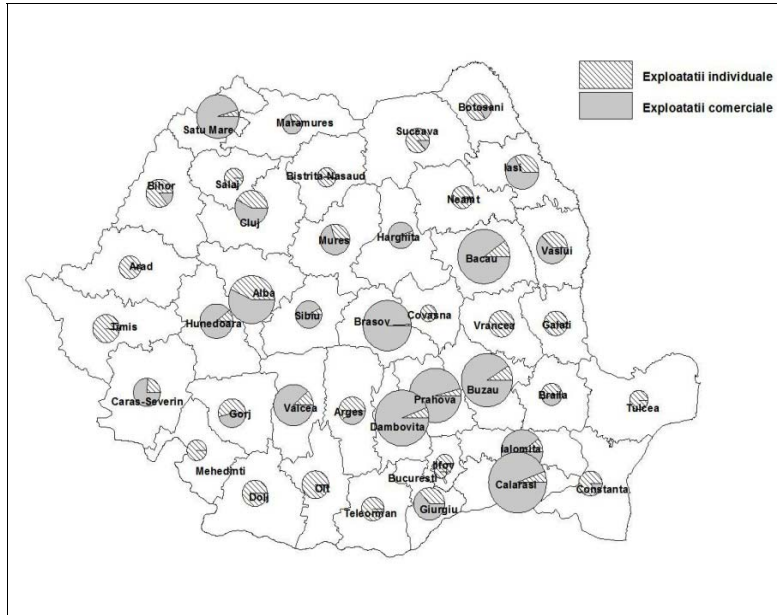
Source: diagram map based on NIS Tempo online data.

Figure 2. Live weight of slaughter pigs in Romania in the year 2013, by counties and types of holdings.



Source: diagram map based on NIS Tempo online data.

Figure 3. Live weight of slaughter poultry in Romania in the year 2007, by counties and types of holdings.



Source: diagram map based on NIS Tempo online data.

Figure 4. Live weight of slaughter poultry in Romania in the year 2013, by counties and types of holdings.