

# The polarization of the exploitation structure and its impact on the agricultural performance

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## ABSTRACT

This paper aims to reflect the need to correct the exploitation polarization as a key point in the development of Romanian agriculture and the rural in general. The main purpose is to expose the differences existing between Romania and other EU member states regarding the exploitation structures of the agricultural land and also to identify changes than can be made in order to increase the performance and the competitiveness of Romanian agriculture. Presentation and interpretation of statistical data supports the necessity to correct the exploitation in agriculture, in Romania.

*Keywords: polarization, property structure, exploitation structure, performance in agriculture, holdings structure, agricultural land.*

## INTRODUCTION

The property structure picture influence the structure of exploitation and it is reflected in productivity. The Romanian agriculture is characterized by a huge number of agricultural land owners, determined by an excessive crumble of the land, effect of Law 18/1991 also known by the domination of Land Law. This crumble it's reflected on the agricultural land exploitation and explains the huge number of agricultural holdings with a small surface of utilized land. The existence of so many agricultural land owners also explains the existence of a high number of subsistence and semi-subsistence holdings. This situation of agricultural land exploitation has led to an unperforming and uncompetitive agriculture compared to the European Union developed member states.

The approach of the agricultural land property it is made in strong connection with the one of exploitation and the results which are obtained from agriculture, this way it is emphasized the necessity of finding the appropriate solution for correcting the agricultural exploitation polarisation in Romania, polarisation characterised by a high number of agricultural holdings that have surfaces under 20 hectares (approximately 4000 thousand holding which occupies 5726 thousand hectares of the total agricultural land) and a small number of agricultural holdings that have surfaces bigger than 20 hectares (under 300 thousand holdings that occupies 7573 hectares the total agricultural land).

## HOLDINGS WITH THE ECONOMIC SIZE HIGHER THAN 1 ESU IN SOME EUROPEAN UNION MEMBER STATES

Emphasizing the differences regarding the agricultural performance it is made by analysing the following data:

Table 1. Number and average surface of holdings larger than 1 ESU and the share of surface exploited by owners in total agricultural surface, 2010

	Number of holdings larger than 1 ESU(thousand)	Total surface occupied by holdings larger than 1 ESU(thousand ha)	Average surface of a (ha)	Share of holdings over 100 ESU in total holdings (%)	Share of surface exploited by owners in total agricultural surface (%)
Bulgaria	117,8	2,9	24	1,4	17
Czech Republic	25,9	3,5	135	9,8	16
Germany	348,5	16,9	48	12,7	37
France	491,1	27,4	56	16,9	25
Hungaria	140,8	4,1	29	1,6	37
Poland	112,8	13,9	12	0,4	77
<b>Romania</b>	<b>866,7</b>	<b>9,5</b>	<b>11</b>	<b>0,2</b>	<b>64</b>
Slovakia	15,8	1,9	120	6,2	9

Source: Structural investigation in holdings, Eurostat

It can be observed that Romania has the highest number on holdings with a size bigger than 1 ESU, more precise has a number of 866,7 thousand holdings compared to Germany that has 348,5 thousand holdings or France that has 491,1 thousand holdings. The lowest number of this kind of holdings it is found in Slovaia and is 15,8 thousand holdings.

This situation can be explained on one hand by the surface of agricultural land that every country posses and on the other hand by the exploitation structures picture. The explanations regarding the high number of agricultural holding can be found in the table because it can be observed that the average surface of an agricultural holding bigger than 1 ESU is only 11 hectares compared to Checz Republic which has an average surface of 135 hectares, Slovakia 120 hectares, France 56 hectares or Germany 48 hectares. By analysing the share of the number of holdings with an economic size higher than 100 ESU in total holdings it can be observed that in Romania the percentage is low-0,2 compared to France where the percentage is 16,9 or Germany where the percentage in 12,7. This picture is justified by a high number of agricultural land owners, in Romania the percentage of holdings exploited by land owners in 2010 was 64, while in France was 25 and in Germany 37. In can be observed that Poland, also shows a high number of owners that exploit their land. Ex-communist country, Poland, emphasizes a high number of owners, just like Romania does, but the sizes of the agricultural holdings are compared to the ones in Romania which are characterized by small properties and holdings with economic size close to 1 ESU.

## THE INFLUENCE OF SIZE AND SPECIALISATION OF AGRICULTURAL HOLDING ON THE AGRICULTURAL PERFORMANCE

Both size and specialisation of agricultural holdings influence the yields in agriculture. However this influence is limited and conditioned by many factors, some of them uncontrollable (those related to agro-pedo-climatic conditions) and others controllable related to the degree of mechanization, size of working capital.

Table 2. Wheat and corn yields in some European Union Member States per types of holdings

		<b>France</b>	<b>Poland</b>	<b>Romania</b>
All holdings	Average surface(Ha/holding)	78	18	12
	Wheat yeilds(kg/ha)	7600	5100	3100
	Corn yeilds(kg/ha)	8900	7600	4400
Specialized holdings	Average surface(Ha/holding)	106	43	41
	Wheat yeilds(kg/ha)	7500	5400	3000
	Corn yeilds(kg/ha)	9100	7300	4300
Specialized holdings higher than 100 ESU	Average surface(Ha/holding)	219	780	1555
	Wheat yeilds(kg/ha)	7800	6000	2900
	Corn yeilds(kg/ha)	9100	7400	4400

Source: processed information from RICA database

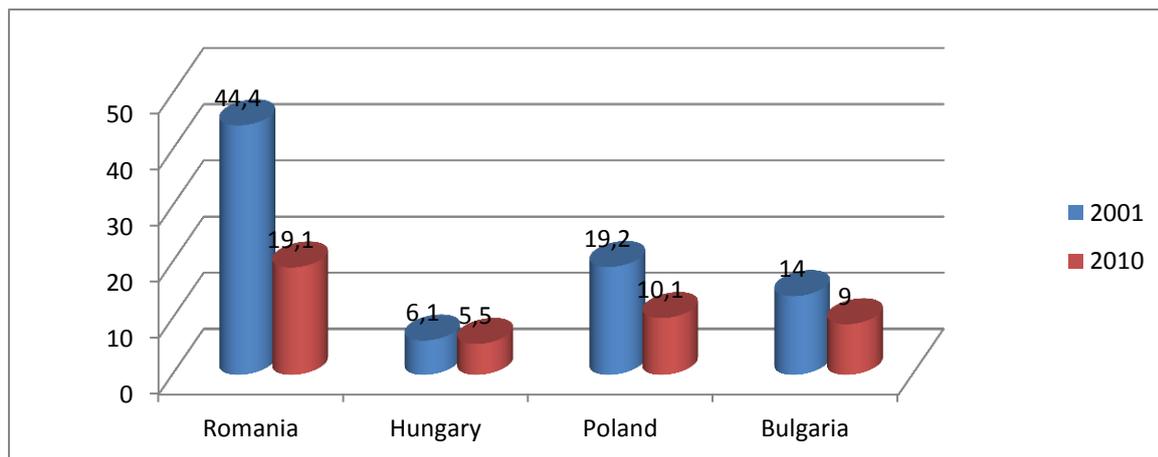
By analyzing the data in the table number 2 it is observed that both in France and Poland the wheat and corn yields increases on the same time with the specialization and the size of holdings. However in Romania the yields tends to have the same value regardless the economic size, average surface or the degree of specialization of the agricultural holdings, more than that, the wheat yield is lower in the case of specialized holdings bigger than 100 ESU. These rise the question if not the fact that the surfaces are too big determines a faulty management of this type of holdings. Another fact that needs to be pointed out is the one that the yields in Romania are lower to the yields of France and Poland.

This situation can be explained by the degree of development of the entire agriculture at the level of each country, by the degree of mechanization and chemisation of the crops. Another point that can bring an explanation is the experience that France have regarding the cereals cultivation and the support that this country had from European Union on consolidating and developing this sector.

### **THE DIFFERENCES BETWEEN ROMANIA AND OTHER EUROPEAN UNION MEMBER STATES REGARDING THE POPULATION OCCUPIED IN AGRICULTURE, FORESTRY AND FISHING**

An approach to the indicator population occupied in agriculture from the angle of the influence that this has on the performance it is strictly necessary. The high number of small agricultural land owners which also have the role of holders reflects its direct impact on the agricultural performance.

Figure 1. **Population occupied in agriculture, forestry and fishing**



Source: Eurostat database

The figure presents the population occupied in agriculture, forestry and fishing in Romania Hungary, Poland and Bulgaria and the evolution of this indicator in 2010 towards 2001. It can be observed that in the year 2001, in Romania 44,4% of the population was occupied in this sector. This value has changed, in decreasing, registering 19,1% in 2010. Compared to the others three Member States this value is very high, Romania being in the position of Poland in 2001. The decrease of this indicator can be justified by the measures taken at the level of rural space regarding the orientation of rural population to others activity sectors, supporting the rent, encouraging the cooperation and the association in agriculture, offering the alternatives for the older population.

It is expected an increase of the agricultural holding size as an effect of reducing the population occupied in agriculture, this represents a step forward for the Romania agriculture. If the rural population which owns agricultural land decides to activate in other field then the owned land will be sold or rent.

### TECHNICAL EQUIPMENT OF HOLDINGS IN TERMS OF SIZE

The agriculture performance is influenced by the technical equipment of the agricultural holdings. This technical equipment is influenced by the size and dimensions of agricultural holdings. As long as the holdings will have small sizes there is no possibility of buying or even utilize technical equipment due to the high cost that this utilisation is supposed to have.

By analyzing the data presented in the table number 3 it can be observed that the agricultural holdings in Romania are not sufficiently equipped with technical support and it is highlighted a major disparity between Romania and Poland or France. The insufficient technical equipment leads to a high charge per tractor which influence the performance obtained in agriculture.

Tabel 3. Technical equipment of holdings in terms of size, 2010

		Under 5 ha	5-20 ha	20-50 ha	50-100 ha	Over 100 ha	All forms	
France	Use tractor(%)	83,6					99,4	92,9
	Own tractor(%)	70,7					97,0	85,9
Poland	Use tractor(%)	89,4	98,1	99,6	99,0		95,2	
	Own tractor(%)	61,4	88,8	96,7	93,4		79,9	
Romania	Use tractor(%)	68,6	73,9	75,1	71,5		69,9	

		Under 5 ha	5-20 ha	20-50 ha	50-100 ha	Over 100 ha	All forms
	Own tractor(%)	4,9	17,6	44,7	55,5		8,9

Source: Eurostat database

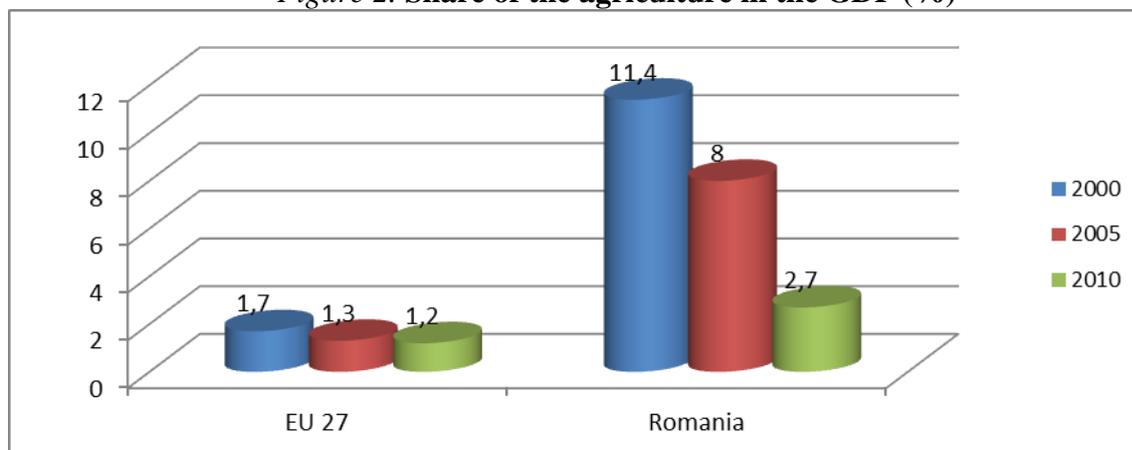
If the data from the table are followed it can be observed that the bigger the holding is the more technical equipped the holdings are, and the tractors used are usually owned by the holding that utilizes it. However this is not the case for Romania where the differences between use and own are majors, especially for the agricultural holdings with a size under 5 hectares. Although 68,6% from this type of holdings utilize tractor, only 4,9 own it. The explanation that represents the key of this situation is reduced to the high cost that such kind of technical equipment suppose to have.

### SHARE OF THE AGRICULTURE IN THE GDP

In order to establish the performance it is necessary to observe the effect that the agriculture has, in this case its contribution to the GDB. A relevant comparing is made between Romania and EU 27 with the purpose of pointing out the existing gaps.

Romania presents high agricultural potential due to a large area of agricultural land, labor fit for carrying out activities in the field, favorable climatic conditions, soil characteristics that advantage crops etc. But this potential is under exploited this under exploitation is caused by inefficient use the land fund as a fundamental resource in agricultural activities, an unclear legal system, crumbling of land, lack of funds and material ,aging population in rural areas, lack of youth interest in practicing agricultural activities etc.

Figure 2. Share of the agriculture in the GDP (%)



Source:European Commission Reports

It can be observed that there are considerable differences between the percentage that the agriculture hold in GDP in Romania and the one of EU 27. If in EU 27 the values decreased from 1,7 % in 2000 to 1,2 % in 2010, in Romania the value of this indicator decreases from 11,4% in 2000 to 2,7 in 2010. Although this indicator decreases considerable in Romania, it remains double compared to the one of EU 27. The registered decrease is justified by the increase of technical equipment and the orientation of the population that use to be occupied in agriculture to others activity sectors.

### MEASURES OF RURAL DEVELOPMENT WITH IMPACT ON THE AGRICULTURAL HOLDINGS STRUCTURE

In order to develop the entire Romanian agriculture there were taken a series of measures. These measures had also an impact on the exploitation structure. The main purpose of these measures was to increase the performance registered in agriculture.

Measures of interest that have/had a impact on the exploitation structure picture:

- Measures for developing the agricultural holdings and business: young farmers settlement, small size holding developing, developing non-agricultural activities in rural space, compensation for leaving the scheme given to small farmers and old farmers
- Services of consulting and concealing
- Support for association and cooperation in agriculture
- Support for innovation
- Support for insurance of crops and animals

These measures can bring modification regarding the exploitation structure in the sense of increasing the holdings size.

### **CORRECTING THE POLARIZATION OF THE EXPLOITATION STRUCTURE**

In order to develop the Romanian agriculture it is necessary a correction of the polarization of agricultural exploitation.

To correct the polarization it is considered the increasing of holdings size and specialization, without losing from the view the limited influence that both size and specialization have on holdings, by public political measures and recommendations with the purpose of consolidating the agricultural holdings.

The effects that correcting the polarization may have are the following:

- Increases commercial holdings performance
- Increases yields
- Increases the degree of technical equipment
- Increases labour productivity
- Increases the work capital
- Increases the Gross Value Added
- Major contribution of the agro-alimentary sector to economic increase

### **CONCLUSIONS**

The agricultural potential that a country has consists in the agricultural land surface that owns. But the efficient exploitation of this agricultural potential is conditioned. The conditions are imposed by factors such as: agro-pedo-climatic condition, the historical past, de degree of land crumbling, the number of land owners and holders and power of invest. These all factors “paint the picture” of property and exploitation structure and influences directly the productivity and performance in agriculture.

A performing agriculture has a uniform picture of property and exploitation structure with a base represented by the medium and large holdings. In order to practice a high valued agriculture, competitive on the market, in Romania, are needed changes in the polarization of the exploitation structure, more accurate it is highlighted as necessity moving from the small holdings to medium and large holdings.

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