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## Viewpoint

# Similarities and dissimilarities between the EU agricultural and rural development model and Romanian agriculture. Challenges and perspectives



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## ARTICLE INFO

### Article history:

Received 26 May 2014

Received in revised form 27 July 2014

Accepted 8 August 2014

### Keywords:

Common agricultural policy

Farmstead structures

Financial support

Inputs

Outputs

Agricultural added value

## ABSTRACT

The main aims of this study are to highlight the differences and the similarities between the European model of agricultural and rural development, and the state of play in the Romanian agricultural sector. Statistically speaking, the agricultural sector's indicators of the past two decades place Romania outside the family picture of the EU countries, with very slight resemblances, and very strong discrepancies between their economic, technical, and institutional characteristics. At present, competition-wise, farming and farmers in Romania are still strongly disfavoured in relation to their competitors in the old EU Member States. In Romania, the economic and institutional mechanisms have most often been devised to the disadvantage of agricultural production, by claiming that subsistence farming would be the sustainable way, and by channelling the added value to other sectors. An option to continue the agricultural policies of the past decades and to abandon the national support lent to agriculture would be particularly risky through its unpredictable and incalculable social and economic effects.

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## Introduction

Along the history of mankind, the evolution of agricultural production has followed the global trend of turning all natural produce and processes into highly prefabricated goods, treat them as merchandize and trade them as such. After the standardization of the meatpacking operations (Ciutacu et al., 2003; Ciutacu and Chivu, 2002), agriculture underwent a second revolutionary transformation due to mechanization, chemical treatment, genetic techniques aimed at improving and selecting plant varieties and animal breeds, all paralleled by land and capital consolidation.

In Europe, the second agricultural revolution occurred after 1945, following completely different policies and principles in the East and the West of the continent; however, on either side of the Iron Curtain, this meant, in brief, the gradual departure from the traditional farming based on parcels of land, cultivated with a large variety of crops, all entwined, sometimes uneconomically, with animal breeding, and with everything purporting to secure

subsistence. In the time span between 1945 and 2010, the agrarian revolution in Europe made redundant tens of millions of persons (Asghar et al., 2013; Chivu, 2002; Ciutacu and Chivu, 2003) that had been earning their living from farming. The developments in the agricultural sector of Western Europe have always had the combined backup of government intervention and unionist militancy for progress, which propelled this sector into the overall progressive trend of capitalist society, based on the respect for private property, and for profit (Ciutacu et al., 2008, 2009).

In Eastern Europe, agricultural production was structured on the principles of collective ownership, with the surplus capital being channelled to state coffers and managed by state authorities as collective property. With agriculture becoming part of the industrial cycles and trading activities characteristic of the capitalist economy in the West, the sector had to struggle out of its traditional symbolism, to rid itself of the natural economic practices of the peasant society, of the forms of labour and organization specific for the rural environment. Regions and/or farms gradually specialized in various agricultural or animal produce; prompted by the demand of the food industry (Filon, 2012; Gavrilescu and Giurcă, 2000), animal farms of thousands of heads were encouraged to get established and thrive, which is how the scale economy in agriculture appeared, most often in disregard of the environmental and social elements

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in the sector. The huge farmsteads, like the ever expanding food manufacturing chains, have been encouraged through state aid mechanisms and interventions (Ciutacu et al., 2009; Jouinia and Rebei, 2014; Brückner and Gradstein, 2013; Breuer and McDermott, 2013; Attanasio et al., 2013). The commercial prominence gained as an effect of the globalization of exchanges was the result of the synergy between state intervention and the might of agribusiness corporate giants. Land consolidation alone has swallowed hundreds or even thousands of billions of ECU/Euro in the past 50 years.

Another element that differentiates Romania and leaves its print on all the economic and institutional structures of the agricultural sector, on the efficiency, productivity, and competitiveness of the entire sector and of the whole economy, including the functionality of markets, prices, revenues and consumption, is the rate of employees/salaried labour in the agricultural sector. The disestablishment and reestablishment of the institutional framework in the agricultural sector (Done et al., 2012; Rotunno et al., 2013), the change of ownership to land and the effect of market rules in agriculture are all far from demonstrating any commendable effects on the production, productivity, and physical yield per hectare or per head of animal. According to statistics (Otiman, 2012; Comisia Prezidențială pentru Politici Publice de Dezvoltare a Agriculturii, 2013), while from the point of view of its value, the overall agricultural production (vegetal and animal together) of Romania seems to have reached some 85% to 100% of the production levels prior to the transition period, the physical production figures point to the contrary.

## Research methodology

Analyzing the similarities and dissimilarities between the EU agricultural and rural development model and the Romanian agriculture represents a further step in understanding the massive transformation process regarding the convergence of the inland agricultural sector both with the new Common Agricultural Policy criteria and to the well and highly competitive economy exigencies. Despite of numerous studies addressing the evolution of Romanian agricultural sector and to the inland agricultural policy, the main research topic of this paper still remains actual in context of finding appropriate solutions for reducing the agricultural disparities between the inland agricultural policies and the European agricultural model and, also for improving the outcomes for a better valuing of the national agricultural potential.

In this context the main research objectives were focused on:

- Convergence/divergence of the Romanian agricultural economic structures with the European Union agricultural model.
- The adequacy of the economic mechanisms and policies with the specific features of the Romanian agriculture.
- The evolution of the main structural indicators of the agricultural production.
- The impact of the price mechanisms and the budget transfers to the agro-food sector on the agricultural production.

In order to achieve these research goals, it was used mainly the descriptive statistics and interstate comparisons provided mainly by official statistics offices both from inland (INS, 2012a,b) and European Commission or Eurostat database. The research is carried on in order to provide a general framework regarding the convergence of the Romanian agriculture to the European agricultural model, by presenting both the main constrains, similarities and dissimilarities and also the favourable factors in achieving the potential between these two economic spaces. As a whole, this

research could be considered as a policy paper for politicians, decision makers and practitioners in the field.

The research is structured as follows. First section is dedicated to the general framework of the developments in the agricultural sector from its traditional symbolism to the industrial approach presenting the general aspects that start to differentiate the Romanian agriculture from the European agricultural model. The following sections host a practical analysis centred on four major topics with significant impact on understanding the main research objectives of the paper, regarding the institutional structures of the agricultural sector, on the efficiency, productivity, resource allotment and influence of Common Agricultural Policy (CAP) on inland agricultural sector. The final section provides rigorous conclusions and remarks for future actions in order to understand better the similarities, and also to prevent further dissimilarities between the European agricultural model and the Romanian agriculture.

## Results and discussion

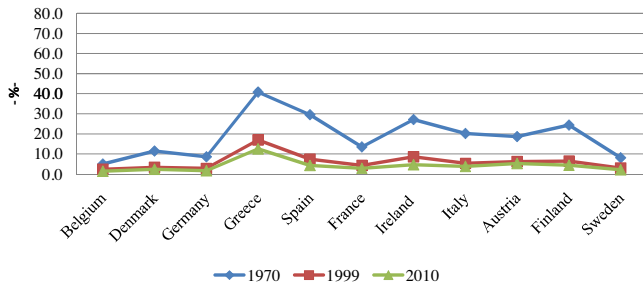
Agriculture, before anything else, has been the architect and builder of social, cultural, moral, linguistic, aesthetic, and artistic structures of the world's nations. Later in time, but continuing to this day in some cultures, agriculture revealed to their members the economic concepts that surround commercial exchanges, such as goods, costs, prices, surplus, efficiency, and profit. These social and economic phenomena and processes, with their institutional and axiological components, have been strongly determined, in the course of their development, by the ratio and relationship between population and the land inhabited, in respect of extent and form of ownership.

The traditional form of land ownership rights, combined with conservative principles regarding the conveyance through heirs, sale, and circulation of landed property, if paralleled by dynamic migration and poor level of development of other economic activities, such as manufacturing and services, have been, from a historic perspective, factors for the retarded evolution of some territories, countries, and populations. As it was already remarked in the literature (Ciaian et al., 2010) land markets and the farmlands size changes represents the most actual factors analyzed when comes to understanding the new agricultural systems transformation under the agricultural reforms.

As a paradox, the nations centred on traditional labour mechanisms and on values deriving from natural systems have been losing ground in the competition with economies where the rule is to trade everything for everything, and to juggle with money in financial speculations. The very generous and opulent natural conditions that have blessed the traditionally agrarian populations have become, also paradoxically, a stumble block in their way to other human occupations and activities, and the source of their own poverty. This is where Romania herself stands, if compared to the advanced countries in the Western and Central Europe. As Jouinia and Rebei (2014) argue, production decisions in the service sector are distorted by regulations that raise entry costs and limit the rights of enterprises to invest.

### *The economic structures in Romania and the European Union. Convergence and divergence*

For about four decades of the previous century (1950–1990), the social and economic structures in Romania and the first fifteen Old EU Member States displayed a certain degree of convergence (European Commission, 2012a,b); they developed symmetrically towards reducing the disparities between demographics, land availability, and forms of land property – a fundamental indicator for the economic, social and institutional structures, and for their



**Fig. 1.** Evolution of agricultural employment in some EU countries, 1970–2010. Source: Authors based on European Commission (2001) and European Commission (2012a,b).

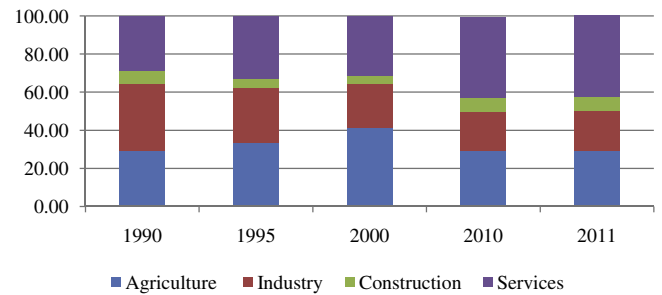
efficiency. In the time span between 1950 and 1990, the population of Romania (OECD, 2000) working in agriculture dropped from 75% in total employment to 28–29%, i.e. from 6.2 million persons to 3.1 million.

In the Old EU Member States, the redistribution of the agrarian population to other economic branches was a lengthy process. In this context, in a period of forty years (from 1970 to 2010), the active population employed in the agricultural sector has been dramatically declined due to the massive transformations occurred in the agricultural sector both as effects of the Common Agricultural Policy on intensive agriculture and a sustained migration to the urban areas in search for lucrative jobs.

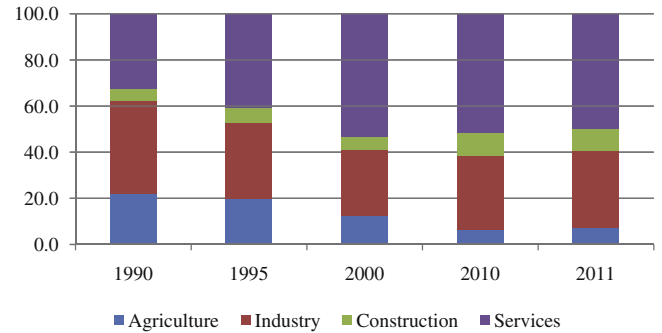
As it can be remarked from the data presented above (Fig. 1), in all West-European countries, the reduction of labour in the farming sector in point of numbers and ratios was a continuous process after 1950. In Romania, the evolution of this indicator was convergent until 1990; after that year, the agrarian population followed a reverse process, in respect of number – from 3.1 to more than 3.5 million persons (4.8 million persons, according to the Household Labour Force Survey, National Institute of Statistics, AMIGO data) in 1999, to then drop again to 2.7 million persons in 2010, which, in percentage points, corresponds to 29% in 1990, 41% in 1999, and 30.1% in 2010. In 1999 and 2010, the overall EU population working in agriculture stood for only 4.5% and respectively 3.1% of all employment (EU-15), and for 5.2% in 2010 (EU-27) (OECD, 2000; INS, 2012a; European Commission, 2011).

These ratios and the developments in the past decade have drawn a demarcation line between Romania and the EU countries, generating economic, technical, and institutional asymmetries and disparities, rather than convergence. The so-called market mechanisms are not only unable to generate symmetrical evolutions; they may have devastating effects on the structure of a national economy. This structure is nowadays Romania deeply imbalanced, dysfunctional, and non-competitive. In 1999, Romania’s employment rate in agriculture (INS, 2012a,b) was equal to almost half – 49% – of the aggregate employment in the agriculture of all the Old EU-15 Member States, while its workforce in the industry was equal to only 4.4% of their workforce in the same sector. In 2010, Romania’s active farmers represented 52% of the number of active farmers in the old EU-15 Member States, 25% of all farmers in the EU-27, and only 4.8% of the employment in the industry of the EU-27 (European Commission, 2012a,b).

Notwithstanding the growth of the number and share of rural workers, the contribution of this economic sector to the gross added value (GVA) has kept going down: while in 1990 the 29% of the employment in agriculture (Fig. 2) generated some 22% of the overall gross value added of the Romanian economy (Fig. 3) (at an approximate productivity rate of 0.75 GVA points for one percentage point of employment), in 2000, 41.7% of Romania’s labour force generated only 12.5% of the GVA (with the relative productivity shrinking to 0.3 percentage points), and in 2011, 29.2% of



**Fig. 2.** Structure of employment in Romania, 1990–2011. Source: Authors own computation based on INS (2012).



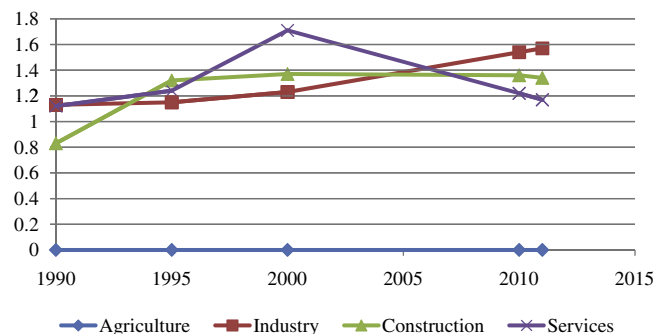
**Fig. 3.** Structure of the gross domestic product in Romania, 1990–2011. Source: Authors own computation based on INS (2012).

employment generated 7.5% of the GVA, equivalent to 0.26 percentage points for one percentage point of employment.

Within the same time span, from a relative perspective, productivity in the industry grew from 1.13% for one percentage point of employment in 1990, to 1.23% in 2000, and to 1.575 in 2011. In the Services sector, statistics show a rise from 1.125 to 1.715 and a regressive move to 1.175 in 2011, caused by the economic crisis (Fig. 4).

*Economic mechanisms and policies less adequate to the specific features of Romanian agriculture*

The economic and institutional mechanisms that were put in place have been profoundly detrimental to agricultural production because they favoured subsistence farming as the sustainable way, thereby opening the door to the transfer of added value to other sectors. Practical experience along history has shown that the gross value added (GVA) does not arise from the rural area itself; customarily, some 85% of the agricultural GVA is produced somewhere



**Fig. 4.** Relative work productivity, by economic sectors, 1990–2011. Source: authors own computation based on INS (2012).

**Table 1**  
The position of agriculture in Romanian economy, 1980–2010.

Indicator	Bn. Current Lei %					
	1980	1985	1990	1995	2000	2010
Value of agricultural production	146.4	210.3	265.6	23,571.1	163,264.9	64.5
Value of food industry production	119.8	142.9	167.7	9839.4	64,183	43.9
Ratio between food industry production and agricultural production (%)	81.8	68	63.2	41.7	39.3	68.1
Gross value added in agriculture	78	114.3	181.6	13,941.3	85,075.2	29.9
Gross value added in food, beverages and tobacco industries	NA	NA	60.5	5421.7	NA	28.9
GVA ratio food industry/agric. (%)	NA	NA	33.3	38.9	NA	96.8
GVA, total	616.9	817.4	788.1	66,598.5	708,841.8	466.4
GVA agric./GVA, total (%)	NA	NA	23	20.9	12.0	6.4
GVA, food, bev. and tobacco ind./GVA, total (%)	NA	NA	7.7	8.1	NA	6.4
GVA agro-food/GVA total (%)	NA	NA	30.7	29.1	NA	12.8
Total investment in economy	210.5	246.3	168.4	12,995.5	124,987.0	72.3
% investment in total gross value added	34.1	30.1	21.4	19.5	17.6	15.5
Investment in agriculture	27.2	44.8	30.1	1420.3	9880.7	2.7
% investment in GVA agric.	34.9	39.2	16.6	10.2	11.6	8.9
Agric. investment/investment total (%)	12.9	18.2	17.9	10.9	7.9	3.7
Total employed population (thou' pers.)	10,350	10,586	10,840	9493	8629	8371
Population employed in agric. (thou' pers.)	3148	3112	3144	3265	3570	2440
Investment/total persons employed in economy (thou' lei)	20.3	23.3	15.5	1369	14,484.5	8.6
Investment/persons employed in agric. (thou' lei)	8.6	14.4	9.6	435.0	2767.7	1.1
Ratio between investment per total employment/agric. (%)	235.4	161.6	162.3	314.70	523.3	792.3

Source: Authors' own calculations based on INS data, 2013.

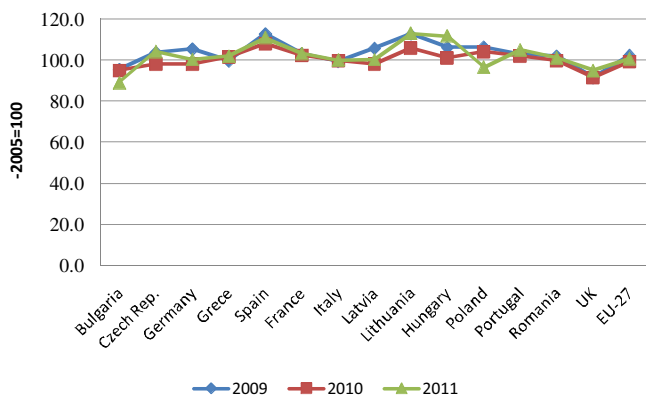
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outside the agrarian area proper (processing industry, storage and handling, trading, services).

In the Old Member States, on the other hand, one can see a wide gap between farmstead revenues and the subsidies received (in the United Kingdom, for example, the aid granted has been, in places, five times higher than the income of the farmstead). Despite all this, an agricultural sector is deemed to be sustainable when it is capable to withstand periods of crisis, and to blend productivity with stability and equity, thereby ensuring the food security of a people. Fig. 5 presents the evolution of the productivity of intermediate consumption in EU-27, during 2009–2011.

Measured as the ratio between the index of the output volume in the agricultural activities sector and the index of intermediate consumption volume, the evolution of productivity of intermediate consumption proves that agriculture is less efficient than other economic branches and it registers a significant instability including for the counties with a well developed agricultural sector as Germany and UK.

In Romania, the decreasing productivity of farm work is the result of the combined effects of labour market trends and market failures, of the mechanisms for the transfer of the added value with those of diminishing production and the gross value added.



**Fig. 5.** Evolution of the productivity of intermediate consumption in EU-27, 2009–2011.

Source: Authors own design based on European Commission (2012a,b).

As a matter of fact, in 2010, the average productivity per employed person in the EU-27 was approximately 13,800 euro GVA, of which 6573 euro was the financial aid received from the national budgets or the CAP budget, while in Romania at a productivity of 2822 euro/employed person, the aid received amounted to only 948.5 euro. Considering the productivity gap of 5:1 from the EU-27 average, it results that the funds received by a Romanian farmer are 7 times smaller (European Commission, 2012a,b).

The evolution of the Romanian agriculture reflects mainly the reform processes during the last two decade which massively transformed both the economic sector and the land property. The value of the most important baseline indicators has registered a massive reduction under the effect of the destructuration of the agricultural productive structures. In fact Table 1 presents the evolution of the position of agriculture in Romanian economy, during 1980–2010.

In Romania, the degradation of performance and competitiveness indicators in the agricultural production, and the conversion of agriculture from an intensive, highly mechanized and fertilized productive sector into a source of living at a continuously declining subsistence level were caused by the total crash of investment in the entire economy of Romania, agriculture included. As an example: while in 1990 the average investment per employed person in the Romanian economy was 1.6 times higher than the investment for an employed person in agriculture, during the period 1997–2000 the gap widened to 5.7–5.2 times, so that by 2010 the ratio had risen to 8.9:1.

Also, the agricultural investments reflect a negativist attitude regarding the attractiveness of this economic sector for improving the valuing of the national agricultural potential. If in 1980 the agricultural investment represents 12.9% in total investemnts, in 2010 the value is less by 3.4 times, respectively 3.7%.

As investment in agriculture diminished with every year that passed, the disinvestment plague became stronger and wider. Over 90% of the irrigation systems have been disbanded, after the state had spent, prior to 1989, billions of dollars to build them.

The industrial animal breeding facilities were devastated, demolished or abandoned, together with the equipment with which they had been operated until then. The fodder mills were wiped out. Greenhouses were destroyed, which reduced drastically the out-of-season production of vegetables. Orchards and vineyards developed in decades as intensive plantations were neglected until decay or were uprooted to make room for other

developments. The network of rural enterprises that used to provide local farm machinery services went into dissolution; their equipment was squandered, which compelled villagers to return to archaic means of production.

The disappearance of reproduction animal farms that provided genetic material for most of the farm animal species, and the decline of animal selection and breeding techniques, the elimination from the agricultural policy (if any) of the use of genetically improved seeds and propagation material, in favour of imports – all came to give a final blow to Romanian agriculture. If precise calculation were possible, it would most likely reveal that the investment made in agriculture after 1989 is hardly one tenth of the value of the fixed assets that have been lost or left unused in the past two and a half decades.

#### *Evolution of the structural indicators of the agricultural production shows interesting phenomena*

The vegetal production as part of the agricultural produce has visibly been on the rise, as data from [Table 2](#) confirms, in Romania, and also in other New Member States as Hungary, Czech Republic and Slovakia. In 1999, the vegetal production accounted for 63.5% of Romania's agricultural production; this ratio was higher only in Greece (76.4%), Italy (67.8%), Spain (65.4%), and Portugal (64.3%); the share of vegetal production in overall agricultural produce was at its lowest in Ireland (21.4%) and the United Kingdom (42.2%), in the same year of reference. In 2010, the vegetal crops reached in Romania the highest share of the total value of farm produce in all Member States (73.5%, compared to 26% in Ireland, 34.6% in Denmark, and 38.9% in the United Kingdom) according to ([European Commission, 2012a,b](#)).

The other component of the agricultural production, respectively the animal breeding loses ground as a contributor to the value of agricultural production due to various factors: many Member States become self-sufficient, salaries make this sector uncompetitive, animal farms – big or small – are affected by various diseases, such as the mad cow disease (BSE), bird flu, swine flu, etc.

The intermediate consumption absorbed, in 2010, about 57.1% of the agricultural production of Romania ([INS, 2012a,b](#); [European Commission, 2012a,b](#)), with a tendency to grow. The explanation lays not so much in the increase of quantities of input production factors as in the prices for intermediate consumption products, the rising rate of which was much greater and faster than the revenues farmers collected for the products marketed by them. As it is shown in a recent study ([Bartolini and Viaggi, 2013](#)) the structural change provides the possibility of increasing the competitiveness and efficiency of the entire agricultural sector through a better allocation of productive factors ([Bartolini and Viaggi, 2013](#)).

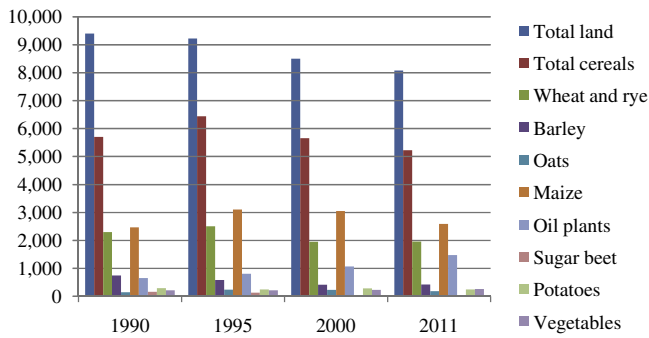
Of all the Old Member States, only in Finland the share of intermediate consumption appears to be decreasing. Instead Gross fixed capital formation (GFCF) is the indicator that shows the degree of interest for future development and for the upgrading of the agricultural production. The GFCF share in the GVA for agriculture in Romania differs greatly from other EU countries.

As [Table 2](#) proves in 1999, for example, investment in agriculture represented only 8% of the GVA for agriculture, and in 2010, the same indicator had risen to 18.1%. In other EU Member States, investment and the GFCF hold discouragingly greater shares than in Romania: in 1999 and 2010, in Finland, they accounted for 77.8% and 76.4% of the GVA for agriculture; in Sweden, the two indicators were 60.4% and 74.1%; in Germany – 35.9% and 49.4%; in Denmark – 34.7% and 74.1%, etc.; in the Central-European countries, the two indicators were 27.9% and 48.1% in the Czech Republic; and 31.2% and respectively 40.4% in Slovakia. The evolution of GFCF is strictly connected with the GVA level. A high degree of investments are able to produce more positive effects on agricultural economy, including

**Table 2**  
Structural indicators of agricultural production (%).

	Agric. GVA share of the GDP		Share of the two sectors in the agricultural production				Share of interm. consumption from agr. prod.		Gross formation of fixed capital in GVA		Share of agro-food exports in total export		Share of agro-food imports in total import	
	1999	2010	Vegetal produce		Animal produce		1999	2010	1999	2010	1999	2010	1999	2010
			1999	2010	1999	2010	1999	2010	1999	2010	1999	2010	1999	2010
Germany	0.9	0.6	54.3	49.6	45.7	50.4	59.0	69.7	35.9	49.4	4.8	5.7	8.6	8.1
Austria	1.2	1.1	51.7	48.6	48.3	51.4	55.5	58.4	...	68.6	5.3	7.5	6.6	7.8
Belgium	1.2	0.9	45.8	46.5	54.2	53.5	61.0	64.3	21.3	46.2	9.9	9.3	9.8	8.5
Denmark	1.9	1.4	43.2	34.6	56.8	65.4	59.3	71.8	34.7	74.1	18.3	18.4	10.4	12.7
Spain	3.9	1.9	65.4	64.0	34.6	36.0	34.2	44.7	...	22.3	13.6	15.0	8.7	9.1
Finland	0.9	1.0	44.3	39.6	55.7	60.4	68.8	65.0	77.8	76.4	2.3	3.5	6.5	7.7
France	2.3	1.6	61.9	59.3	38.1	40.7	50.2	59.2	29.9	33.3	12.5	12.7	8.8	8.4
Greece	7.2	2.3	76.4	67.1	23.6	32.9	25.6	47.2	12.0	35.2	28.7	24.3	12.7	12.0
Ireland	3.0	1.1	21.4	26.0	78.6	74.0	53.3	73.3	...	17.1	9.2	14.7	7.4	12.8
Italy	2.6	1.5	67.8	59.8	32.2	40.2	31.3	47.2	29.7	41.9	6.9	8.3	10.3	9.0
The Netherlands	2.3	1.7	55.1	50.3	44.9	49.7	54.2	64.7	34.2	38.6	19.4	15.5	11.4	10.5
Portugal	3.2	1.0	64.3	56.2	35.7	43.8	46.2	62.1	19.3	32.3	6.0	10.1	10.7	11.8
United Kingdom	0.8	0.4	42.2	38.9	57.8	61.1	54.7	65.7	62.1	74.1	5.8	6.2	8.7	9.8
Sweden	0.6	0.5	47.6	47.1	52.4	52.9	67.1	72.1	60.4	60.4	2.1	3.3	6.2	7.4
Hungary	3.9	1.4	57.5	58.6	42.5	41.4	59.9	67.3	NA	33.8	9.1	8.2	3.6	5.6
Poland	3.7	1.3	52.5	47.6	47.5	52.4	62.0	62.0	NA	NA	10.7	10.7	7.1	7.8
Czech Republic	1.5	0.5	47.0	57.2	53.0	42.8	71.4	75.2	27.9	48.1	4.3	4.2	6.4	6.0
Slovakia	2.1	0.4	46.3	51.1	53.7	48.9	71.6	80.8	31.2	40.4	NA	4.6	NA	8.7
Romania	12.9	2.7	63.5	73.5	36.5	26.5	54.2	57.1	8.1	18.1	4.4	8.5	7.2	6.4

Source: Authors based on [European Commission \(2001\)](#) and [European Commission \(2012a,b\)](#).  
NA, no data available.



**Fig. 6.** Land areas bearing the main crops, in Romania 1990–2011 (Thousands ha).  
Source: Authors computations based on [INS \(2012\)](#).

improvements of employment rate, rural development and local communities' stability.

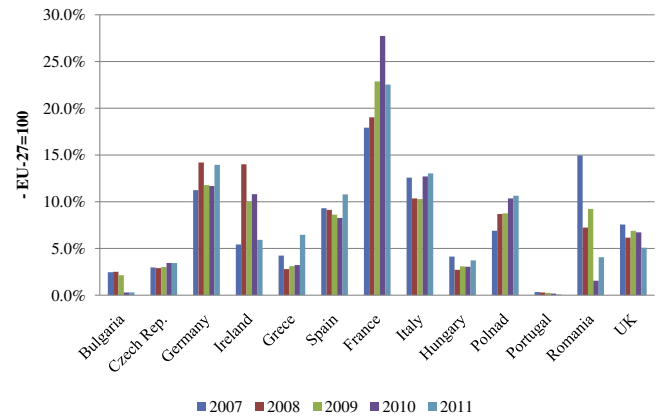
An analysis of the various discrepancies and inconsistencies, with their forms and extent, between the structural and institutional features that distinguish Romanian agriculture from its EU counterparts cannot miss two basic parameters: the effectively cultivated areas (size and distribution of crops) and the size of farmsteads. Demographically speaking, Romania's population represented some 6% of the population of EU-15 in 1999, and 4.3% of the population of EU-27 in 2010. But Romania's farm labour was equal to 49% of all employment in the agriculture of EU-15 in 1999, and to 25% of all active farmers in EU-27.

In 2009, Romania used to hold 7.7% of the entire utilized agricultural area (UAA) in EU-27; some of the crops were well represented in Romanian agriculture: maize crops held almost 50% of the entire EU land cultivated with maize; Romania is placed at the third, after France and Poland in respect of land areas cultivated with wheat; and came second in respect of land areas cultivated with sunflower, after Spain. While cereals held 32.1% of UAA in the EU, in Romania they held 38.3%, in the same reference year. [Renwick et al. \(2013\)](#) notice in their study that the CAP reforms initiate a process of structural change within agriculture which could lead to efficiency gains and less land moving out of agriculture. In [Fig. 6](#) is presented the evolution of the land areas bearing the main crops, in Romania during 1990–2011.

#### *The price mechanisms and the budget transfers to the agro-food sector had a negative impact on the agricultural production*

The prices of input goods for agriculture grew at a faster rate than the production price of the farmer. The budget and quasi-fiscal transfers to the agro-food sector were designed as a compensation for the losses sustained by farmers. And yet, the total value of the share of such transfers in the Global Domestic Product (GDP) fell from 8.2 and 8.6% in 1992 and 1994, to only 1.1% in 1999, 0.88% in 2007, and 0.08% in 2010. While in 1992 and 1994, each percentage point of contribution by the agricultural sector to the GVA, the sector received, by transfer, 0.43 and 0.39 percentage points, in 1999 the transfer was only 0.07 percentage points, and in 2010 only 0.03 percentage points.

In 2010, in Romania, for an agricultural GVA of 6.45 bn. euro, agriculture received from the national budget 94 million euro, representing approximately 1.45% of the GVA. For comparison purposes, in 1997, in support of EU policies, for all the EU15, 56.4 bn. euro – which meant 49.3% of the GVA – was spent from the common EU budget and from the national budgets for 114.5 bn. euro of agricultural GVA; this meant 414 euro for one hectare of agricultural land, and over 8000 euro spent for one employed person in agriculture. The [Eurostat database \(2013\)](#) indicate that in the EU-27, GVA in agriculture was 143.8 bn. euro, the national



**Fig. 7.** The evolution of the national expenditures for agriculture in some European countries, 2007–2011.

Source: Authors own computation based on [European Commission \(2012a,b\)](#).

agricultural policies contributed aid in the amount of 10.2 bn. Euro, and the common agricultural policy (CAP) budget allocated another 58.5 bn. euro. The total value of the support mobilized for agricultural production and rural development reached 68.7 bn. Euro, thus representing 47.8% of the agriculture's GVA. For a pertinent analysis [Table 3](#) presents the level of the Aid to agriculture from national budgets and CAP budget in 2010.

In countries like Slovakia, Finland, the Czech Republic, Ireland and Latvia, the worth of aid received through agricultural and rural development policies was higher than the GVA for agriculture (by 163% in Slovakia, 155.8% in Ireland, 145.7% in Finland, 126.1% in the Czech Republic, and by 105.2% in Latvia). In Romania, in 2010, the aid received by farmers was equal to only 33.6% of the sector's gross value added. On the average, in 2010, the worth of aid for one hectare of utilized agricultural area amounted to some 374 for the EU27, of which 318 euro came from the CAP budget, and 55.7 euro from national budgets. In Romania, the value of the aid/subsidy per hectare was 158.3 euro, of which 151.4 euro came from the CAP budget, and only 6.9 euro came from the national budget. As ([Raggi et al., 2013](#)) conclude the current CAP payments are important for staying in/exiting farming, but the land reallocation process.

On the other hand the national expenditures for agriculture have experienced significant cuts, since 2007 when Romania has joined the EU-25. If in 2007, the Romanian agricultural expenditure were about 1193 million euro, four years later, in 2011, the total amount allocated for these expenses has decreased with 993 million euro which represents just 21.78% from the initial allocation. In [Fig. 7](#) is presented the evolution of national expenditures for agriculture in some European countries during the period of 2007–2011.

As it can be noticed from the figure above, despite the massive reduction of the national expenditures for agriculture, states as France, Germany, Greece and Poland continues to keep an important national allocation for agriculture. Romania could follow the trend imposed by these state and fund its inland agricultural policy in order to diminish the gap between inland agricultural sector and the European one.

The amount of aid received by Romanian farmers is ridiculously diminutive compared to what is granted to farmers in other European countries: 1.090 euro/ha in the Netherlands, 924 euro/ha in Finland or 802 euro/ha in Greece, etc. For comparison purposes, if we take for an example the national stock of fixed agricultural assets of Romania and France, we can see that Romania's stock of farm assets is 12 times lower than that of France ([Comisia Prezidențială pentru Politici Publice de Dezvoltare a Agriculturii, 2013](#)), which demonstrates, beyond any other description, the position of inferiority of Romanian agriculture and Romanian farmers.

**Table 3**  
Aid to agriculture from national budgets and CAP budget in 2010.

Country	GVA agriculture (million euro)	National aid (million euro)	CAP aid (million euro)	Total aid (million euro)	Share of aid in the GVA (%)	Utilized agricultural area (thou' ha)	Population employed in agriculture (thou' pers.)	Financial aid per hectare (euro)			Financial aid per employed person (euro)		
								National	Common budget	Total	National	Common budget	Total
								8 = 2/6	9 = 3/6	10 = 4/6	11 = 2/7	12 = 3/7	13 = 4/7
1	2	3	4 = 2 + 3	5 = 4/1	6	7							
EU27	143,810	10,234	58,519.6	68,753.6	47.8	183,875	10,459	55.7	318.3	373.9	978.5	5595.1	6573.6
Belgium	2622	105	755.1	860.1	32.8	1365	81	76.9	553.2	630.1	1296.3	9322.2	10,618.5
Bulgaria	1457	39	726.0	765.0	52.5	5030	515	7.8	144.3	152.1	75.7	1409.7	1485.4
Czech Rep.	994	208	1045.2	1253.2	126.1	3546	135	58.7	294.8	353.4	1540.7	7742.2	9283.0
Denmark	2155	91	1091.5	1182.5	54.9	2639	73	34.5	413.6	448.1	1246.6	14,952.1	16,198.6
Germany	14,970	1045	7050.5	8095.5	54.1	16,890	730	61.9	417.4	479.3	1431.5	9658.2	11,089.7
Estonia	236	28	171.3	199.3	84.4	932	19	30.0	183.8	213.8	1473.7	9015.8	10,489.5
Ireland	1529	700	1681.8	2381.8	155.8	4190	79	167.1	401.4	568.4	8860.8	21,288.6	30,149.4
Greece	5567	36	3026.3	3062.3	55.0	3819	429	9.4	792.4	801.9	83.9	7054.3	7138.2
Spain	22,016	515	7528.2	8043.2	36.5	22,798	712	22.6	330.2	352.8	723.3	10,573.3	11,296.6
France	27,172	2432	10,018.4	12,450.4	45.8	35,178	779	69.1	284.8	353.9	3122.0	12,860.6	15,982.5
Italy	23,007	846	6224.0	7070.0	30.7	13,338	838	63.4	466.6	530.1	1009.5	7427.2	8436.8
Cyprus	318	26	67.8	93.8	29.5	121	15	214.9	560.3	775.2	1733.3	4520.0	6253.3
Latvia	263	24	252.8	276.8	105.2	1833	62	13.1	137.9	151.0	387.1	4077.4	4464.5
Lithuania	648	77	522.1	599.1	92.5	2689	95	28.6	194.2	222.8	810.5	5495.8	6306.3
Luxembourg	95	20	49.8	69.8	73.5	131	7	152.7	380.2	532.8	2857.1	7114.3	9971.4
Hungary	2093	288	1522.8	1810.8	86.5	5783	220	49.8	263.3	313.1	1309.1	6921.8	8230.9
Malta	57	11	15.1	26.1	45.8	10	3	1100.0	1510.0	2610.0	3666.7	5033.3	8700.0
Austria	2682	174	1335.9	1509.9	56.3	3169	177	54.9	421.6	476.5	983.1	7547.5	8530.5
Poland	7385	664	4002.2	4666.2	63.2	15,625	1604	42.5	256.1	298.6	414.0	2495.1	2909.1
Portugal	2092	18	1357.3	1375.3	65.7	3686	434	4.9	368.2	373.1	41.5	3127.4	3168.9
Romania	6456	94	2076.1	2170.1	33.6	13,711	2288	6.9	151.4	158.3	41.1	907.4	948.5
Slovenia	402	64	226.6	290.6	72.3	469	68	136.5	483.2	619.6	941.2	3332.4	4273.5
Slovakia	377	56	558.9	614.9	163.1	1930	45	29.0	289.6	318.6	1244.4	12,420.0	13,664.4
Finland	1456	1207	913.9	2120.9	145.7	2296	107	525.7	398.0	923.7	11,280.4	8541.1	19,821.5
Sweden	1447	52	1036.4	1088.4	75.2	3067	100	17.0	337.9	354.9	520.0	10,364.0	10,884.0
United Kingdom	7335	436	4148.6	4584.6	62.5	17,709	593	24.6	234.3	258.9	735.2	6996.0	7731.2

Source: Authors based on [European Commission 2012a](#).

Again for comparison, a Romanian farmer's endowment with fixed means of production is 80 times inferior to that of a French farmer: 3600 euro/farmer in Romania, against 290,000 euro/farmer in France. A global comparison shows that, in 2010, the average financial support per one person employed in agriculture totaled 6574 euro in the EU-27, and 948.5 euro in Romania. A bilateral comparison reveals that the worth of financial support per one person employed in the agriculture of Romania was 32 times smaller than in Ireland, 21 times lower than in Finland, 17 times below that of a farmer in Denmark and France, 14 below the support received by a farmer in Slovakia, and 8.7 times below that paid to a Hungarian farmer.

### Conclusions and remarks for future

We maintain the view that, given the sheer facts and statistic reports, it would be childish to hope that the position of Romanian agriculture and Romanian farmers in the common agricultural market as it is at present gives this country the slightest chance to compete with its EU counterparts on an equal footing, if the current support policies for agriculture continue to use the same instruments. The unpardonable mistakes made while negotiating the agriculture chapter of the Treaty for the Accession of Romania to the EU, paralleled by the unfair and anti-competitive economic policies and instruments applied to Romania, will inexorably push Romanian farming and farmers into a slow and natural death. The liberalization of the land market with effect from 2014 will cause among Romanian farmers, who are progressively an ageing population, deprived of technical means of production, an upsurge of land sales, at prices which, in 2009, were, according to European Commission data, 35 times lower than in the Netherlands, 24 times below the price of land in Belgium, 22 times smaller than in Denmark, 18 times below land in Ireland, 15 times cheaper than in the United Kingdom, and 10 times so than in Germany. To conclude, we may say that the development of the agrarian sector in Romania and the removal of the back lag that separates Romanian agriculture from its EU counterparts cannot be achieved by miracles. Economic convergence and symmetry requires a set of policies designed to address the technical, technological, economic, institutional, cultural, educational and social aspects all in a synergic approach.

If the EU countries needed more than 50 years of policies tailored to the characteristics of their farmers and national agricultural sectors to reduce employment in agriculture from 30 to 40% of all employment to the nowadays 4 to 5%, Romania, too, if she were to go along the same path, with same phased-out policies, would require at least 50 years of steady and consistent policies of financial and technical support to reach an agricultural employment of approximately 5% of her labour force, farmsteads of minimum 20 ha, and the current productivity of the other European countries. If, and by the time that much expected future prosperity settles in, alas, the cyclicity of life will have long sent the farmers now toiling their land into eternity, without the chance of enjoying the change.

A decision to continue the policies of the past decades, the failure to give the agricultural sector of Romania the national support it needs would be extremely risky, and would entail hard to predict and hard to calculate social and economic effects. The adventuresome political decisions imposed on agriculture so far have generated bleak prospects that may become irreversible if a fundamental change fails to occur in the substance of the agricultural and rural development policies and programmes. Consolidation of

landed properties and capital, the resorption of labour from agriculture are the only ways to competitiveness and high performance, the only ways to turn subsistence farming into history, and to guarantee food safety. As to the legend saying that Romania would be capable to feed 80 million people, be it true or not, this is no more than a desideratum and an electoral slogan good to inflame minds, and which history will take care of.

### References

- Asghar, R., Bahram, M., Eskandar, Z., Farhad, F., Mohammad, A.B., 2013. Evaluation of competitiveness of cotton varieties to cocklebur (*Xanthium strumarium* L.). *J. Food Agric. Environ.* 11 (2), 308–311.
- Attanasio, O., Di Maro, V., Lechene, V., Phillips, D., 2013. Welfare consequences of food prices increases: evidence from rural Mexico. *J. Dev. Econ.* 104, 136–151.
- Bartolini, F., Viaggi, D., 2013. The common agricultural policy and the determinants of changes in EU farm size. *Land Use Policy* 31, 126–135.
- Breuer, J.B., McDermott, J., 2013. Respect, responsibility, and development. *J. Dev. Econ.* 105, 36–47.
- Brückner, M., Gradstein, M., 2013. Exogenous volatility and the size of government in developing countries. *J. Dev. Econ.* 105, 254–266.
- Chivu, L., 2002. Competitivitatea în agricultură—analize și comparații europene. Expert Publishing House, Centrul de Economie Comparată și Consens, Bucharest.
- Ciaian, P., Kancs, D.A., Swinnen, J.F., 2010. EU Land Markets and the Common Agricultural Policy. CEPS Brussels, Belgium, pp. 343.
- Ciutacu, C., Chivu, L., Mark, C., 2008. Etude comparative dans le secteur de l'agriculture de l'Union Européenne. *Rom. J. Econ.* 27/2 (36), 40–56.
- Ciutacu, C., Chivu, L., Raluca, I.I., 2009. The global financial crisis: management of deficits and debts. *Amfiteatru Econ. J.* 11 (Number Special 3), 735–750.
- Ciutacu, C., Chivu, L., Ioan Franc, V., 2003. Agricultura între restricțiile comerciale globale și comunitare. Expert Publishing House, Bucharest.
- Ciutacu, C., Chivu, L., 2002. România și modelul european de agricultură și dezvoltare a spațiului rural. Centrul de Informare și Documentare Economică, Bucharest.
- Ciutacu, C., Chivu, L., 2003. Modele de agricultură și politici agricole, in Probleme economice, No. 47. Centrul de Informare și Documentare Economică, București.
- Comisia Prezidențială pentru Politici Publice de Dezvoltare a Agriculturii, 2013. Cadrul național strategic pentru dezvoltarea durabilă a sectorului agroalimentar și a spațiului rural în perioada 2014–2020–2030, București.
- Done, I., Chivu, L., Andrei, J., Matei, M., 2012. Using labor force and green investments in valuing the Romanian agriculture potential. *J. Food Agric. Environ.* 10 (3/4), 737–741.
- European Commission, 2011. The Community Budget. The Facts in Figures. Brussels.
- European Commission, 2012a. Directorate General for Agriculture and Rural Development, 2012. Agriculture in the European Union. Statistical and economic information 2012. European Union, Luxembourg.
- European Commission, 2012b. Directorate General Agriculture and Rural Development, 2012. The Common Agricultural Policy. A Partnership Between Europe and Farmers, <http://ec.europa.eu/agriculture/50-years-of-cap>
- European Commission General Directorate for Agriculture and Rural Development, 2001. La situation de l'agriculture dans l'Union Européenne. European Union, Luxembourg.
- Eurostat database, 2013. Agricultural Statistics, Available from: <http://epp.eurostat.ec.europa.eu/portal/page/portal/agriculture/data/main.tables> (retrieved 21.10.13).
- Filon, T., 2012. The Romanian agri-food economy – performance reductive effects after five years of EU membership. *Agric. Econ. Rural Dev.* 9 (1), 25–45.
- Gavrilescu, D., Giurcă, D., 2000. Economia agroalimentară. Expert Publishing House, Bucharest.
- INS, 2012a. Romanian Statistical Year book. 1990–2011 Datasets. National Institute of Statistics, Bucharest.
- INS, 2012b. Households Labour Force Survey (AMIGO). National Institute of Statistics, Bucharest.
- Jouinia, N., Rebei, N., 2014. The welfare implications of services liberalization in a developing country. *J. Dev. Econ.* 106, 1–14.
- OECD, 2000. Assessment of Agricultural Policies. Profil agricol Publishing House, Bucharest.
- Oțiman, P.I., 2012. Romania's present agrarian structure: a great (and unsolved) social and economic problem of our country. *Agric. Econ. Rural Dev.* 9 (1), 3–24.
- Raggi, M., Sardonini, L., Viaggi, D., 2013. The effects of the common agricultural policy on exit strategies and land re-allocation. *Land Use Policy* 31, 114–125.
- Renwick, A., Jansson, T., Verburg, P.H., Revoredo-Gih, C., Britz, W., Gocht, A., McCracken, D., 2013. Policy reform and agricultural land abandonment in the EU. *Land Use Policy* 30, 446–457.
- Rotunno, L., Vézina, P.L., Wang, Z., 2013. The rise and fall of (Chinese) African apparel exports. *J. Dev. Econ.* 105, 152–163.