

ЗЕМЕЛЬНИЙ КАДАСТР

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FEATURES OF THE FORMATION OF AGRICULTURAL LAND VALUE IN THE EUROPEAN COUNTRIES

Аврамчук Б.О., Ph.D.-student ,
National University of Life and Environmental Sciences of Ukraine
E-mail: avramchuk.bogdan@gmail.com

The influence of the Common Agricultural Policy (CAP) on the agricultural sector of the European Union (EU) has been studied. The specifics of the formation and comparison of the calculated (by the method of capitalization of net operating or rent income) and the market value of agricultural land in Europe and the Netherlands, in particular, are justified.

Keywords. *Agricultural land, value, the land market, the European Union, the common agricultural policy.*

Problem statement.

The EU uses about 40% of its budget to finance the Common Agricultural Policy. This is one of the most important and expensive areas of EU [4]. There is reason to believe that European agriculture would be at a much lower level of profitability without subsidies under the Common Agricultural Policy.

Since CAP has a significant impact on the development of agriculture in Europe, we must consider the system of agrarian sector in the EU Member States and explore the features of the value chain of agricultural land in Europe.

Analysis of recent research and publications.

The question we research and development in the agricultural sector of the Europe-

an Union subject of numerous publications of the Food and Agricultural Organization (FAO), United Nations (UN), the World Bank and the European Commission.

Regarding the relations between Ukraine and the European Union in the field of agriculture, there is a contribution made D. Nizalov, O. Nivievskiy, O. Prokopenko, Y. Mahnova.

The purpose of the article is the identifying the features of the formation of agricultural land value in Europe, which includes support under the Common Agricultural Policy.

Main material.

According to the Land Code of Ukraine there is currently a ban on the sale of agriculture land and other land parcels (shares) to January 1st, 2018.

The main condition for the functioning of the agricultural land market is the adoption of a law on their circulation. At the same time, one of the key issues arising from the introduction of the agricultural land market is as follows: How much will a hectare of agricultural land in Ukraine cost?

In order to form an adequate cost of agricultural land in Ukraine, it is worth investigating the market for such lands and their value in the countries of the European Union.

According to various sources the cost of agricultural land in Europe ranges from 1000 to 5000 EUR/ha in Eastern Europe, 15 000 to 30 000 EUR/ha – in Western Europe and 60 000 EUR/hectare [3] in some highly developed countries.

But in most countries, the EU's cost of land ranges from 5000 to 25 000 EUR/hectare, which is an average of 15 000 EUR/hectare.

In the study of EU agricultural sector, it is necessary first of all to note the main feature - the EU Common Agricultural Policy. It dates back to 1962. This is an agricultural policy of the European Union, which is intended to support European farmers by introducing subsidies and other programs. The main task of the CAP is to ensure an acceptable standard of living for farmers and quality food at affordable prices – for consumers, particularly by organizing common agricultural market and application of

the principles of single prices, financial solidarity and advantages of the EU [1].

Support for farmers under the Common Agricultural Policy program is carried out in several main ways, namely:

Direct payments – farmers receive annual payments to help stabilize farm revenues in the face of volatile market prices, unpredictable weather conditions and variable input costs. To benefit from these payments, farmers must respect rules and practices concerning environmental standards, animal welfare, food safety and traceability.

Rural development programs provide co-funding for projects with economic, environmental or social objectives, primarily targeting farms and SMEs in rural areas.

Market measures – special measures linked to specific market situations, as well as support for trade promotion, the school milk and fruit schemes, and producer organizations, which help farmers to get a better deal when negotiating prices and conditions with processors and supermarkets. [5].

According to statistics from the European Union at a time when the number of farms and the number of employees tends to decrease, the gross yield of agricultural activity is gradually increasing. In the period from 2003 to 2014, the gross output of agricultural products in monetary terms increased by 22,3 %. The relevant data are presented in Table 1.

Table 1. Gross agricultural output of the European Union for the period 2003-2014. [9]

Branch of agriculture	Gross output of agricultural products, million EUR							Dynamics, %
	2003	2005	2007	2009	2011	2013	2014	
Plant growing	176091	168991	191838	173793	208854	212442	201960	+14,7
Livestock breeding	131929	136008	142374	136810	156635	168635	168806	+28,0
Other	21823	24228	26596	28127	30458	32078	32767	+50,2
Total	329843	329227	360808	338730	395947	413155	403534	+22,3

At the same time, according to the official website of the European Commission, the income of the EU member states in the field of agriculture in 2014 was approximately 147 billion EUR, which is almost 14 % more than in 2003. Indicators of EU agricultural income for the period 2003-2014 are presented in Figure 1.

Among all the ways to promote the development of the agrarian sector, the most expensive and the most widespread are direct payments, which account for about 70 % of the total annual funding within CAP over the last years. Thus, in 2014 direct payments were paid 41 billion euro, representing 75 % of the total funding of 55 billion EUR (Fig. 2). The situation in 2013, when direct payments amounted to 40 billion EUR, with a to-

tal budget of 58 billion euro, i.e. 69 %, was slightly different.

Such additional subsidies for farmers to take a significant share in the income of farmers in agriculture, which takes white she-thirds of total revenue in the EU agricultural sector. Table 2 shows the proportion of funding from foundations common agricultural policy first in total income of EU agriculture.

That is, in the period from 2003 to 2014, on average 40% of the total income in the agricultural sector was due only to subsidies from European budgets.

On average, in the EU member states in 2013, 250 EUR/ha was allocated for direct payments per year: the maximum was in Malta – 670 EUR/ha, the minimum – in Latvia – 80 EUR/ha. In 2014

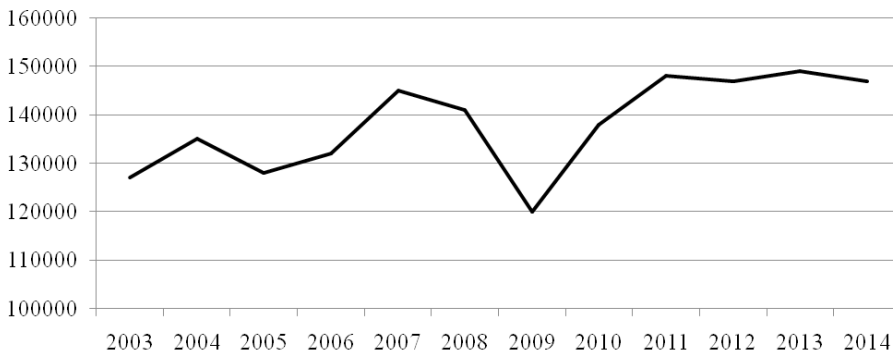


Figure 1. EU agricultural income for the period, million EUR

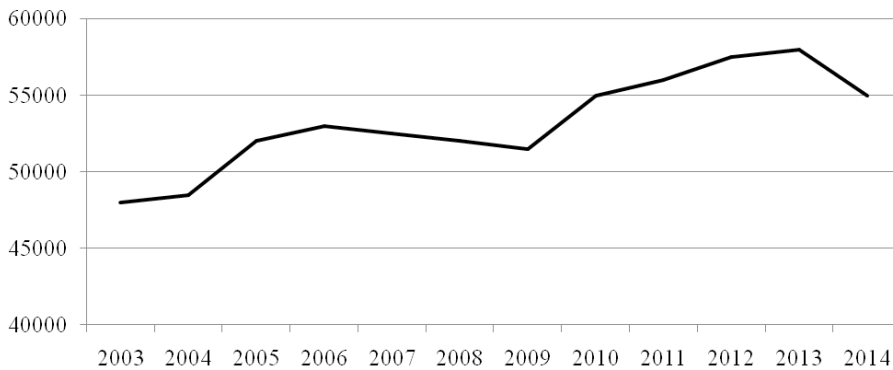


Figure 2. Total annual funding withing CAP, million EUR

Table 2. Share of CAP funding in the EU agriculture income.

	Share of financing of agriculture,%						
	2003	2005	2007	2009	2011	2013	2014
Share of direct payments	23,6	26,6	24,8	31,7	27,0	26,8	27,9
The total share of CAP	37,8	40,6	36,2	42,9	37,8	38,9	37,4

this figure fell slightly to 230 EUR/ha per year [5].

But pay attention n and that for such large subsidies needed to farm according to environmental and food's conditions that are sufficiently stringent.

Nevertheless, given the availability of such grants, one can make a hypothesis that direct payments have a significant impact on the formation of the value of agricultural land in the EU.

To assess the impact of the CAP on the formation of the cost of land, to compare the market value of land in Europe (which is about 15 000 EUR/ha) with the value determined by the capitalization of net operating or rental income. In addition, it is suggested that such a comparison be made on the example of the Netherlands as a high-income country and agricultural production.

According to the European Commission [6] by 2014 the value of arable land in the Netherlands was 57 000 EUR/ha.

Since support under the direct payments of the Common Agricultural Policy is a constant source of income (in the condition of fulfilling the set requirements), it is proposed to determine the value by the method of capitalization of net operating or rent income by the following formula:

$$C = N \div R_c + DP \div R_f, (1)$$

where: *C* - the cost of agricultural land EUR/ha;

N - net operating income, EUR/ha;

R_c - capitalization rate;

DP – amount of direct payments under the CAP, EUR/ha;

R_f - risk-free rate.

In 2014 income in the Netherlands from wheat totaled 1 925,7 EUR/ha, and the average income in Europe – 969,0 EUR/ha [9]; expenses amounted to 820 and 650 EUR/ha, respectively [8, 12]; CAP direct payments for 2015 reached 430 EUR/ha in the Netherlands and 266 EUR/ha – in Europe the average [7].

Table 3. Initial data for calculating and comparing the cost of agricultural land in Europe and the Netherlands

	EU	Netherlands
Yield, q / ha	42.5	91.2
Sales price, EUR / q	22.8	21.0
Costs of production, EUR / ha	650.0	820.0
Gross income, EUR / ha	969.0	1925.7
Direct payments of CA, EUR / ha	266.0	430.0
Capitalization rate,%	6.6	7.8
The risk-free rate,%	3.0	2.2
Market value of arable land, EUR / ha	15,000.0	57000,0
Cost calculated by the capitalization method, EUR / ha	13700,0	33720,5

According to the Rosenberg Real Estate Fund (*RREEF*) the average capitalization rate in Europe is about 6,6%, the Netherlands – 7,8%, and risk-free rate – 3,0 and 2,2%, respectively [13].

Calculated by the method of capitalization, the average cost of agricultural land in Europe is almost identical to the statistical data, while the value of land in the Netherlands, albeit much higher than the average European, but differs from the market.

This may be explained by the fact that, first of all, the authenticity and relevance of the source data may be questionable; and secondly, many other factors that affect the formation of the value of agricultural land (national agricultural policy, balance of supply and demand, etc.) were not taken into account.

However, such a cost-determining methodology makes it possible to understand the main sources of agricultural value formation in Europe, namely: income from agricultural production and support within the CAP.

It should be noted that in the calculation process, it was found that capitalized net operating income was only 35 % in Europe and 42 % in the Netherlands. The rest of the value is formed through grants within the framework of the Common Agricultural Policy.

Conclusions.

In addition, a significant proportion of farm income countries of the European Union comes from the common agricultural policy first, about 70% of these subsidies comes in the form of direct payments to farmers per annum per hectare of cultivated land. Much of these payments are independent, that is, they are not tied to productive output

and product prices, which ensures farmers confidence in the profit, regardless of yield or regional market conditions.

In turn, this reduces the risks of farming in Europe and increases the popularity and effectiveness of rural areas in the European Union.

Thus we can say that a significant part of the value of agricultural land in Europe forms the Common Agricultural Policy.

References

1. Hlosarii terminiv Yevropeiskoho Soiuzu [Glossary of the EU definitions], (2004). Available at: http://europa.dovidka.com.ua/s.html#_Common_Agricultural_Policy.
2. Makhnova Yu.M. (2014). Napriamy realizatsii spilnoi polityky ES v haluzi silskoho gospodarstva v ramkakh stratehii «levropa 2020» [Ways of realization of the common policy of the EU in agricultural sphere within “Europe 2020” Strategy]. Herald of the Kharkiv National University of V.N. Karazin: journal. T. 1, № 1144. P. 114-119.
3. Nizalov D., Nivievskiy O., Prokopenko O. (2016). Tsiny na zemliu ta obsiah rynku: na shcho ochikuvaty v Ukraini [Land prices and market volume: what can be expected in Ukraine]. Available at: <https://voxukraine.org/2016/01/18/land-prices-and-size-of-the-market-what-to-expect-for-ukraine-ua/#/>.
4. EU agricultural income 2014 – first estimates, (2014). Available at: http://ec.europa.eu/agriculture/rural-area-economics/briefs/pdf/003_en.pdf.
5. EU agriculture spending focused on results, (2015). Available at: http://ec.europa.eu/agriculture/cap-funding/pdf/cap-spending-09-2015_en.pdf.
6. European Commission (2016). Agricultural Land Prices and Rents data for the European Union: Research paper. Available at: <http://ec.europa.eu/eurostat/documents/749240/749310/>

- Research+Paper+-+Agricultural+Land+-+Prices+and+Rents+data+for+the+European+Union%2C+December+2016/15fad00e-6f46-4ee1-9c36-5bfc325b2384.
7. European Commission (2017). CAP explained, direct payments for farmers 2015-2020. Available at: https://ec.europa.eu/agriculture/sites/agriculture/files/direct-support/direct-payments/docs/direct-payments-schemes_en.pdf.
 8. European Commission (2014). EU cereal farms report 2013 based on FADN data. Available at: http://ec.europa.eu/agriculture/rica/pdf/cereal_report_2013_final.pdf.
 9. Food and Agriculture Organization of the United Nations (2017). FAOSTAT. Available at: <http://www.fao.org/faostat/en/#data/QC>.
 10. How many people work in agriculture in the European Union (2013) Available at: http://ec.europa.eu/agriculture/rural-areaeconomics/briefs/pdf/08_en.pdf.
 11. Implementation of CAP reform in England (2013). Available at: https://consult.defra.gov.uk/agricultural-policy/cap-consultation/supporting_documents/131022%20CAP%20reform%20consultation%20full%20doc%20%20Final.pdf.
 12. Kleinhans W., Offermann F., Butault J.-P., Surry Y. (2011). Cost of production estimates for wheat, milk and pigs in selected EU member states. Available at: http://literatur.thuenen.de/digbib_extern/dn049633.pdf.
 13. RREEF (2012). Global Real Estate Strategic Outlook. Available at: http://realestate.deutscheam.com/content/_media/RREEF_Real_Estate_Global_Real_Estate_Strategic_Outlook_April_2012.pdf.

Б.О.Аврамчук
ОСОБЛИВОСТІ ФОРМУВАННЯ ВАРТОСТІ СІЛЬСЬКОГОСПОДАРСЬКИХ ЗЕМЕЛЬ В КРАЇНАХ ЄВРОПИ

Досліджено вплив Спільної аграрної політики (САП) на аграрний сектор Європейського Союзу (ЄС). Обґрунтовано особливості формування та проведено порівняння розрахункової (методом капіталізації чистого операційного або рентного доходу) та ринкової вартості сільськогосподарських земель в Європі та Нідерландах, зокрема.

Ключові слова: *землі сільськогосподарського призначення, вартість, ринок земель, Європейський Союз, Спільна аграрна політика.*

Б.О.Аврамчук
ОСОБЕННОСТИ ФОРМИРОВАНИЯ СТОИМОСТИ СЕЛЬСКОХОЗЯЙСТВЕННЫХ ЗЕМЕЛЬ В СТРАНАХ ЕВРОПЫ

Исследовано влияние Совместной аграрной политики на аграрный сектор Европейского Союза. Обоснованы особенности формирования и проведено сравнение расчетной (методом капитализации чистого операционного или рентного дохода) и рыночной стоимости сельскохозяйственных земель в Европе и Нидерландах, в частности.

Ключевые слова: *земли сельскохозяйственного назначения, стоимость, рынок земель, Европейский Союз, Совместная аграрная политика.*