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INSTITUTE OF AGRICULTURAL  
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NATIONAL RESEARCH INSTITUTE



# **The Common Agricultural Policy of the European Union – the present and the future**

**Non-EU Member States  
point of view**

# **74.1**

**MONOGRAPHS  
OF MULTI-ANNUAL  
PROGRAMME**

**WARSAW 2018**

**The Common Agricultural Policy  
of the European Union –  
the present and the future**

**Non-EU Member States  
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# **The Common Agricultural Policy of the European Union – the present and the future**

## **Non-EU Member States point of view**

*Editors:*

*dr Marek Wigier*

*prof. dr hab. Andrzej Kowalski*

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**THE POLISH AND THE EU AGRICULTURES 2020+  
CHALLENGES, CHANCES, THREATS, PROPOSALS**

**Warsaw 2018**

This monograph was prepared under the Multi-Annual Programme 2015-2019  
“The Polish and the EU agricultures 2020+. Challenges, chances, threats, proposals”.

The publication is a collection of selected papers delivered at the 22th edition of the International Scientific Conference organized by the Institute of Agricultural and Food Economics - National Research Institute. The theme of the conference was "The Common Agricultural Policy of the European Union – the present and the future. The conference was placed on 5-7 December 2017 in Stary Jabłonki in Poland. Common Agricultural Policy was and still is one of the key pillars of European integration. Published in two volumes materials refer directly to the current and future of the CAP in EU and non EU member states, the strategic objectives and principles of agricultural policy for the agri-food sector and rural areas, address the issues of equilibrium between agriculture, forestry and land use, relate to the dilemmas for the EU budget and the CAP after 2020, CAP instruments and their adjustment, transformations of the rural economy and programming of the rural and agricultural policy, as well as productivity and production efficiency and tensions between sectoral action and between different models of territorial activities.

In the Scientific Committee of the Conference was participated: Prof. Andrzej Kowalski (IAFE-NRI, Poland), Prof. Drago Cvijanović (University of Kragujevac, Serbia), Prof. Thomas Doucha (IAEI, Czech Republic), Nouredin Driouech, PhD (CIHEAM, Italy), Prof. Szczepan Figiel (IAFE-NRI, Poland), Prof. Masahiko Gemma (Waseda University, Japan), Prof. Wojciech Józwiak (IAFE-NRI, Poland), Prof. Jacek Kulawik (IAFE-NRI, Poland), Prof. Yuriy Oleksiyovych Lupenko (IAE, Ukraina), Prof. Věra Majerová (CULS, Prague), Prof. Dimitre Nikolov (IAE, Bulgaria), Maire Nurmet, PhD (EMÜ, Estonia), Prof. Gabriel Popescu (ASE, Romania), Norbert Potori, PhD (AKI, Hungary), Prof. Włodzimierz Rembisz (IAFE-NRI, Poland), Piotr Szajner, PhD (IAFE-NRI, Poland), Prof. Alina Sikorska (IAFE-NRI, Poland), Prof. Jonel Subić (IAE, Serbia), Prof. Samuele Trestini (UNIPD, Italy), Prof. Olga Varchenko (Bila Tserkva National Agrarian University, Ukraine), Dipl.-Ing. Klaus Wagner (AWI, Austria), Marek Wigier, PhD (IAFE-NRI, Poland), Prof. Józef St. Zegar (IAFE-NRI, Poland)

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Reviewers:

*Professor Dimitre Nikolov, Institute of Agricultural Economics, Sofia, Bulgaria*

*Professor Gabriel Popescu, The Bucharest University of Economic Studies, Bucharest, Romania*

*Professor Samuele Trestini, University of Padva, Italy*

Proofreader

*Joanna Gozdera*

Technical editors:

*Joanna Jaroszevska, Barbara Pawłowska, Ewa Sierakowska, Kamila Tomaszewska,*

*Barbara Walkiewicz*

Translated by

*Summa Linguae S.A.*

Cover Project

*Leszek Ślipski*

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*Instytut Ekonomiki Rolnictwa i Gospodarki Żywnościowej*

*– Państwowy Instytut Badawczy*

*ul. Świętokrzyska 20, 00-002 Warszawa*

*tel.: (22) 50 54 444*

*faks: (22) 50 54 636*

*e-mail: dw@ierigz.waw.pl*

*http://www.ierigz.waw.pl*

# Contents

Introduction .....	7
1 Urban agriculture: a framework for agricultural policy – present and future .....	15
<i>Prof. Drago Cvijanović, Prof. Otilija Sedlak, Ph.D. Željko Vojinović</i>	
1.1. Introduction .....	16
1.2. Advantages of urban agriculture .....	17
1.3. "Smart Cities" .....	18
1.4. Manifestations of Urban Agriculture.....	21
1.5. Challenges of Urban Agriculture.....	23
1.6. Conclusion.....	24
References .....	25
2 Land market and a village-keeping model of the agrarian system of Ukraine.....	27
<i>Dr Iurii Lupenko, Dr Valerii Zhuk</i>	
2.1. Introduction .....	27
2.2. Analysis of recent research and publications .....	28
2.3. The main results of the study.....	30
2.4. Summary and conclusions.....	36
References .....	37
3 Agrarian policy in the European Union and financial support to Serbia.....	38
<i>PhD Biljana Grujić, PhD Predrag Vulović</i>	
3.1. Introduction .....	38
3.2. Agrarian policy in the EU .....	39
3.3. EU Agrarian Policy towards Serbia .....	44
3.4. Summary and conclusions.....	53
References .....	54
4 Ukrainian agricultural market regulation tools: their effectiveness and directions of improvement.....	56
<i>Prof. Olga Varchenko</i>	
4.1. Introduction .....	56
4.2. Data and Methods.....	57
4.3. Results and Discussion.....	57
4.4. Summary and conclusions.....	69
References .....	69

5	The Common Agricultural Policy of the European Union and the ways of its implementation in Ukraine .....	71
	<i>Dr Vasyl D. Zalizko, Prof. Nataliia M. Vdovenko, PhD Violeta L. Heraimovych, Assoc. Prof.</i>	
5.1.	Introduction .....	71
5.2.	The evolution of the EU Common agricultural policy .....	72
5.3.	New priorities of the European Union for 2014-2020: strategic directions for Ukraine's agricultural sphere development .....	74
5.4.	Organic component of the agricultural policy of Ukraine and common agricultural policy of the EU .....	75
5.5.	Summary and conclusions .....	79
	References .....	80
6	Farm's financing patterns and financial system development: evidence from Ukraine and Poland .....	81
	<i>Prof. Olena Oliynyk-Dunn, Prof. Viktor Adamenko</i>	
6.1.	Introduction .....	81
6.2.	Research methods .....	83
6.3.	Results .....	84
6.4.	Summary and conclusions .....	95
	References .....	96
7	The moratorium on agricultural land sale as a limiting factor for rural development .....	97
	<i>Prof. Anatoliy Danylenko, PhD Tetyana Sokolska, PhD Olena Shust</i>	
7.1.	Introduction .....	98
7.2.	The main results of research .....	99
7.3.	Summary and conclusions .....	110
	References .....	112
8	Solutions to the problems of rural territories development as a sign of their positive brand .....	114
	<i>Prof. Oleksandr Pavlov, Iryna Pavlova</i>	
8.1.	Introduction .....	114
8.2.	Problems of rural territories development .....	117
8.3.	Branding as a marketing tool for solving the problems of rural territories development....	124
8.4.	Brand of rural territories development in Ukraine .....	127
8.5.	Summary and conclusions .....	131
	References .....	132
	Instead of a summary .....	133
	Annex I .....	135



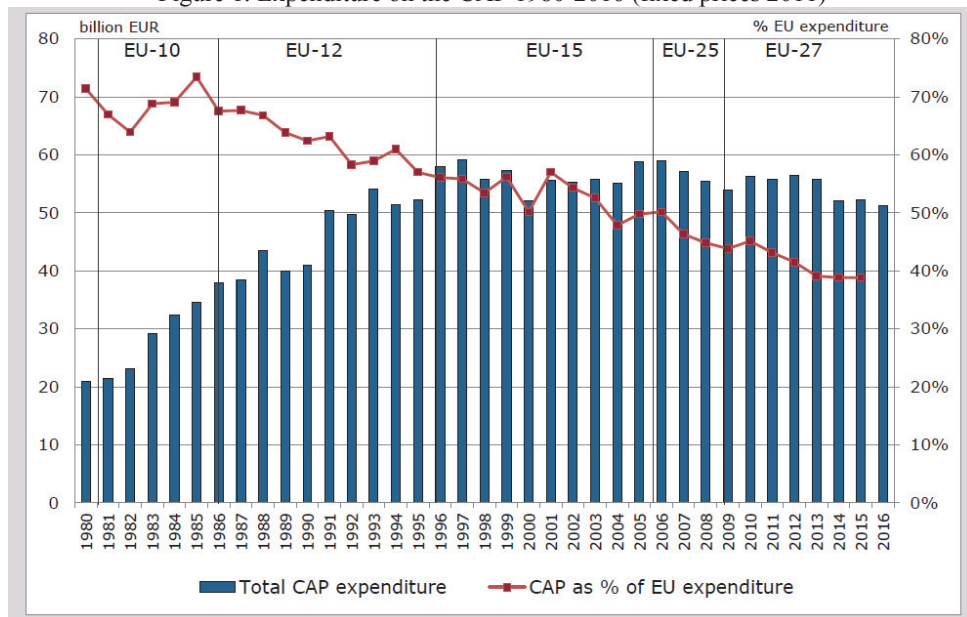
## Introduction

The Common Agricultural Policy has a rich, over 60-year history, inseparably linked to the history of the European Union. The CAP was and still is one of the most important (alongside the regional policy and cohesion policy) ways of enhancing the European integration. Over this period, the CAP has been subject to many deep changes and reforms, which were the results of changing priorities of the internal and external economic policies of the entire group, as well as transformations in agriculture itself and in rural areas. During this period, the EU Member States built and developed modern agriculture and, on its basis – the modern food economy. This process was the consequence of the natural evolutionary changes in the economy as well as conscious intervention programmes undertaken by the authorities of the Community as well as the governments of individual Member States. The agricultural transformation was fostered by exceptionally rapid economic growth which provided new, alternative jobs for those who abandoned agricultural professions and stimulated demand for food. At the same time, the rapid economic growth created the opportunity to support the agriculture with public measures through the market, price, structural and regional policies. The evolution of the agricultural structures consisted in transformation of the 19<sup>th</sup> century European farming into modern post-industrial agriculture targeted at fulfilling, besides production, also other social functions such as e.g. the multipurpose, sustainable development of rural areas, environmental protection or protection of rural cultural heritage, improvement of food safety and wellbeing of animals. However, the process of programming and implementing the agricultural policy wasn't free from numerous errors, e.g. in the fields of public policy effectiveness, its sustainability and efficiency.

Depending on the point of view of those who assessed the agricultural policy, its predictability and common budget are its main advantages (more financial resources = more possibilities) or disadvantages (higher expenses = higher costs). In its entire history, the budget for the implementation of the CAP has been systematically growing, however, compared to the overall EU budget, it decreased (from over 70% in 1980 to around 38% in 2016) (fig. 1). At the same time, in 2017, the expenditure on the agricultural policy represented only around 0.39% of the EU GDP (compared to 0.65% GDP in the decade between 1984 and 1993). The cause of these changes was the declining role of the agricultural sector in creating GDP, as well as simultaneous dynamic growth of the non-agricultural sectors of the national economy. However, despite

the general trend of limiting the share of expenditure on agriculture policy, it continues to be the largest EU budget line.

Figure 1. Expenditure on the CAP 1980-2016 (fixed prices 2011)



Źródło: [https://ec.europa.eu/agriculture/sites/agriculture/files/cap-post-2013/graphs/graph1\\_en.pdf](https://ec.europa.eu/agriculture/sites/agriculture/files/cap-post-2013/graphs/graph1_en.pdf)

Regarding the second important characteristic of the CAP, namely its predictability and sustainability, it should be stressed out that, since its beginning, i.e. 1957, until today, the CAP treaty objectives remain nearly unchanged, they have been, however, complemented over the years. The agricultural policy reforms that have been systematically introduced according to changing challenges concerned its instruments, which, in consequence, was to contribute to achieving the assumed objectives more effectively. In the years 1957-2000, the main impact area of the agricultural policy included the market and the concern for the stability of production (Mansholt Plan) as well as the farmers' incomes (MacSharry reform – direct payments), while the aim of the structural policy was to improve the effective functioning of agricultural holdings. In 2000, the CAP was reorganized into two complementary pillars - market-based and linked to the development of the rural areas (fig. 2). The Fichler reform based on the rules of decoupling, cross-compliance and provision of public goods by the agriculture was the next stage of the evolution. The rural development policy in the period of 2007-2013 was based on three main pillars, i.e. a) competitiveness of agriculture and forestry, b) land management and environment and c) quality of life and diversification of economic activity in

rural areas. In the current programming period 2014-2020, the implemented changes included: transformation of decoupled aid into a multifunctional system of agricultural support, consolidation of both CAP pillars and integration of the territorial approach in rural development. Sustainable and competitive agriculture, sustainable exploitation of natural resources, climate change prevention and ensuring economic and social dynamism in rural areas became the priorities of the CAP.

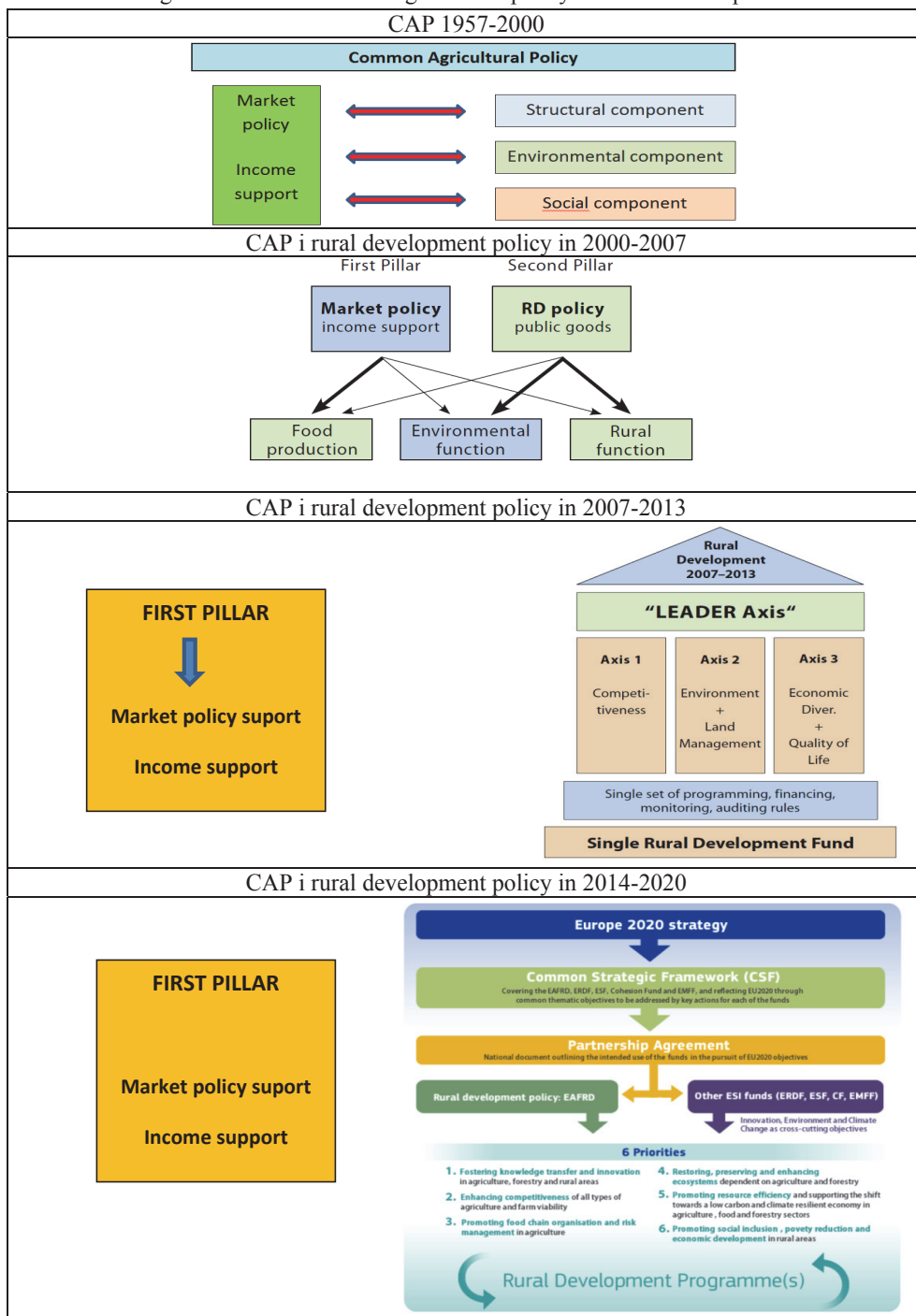
The agricultural and rural development policy in 2014-2020 is characterized by the maintained direction of interventions developed in the years 2007-2013, which may be described as continuity and stability. It is also characterized by a broader spatial context. The maintained structure of the two pillars (Pillar I – market policy and Pillar II – rural development policy) maintains also the duality of the agricultural policy, and sometimes even causes the overlap of particular areas of competence (e.g. agri–environmental payments and direct payments related to the greening)<sup>1</sup>. Solutions adapted for the period 2014-2020 also blur the previously clear division between the rural development support and the income support, and the Member States can transfer the funds from Pillar I to Pillar II.

The current CAP does not, however, solve the already identified problems of agriculture, broadly defined food economy and rural areas in a comprehensive manner. Among the challenges forcing further reforms in the CAP and rural development policy after 2020 there are i.a.: reduction of risks in agricultural activity and market instability, pursued improvement of efficiency, counteracting the exodus from peripheral areas and maintaining the agricultural activity in areas difficult for farming in natural conditions, shortening the distribution chains and supporting small agricultural holdings, environmental protection (including soil, water resources and biodiversity) and protection of cultural landscape, adaptation to the climate change (including the limitation of greenhouse gas emissions, counteracting the effects of extreme events), development of renewable energy sources, food safety, food quality and wellbeing of animals.

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<sup>1</sup> Dupraz, P., L.-P. Mahé and A. Thomas (2014), “Paiements pour services environnementaux, biens publics et fédéralisme fiscal: enjeux pour la PAC”, in A. Langlais (sous la dir.), *L’agriculture et les paiements pour services environnementaux: quels questionnements juridiques*, Rennes: Presses universitaires de Rennes.

Figure 2. Evolution of the agricultural policy and rural development



Źródło: opracowanie własne oraz <http://enrd.ec.europa.eu/enrd-static/fms/pdf/BEC22A59-E570-413B-5A9B-682D3306E183.pdf>; [https://enrd.ec.europa.eu/policy-in-action/policy-framework\\_en](https://enrd.ec.europa.eu/policy-in-action/policy-framework_en)

As can be easily noticed, the first five challenges are linked to the CAP objectives which have already been identified in the Treaty of Rome, whereas the others have emerged due to the evolution of the economic, social and natural environment. It may be even assumed that they are the results of the human economic activity, population growth and agricultural activity itself, since both the agriculture and the man contribute to the degradation of the 'natural capital' (degradation of the natural balance of the environment). This applies e.g. to the soil fertility, biodiversity, air and water quality and climate change. Therefore, simultaneous improvement of the resource efficiency and restoration or maintenance of the natural capital in rural areas will be the challenge after 2020. Besides the main function of agriculture, which is the production of food, it will play an important role in activities supporting the bio-economy and environmental protection, sustainability in terms of economy, society and the environment, production of energy from renewable sources, waste reduction, recovery of biomass and nutrients. The pursuit to maintain the appropriate balance between agriculture, forestry and spatial planning and reduce the greenhouse gas emissions will also be important.

Over the last twenty years, however, we are happy to observe certain evolution of the approach to the policy. We are clearly dealing with a shift from the sectoral thinking to the holistic approach. This means that the objectives and instruments of the rural development policy, regional policy and cohesion policy come closer together, it should be noted however that their compliance in the territorial dimension is insufficient. The current debate on the future of the EU after 2020 deals extensively with the coordination of policies and their compliance with the coherent territorial development. Over the years, the reforms implemented successively lead to a gradual shift from sectoral to horizontal programming. In the agricultural policy, the mainstream aid was gradually shifting from market-based actions to actions supporting the development of rural areas. In line with the new challenges, the public support was directed towards the actions of environmental and climate nature, the scope of actions covered the broadly defined rural communities and, besides the competitiveness and innovativeness, it focused also on the sustainable and multifunctional rural development. Owing to this, the effects of the interventions were enhanced at least in part. Within the programming dimension, the objectives of the particular EU policies seem coherent; however, the synergy between the agricultural, regional and cohesion policies, in particular in the territorial dimension, is limited.

The present and, in particular, the future of the European agriculture and rural areas pose a challenge for the effective and efficient CAP. But is the

science able to support the practice in the accurate identification of challenges and formulation of effective solutions? Is it ready to identify, explain and describe their consequences and, above all, is it able to develop theoretical bases for the selection of strategies for the future? These questions were faced by the Institute of Agricultural and Food Economics of the National Research Institute (IERiGŻ-PIB) when organizing of the international scientific conference ‘The CAP of the European Union – the present and the future’ on 5-7 December 2017 in Stare Jabłonki. The main objective of the conference was to present the results of the implementation of the CAP in the past periods in particular EU Member States, discuss and submit proposals for the common agricultural policy after 2020. In the course of six plenary sessions, during which 34 presentations were given, and several panel discussions were held, the scientists from a dozen countries made a common assessment of the effects of the EU common agricultural policy and indicated its main objectives and challenges in the future. In particular, the following topics were discussed:

- megatrends and key developmental challenges of the European and world food economy and rural areas,
- sources for growth in the agri-food sector,
- role of agricultural holdings and undertakings in actions supporting the sustainable development strategy,
- changes in rural economy and programming the rural and agricultural policy,
- innovation strategies in the sectors of agriculture, food industry and rural economy,
- problems and obstacles in the effective implementation of the principles of the rural policy and rural development,
- CAP instruments and their adaptation to the local, regional, European and world challenges.

Discussions held during the conference show that the EU agriculture is experiencing a period of economic boom, but also has many problems which have to be solved in the nearest future. They concern i.a. structural changes such as the economic diversification of large and small holdings, developmental disproportions between the north and south of Europe, unification of the direct payments. These are the challenges that require changes in the EU agricultural policy. Realisation of these proposals, however, cannot take the form of instructions. Thus, finding the right path requires discussion to make the new agreements better than the current practice.

The CAP that we know today will probably be continued. Its first Pillar (intervention in the form of direct payments and market measures conditional on

compliance with basic environmental rules and objectives) and the second Pillar (multiannual, flexible investment tool adapted to the local conditions of each Member State, aimed at supporting in particular the long-term projects). Most probably the current foundations and the structure of the CAP will be maintained. However, not only the internal policy but also the so-called global context will decide about the future of the European food economy to an increasing extent. The EU policy must face challenges such as: economic crises, changing process of raw materials and currency exchange rates, climatic and environmental risks and, unfortunately, also political challenges.

The monograph presented to the readers comprises of two volumes which are separate in terms of the contents, however coherent in terms of the subject, entitled:

- The Common Agricultural Policy of the European Union – the present and the future – EU member states point of view
- The Common Agricultural Policy of the European Union – the present and the future – non EU member states point of view

The Institute's intention was to deliberately divide the approach into the assessment of the current situation and the challenges of the present and the future of agriculture and the rural areas through the prism of countries which are associated in the EU or are applying for the EU membership. Due to the different perspectives of these countries, both current problems and the possible solutions are also different. The first part of the Monograph (...EU member states point of view) includes 19 chapters written by 38 academics employed in 16 different scientific and research as well as academic centres in 9 EU Member States. The second part of the Monograph (...non EU member states point of view) includes 8 chapters written by 18 academics employed in 10 different scientific and research as well as academic centres in 2 non EU members. Articles included in the Monographs provide materials and substantive arguments in the discussion which may contribute to the political decisions regarding the future of the EU CAP after 2020. These decisions may be built on the experience of all countries from the assessment of current solutions, especially due to the large diversification of the levels of economic development, structure of the agricultural economy, environmental challenges and multifunctionality of the rural areas.

The Conference in Stare Jabłonki was the 22th international conference organized by IERiGŻ-PIB within the framework of the Multiannual Programme. The list of conferences organized so far by the IERiGŻ-PIB as part of the MP series as well as publications associated therewith is annexed at the end of this Monograph. All publications from previous conferences, scientific monographs

as well as other materials are available on [www.ierigz.waw.pl](http://www.ierigz.waw.pl). The first MP implemented by IERiGŻ-PIB in 2005-2010 was entitled 'Economic and social conditions for the development of the Polish agri-food economy after Poland's accession to the European Union'. During the second MP edition implemented in 2011-2014, IERiGŻ-PIB was focussed on the 'Competitiveness of Polish food economy in the conditions of globalization and European integration'. The current, third MP 2015-2019 entitled 'Polish Agriculture and EU 2020+'. Challenges, opportunities, threats, proposals' is of a horizontal as well as strategic nature, since it provides real circumstances for the support of the decision-making processes for the public policies.

Finally, I would like to express my sincere thanks to all those who contributed to organising the conference in Stare Jabłonki and to this publication, i.e. the scientific and organizing committee, the authors of the papers, reviewers and technical correctors. It is understandable that, despite a huge scientific and organizational effort I didn't manage to exhaust all issues related to the analysed matters. One thing is sure though – the subject matter is so important that we assume that these issues should be the subject of further scientific research and substantial discussions, and the results of these work should be passed on to the society, administration and politicians.

Being aware that the human efforts are not always perfect, as the editors of the publication, we take full responsibility and sincerely apologize for any possible shortcomings which occurred in this Monograph. At the same time we strongly encourage you to the lecture of both volumes.

*Dr Marek Wigier,*

*IERiGŻ-PIB*



# 1 Urban agriculture: a framework for agricultural policy – present and future<sup>2</sup>

*Prof. Drago Cvijanović<sup>1</sup>, Prof. Otilija Sedlak<sup>2</sup>, Ph.D., Željko Vojinović<sup>2</sup>*

*<sup>1</sup> Faculty of Hotel Management and Tourism, University in Kragujevac,  
Vrnjačka Banja, Serbia,*

*<sup>2</sup> University of Novi Sad, Department of Finance, Banking, Accounting and  
Auditing, Novi Sad, Serbia*

*drago.cvijanovic@kg.ac.rs and dvcmmv@gmail.com*

*otilijas@ef.uns.ac.rs zeljko.vojinovic@ef.uns.ac.rs*

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## **Abstract**

As a result of rapid urbanisation and the formulation of the “Smart Cities” concept, and of trends in sustainability and renewability, growing cities have begun to introduce basic measures for the return food production closer to them. There has always been a very particular connection between food growing and technology. Traditional thinking maintains that technology and urban life stand in opposition to the peaceful and quiet life on the farm.

Food is produced and distributed globally nowadays. This makes the chain of distribution significantly more complex, and great stress is laid on food safety. Contemporary consumers are more and more interested in the origin and production technology of the food they eat. The provision of organic food, locally produced food, food “picked that day” are only some of the trends that have been on the increase. Vertical food growing requiring the intensive use of energy is still in its infancy. There are, however, many initiatives which are leading to rapid advances. Vertical farming in open or enclosed spaces has, therefore, the potential to respond to the demographic challenges faced by Smart Cities. Rapid urbanization will make urban agriculture more significant. Peri-urban, or suburban agriculture, is a part of urban culture. It can greatly contribute to the food supply of the entire city. This raises the question of the designation of the peri-urban zone and of its capacity to feed big cities.

This paper is an attempt at describing the elements of a new agrarian politics that could help tackle the problems of resource allocation and, at the same time, provide citizens with a better quality of life.

**Keywords:** food, smart cities, sustainability, agriculture

**JEL codes:** O13, O18, P25

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<sup>2</sup> The paper is part of the research at the project III-46006 “Sustainable agriculture and rural development in terms of the Republic of Serbia strategic goals realization within the Danube region”, financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

## 1.1. Introduction

Urban agriculture can be defined as an agricultural activity – in other words, as the cultivation of plants and the rearing of animals in and around cities. And yet, this simple definition needs to be further analysed and clarified. Cultivation has to be further defined as: the cultivation of plants and the rearing of animals for human nutrition, or for use as industrial raw material. The bureaucracies which underpin our contemporary cities banished animal rearing in general from the cities in the twentieth century. In almost all countries, there are laws that strictly prescribe that farming activities be located outside the city boundaries and away from urban settings. The location of plant cultivation away from urban settings was somewhat less rigorously prescribed; the location was determined more by economic reasons and by the quality of available soil.

Several factors contribute to accelerated urbanisation, rapid growth of cities, and the formulation of the concept of smart cities. The two most important are a decrease in food transportation costs and the self-sustainability of the food industry.

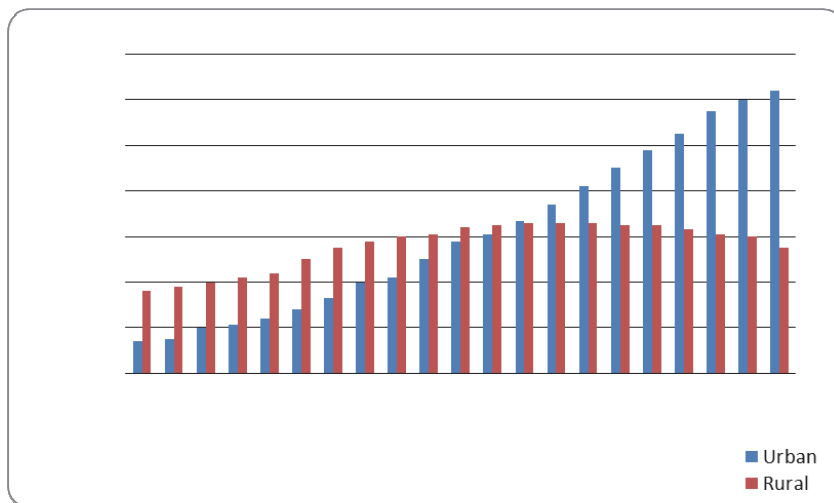
Urban agriculture requires the use of new technologies and ways of producing food; and even a different social attitude to food. “Urban Agriculture may not be the most glamorous sub-sector in the Smart Cities sector but while in today’s heavily populated cities some of the 3.3 billion people living in cities are using the Internet, smartphones, and computer tablets; all of them must eat, after all. There are challenges to establishing the viability of urban production as compared to more conventional agricultural practices, including scalability, energy efficiency, and labor costs“ (Maroto, 2014) (Table 1).

Table 1. Projection of the urban: rural population ratio in the years leading up to 2050

	2007	2008	2018	2019	2050
Population	Urban: 3.3 (billion)	Urban: 50% (for the first time in human history)	Rural population reaches its maximum	Rapid increase in urban population. (A decrease in rural population to 2.8 billion)	Rapid increase in urban population. (A decrease in rural population to 2.8 billion)

Source: “Forrester Research Inc.”

Figure 1. Projection of the world population divided into urban and rural population and expressed in thousands



Source: United Nations Secretariat for Economic and Social Affairs - Population Department, “World Population Prospects”, 2006 Revision; and “World Urbanization Prospects”, 2007 Revision

Feeding today’s population is an extremely demanding task; feeding 9 or 10 billion people, which is the projected human population in 2050, could turn out to be an impossible task (Fig. 1).

## 1.2. Advantages of urban agriculture

As has already been mentioned, the development of agricultural capacity in and close to urban areas has the potential to decrease food transportation costs and related environmental impacts. This also makes economic development possible; it enables the supply of healthy food where food shortages would cause human nutrition to be inadequate, leading to increasing health problems. These problems are, primarily, obesity, diabetes, and cardiovascular diseases. These diseases mostly affect city populations from poor social backgrounds who, due to low income, cannot afford healthy food.

### Contemporary Food Supply Chain

The demands that are placed upon the contemporary food supply chain include the satisfaction of the social and health needs of the individual. The food in the contemporary food supply chain has to be produced in a sustainable way; it has to be healthy and safe for consumption. Twenty-first century production, including contemporary food production requires: greater yield; better

distribution; and minimisation of waste. Sustainable food production with or without organic production in or close to urban areas could provide solutions to all of these requirements. As we have previously stated, the lack of quality food affects mostly people from poor social backgrounds. The provision of sufficient healthy food in the food chain could significantly reduce the risk to these people of diseases caused by poor nutrition. These diseases have a considerable negative effect on the quality of life, shorten life span, and placing a burden on health budgets.

According to Smil, it is important to understand that many problems can be solved by innovative technology, but, in order to help build sustainable society, it is also necessary to develop individual responsibility (Smil, 2016). One of the most prominent of these problems is: how to produce food in a sustainable way. Sustainability is seen as an imperative. Therefore, the number of indicators of sustainability to be included in the food production system will continue to increase so as to better document this sustainability. These indicators will be observed to ensure the compliance of the production system with parameters relating to climate change, ethical aspects of production, and resource efficiency. In order to meet new requirements, and due to developments in the application of modern technology, food production methods undergo changes. Certain examples of these changes can be found on the Internet and in the bibliography, and will be referred to briefly further in the text.

### **1.3. “Smart Cities”**

In order to grasp more fully the scope of the challenge, it is necessary to refer specifically to particular numerical indicators:

- There were only three mega-cities until 1975: New York, Tokyo and Mexico City; while today (2017) there are 21 mega-cities.
- 60% of the World’s GDP is made by the 600 biggest cities in the world.
- There will be a total of 29 mega-cities by 2025.
- In 2011, there were over 500 cities with over 1 million inhabitants.
- China alone will have 221 cities with over 1 million inhabitants by 2025.
- 60% of all energy consumed annually in the World is consumed by cities.
- Lighting alone consumes 19% of electricity produced in the whole World.

The definition of “Smart Cities” varies significantly from continent to continent. Also, there are several similar terms that are more or less synonymous, for example: “Intelligent Cities”, or “Digital Cities”. “Specifically, the term Digital City (a.k.a., digital community, information city and e-city) refers to: a connected community that combines broadband communications

infrastructure; a flexible, service-oriented computing infrastructure based on open industry standards; and, innovative services to meet the needs of governments and their employees, citizens and businesses.” (Yovanof and Hazapis, 2009). Other terms used instead of “intelligent” that found in bibliographical sources are “Interconnected” and/or “Instrumented” Cities.

“The foundational concepts are instrumented, interconnected, and intelligent. Instrumented refers to sources of near-real-time real-world data from both physical and virtual sensors. Interconnected means the integration of those data into an enterprise computing platform and the communication of such information among the various city services. Intelligent refers to the inclusion of complex analytics, modeling, optimization, and visualization in the operational business processes to make better operational decisions” (Harrison et. al 2010). The evolution of the descriptive names of various strategies and initiatives which provide an insight into the process of development of a city through these names is traced in certain scientific papers. These names are: “Virtual City, Knowledge Bases, Broadband City / Broadband Metropolis, Wireless / Mobile / Virtual City, Smart City, Digital City, Ubiquitous City, Eco-city” (Anthopoulos, 2013). All these terms overlap to a degree. The term “smart city” is obviously the most comprehensive.

“Smart cities are not, by practically any stretch of the imagination, new. While proponents of the smart city, and its more academic cousin ‘urban science’ (cf. Lehrer, 2010), believe their interventions to be guided by the rational, rigorous and more ‘scientific’ methods of quantitative and computational data analysis, very little is novel about this approach. Indeed, planners and engineers have sought to make the study and management of cities more scientific for over a century” (Shelton et. al, 2015). “As Rob Kitchin lays out in his article in this issue, however, the origins of the smart city are not found solely in the search for technological utopias (Kitchin, 2015). They also originate in the 1980s prescriptions for managed, entrepreneurial cities – whose speed and flexibility in adapting to global markets make them more efficient and competitive (Logan and Molotch, 1987)”. (Glasmeier and Christopherson, 2015).

“However, experiences from earlier Smart City initiatives have revealed several technical, management and governance challenges arising from the inherent nature of a Smart City as a complex Socio-technical System of Systems” (Ojo et. al, 2014). Smart Cities try to resolve the problems of resource allocation and provide a better quality of life for their citizens at the same time.

The better resource allocation in cities is primarily the better management of energy and drinkable water. This is the first problem that arises in growing urban areas. The problem with energy and drinkable water is double –

the increase in consumption due to population growth is accompanied by bad management. Better resource allocation and increased mobility; a more stable energy supply; better management of waste and infrastructure; a better social component; innovation; and quality education bring comparative advantages. These comparative advantages should justify the financing costs of strategy implementation, as well as smart city project costs. Not only do they bring comparative business advantages, but they also provide individuals with a higher level of participation in the city management, mobility, interconnectedness, communications, and access to health care. These factors attract a certain profile of citizens to whom factors such as leadership, innovation, infrastructure, together with social and humanistic factors, access to education and health care are especially important. The university is one of the key resources of smart city development. It should be a moving force of all strategies and innovations.

The quality of life itself leads to a competitive advantage. Populations demand better chances for personal, economic and social growth that smart cities can provide. The high level of automation and the use of heavy machinery will, in the future, make human operations outdated in industrial and rural work. Populations will turn to the service economy and to innovations based on knowledge. Apart from this fact, big cities have infrastructural elements that are necessary for this kind of social and economic development: universities, airports, ports, motorways, ICT infrastructure, better electro-energy networks, quality internet, etc.

The relevant bibliography defines the smart city as “these cities focus the attention on places in need of identity and culture, and whether they exist in cities or not there is never an end for the need to create spaces for those to learn, share ideas, and connect with other individuals of common interests” (Rios, 2008). It is important to emphasise the human dimension of the smart city. The aim is to create an environment that suits the development of the creative dimension within society. The quality humanistic dimension can be perceived in the creative and highly educated workforce, professional associations, the low level of crime, charities, humanitarian organizations, environment protection organizations. Creativity is seen as the main moving force and, together with knowledge, plays a key role. This kind of social and intellectual capital is the heart of the smart city as a system. Smart cities comprise a coherent system of social, cultural, technological and business systems whose synergy increases the quality of life of their citizens.

A short overview of definitions and how these and other connected terms were formed, such as the “Intelligent City”, the “Digital City”, which are similar

but still different, provides a theoretical framework for understanding the concept of the intelligent city.

“Smart city is the city where investments in human and social capital and in traditional and modern infrastructure provide sustainable city development and high quality of life with wise use of natural resources and with smart use of the city potential (human, ecological, economic, management, absorption, and marketing) based on the participative management” (Ishkineeva et al. 2015). Smart mobility stands for the efficient, fast, and cheap flow of capital, resources, people, and information in the smart city. Fast and cheap information flow is achieved by the provision of broadband fibre-optic networks and freely accessible wireless signals within the city, which everyone can use. Contemporary smart cities have their own optic networks that are often based on the OPEN network principle. These networks are the key prerequisite for smart city development, as they provide infrastructure for collecting information and managing the city, as well as the infrastructure for business organizations and individuals. With the help of a network of sensors and devices that are connected to the Internet of Things (IoT), it is possible to manage the population of an entire city on a macro level and of that residential units on a micro level.

Smart environment management requires constant pollution monitoring and pollution management where and to the extent that this is possible. Efficient transportation and the efficient and rational consumption of energy decrease the negative effect of cities on the environment. Most smart cities have a so-called “Smart Grid”, that is a smart electrical energy network to provide a safe supply of electrical energy, the predominant type of energy consumed in urban areas. These management elements are combined with an efficient system of health care and other services, such as fire service, police force, utility services etc.

#### **1.4. Manifestations of Urban Agriculture**

There are numerous examples in the world of urban agriculture being put into practice. There are many experimental urban agricultural research farms, and more and more urban agricultural commercial and small farms created by individuals or groups of enthusiasts. Some examples are provided here of what urban agriculture actually is and how it looks in practice. The example of vertical farms is interesting to the author of this essay because of the claim of their developer that „vertical growing technology and local distribution methods reduce energy use, travel time and costs tremendously, making this model one of the most sustainable ways to guarantee access to fresh, healthy produce in city centers, in any season“ (Lutero, 2015). This example is also interesting because



of its bold claim that vertical farming is the answer to the demographic challenges of Smart Cities.

The produce is cultivated in a sustainable environment in such a manner that 97% of water is reused and plants are grown without using pesticides and herbicides. The vertical farming technology and local distribution methods decrease energy and time consumption, as well as transportation expenses to a large extent, creating one of the most sustainable models that guarantees fresh, healthy food in city centres at any time of the year.

### **Gardens as Part of Urban Agriculture and Sustainability**

One of the terms used in professional literature in the English language to describe gardens is “Allotment gardens“, often abbreviated to “Allotment“. In North America they are also called “Community gardens“ (Picture 1).

Picture 1. Garden in the Schwabing part of Munich



Source: Wikipedia.. Available from [https://en.wikipedia.org/wiki/Allotment\\_\(gardening\)](https://en.wikipedia.org/wiki/Allotment_(gardening)).

According to Batista, the rapid process of urbanization has led to the continuous spreading of the city towards the rural suburban settlements, putting large areas under the direct influence of urban centres. The Ebenezer Howard (“Garden City”) model, used for the building of new cities, envisaged that the city should have an integrated agricultural zone.

The community and urban farm parcelling project is extremely flexible and can be adjusted to the needs of the local community. It stimulates community participation and the creation of a sustainable community. Projects



of this type contribute directly to community development, generating social participation and promoting urban regeneration through:

- more open spaces built from materials such as water, soil, vegetation in urban areas;
- more formal and informal educational opportunities;
- more pedagogical information about agriculture and livestock breeding;
- garden, landscape architecture and animal rearing education;
- schools; excursions and educational, didactic and pedagogical activities;
- leisure time and sports activities;
- inclusion of people with learning disabilities and/or other special needs;
- development of company involvement in this type of urban agriculture, through coffee shops, horticultural markets, garden centres and other business communities (Batista, 2013).

According to Veenhuizen, the following elements justify the development of urban agriculture:

- economically vulnerable and unemployed population, urban poverty, uncertainty when it comes to food supply etc. Reasons for these are temporary crises: natural disasters, wars or disease outbreaks. Many of the problems linked to starvation and poverty have become common and structural. Urban agriculture has an impact on the social security network of poor population within the city;
- relative advantage that an urban setting gives to farmers: direct access of their produce to the market places; accessibility of cheap inputs such as the food and water; waste disposal, proximity of the institutions that provide information on markets; credit possibilities, availability of technical advice;
- possibility of quick adaptation of urban agriculture to: urban politics and programmes, conditions for the sustainable development of the city (water, air and soil cycle balance, local economic development and food supply, as well as waste recycling, promotion and maintenance of open city spaces, promoting recreational activities, social inclusion of minorities) (Veenhuizen, 2006).

## **1.5. Challenges of Urban Agriculture**

Modern agriculture encounters great difficulties that come with the growth of human population, which is something that even urban agriculture cannot solve in the near future. Urban agriculture can raise the level of efficient and effective resource allocation in the field of agriculture and raise

the percentages of self-sustainability of city areas through locally produced food, but it cannot solve the problem of how to feed the world population. All the advantages aside, the biggest challenge facing urban agriculture when compared to conventional agriculture in terms of its scope, energy and workforce costs is its sustainability.

Many practices that are now in use, or are being experimentally introduced, reveal the difficulties that are encountered in the supply of food to urban areas. There is already not enough arable land to feed the World's population, and, in theory, better production methods should make up for the shortage of food. Those production methods can hardly count on small local farms on the outskirts of cities as a part of the solution.

Urban agriculture is trying to provide answers to these challenges by applying new inventive food production methods. Vertical farming and aquaponics are being considered as the methods with the most prospects for success. Vertical farms have the better prospects, because they grow plants one on top of the other in multi-story closed spaces in order to achieve a required farming area.

## **1.6. Conclusion**

This paper is a short overview of the development and prospects of urban agriculture, made by using available professional literature as well as Internet-based articles that are not scientific. The first articles date from the late 1970s. Urban agriculture returns to the spotlight of scientific interest at the beginning of the twenty-first century. The literature overview and the author's research demonstrate that urban agriculture:

- Has a strong socio-economic character, includes all social groups, and helps include many communities;
- Has a prominent educational character, reconnects people with nature and the entire food production chain;
- Helps the poorest population groups to improve their nutrition;
- Redresses the balance between the urban and the rural;
- Decreases energy consumption required for food transportation;
- Shortens the from-farm-to-table time and the time required for food processing;
- Provides food that is organic, without pesticides and herbicides;
- Does not pollute water and arable land.

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## 2 Land market and a village-keeping model of the agrarian system of Ukraine

*Dr. Iurii Lupenko, Dr. Valerii Zhuk,  
National Scientific Centre “Institute of Agrarian Economics”, Kyiv, Ukraine*

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### **Abstract**

One of the problems delaying the introduction of the land market is uncertainty with the model of the agrarian system of Ukraine. Formally, the authorities favour the development of rural settlements, family farming, cooperatives, but in reality they implement an agro-holding model. In 2017, the Public Council under the Ministry of Agrarian Policy and Food of Ukraine has accepted the proposed by National Scientific Centre “Institute of Agrarian Economics” a village-keeping model of the agrarian system of Ukraine. Basis of the Model – the centre of peasant and village as a guide to the content and direction of land market reform, administrative-territorial associations, budget support, taxation, rental relations, information providing of management and others.

**Keywords:** land market, village-keeping model, agro-holding model, rural development, agrarian system of Ukraine.

**JEL codes:** Q15, Q18, E65, O18, Q01

### **2.1. Introduction**

The introduction of the agricultural land market in Ukraine is a topic issue for both its citizens and country lenders despite the Ukrainian authorities is still deciding which model is acceptable for this market.

An important issue nowadays is the genetic link between Ukrainian nation and agricultural land. Ukraine’s political elite is aware of this, but it is extremely notable that such a link is understood also by the leadership of the European Union, the International Monetary Fund and the World Bank.

Western partners of Ukraine relate its support to the introduction of the agricultural land market, but the vision of the land market is different from those of the Ukrainian and pro-government oligarchic forces. The last ones make various draft-laws to the Parliament of Ukraine. People perceive them through the memories of the previous unpopular privatization of property. The nation does not want to repeat it with the land. Feeling the mood of Ukrainians,

the Verkhovna Rada of Ukraine has periodically imposed a moratorium on the land market introduction since 2002.

The refusal of the government from a double position on the issues of the moratorium on the purchase and sale of agricultural land could remove political and public tensions around it. Formally, the authorities favour the development of rural settlements, family farming, cooperatives, but they pursue a policy of supporting agro-holdings, targeting land speculation in practice. That is, there are statements about one policy, model of agrarian system, and another is realized in fact.

The model of agrarian system that should be implemented after the privatization of property and land and the introduction of market conditions for management is still not officially defined in Ukraine. The authority's activity in practice is more reminiscent of the agro-holding model of agrarian system, which does not suit rural population.

It is extremely necessary for the national interests of Ukraine to adopt a public-agreed model of the agrarian system and the land market. And development of the model is the most important task for national economic science.

## **2.2. Analysis of recent research and publications**

The experience of providing scientific support and implementation of the agrarian system model in Poland and other post-socialist countries is important for Ukraine. Scientists of these countries consider balanced rural development as a very important issue. In particular, in Poland and Belarus, the model and strategy of rural development have been formally approved.

The Polish model envisages active financial assistance for the modernization of farms, the restructuring of small agrarian units, the awarding of young farmers, etc. [1, 2, 11, 12]. According to the Belarusian model, a complex of measures is implemented to improve the efficiency and competitiveness of the national agro-industrial complex. And with the participation of the state it allows to solve social tasks, including the development of established agro-towns and zones of their influence – the surrounding villages. The common issue for Poland and Belarus is creating a special rural development funds (for example, the financing of projects such as “Garden green economy for rural revival (trees against poverty and land degradation)”, overcoming the consequences of the Chernobyl disaster [3, 5, 6, 7].

The most comprehensive publications on the above-mentioned topics in Ukraine are the study of the famous scientist, reformer, academician Pavlo Haidutskyi. In particular, his fundamental publications “Independent Economy

of Ukraine” [9] and “UnForgotten Reforms in Ukraine 1991-2017” [10] present the theoretical grounding, strategy and tactic of agrarian reform 1994-2005. At the same time, agrarian economists of National Scientific Centre “Institute of Agrarian Economics” Pavlo Haidutskyi, Petro Sabluk, Viktor Mesel-Veseliak, Mykola Malik, Mykola Demianenko, Oleksandr Shpychak have developed a unique scientific support for the introduction of the market model of Ukrainian agrarian system. Within it, land, tax, budget, financial and credit reforms were implemented including wide-scale privatization of property and land. The agrarian sector of the economy of Ukraine has been changed from the planned-socialist to market economy system, but in the future, it was necessary to develop and implement a new model of agrarian system based on sustainable rural development.

On response to new challenges, scientists of the National Scientific Centre “Institute of Agrarian Economics” have developed the Passport of the rural area, the mechanisms and tools for its sustainable growth. The studies of the rural communities mission in agrarian reforms conducted by Olena Borodina, Olha Popova and Ihor Prokopa are of great importance nowadays. Scientists of the Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine have developed a national paradigm of sustainable development, a substantial part of which is devoted to the agrarian segment [4].

At the same time, some issues have not found proper coverage at the scientific studies. They are:

- evaluation of the destructive impact of absence a single common agricultural model of the agrarian system in Ukraine (with regional peculiarities), its place and role in agrarian reforms and politics;
- expediency of adding the core essence (peasant-oriented, village-oriented, etc.) to the Model’s name in order to increase its understanding and acceptance by the peasants;
- definition of village-keeping functions of rural entrepreneurship at the current development;
- definition of the place and role of peasants in the functioning of the model of agrarian system.

In our previous studies, the scientific basis of the agrarian entrepreneurship and rural development under the village-keeping model was developed [8].

In the scientific report “Agricultural Land Turnover for a Village-Keeping Model of the Agrarian System” [14], the theoretical bases and practical mechanisms of the implementation of a village-keeping model of the agrarian

system and its impact on the land market were highlighted. Some of our studies are aimed to increase the proactivity of peasants in Ukraine [13].

The purpose of the article is to reveal the main principles of the agricultural land market functioning under the village-keeping model of the agrarian system of Ukraine.

The main tasks are:

- to emphasize the priority of official certainty of the model of the agrarian system for the purpose of reforms and their perception by the peasantry;
- to reveal the main principles of the agrarian policy within agro-holding model of the agrarian system (which is unofficially implementing in Ukraine) and the village-keeping model;
- to prove the economic orientation of the effectiveness of a village-keeping model of the agrarian system.

### **2.3. The main results of the study**

The changes that have been taking place in the agrarian sector since 2005 require new approaches for the development of the agrarian system of Ukraine. This is due to the growing tendency towards the deterioration of the structural ratio of the number of villages, their population, age and professional identity of the population. In 2018, in more than one third of rural settlements there are not any business objects at all. The tendency of monopoly on the rental market of land owned by peasants is increasing.

The solution of these problems involves the development and adoption of a new model of agrarian system.

The Ukrainian state has not yet chosen the agrarian model. Unofficial authority, consciously or unknowingly, supports the agro-holding model of rural areas. The fact that the policy and practice of agro-holding model is not declared in any government document as a model of the agrarian system of Ukraine does not really mean that it does not exist. It is de facto introducing. The peasants, in response to this, are increasing their disbelieves and aggressiveness.

Ukrainian science has developed different variants of the peasant model of the agrarian system. However, the existence of different approaches (models) for the rural development in Ukraine is a problem (Fig. 1).



Figure 1. Modelling of the agrarian system of Ukraine: problems and ways of their solution



*Source: Own research and generalization of authors.*

The lack of a single, desirable model of rural development imbalances the efforts of all government agencies, public associations, donor projects and so on.

The Poland experience proves the enormous effectiveness of the model. It is important that focusing on the clarity, perspicuity and coherence model accepted for peasants also has significant theoretical justification.

Consequently, the absence of an officially acceptable model of the agrarian system is a destructive phenomenon both for agrarian policy and agrarian reforms. This situation is especially problematic for land reform.

From ancient times up to the present, the policy of all countries has been largely determined by an interest to land management. Science has always had a challenge of constantly seeking the ways to optimize relations related to the possession, use and disposal of land.

Ukraine has the most productive land potential in Europe. Almost 26 million hectares of agricultural land in the country have been privatized among 6.9 million peasants. By the beginning of 2017, only about 15% of them cultivate the land itself, the rest of it is leased, or for many reasons, do not enter into land relations.

In Ukraine, for the period from 2005 to 2017, an agro-holding model of the agrarian system was being formed. 150 large companies handle about a third of agricultural land. There is a tendency towards further consolidation of business.

The agrarian sector of Ukraine is becoming more monoculture (only cereals and oilseeds are predominant) and oriented to the export of raw materials. The employment of rural population in public agricultural production has decreased tenfold. Rural farming is declining.

The International Monetary Fund requires for abolishment of the moratorium for purchase and sale of agricultural land in Ukraine.

The big business actively struggles for the land market. According to many expert estimates, bypassing the current legislation, big business through shadow schemes bought about 3-5 million hectares of land from peasants. Ukrainians do not believe in the authorities' ability to create a land market for the national interest.

In response to these challenges, in the NSC "Institute of Agrarian Economics" has developed a village-keeping model of the agrarian system of Ukraine. The main components of this model are peasant, village and land.

A peasant is a person who owns the land and other rural assets, lives and/or has business on the rural area.

In Ukraine, the peasant is connected to the village, rarely – with an urban type village. Therefore peasant and village are related components of the Ukrainian agrarian system. The slogan of the village-keeping model "Land for Peasants" is interpreted as "Land for Villages". The agricultural land is inseparable from the village either geographically or politically and economically. Hence, the ownership of land and the peculiarities of its turnover are directly related not only to peasant-oriented, but also to village-keeping.

This vision of land use and the land market is shared by representatives of the Agrarian Union of Ukraine, the Association of Farmers and Private Landowners of Ukraine, the InterUkrainian Association of Villages and Village Councils, the Federation of Auditors, Accountants and Financiers of the agro-industrial complex of Ukraine, the Agricultural Service Cooperatives Union of Ukraine, which drives these beliefs to the paradigm level (an idea supported by the majority). Key aspects of land relations in the village-keeping model are presented in Figure 2.

Figure 2. Agricultural land market: main aspects

- 1. The land is part of the National Idea. Landlessness of the peasantry will undermine national security;**
- 2. The land for peasants. The land market is for peasants and only for peasants**
- 3. The land is the basis of village-keeping. The land market with the participation of the community and for the village interests**
- 4. The effectiveness of the land market is linked to other reforms. All of them are directed for the village-keeping model of the agrarian system**

*Source: Own research and generalization of authors.*

However, in recent years, Ukrainian authorities have avoided a clear definition of the agrarian model of the country. There is no agreed position with society on the essence of rural entrepreneurship, rural territories, rural settlements, peasantry organization etc. In Ukraine are implemented a policy of agro-holdings.

In current discussions on the moratorium on the purchase of agricultural land abolishment, “experts” of agricultural holdings say that this will solve all the problems of the agrarian sector and allow peasants to receive funds to meet their urgent social needs.

According to the results of public statements of “experts” and the official position of the Ukrainian authorities, one can draw a certain picture of the agrarian policy by followers of the agro-holding model of the agrarian sector (Table 1). That is how the interests of big business are represented.

Table 1. Agrarian policy by different purposes (models)

<b>Model</b> <b>Object of the policy</b>	«Village-keeping»	«Agroholding model»
• <b>Land market:</b>	<b>For peasants</b>	<b>For citizens of Ukraine</b>
• <b>Land market under control of:</b>	<b>Public-state institutions Rural community</b>	<b>State Geocadaster of Ukraine</b>
• <b>Transfer to land lease:</b>	<b>Corporate</b>	<b>Individual</b>
• <b>Association of inhabitants by:</b>	<b>Villages Rural communities</b>	<b>Territorial (united) communities</b>
• <b>Rural assets / Government:</b>	<b>For villages</b>	<b>For territorial (united) communities</b>
• <b>Preferential taxation:</b>	<b>For village-keeping entrepreneurship</b>	<b>For all the agricultural enterprises</b>

*Source: Own research and generalization of authors.*

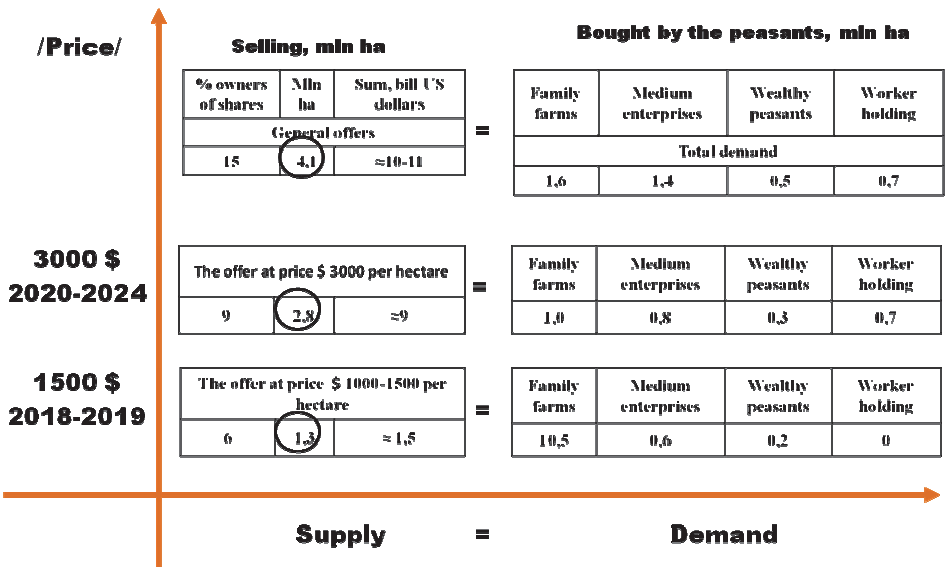
The position of the village-keeping model is peasant- and village-oriented. Land relations in this model are based on agrarian reforms of the previous model of the agrarian system, which transformed the rural sector into market relations, had a social orientation of land reform.

It is important to refute the main argument of the supporters of the agroholding model as for the imbalance of the land market under village-keeping model. They say there will be no land market in Ukraine after the implementation of the village-keeping model. Our calculations show the opposite.

According to sociological surveys conducted by the Centre of Social Expertise of the Institute of Sociology of Ukraine, today the share of land plot owners willing to sell them is from 6 to 15%. It is important that 6% of the owners are ready to sell plot at a price of about 20-30 thousand UAH per hectare (that is equal to 1 thousand USD). For the rest owners the acceptable price is 50-70 thousand UAH per hectare (about 2 thousand USD). Thus, 4.1 million hectares of land worth about 105-240 billion UAH (3-8 billion USD) may be included in the market turnover. We assume (Figure 3) that the first 6% of the land owners are the most in need and do not expect an increase in the market price of 1 hectare of land. Perhaps some of them have already “sold” their units

through agreements of perpetual lease. So, it is about 0.8-1.3 million hectares of land worth up to 1.3 billion USD.

Figure 3. Expected balance of the land market under the village-keeping model of the agrarian system



Source: calculated according to the data from the Center for Social Expertise of the Institute of Sociology of Ukraine and the NSC “Institute of Agrarian Economics”.

Such a proposal will find demand among Ukrainian peasants. The farmers will be able to redeem about 300 thousand hectares of land and owners of small and medium enterprises – about 700 thousand hectares (averagely less than 10 hectares per one farmer and about 50 hectares per one owner of a medium enterprise). The rest of the land – about 300 thousand hectares – would be bought out by the peasants who now manage their own units (which, in addition, will receive budget support for such purposes in the case of the family farm registration according to village-keeping model).

It is assumed that in the first stage, the demand will exceed the supply, and the market price of 1 hectare of land will amount to more than 1500 USD. But the above balancing as a whole will not change.

At the next stage (1-2 years after the introduction of the village-keeping model and the peasant-oriented land market), it is expected that those 9% of the peasants who would sell the land at a price of 2 thousand US dollars will be offering it at a price of about 3 thousand USD per hectare. Will the demand be balanced by peasants’ proposal? Yes, hopefully.

The common offer on the second stage (Figure 3) will amount to about 2.8 million hectares of land. Based on a price of 3000 USD per hectare, this value will be approximately 9 billion USD.

We expect in 5-7 years after the introduction of the land market the combined budget support for direct purchase of land by family farms will amount to about 1 billion USD.

In addition, the State Land Bank and the Program of Compensation of Credit Rates for peasants for the purchase of land will start working. The village-keeping model predicts increasing in profitability by about 2 times of peasants' business activation, which will satisfy the demand by roughly 3 billion USD. All this, together with the Credit compensation program for land purchase from the State Land Bank (about 0.5 billion USD), will aggregate demand at 6-7 billion USD.

Covering the remaining supply at the level of 2-3 billion USD it is expecting from the investments of agro-holdings to buy land by their workers, which are peasants. According to our model, re-registration of agro-holdings units in villages is foreseen. Approximately 19 thousand of such legal entities have the potential to redeem in average of 200 hectares of land on their employees, which is potentially 4 million hectares in the whole country in the amount of 12 billion USD. In our calculation we consider only 0.7 million hectares of land worth 2-3 billion USD.

Thus, the turnover of agricultural lands under the village-keeping model is fully balanced. As a result, Ukraine, like the entire civilized world, has the opportunity to introduce an agricultural land market exclusively among peasants and for rural development.

## **2.4. Summary and conclusions**

The calculations confirm the following postulates:

- the village-keeping model of the agrarian system of Ukraine outlines and aims to introduction of agricultural land market for peasants;
- land market as an instrument is extremely necessary for its redistribution from passive peasants to more active landowners;
- agricultural land belongs to the peasants and not to all Ukrainian citizens;
- exclusively among peasants land market is profitable for Ukraine in the short and long term;
- introduction of the land market under village-keeping model of the agrarian system removes public and political tensions in Ukraine around the moratorium on the purchase and sale of agricultural land.

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### 3 Agrarian policy in the European Union and financial support to Serbia<sup>3</sup>

*PhD Biljana Grujić, PhD Predrag Vuković  
Institute of agricultural economics, Belgrade, Serbia*

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#### **Abstract**

Measures of the Common Agricultural Policy (CAP) that are defined and implemented by the European Union (EU) differ depending on whether or not the country is a member state of the EU. Their realization is carried out on an annual basis through two funds – the European Agricultural Guarantee Fund (EAGF) and the European Agricultural Fund for Rural Development (EAFRD). The purpose of the paper is to show the dynamics of funds paid out from funds in the period of 2012-2016, as well as the planned budgets from 2017 to 2020. However, for non-EU countries, financial assistance is paid from the so-called IPA fund (Instrument for Pre-Accession Assistance). Serbia has been granted EU funds successively, depending on whether it has acquired the status of a candidate for EU membership or not. An overview of the funds paid out of the IPA Fund will be divided into two phases: I 2007-2013; II 2012-2013. Given that Serbia has acquired the status of EU membership, funds are also available from the so-called IPARD fund (fifth component of IPA fund).

**Keywords:** CAP, EU, EAGF, EAFRD, IPARD

**JEL codes:** B22, F35, H61, H72

#### **3.1. Introduction**

Funding within the EU is carried out under the auspices of appropriate regulations that precisely define certain segments of agrarian production. After multiple reforms of the EU's agrarian policy, the approach to agriculture itself, as well as the elements of agriculture that were encouraged, gradually changed.

Domestic and foreign economists and agrarian economists deal with the problems of financing agriculture in Serbia. Serbia, as a European country, has the opportunity to use pre-accession agrarian funds, with the obligation to reform its agricultural policy and adapt it to the EU's agricultural policy. This is

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primarily thought of as available funds for the period 2007-2012 until it gained the status of candidate for EU membership.

On 01.03.2012 Serbia received the European Commission's approval of the EU candidate status. Since then, funds from the IPA Fund (Instrument for Pre-Accession Assistance) have been available to Serbia. This fund has 5 components, one of which includes financial assistance for rural development (Instrument for Pre-Accession Assistance and Rural Development – IPARD). After EU accession, funds from the EU or through other funds (EAGF, EAFRD) are still available to Serbia.

According to the agreement on the allocation of CAP funds from 2013 from the EAGF fund in late 2016, the available amount is EUR 42.2 bln, with 93.4% for direct payments. The support plan from the EAGF Fund for direct payments for the period until 2020 will not be significantly changed.

Under the same EAFRD fund agreement in 2016, almost USD 4.5 bln was paid out for rural development. Reduction of support for rural development continues until 2020, with direct support and market support in the four-year period (2017-2020) remaining unchanged (around 73.3% in total EAFRD fund payments).

After several reforms of Serbia's agrarian policy, it can be said that it managed to secure access to funds for the first four components of the IPA fund. Certainly, it is about the activities that Serbia will implement in order to proceed with the funds of the IPARD Fund as soon as possible (at the end of 2017, when the first calls for proposals are expected).

### **3.2. Agrarian policy in the EU**

In order to present the current state of financial support to EU agriculture in the right way, it is necessary first to expose the historical aspect of the reforms in the EU and the funds that followed the reforms. In the frame of the EU, CAP is applied and is intended exclusively for the agricultural sector. This policy is considered to be the most complex because it tries to overcome the many differences that exist between EU member states, and it is also the oldest and most expensive EU policy<sup>4</sup>. CAP reforms have been implemented for many years and have taken on different shapes and characteristics. Following the Treaty of Rome (1957), the Mansholt's Plan (1968), the Meccherie's Reforms (1988) and the Agenda 2000, the latest CAP reforms include two pillars of support – direct funding and rural development, and relate to the period of 2014-

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<sup>4</sup> Agriculture generates 1.5% of EU GDP, and the CAP consumes more than 40% of the EU budget. For example, in 1984, 74% of the budget funding was allocated for CAP [Simonović 2014].

-2020. This agreement promotes the production of health-safe food with constant environmental protection. The EU's plan is to allocate about 76% of the funds for direct payments (European Commission, 2013).

European funds, which are intended to finance agriculture over time and with ongoing agricultural policy reforms, have changed names, areas that are encouraged and the measures they are implementing. Therefore, for EU Member States, the funds are allocated from EAGF and EAFRD. The EAGF regulates the distribution of funds under direct payments (Regulation (EU) No 1307/2013) and provides support to the agricultural product market (Regulation (EU) No 1308/2013). EAFRD defines the allocation of funds for rural development (Regulation (EU) No. 1305/2013).

### **CAP reforms**

The key years in reforming the CAP are shown chronologically (Simonović Z., 2014):

- In 1957, the Rome Agreement was signed, which for the first time places agriculture as a priority branch of the economy (before the formation of the European Economic Community);
- In 1968, the Mansholt's Plan was adopted, which looked at the reform of agriculture in the long term, since the reform of the agricultural sector covered the period until 1980. The plan advocated the modernization of agricultural holdings and the training of farmers in order to create a single market and financial solidarity within the EU member states;
- In the year of 1988, direct payments to agricultural producers were introduced through the so-called Meccherie reform that takes a key place in subsidizing farmers;
- In 1992, EU member states set goals that were part of the Meccherie's Plan. The changes included price reductions (cereals, oil crops, milk, meat, fruits and vegetables), as well as financial support for farmers' income, which should compensate for the loss due to the temporary reduction of prices for the above mentioned products;
- On the principles of Meccherie's reform, Agenda 2000 was adopted in 1999. This Agenda presents a CAP package of measures for the further development of agriculture and the implementation of negotiations with the WTO, covering the period 2000-2006 years. The Agenda advocated the abolition of price support for agricultural producers and for the introduction of direct payments.

It is concluded that the realization and success of the CAP depends on a numerous factors in the chain of application, namely: producers, EU institutions, government of member states and final users (Grujić B., 2017).

The reform of the CAP has been continuing also in the 21st century with the aim of increasing the competitiveness of EU agriculture while preserving the ecological orientation of agriculture (Stanković M., 2012).

CAP reforms started in 2010 were completed by agreement after three years. More specifically, the 2013 agreement includes two pillars of support – support for direct payments and support for rural development, and was adopted for the period 2014-2020 (table 1).

Table 1. Multiannual Financial Framework for CAP funds 2014-2020  
(in bln EUR)

Measure	2014-2020 (Current Prices)	2014-2020 (2011 Prices)
Pillar 1: Direct payments	312.7	277.9
Pillar 2: Rural development	95.6	84.9
<b>Total CAP</b>	<b>408.3</b>	<b>362.8</b>

Source: European Commission, 2013.

So regardless of whether the CAP budget is expressed in current prices or based on 2011 prices, direct payments support is about 76.6%, while rural development is about 23.4%. CAP support to agricultural producers (physical and legal entities) contributes to increasing the competitiveness of agri-food products while reducing production costs, facilitating access to credit and contributing to increased participation of agriculture in the overall GDP of the country (Grujić B., 2017).

The main goals of applying the CAP agreement can best be explained by the following (Stanković M., 2012):

- increase in productivity of agrarian producers;
- increase in revenues in agriculture;
- continuity in food supply;
- creating prices that are acceptable to consumers.

In general, the CAP agreement with occasional reforms contributes to the continuous supply of producers and consumers with quality agri-food products without interruption in the supply chain, while respecting the differences that exist between Member States.

### EU funds for EU member states

The CAP 2013 allocation arrangement (European Commission, 2013) defines the existence of two funds through which the placement of funds will be made, namely EAGF and EAFRD.

The EAGF regulates the distribution of funds in the framework of direct payments and support to the market for agricultural products.

Table 2 shows that since 2013 rural development have not been planned for payment, since this year, according to the CAP reforms, rural development support payments fall under the responsibility of the EAFRD.

Table 2. Payment Appropriations of EAGF 2012-2016 (in mln EUR)

Measures	2012	2013	2014	2015	2016
Administrative expenditure of policy area agriculture and rural development	8.8	8.9	7.9	8.3	9.6
Interventions in agricultural markets	3,230.5	2,771.5	2,233.3	2,400.8	2,661.3
Direct payments	40,510.7	40,931.9	41,447.3	40,908.6	39,445.7
Rural development	0.4	-	-	-	-
Audit of agricultural expenditure	-192.7	-84.9	60.2	87.3	58.6
Policy strategy and coordination of policy area agriculture and rural development	43.7	32.5	28.3	42.7	36.8
<b>Total appropriations</b>	<b>43,601.3</b>	<b>43,660.0</b>	<b>43,777.0</b>	<b>43,447.6</b>	<b>42,212.1</b>

Source: European Commission, *Financial report from the commission to the European Parliament and the Council on the EAGF, for financial years 2012-2016*.

Based on the indicators in Table 2 it began to calculate the change index (2016/2012) and average values (for the period 2012-2016), and the following parameters were obtained:

- Administration costs for agriculture and rural development increased by 9.3%, with an average cost of EUR 8.7 mln;
- Incentives for interventions on the agricultural market have been reduced by 17.6%, with average paid incentives of EUR 2,661.9 mln;
- direct payments decreased by 2.6%, with an average annual share of EUR 40,648.8 mln;
- the paid incentives for rural development have not been recorded since 2013, because it has been paid out from the EAFRD;
- the revision of agricultural expenditures recorded negative values till the end of 2013 and at the end of 2016 it reached EUR 58.6 mln;
- the costs of administration, strategy and coordination of agricultural policy have been reduced by 27.1% with an average annual share of EUR 37.3 mln;
- total incentives decreased by 3.2% with an average annual share of EUR 43,342.4 mln.

It is interesting and moving EAGF share of the EU budget for the period 2012-2015 that were at the same level (Table 3). A slightly higher participation was recorded only in 2014 (30.7%), with an average annual EAGF share of 29.9%.

Table 3. Part of the EAGF in the EU budget (in %)

Budget year	2012	2013	2014	2015
Part	29.9	29.1	30.7	29.9

Source: European Commission, *Financial report from the commission to the European Parliament and the Council on the EAGF, 2015 financial year*.

Table 4 shows that the planned EAGF budget also includes rural development funds (although the EAGF is in charge of direct payments and market support) for the transfer of money between these two funds. In 2020, compared to 2017, the planned EAGF budget funds for direct payments and market support are higher by EUR 78 mln, while for rural development it is higher by EUR 1.7 mln.

Table 4. Financial Framework of the EAGF 2014-2020 in current prices  
(in mln EUR)

Measures	2017	2018	2019	2020
Market related expenditure and direct payments <sup>a), b), c)</sup>	44,859.0	44,885.0	44,912.0	44,937.0
Rural development <sup>a), b), c)</sup>	13,657.8	13,658.4	13,658.9	13,659.5
<b>Total</b>	<b>60,191</b>	<b>60,267</b>	<b>60,344</b>	<b>60,421</b>

Source: European Commission, *Financial report from the commission to the European parliament and the council on the EAGF, 2014 financial year*.

<sup>a)</sup> After net transfer of EUR 351.9 million between EAGF and EAFRD for the financial year 2014 (see note <sup>d)</sup> for details).

<sup>b)</sup> After net transfer of EUR 51.6 million between EAGF and EAFRD for the financial year 2015 (see note <sup>d)</sup> for details).

<sup>c)</sup> After net transfer of EUR 4 million between EAGF and EAFRD for the financial years 2016-2020 (see note <sup>d)</sup> for details).

<sup>d)</sup> The transfers into Rural Development (EAFRD) mentioned in notes a) to c) above involve: EUR 4 million transferred annually for the whole period 2014-2020 from the cotton sector (EL) on the basis of Article 66(1) of Regulation (EU) No 1307/2013, EUR 296.3 million set for the voluntary adjustment transferred for the financial year 2014 (UK) on the basis of Article 10b and 10c(2) of Regulation (EC) No 73/2009 and EUR 51.6 million for unspent amounts transferred each year for financial years 2014 and 2015 (SE and DE) on the basis of Articles 136 and 136b of Regulation (EC) No 73/2009.

By calculating the mean value of the data given in the table, the indicator shows that for the four-year period planned an average annual amount of EUR 44,898.3 mln for direct payments and market support, while for rural development, an average annual planned amount of EUR 13,658.7 mln.

EAFRD defines the allocation of funds for rural development and from 2012 to 2016 recorded a decrease in paid-off values, which amounted to EUR 13,116.6 mln 2012 reduced to EUR 4,495.8 mln 2016, or 65.7% (Table 5).

Table 5. Payments made to Member States from EAFRD in 2012-2016  
(in mln EUR)

Year	2012	2013	2014	2015	2016
Total payments	13,116.6	12,951.4	10,947.4	6,464.3	4,495.8

Source: European Commission, Financial report from the commission to the European parliament and the council on the EAFRD, for financial years: 2012, 2014, 2016.

The end of 2016 completed with EUR 4,495.8 mln, with an average annual disbursement of EUR 9,595.1 mln in the whole period.

The Plan 2017-2020, foresees that the EAFRD fund in 2017 will pay 3.2 times more than 2016.

Table 6. Financial framework EAFRD for rural development in 2017-2020  
in current prices (in mln EUR)

Year	2017	2018	2019	2020
Financial framework	14,372.0	14,382.0	14,331.0	14,334.0

Source: European Commission, Financial report from the commission to the European parliament and the council on the EAFRD, 2014 financial year.

For 2020 it is predicted that it will be paid EUR 14,334 mln which will be EUR 38 mln less than in 2017.

### 3.3. EU Agrarian Policy towards Serbia

European non-EU countries have the ability to use EU fund assets from pre-accession funds. Within this division, support measures for countries that are not or have not gained the status of candidates for EU accession differ. In both cases, the funds from the IPA pre-accession fund are available to these countries. Among the candidate countries for EU membership is Serbia.

Before presenting the transformation of agrarian policy in Serbia, it is important to mention that the Ministry of Agriculture, Forestry and Water Management (MAFWM) must harmonize national agrarian policy with EU,

where it is emphasizing the importance of cooperation with the institutions. The alignment with institutions must be achieved both horizontally and vertically (Popović, Grujić, 2015). Harmonization of legislation is particularly important in the field of food safety and quality.

The first ideas and changes that need to be implemented in the field of agricultural production in the Republic of Serbia started in 2000. The chronological order of the changes over the past 15 years looks like this (Mihailović B., Simonović Z., 2016):

- At the end of 2005, the Serbian Agricultural Development Strategy (Official Gazette of RS, No. 78/2005) was adopted;
- The Law on Agriculture and Rural Development adopted 2009 (Official Gazette of the Republic of Serbia, No. 41/2009), that adapts the development policy of Serbia to development policy within the EU member states;
- National Program for Agriculture from 2010 to 2013 adopted 2010 (Official Gazette of RS, No. 83/2010);
- The Strategy for Agriculture and Rural Development of the Republic of Serbia for the period 2014-2024 adopted 2014 (Official Gazette of the Republic of Serbia, No. 85/2014), which aims is to institutionalize all the agrarian reforms that are necessary in order to achieve the long-term goals of development of the agrarian sector, which are in line with the goals and principles of agricultural development that exist in the EU;
- The IPARD program 2014-2020 adopted 2016 (Official Gazette of RS, No. 30/16), which defines more in detail the measures of support to agriculture;
- The National Program for the Adoption of the Acquis Communautaire (NPAA) adopted 2014 and also the second revised Program adopted in 2016, which defines the development and strategic objectives, the appropriate policies, reforms and measures needed for the realization of these goals, establish a detailed plan for the harmonization of legislation and define human and budgetary resources, as well as the funds needed for the implementation of the planned tasks.

Observing at the way of the management in the country, it was present principle of self-government which ruled until the early seventies. Since the 1970s the principle of self-management has been abandoned and it has turned to the principle of managing agroindustrial systems as a whole (Simonovic Z., 2014). From this moment on agricultural production began to be seen as an agro-industrial complex that is in conjunction with both the economy and the population. However, in the period of socialism such a system of functioning of

agrarian production did not bring prosperity. The period of bad results is reflected in the state's reluctance to timely adopt the changes brought about by the third technological revolution.

However, there is another reason that has reversed Serbian agriculture, which imposed the existence of a social and private sector in the segment of agricultural production. Characteristics of the social and private sector, and they would be (Simonovic Z., 2014):

- the public sector (social property) was modern, with concentrated soil and monetary capital with a high level of use of biological, chemical and mechanical inputs;
- the private sector was engaged in traditional production, with limited land and money capital, in the process of production, obsolete mechanization is applied, etc.

Based on the aforementioned characteristics of the social and private sector of agricultural production, it is concluded that the social sector is designed as developmental, and private as underdeveloped, and in order to develop it had to cooperate with the social sector.

Given that support to the social sector has not contributed to the development of agriculture, it has been decided that the emphasis on social transfers to the private sector, to support individual producers in support of collective production. These changes started in 1990/91. In addition to being implemented in Serbia, they were conducted in the region of eastern and south-eastern Europe as well. All former socialist countries have accepted common reform criteria, and they are (Simonović Z., 2014):

- liberalization of prices and markets;
- land privatization;
- privatization of production and food trade;
- state management to adapt to the market economy.

Due to the well-known events which have been happened in former Yugoslavia during the 1990s, Serbia had tremendous consequences and in 2008 it signed a Stabilization and Association Agreement with the EU. It is free to say that Serbia is still in a phase of transition that has lasted more than twenty years.

The aim of using the funds of the IPA Fund is to enable candidate countries to adapt their legal, economic and political capacities to EU standards, in which they will be supported by pre-accession funds.

IPA Pre-Accession Instrument consists of five components (Pejović et al., 2011):

- institution building and support for transition,
- support for cross-border cooperation,



- support for regional development,
- support for the development of human resources and
- support for agriculture and rural development.

Countries that have not obtained the status of candidate for EU membership have the right to support made up of the first two components – institution building, support for transition and support for cross-border cooperation. Countries that have obtained the status of candidate for EU membership, such as Serbia as of 01.03.2012 are eligible for financial support on the basis of the remaining three components, including support for agriculture and rural development (IPARD).

The IPA Instrument for Pre-Accession Assistance is regulated by European Council Regulation no. 1085/2006. IPA instruments have merged previous pre-accession instruments: PHARE, SAPARD, ISPA, CARDS, as well as the pre-accession instrument for Turkey. Total IPA budget for the period 2007-2013 amounted to EUR 11,468 bln of which approximately EUR 1.4 bln is allocated to the Republic of Serbia<sup>5</sup>.

In the period from 2007 to 2013, the EU has identified the EU funds under the first two components (the first contracts were signed in 2010) and recorded the following values (IPARD program for the Republic of Serbia for the period 2014-2020, September 2017):

- to support the transition and strengthening institutions in the amount of EUR 1,316.5 mln and for
- support for cross-border cooperation in the amount of EUR 70 mln.

Table 7. Financial framework from IPA fund to Republic of Serbia 2007-2013 for first and second component (in mln EUR)

Year	Transition Assistance and Institution Building	Cross-Border Cooperation	Total
2007	181.5	8.2	<b>189.7</b>
2008	179.4	11.5	<b>190.9</b>
2009	182.6	12.2	<b>194.8</b>
2010	186.2	12.5	<b>198.7</b>
2011	189.9	12.7	<b>202.7</b>
2012	193.8	12.9	<b>206.8</b>
2013	203.1	-	<b>203.1</b>
<b>Total</b>	<b>1,316.5</b>	<b>70.0</b>	<b>1,386.7</b>
<b>Share (%)</b>	<b>95.0</b>	<b>5.0</b>	<b>100.0</b>

Source: Pejović et al., 2011.

<sup>5</sup> <http://www.evropa.gov.rs/Evropa/PublicSite/Ipa.aspx>

The participation of the first component of the IPA fund is 95%, while the other components are only 5%. Within the first component for agriculture, 10-15% is allocated. In 2013, compared to 2007, the support for transition and institution building increased by 11.9% and annually by EUR 188.1 mln. With the second component in 2012, compared to 2007, the change index showed an increase of 57.3% while the average annual share amounted to EUR 11.7 mln.

Some of the projects funded by the first component are:

- IPA 2007 “Capacity building for implementation of rural development policy in line with EU standards” worth EUR 4.5 mln. The purpose of this project is to strengthen the capacity of the Directorate for Agrarian Payments (DAP), which will meet the requirements of agricultural producers based on the call for IPARD allocation;
- IPA 2008 “Capacity Building and Technical Support for the division of Vineyard region Wine Reconstruction and for the System of Geographical Indications of Wine”, and the value of the project is EUR 1.2 mln;
- IPA 2010 “Farm Accountancy Data Network (FADN)” disposed with a budget of EUR 2 mln. The goal of the project is to improve economic and financial indicators of agricultural holdings;
- IPA 2010 “Equipping the Directorate for National Reference Laboratories of the Republic of Serbia in the Food Chain”, and the project value is EUR 6.5 mln;
- IPA 2012 “Strengthening capacity for improving food production facilities and managing by-products of animal origin” with project value of EUR 2 mln.

In the framework of the financial support for the I component, can be distinguished the MAFWM, DAP, the Ministry of Finance and other institutions for the preparation of strategic documents, the definition of priority points, as well as the definition of national and EU standards are allocated.

The program of cross-border cooperation (II component of the IPA program) covers the following countries from the region: Hungary (projects in the field of infrastructure, environment, education and culture), Romania (environmental protection, economic and social development), Bulgaria (development of small infrastructure, problems, sustainable development), Croatia (environmental protection and economic development), Bosnia and Herzegovina (improvement of physical, business, social and institutional infrastructure and capacities) and Montenegro (socio-economic integration). For Serbia, this component is significant because it contributes to the implementation of projects that promote links between urban and rural areas,

enables access to border facilities for waste disposal and processing, as well as energy systems.

The following table provides an overview of the available assets from the IPA Fund for the implementation of cross-border cooperation projects by individual countries (Table 8).

Table 8. Value of the Program for Serbia by individual countries (2009-2011, in thousand EUR)

<b>Country \ Year</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>Total</b>
Hungary	2,327.2	2,373.7	2,421.2	7,222.1
Romania	2,939.7	2,998.4	3,048.6	8,986.7
Bulgaria	2,327.2	2,373.7	2,421.2	7,222.1
Croatia	980.0	1,000.0	1,000.0	2,980.0
Bosnia and Herzegovina	1,224.8	1,249.3	1,274.3	3,748.5
Montenegro	490.0	500.0	500.0	1,490.0

Source: Pejović et al., 2011.

In addition to the mentioned cross-border cooperation programs, Serbia has the opportunity to participate in two programs of transnational cooperation and interregional cooperation – IPA Adriatic Program<sup>6</sup> (economic, social, institutional cooperation, infrastructure, transport, protection of natural and cultural assets) and the South East Europe Program<sup>7</sup> (support for innovation and entrepreneurship, environmental protection, access to European networks, sustainable urban development).

The following table provides an overview of the available funds from the IPA Fund for the implementation of transnational cooperation projects according to the programs (Table 9).

Table 9. Value of the Program for Serbia according to the type of Program (2009-2011, in thousand EUR)

<b>Country \ Year</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>Total</b>
Adriatic program	612.4	625.0	637.2	1,874.6
South East Europe Program	1,224.8	1,249.3	1,274.3	3,748.4

Source: Pejović et al., 2011.

<sup>6</sup> The following countries are included: Italy, Slovenia, Greece, Croatia, Bosnia and Herzegovina, Montenegro and Albania, and Serbia's participation is limited until 2012 [Pejović et al. 2011].

<sup>7</sup> The Southeast Europe Program includes 16 countries: Albania, Austria, Bosnia and Herzegovina, Bulgaria, Romania, Croatia, FYR Macedonia, Greece, Hungary, parts of Italy, Serbia, Montenegro, Slovakia, Slovenia, Moldova and the border region of Ukraine.

Funds that would be paid to Serbia on the basis of both Programs will be increased from year to year. Certainly, more funds have been allocated for the South East Europe Program, given that 16 countries have the right to participate. The total value of the Program for Serbia for the Adriatic Program is EUR 1.8 mln, while for the realization of projects from the Program of South East Europe, Serbia has available EUR 3.7 mln.

One of the projects implemented in the framework of transnational cooperation is the “Networking and greater participation of young people in the Adriatic region, civil society, through the exchange of experiences and the development of common tools and methods of work – Adriatic Youth Network”. The aim of the Project is to promote innovative services to young people, through the exchange of knowledge and experience, using examples of good practice among local and regional authorities. In order to achieve the goal, it is planned to establish a stable cross-border network of local and regional authorities, with a focus on improving the capacities of civil servants and decision-makers in creating and implementing youth policies. The total value of the project is EUR 3.6 mln, where by the Provincial Secretariat for Sports and Youth participates with EUR 204.6 thousand<sup>8</sup>. Serbia has the right to apply for EU funds for cross-border cooperation projects after 2013.

The total planned assets from the IPA Fund for 2012 and 2013 for the third component amounted to EUR 162.8 mln and for the fourth EUR 43.6 mln (Table 10).

Table 10. Financial framework from IPA fund to Republic of Serbia 2012-2013 for the third and fourth components (in mln EUR)

Year	Regional Development	Human Resource Development
2012	79.5	21.3
2013	83.3	22.3
<b>Total</b>	<b>162.8</b>	<b>43.6</b>

Source: Pejović et al., 2011.

The change index for both the third and the fourth component showed an increase of 4.8%, while the average share of the third component was EUR 81.4 mln and the fourth EUR 21.8 mln.

The third IPA component (regional development) includes projects related to: transport infrastructure, waste management, water supply, air quality, energy efficiency, renewable energy, market research and development, networking,

<sup>8</sup><http://www.sio.vojvodina.gov.rs/index.php/32-omladina/ipa-projekti/311-ipa-projekat-prekogranine-saradnje-qomladinski-forumq>

creation and development of financial instruments that facilitate access to revolving financing through joint capital, credit and guarantee funds, etc.

The fourth IPA component (human resources development) includes: greater flexibility of employees, better access to employment, better social inclusion and integration, promotion of partnership, increase of investments in human capital, strengthening the efficiency of the public administration, etc.

The fifth component of the IPA Fund implies support for the development of agriculture and rural development. This component has also been named IPARD as it includes instruments for pre-accession assistance for rural development. In order to implement the IPARD component in accordance with the regulations and within the legal framework it is necessary to establish the IPARD operational structure. This structure implies the establishment of a management body and an IPARD agency. The management body has the task of writing a program and a selection of measures that will be applied in order to implement the program of development of agriculture and rural development. The managing body is obliged to provide in due time the necessary information to potential users of the IPARD program and is an integral part of the Ministry of Agriculture. The IPARD Agency oversees the implementation and execution of the IPARD program. It is also necessary to establish a National Fund that will be an intermediary in the transfer of funds from the EU to the national account and further to the IPARD Agency, but also to submit the accounting reports to the European Commission on the spent funds. The success of the implementation of the IPARD program depends on the performance of the IPARD Agency (Pejović et al., 2011).

For the period 2007-2013 the EU has allocated 43% of the total budget for rural development and agricultural development. In the period 2007-2012 for the EU candidate countries, the EU has allocated nearly EUR 880 mln in the rural development component for projects. This fund is planning to finance agricultural support for the period 2014-2020, and includes funds intended for the development of Serbia's agriculture since it acquired the status of candidate for EU membership. However, these funds have still not been used by Serbia. Countries that have received the status of EU candidate countries by using financial assistance from the IPARD Fund are preparing to enter the EU, after which they will be provided with funds for further support to rural development, but from the EAFRD.

The assistance plan for Serbia from the IPARD Fund consists of the percentage participation from the EU budget and percentage participation from the national budget (Table 11).

Table 11. Financial plan per measure for Serbia from IPARD fund 2014-2020  
(in thousand EUR)

Measures	EU contribution	EU contribution rate (%)	National contribution	National contribution rate (%)	Total public aid
Investments in physical assets of agricultural holdings	76,040	75	25,346.7	25	<b>101,386.7</b>
Investments in physical assets concerning processing and marketing of agricultural and fishery products	62,210	75	20,736.7	25	<b>82,946.7</b>
Agri-environment- climate and organic farming measure	8,750	75	1,544.1	15	<b>10,294.1</b>
Implementation of local development strategies - LEADER approach	5,250	90	583.3	10	<b>5,833.3</b>
Farm diversification and business development	17,500	75	5,833.3	25	<b>23,333.3</b>
Technical assistance	5,250	85	926.5	15	<b>6,176.5</b>
<b>Total</b>	<b>175,000</b>	<b>100</b>	<b>54,970.6</b>	<b>100</b>	<b>229,970.6</b>

Source: Republic of Serbia IPARD Programme for 2014-2020, 2017.

The table shows that the contribution to the development of agriculture and rural development from the EU budget for the period 2014-2020 is EUR 175 mln and from the national budget EUR 54.9 mln which makes a total of EUR 229.9 mln. In the budget of the IPARD Fund, the largest contribution was allocated for the measure “Implementation of local rural development strategies – LEADER approach”, which amounts to 90%, while a slightly lower contribution (85%) is intended for measure “Technical assistance”. The remaining 10% or 15% represents the contribution that is paid from the national budget. The annual presentation of the EU contribution for measures for the period 2014-2020 is followed (Table 12).

A tabular overview shows that the level of support from the EU budget is increasing from year to year, which means that the minimum amount of support is envisaged for the initial years. Consequently, support for agro-ecological measures, organic production and implementation of local rural development strategies is starting from 2017. Generally, the largest share in the planned funds of the IPARD Fund consists of funds for investments in the physical assets of agricultural holdings and are not below 37.3%.

Table 12. Budget breakdown by measure for Serbia from IPARD 2014-2020  
(in thousand EUR)

Measures	2014	2015	2016	2017	2018	2019	2020	Total (2015-2020)
Investments in physical assets of agricultural holdings	-	7,535.2	9,900.3	10,622.2	11,199.7	17,002.4	19,780.0	<b>76,040.0</b>
Investments in physical assets concerning processing and marketing of agricultural and fishery products	-	6,164.8	8,099.7	8,690.3	9,162.8	13,910.1	16,182.5	<b>62,210.0</b>
Agri-environment-climate and organic farming measure	-	-	-	2,187.5	2,187.5	2,187.5	2,187.5	<b>8,750.0</b>
Implementation of local development strategies - LEADER approach	-	-	-	500.0	1,000.0	1,900.0	1,850.0	<b>5,250.0</b>
Farm diversification and business development	-	1,000.0	1,500.0	2,000.0	5,000.0	4,000.0	4,000.0	<b>17,500.0</b>
Technical assistance	-	300.0	500.0	1,000.0	1,450.00	1,000.0	1,000.0	<b>5,250.0</b>
<b>Total</b>	-	<b>15,000.0</b>	<b>20,000.0</b>	<b>25,000.0</b>	<b>30,000.0</b>	<b>40,000.0</b>	<b>45,000.0</b>	<b>175,000.0</b>

Source: Republic of Serbia IPARD Programme for 2014-2020, 2017.

MAFWM of the Republic of Serbia announced that in the second week of December 2017 will be the first competition that will apply to the allocation of funds for tractors and machinery, and in February or March 2018 will be a competition for the manufacturing industry.

### 3.4. Summary and conclusions

Although EU policy is very complicated and complex because it harmonizes the principles of production, processing and marketing of many different countries, it can be said that it is being successfully implemented in all member states. Thus, the realization and success of the CAP depends on a number of factors in the chain of application, namely: producers, EU institutions, member governments, and ultimately consumers. The CAP agreement, with occasional reforms, also contributes to the continuous supply of producers and consumers with quality agri-food products without interruption in the supply chain, while respecting the differences that exist between Member States.

From the EAGF from 2014 to 2020 a constant increase of around EUR 100,000 per year is planned, while the EAFRD fund records oscillations of the total planned values.

Given that EU policy towards Serbia is being implemented in a different way in relation to member states, it can certainly be said that Serbia is progressing in harmonizing its own with EU policy. In particular, Serbia is doing everything it takes to make the most recently received funds from IPARD fund.

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## 4 Ukrainian agricultural market regulation tools: their effectiveness and directions of improvement

*Prof. Olga Varchenko, Bila Tserkva National Agrarian University  
Department of Finance, banking and insurance  
Bila Tserkva, Ukraine,  
e-mail: omvarchenko@ukr.net*

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### Abstract

In the conditions of considerable uncertainty of prices in agricultural markets, there is a need to substantiate the improvement of approaches to substantiating the optimal combination of market levers with the elements of state regulation. In domestic practice, a wide arsenal of regulatory instruments is used, the lack of systematic and timely introduction of them, proper financial support, transparent economic rules of the game, partnership decency between the state and commodity producers have led to distrust of producers, and the resultant economic returns from these mechanisms were far from the expected results. The paper argues that the priority directions of the state regulation of the agri-food industry of Ukraine support the development of small forms of management – family farms, stimulation of organic production development, agricultural producers compliance with European requirements on quality and safety of food, ensuring the competitiveness of agri-food chains on the basis of the use of grain in the production of livestock products on the domestic market.

**Keywords:** agri-food, state regulation tools, family farms, agri-food chains, added value

**JEL Classification:** Q 18

### 4.1. Introduction

Agriculture is currently one of the most important sectors of the national economy, which is characterized by its increased sensitivity to the influence of various negative factors of instability and thus it needs some state support. It is obvious that in the conditions of European integration of the domestic economy and international division of labor it is necessary to adopt and implement the economic tools reducing the domestic market protection, ensuring the direct state support focused impact on small agricultural producers and meeting the demands for agro-food industry quality and safety.

As a result, there arises a need to intensify indirect support state regulation including research encouragement, pest control; staff training; providing the activities which promote goods to foreign markets, development; participation

of the government in programs on commodity producers' income insurance and increase; anticipation of assistance in natural disasters, implementation of regional aid programs, etc.

Thus, the liberalization of agri-food industry requires modernization of the state regulation tools and working out the strategies for the agri-food market development in the long-term outlook. Despite numerous research conducted on this issue it is advisable to justify the need for state support to agriculture, as well as to develop proposals on agri-food market regulation instruments improvement. orientation of agri-food market economic regulation tools on the production ecologization is an important condition for ensuring its effectiveness, as economic entities have a negative impact on the natural environment in the course of their activity, which also needs implementation of European experience into Ukrainian practice under modern conditions.

The aim of the article is to consider the peculiarities of state regulation of the agri-food sector and to develop ITS mechanisms; to substantiate basic areas ensuring balanced dynamic development of the Ukrainian agrarian sector.

#### **4.2. Data and Methods**

The research methodology is based on foreign and native scientists' articles concerning the necessity to combine market and state regulation of the agro-food products market as well as on the analytical papers and generalization of the experts' opinions in the studied sector of the economy. The methodology includes the analysis of current trends and institutional environment in the field of agriculture and food industry, characteristics of state support of agriculture and agri-food market regulation operational tools. We have used the scientific publications of leading world and national scientists, the results of studies of the State research institutions (concerning the institutional environment in agriculture and rural development) and statistical offices data on agricultural products and food production, processing, sale and consumption. Additional information on the development of private farms that are not registered by the State Statistics Committee of Ukraine are obtained from representatives of regional agricultural management offices, technical assistance projects staff, associations and international donor organizations operating in the territory of Ukraine. Using the aforementioned, empirical studies were carried out towards improving the Ukrainian agri-food market regulation tools.

#### **4.3. Results and Discussion**

The study of the Ukrainian practice of the regulation and substantiation of its improvement directions in agro-food markets requires, uppermost,

generalization of the production potential of the investigated sector of the economy as well as the search for ways of its more effective use. Thus, agricultural production sector is one of the leading ones in the Ukrainian economy, the volume of agricultural production of which amounted to UAH 277 billion in 2016, which made 11.6% of Ukraine's GDP. At the same time, agricultural products accounted for 42.5% of Ukraine's export in 2016. It is known that Ukrainian agriculture's high potential is ensured by the presence of significant areas of high-quality chernozem. Agricultural land constitutes nearly 71% of 42.7 million hectares of the Ukrainian territory total area with 32.5 million hectares of the arable land.

The country has formed a combined model of agricultural development, tending to establish large agrarian enterprises. Thus, it is possible to identify the following basic types of economic structures: 1) agricultural holdings and large agrarian firms – complex vertically-integrated structures with a full cycle of production (from the production of agricultural raw material to its processing and sale to the final consumer) (Mesel-Veselyak, 2015). About 20 agrarian holdings companies have more than 100 thousand hectares of land at their disposal. For example, the largest 10 companies carried out their production on an area of 3001 thousand hectares by the end of 2015; 2) joint-stock company and cooperatives of various organizational and legal forms, established in the process of collective farm-farm system restructuring through denationalization and privatization of state and collective farms. Most of these enterprises function in the conditions of limited resources, lack of required number of skilled workers, performing mainly “village-preserving” function (Prudivus, 2017); 3) farms and individual holdings – where the farmers produce mainly raw materials (intermediate products), which in the end does not allow to maximize the financial results of their own activities because of the lack of control over the final products full cycle. These economic entities function in a low level of labor mechanization, they grow labor consuming products (potatoes, vegetables, melons, etc.) and sell only surplus products on spontaneous markets and cannot be considered as full-fledged subjects of entrepreneurial activity. At the same time, small private farms produce more than 40% of gross agricultural products, which makes them a vital element of the country's food security system.

The issue of suspending the moratorium on land sales and the creation of a civilized land market is currently being actively debated in Ukraine, though it can be argued that the country has not created appropriate economic conditions and infrastructure for the land market. Land is being leased, the price of land lease in Ukraine varies from 20 to 170 dollars per hectare a year, depending on the region. After the land reform in Ukraine 27 million hectares were distributed which resulted in 6.9 million land share owners, of which 1.6 million aged over

70 years old; 1.4 million – died, 0.5 million did not have inheritors. We realize that the land market functioning in Ukraine will increase the country's agricultural investment attractiveness. The data show that Ukrainian commodity producers pay the land lease rate which is several times lower than in other countries. Also there are neither tools for regulating the land market nor specialized infrastructure elements, which allow transparent and civilized development of the market.

Considering the concept of state regulation of the agricultural production market, we share the opinion that it has economic and normative influence on the reproduction processes aiming to adapt it to macroeconomic parameters, mitigate the negative destabilizing effect of seasonal fluctuations in the agrarian market, unanticipated changes in natural, climatic, and other sector specific factors (Mohyl'ny, 2003). There is a similar definition that "state regulation" should be referred to as a system of economic, financial, legal, organizational and social measures implemented by the state in order to ensure the efficient and stable development of agricultural production and the population provision with high quality food at affordable prices (Andriychuk, 2013). Consequently, we have to modernize the conceptual fundamentals of state regulation of the development of the agri-food market, based on, uppermost, economic methods that would meet the requirements of market conditions and ensure the competitive development of agriculture. At the same time, economic tools should be based on the study and scientific analysis of the objective causes of the current state of agricultural enterprises, taking into account the long-term priorities of socio-economic development of rural areas and the definition of the system of measures, forms and methods of state economic regulation of production, which must be provided with appropriate organizational economic mechanism.

State support for agriculture, based on national priorities and taking into account the need for Ukraine's integration into the European Union and the world economic space, is one of the agri-food market regulation tools. The realization of these goals is ensured through the support of entrepreneurs in the following basic areas: legal framework formation; tax, financial and credit policy improvement; information provision; promotion of technologies and innovations; foreign economic activity stimulation; staff training and retraining. The Law of Ukraine "On the Basic Principles of the State Agrarian Policy for the Period till 2015" defines the main components of the state policy in the field of agricultural enterprises support, i.e. it is a complex of legal, organizational and economic measures aimed at improving the efficiency of the agricultural sector of the economy functioning, state policy in the sphere of development of entrepreneurship in agriculture, guaranteeing the state food security,

transforming the agrarian sector into a highly effective economy competitive on the domestic and foreign markets, preservation of the peasantry as a carrier of Ukrainian nation identity, culture and spirituality, integrated rural development and social problems in rural areas.

Since 2013-2015, the peculiarity of state support to the Ukrainian agri-food sector is that there is a reduction of forms of state support and a sharp decrease in its volumes caused by the limited state resources. In 2016 there was a complete reformatting of state support for business entities, in particular, the mechanism for implementing indirect state support, the special VAT regime was abolished and the system of taxation of agricultural producers changed. Similar changes were made in 2017, which set stipulated the legislative level of the support for the agro-sector, namely, state support for agricultural producers should be at least 1% of gross agricultural output annually for 5 years, of which not less than 10% should be spent on purchasing domestic equipment and machines in 2017, 15% – in 2018, 20% – in 2019-2021; a new mechanism for state support for agricultural producers has been introduced, state subsidies to be given to agricultural enterprises specializing in growing and breeding the following: vegetables and melons, roots and tubers (including potatoes) will receive state subsidies; mushrooms and truffles; sugar beets; grapes for wine production of and grapes of table varieties; fruits and berries; dairy cattle; cattle and buffaloes for meat production; horses, donkeys, sheep; pigs; poultry, ostriches; obtaining skins of fur farm animals, reptiles and birds; worms, snails, mollusks; bees, honey and wax. An automatic mechanism for state subsidies payment of based on tax reporting data, for which UAH 4 billion to be allocated with the state support to poultry farmers not exceed UAH 2 billion. State support for the development of hops, new gardens, vineyards and berries plots laying was restored; targeted subsidiary per 1 hectare of cultivated land was implemented through approving a new state program of support for farmers cultivating up to 500 hectares; a single register of applications for VAT refunds at export was created (a single register of applications for VAT refunds is used instead of two ones); increased single tax for agricultural producers (Group 4 single tax) (the rate of single tax on Group 4 increases by 17%, which, for example, in the case of arable land, means an increase from 0.81% to 0.95% of land normative monetary valuation); the minimum land tax rate increased by 0.3%; the rules for single tax calculation and paying for greenhouse complexes are unified, i.e. land in the closed ground will be taxed rather than the total area of the cultivated land since next year. Also, specialization criterion greenhouse farms (66% of the proceeds obtained from sale of products grown in a greenhouse soil).

In 2017, the amount of state support is provided in the amount of 5.5 billion UAH. Of these, UAH 4 billion came from the direct support of the agro-

-industrial complex in the form of grants for: livestock breeding (poultry and eggs, pigs, cattle producers); vegetable growing; gardening; viticulture; berry growing; dairy products processing (cheese, condensed milk, sour cream). In addition, another 1.5 billion is aimed at agrarian sector development programs: (mainly domestic production) and lending programs (agrarian insurance and the launch of the Agricultural Credit Guarantee Fund). Thus, only UAH 3.7 billion can be considered a real budget support for the development of the industry, the rest has no direct influence on the activity of agricultural producers. We believe that it is inappropriate to compare the volumes of state support of agriculture in the dynamics over the years and the leading countries of the world as their amount depends on many factors. However, it is advisable to analyze its effectiveness: each additional hryvnya of state support in the form of VAT provides on average only twenty pennies of growth in productivity in the monetary equivalent in the industry; the efficiency of the single fixed tax is two times lower (Nivievsky, 2017).

According to the data published by the Organization for Economic Cooperation and Development (OECD), Ukraine has the lowest level of support for the commodity producer in the overall support structure of agriculture (41.9% PSE) among the countries under study, (OECD, 2015). The main direction of supporting the development of the national economy is stimulating business entities through providing non-financial services, in particular, educational support, deregulation of entrepreneurial activity and infrastructure development. The practical experience of OECD member countries reflects the importance of financial support from the commodity producer, which varies from 85 to 92% of total support funds. The only exceptions are the United States, where the support was only 43.2%, but this is due to the emphasis on consumer protection, though the absolute figures reveal that American commodity producers receive significant financial incentives as compared to other countries. Thus, the return of budget financing of economic entities should be an important step towards the implementation of European strategies for the development of both the general economy and agriculture in particular. Although Ukraine will not be able to fully grant such financial incentives in terms of European integration in reducing the measures of the “yellow box” (measures that have a non-market impact on trade and production).

The following should be attributed to the agri-food market regulation tools in Ukraine: minimum and equivalent prices, customs tariffs, provision of preferential loans, commodity and financial interventions, mortgage purchases, production quotations and export volumes, quality products promotion, additional payments per unit area, special tax regimes, making forward contracts, etc. Given the clarity and timeliness of the introduction of these



levers, economic mechanisms in the developed countries of the world are successful. We believe that, due to the lack of systematic and timely tools introduction, adequate financial support, transparent economic rules of the game, partnership decency between the state and commodity producers, unfortunately, gave rise to distrust among many agricultural commodity producers, resulting in a low economic return on these mechanisms. There is a need to ensure the full extent of the evolution of the mechanisms of state price regulation through the optimal combination of successive actions and measures of state influence with market levers that will achieve a level of highly productive and competitive agrarian sector.

An example of the effectiveness of the mechanism of state price regulation is the implementation of mortgage purchases of grain from agricultural commodity producers and the introduction of mortgage prices. Such a mechanism involves the insurance of commodity producers from the menacing reduction of market prices for grain in moments of negative impact of market conditions. It should be noted that this was and remains one of the most important problems for agricultural producers. One of the prerequisites for the introduction of mortgage purchases was the crisis economic situation of agricultural enterprises and the inability to replenish working capital at the expense of bank loans (their fees are often much higher than the actual profitability of production and similar fees for loans in developed countries of the world); necessity of commodity producers in the postharvest period of payments for the received monetary and commodity loans used for the harvested yield; the need for the issuance of grain to shareholders in the form of rent for land, equity shares and payroll arrears (Shpychak, 2017). One of the shortcomings in the establishment of mortgage prices in domestic practice was the sharp fluctuations in their level from year to year and the imperfection of the calculations, which caused distrust in commodity producers, since in determining the size of collateral prices for the next marketing year, the market situation of the past year, rather than the forecast for the following year, was taken into account more.

Since 2005, the state has somewhat changed the approaches to the regulation of the grain market through adopting the Law "On State Support to Agriculture of Ukraine" dated June 24, 2004, No. 1877-IV. This law introduced an intervention procurement mechanism and somewhat changed approaches to mortgage transactions with grain. Consequently, the mechanism of state price regulation involves establishing a corridor of free fluctuations in market prices and the price limits of the state's decision to put into operation market and administrative levers of price regulation. It was established that the free market



corridor of 2015/16 MP was 39%. In fact, according to similar calculations, the amplitude of seasonal fluctuations was 32%.

In the current situation in Ukraine, it is quite difficult to counteract the critical price fluctuations for agricultural products, as they are influenced by the world market situation only through the mechanisms of state intervention purchases. It was established that the higher efficiency of these mechanisms is manifested through the formation of an intervention fund of non-export oriented types of crop production, which are the objects of state price regulation. In order to ensure food security, forming a public intervention fund and implementing forward purchases of wheat are considered to be appropriate.

Another mechanism for regulating the price offer is the implementation of state forward purchases of grain. The combination of mechanisms for intervention operations, mortgage and forward purchases is a combination of price regulators through which the state policy of ensuring food security is implemented. If long-term market regulation takes place through interventions, as the process for the formation and use of intervention stocks requires a period of more than one year, mortgage and forward purchases serve as short loans. It was established that during 2012-2015 the volume of procurement to the intervention fund was low due to insufficient budget financing. This was also facilitated by the lack of systematic distribution of functions between operators and the insignificant terms for the formation of newly created organizations.

Ukraine has the experience of regulating export-import operations with agricultural crops which is rather valuable both from a methodological and a practical point of view, in particular regarding the introduction of a customs tariff for sunflower seeds export from Ukraine. Adoption of the Law of Ukraine "On the rates of export (export) duties on seeds of certain oilseeds" resulted in significant transformational changes in the oil industry, which was the impetus for its development and as a consequence of the structure of the export of oilseeds. In particular, it was manifested in the radical development of processing capacity due to an increase in investment flows, an increase in the employment. Ukraine ranked first among exporters of sunflower oil on the world market and increased the volume of foreign exchange earnings from foreign trade. In addition, valuable protein feeds remain after the processing, and are further sent to the livestock industry, which eventually ensured an increase in value added in the country.

Consequently, the specific features of the use of the instruments of regulation of the agro-food market in Ukraine are low due to the violation of the integrated and systematic approach, as well as the ignoring of their full realization due to certain subjective and objective reasons, for example, budget

constraints. That is why there is a need for their improvement on the basis of European practice and specific national requirements.

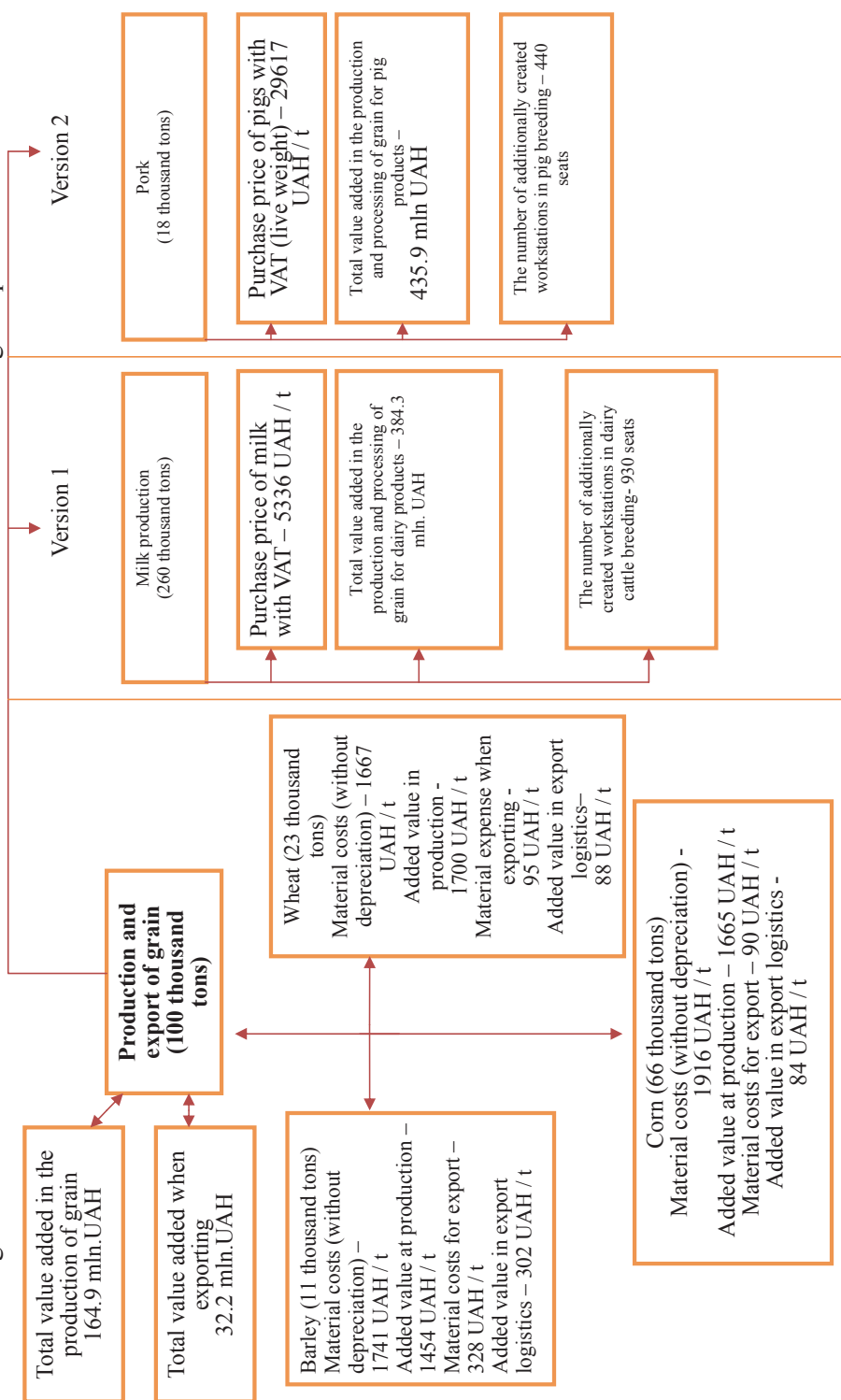
We believe that, under the current conditions, agricultural regulation instruments should focus on strengthening the export potential of the industry through increased value added in agro-food chains. Thus, the analysis of foreign trade in agricultural products shows that in 2016 the export volumes of sunflower oil are three times lower than the export of corn. However, income from the export of sunflower oil is by 1 billion more than the export of corn.

The calculation of the appropriateness of value added in agro-food chains we conducted on the basis of comparison of the total added value created during the production of grain and its use in the production of milk or meat, taking into account the actual structure of production of livestock products by category of farms. Thus, the calculations convinced that the use of grain in the production of milk and meat exceeds the aggregate value added created for the production of grain and its exports in 1.9 and 2.2 times for milk or meat, respectively. In addition to 236, the calculations show that the processing of grain for livestock products creates additional workplaces, with the production of pork – 440, milk – 930 (Figure 1).

Another area of use of grain in the country, especially in the conditions of our state's energy dependence, is the need to substantiate the economic feasibility of processing their bioethanol. However, the implementation of this strategic direction of the use of grain should be considered through the prism of the priority of full supply of own needs in food.

However, it is possible to realize this advantage of domestic agriculture provided that the quality and safety of products, especially livestock, are ensured. The signing of the Association Agreement with the European Union provoked new challenges and exacerbated quality problems in the agrarian sector of Ukraine. The transition to a European model of food safety has necessitated not only the modernization of the domestic food and feed safety system and the veterinary service, but also the introduction of sanitary and phytosanitary measures in agricultural enterprises in accordance with the requirements of the EU. One of the most problematic solutions to the agrarian sector is the requirement to guarantee the production of safe food based on the introduction of systemic safety methods. We have found that as of 01.01.2017 in accordance with the requirements of international standards in the food industry there were functional SMs: ISO series 9000: 403 units were certified, 46 units were under development and implementation; ISO Series 14000: Certified – 43 units, in stage – 14 units; HACCP: certified – 342 units, in the stage – 150 units; DSTU ISO 22000: certified – 552 units, in the stage – 128 units.

Figure 1. Economic substantiation of the directions of formation of value added in grain-product chains



Source: calculated by the author.

In total, 1340 units are certified in the food industry management systems, and at the stage of development and implementation, there were 338. At the same time, management systems were certified and implemented by almost 90% of large and medium enterprises (979 enterprises out of 1118 large and medium enterprises (87.5%). The total number of processing and food enterprises is 5.5 thousand, including small ones – more than 4.4 thousand. At the same time, the most critical situation in implementation of quality management systems among agricultural producers (44.9 thousand), according to expert estimates, amounts to three percent of enterprises, which were introduced permanently procedures, namely: implemented Safety Systems (HACCP or DSTU ISO 22000: 2007 as part of the AHL); independently audited for production compliance with the minimum requirements of the basic programs (ISO / TS 22002-3: 2011 Program of mandatory preliminary safety measures). Thus, the necessary direction of regulation of the agro-food market should be tools for stimulating commodity producers in the production of high-quality and safe products. We consider it necessary to introduce a two-level system for controlling food safety requirements on the basis of a combination: the first level – the state system for controlling the safety of food and feed and the veterinary service provided by the territorial network of departments, institutions and laboratories of the State Consumer Protection Service; the second level – obligatory confirmation by the Ukrainian exporter of products of animal origin of the equivalence of the current system of safety of the enterprise with the requirements of the model of safety of food and animal feeds operating in the EU, the main element of which is the introduction of the HACCP system and other safety procedures. Depending on the degree of risk, an enterprise is assigned the appropriate risk category – very high, high, medium, low and very low.

An important direction in the future in the state regulation of agriculture is to provide incentives for the development of organic production. In Ukraine in 2016 there were only 390 organic production enterprises with an area of 421 thousand hectares. Ukraine ranks 22nd in the world in areas allocated for organic production. Export volumes of organic products from Ukraine exceed domestic consumption and in recent years ranged from 35 to 50 million euro (Martynyuk M.P., 2017). Although this segment of production in Ukraine tends to increase, the main constraints are: the lack of development of the domestic market, the dominance of imported organic products in the market, the lack of development of the infrastructure of trade in organic products, the imperfection of the regulatory framework, limited access on the external markets of organic products, lack of state support, lack of educational work. The financial support, preferential taxation, increase of supplements to the purchase price, preferential

prices for services and means of production, state insurance, promotion of organic products among producers and consumers, and the creation of a rationalized market for organic products can be instruments for implementing state incentives for organic production.

For agrarian policy in Ukraine, the lack of a strategic vision of the final model of the rural system, in particular the existence of a disparity in the legal regulation of economic freedom between the corporate and private sectors, is characteristic, as the small, especially self-employed forms of farming in the countryside are virtually ignored. Thus, the Concept of the State Target Program for the Development of the Agrarian Sector of the Economy for the period up to 2021, aimed at “creating organizational and economic conditions for the effective socially oriented development of the agrarian sector, ensuring stable production of quality and safe domestic agricultural products and industry by agricultural raw materials, production with high added value, increase in volumes on the world market of agricultural products and foodstuffs”. Within the framework of this program, ways and means of solving problems of agricultural development related to support of existing and creation of new economic entities – commodity producers of agricultural products, in particular family farms (Concept, 2015).

Modern trends in European integration processes challenge the domestic producers of agricultural products, many of which are not in line with the new requirements of the international agro-food market, especially in terms of quality and product safety. Among the main obstacles are: limited financial and credit resources for modern technical support of production processes, increased activity of agro-holding corporatization specializing in the production of export-oriented products (mainly in the form of raw materials), ignoring agro-ecological and technical conditions of production, inconsistency with the European rural development strategy territories. Under such conditions, the state should improve and strengthen the agrarian policy to promote the development of small-scale agricultural production; special attention should be paid to stimulating the realization of the entrepreneurial potential of landowners by acquiring them the status of a producer of agricultural products in the form of a family farm.

As you know, in the countries of the European Union, family farms are a fundamental element of regional development of rural areas. In this aspect, these economic entities should be considered not only as structures of a purely industrial direction but also as a centre for the preservation of the cultural heritage and for ensuring the integrity of the rural communities' society. Within the framework of CAP (European Common Agricultural Policy), European

countries give only a secondary role to the production function of family farms, the primary task of these structures is to determine the development of rural areas and support for national cultural features (Zimbahl, 2012). At the same time, preservation of family-owned farms status of the state support entity is achieved due to their significant contribution to the sustainable development of the national economy and the rational use of land resources.

Thus, in 2015, there were 4.1 million private peasant farms operating in Ukraine, a significant proportion of which can be attributed to the category of small-scale production, since they set the balances of agricultural produce, although they do not have legal personality. In the dynamics of the last ten years, the number of OSG annually decreases by 82.9 thousand units, according to our calculations their number will decrease to 3,012 thousand units by 2030. As a trend line, we selected an exponential function with a high determination coefficient  $R^2 = 0.9718$ , which realistically predicts the future situation in accordance with the general tendencies of a rapid decrease in the number of rural population. At the same time, the generalization of normative legal provision of agricultural production in rural areas, at present, there is no single clear approach to the policy of development of forms of small-scale farming in the countryside (Stelmashchuk, 2010). In this aspect, the role of executive bodies of Ukraine in determining strategic goals of agricultural production development, optimization of its production and social infrastructure, ensuring proper servicing, development of service and credit cooperation, marketing and other measures to improve the functioning of market infrastructure objects from the purpose of maximizing the interests of producers of agricultural products. According to the results of the expert assessment of representatives of business associations, it was established that the most acute problem of the development of small and medium enterprises in Ukraine is corruption in various forms and manifestations in interaction with the authorities (Hodko, 2015). The expediency of developing a mechanism of state support for the development of small forms of management, which should meet the following conditions: harmonization of state structural policy with program documents for the development of rural areas and agriculture and small businesses; assessment of the institutional environment of the functioning of family farms and the problems of their creation; definition of forms, methods, tools and sources of state support; infrastructure and regulatory support for supporting family businesses. At the same time, the mechanism of state support for the development of family-owned farms in Ukraine should include stimulating tools and measures for support in relation to: improvement of technical and technological support for agricultural production, its adaptation to the requirements of international standards;

expanding the channels of product sales through overcoming barriers to entry, ensuring fair competition; ensuring the proper level of economic and financial-credit support; improvement of the regulatory environment for the conduct of entrepreneurial activity by family farms, etc.

#### **4.4. Summary and conclusions**

The research proves that there has existed rather powerful arsenal of state price regulation tools in the national legislation in different periods, but the reason for their low efficiency is the lack of systemic and timely introduction, proper financial support, partnership responsibility in fulfilling the obligations and agricultural manufacturers trust. The transformation of the instruments of state regulation of the agri-food market should be oriented towards supporting the formation of added value in agri-food chains, the development of organic production, the achievement of compliance of quality indicators and product safety with European requirements, and encouraging the development of family farms and rural areas. It is estimated economically that one of the ways to reduce the dependence of export-oriented crop production on the world price volatility is diversification of the use of products in line with alternative options for value added increase within the country, in particular, in grain production for livestock .

It is established that the current state of state support to agricultural producers is characterized by the absence of a clear mechanism for their stimulation and ensuring the effectiveness of economic activity. The state is now unable to organize an effective system of indirect support, including the creation of an effective mechanism for transforming peasant farms into family farms. Effective tools for stimulating the development of the European model of family farms in Ukraine may be the following: tax rebates on the achievement of a certain level of income, payment of early retirement pensions to family farmers, assistance in the manufactured products processing, active involvement of young people into production through the provision of certain financial preferences, price support, support for the production of environmental products, etc.

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## 5 The Common Agricultural Policy of the European Union and the ways of its implementation in Ukraine

*Vasyl D. Zalizko*

*Dr of Economic Sciences, Leading research fellow, National Research Center  
“Institute of Agrarian Economy”, Kyiv, Ukraine;*

*E-mail: zwd@ukr.net*

*Nataliia M. Vdovenko,*

*Prof. Dr of Economic Sciences, Head of the Department of Global Economics  
The Honoured Agriculture Worker of Ukraine National University of Life and  
Environmental Sciences of Ukraine, Kyiv Ukraine;*

*E-mail: nata0409@gmail.com*

*Violeta L. Heraimovych,*

*Ph.D., Associate Professor of the Department of Global Economics National  
University of Life and Environmental Sciences of Ukraine, Kyiv, Ukraine;*

*E-mail: vita\_violeta@ukr.net*

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### Abstract

The new economic policy in Ukraine implies the use of the benefits of the free trade regime with the European Union member states. To improve the competitiveness of domestic agricultural products, it is expedient to use the experience of European Union, which has gone a long way to its formation. Common agricultural policy of EU member states was ensured through effective mechanisms. Mechanisms that create cross-responsibility - from producers: high quality products, maintenance of land in a proper condition, and on the part of the state – guarantees of subsidies and financial support. This experience should be used to form an effective Ukrainian agricultural market.

**Keywords:** European Union, agricultural market Common agricultural policy, competitiveness, subsidies, agroindustrial complex.

**JEL codes:** F36, F37, Q12, Q18

### 5.1. Introduction

The following scientists were engaged in the study of the agro-industrial complex and the common agricultural policy of the EU: Duhienko N., Vinichenko I., Omeliyanenko T., Bazylevych V., Kovalchuk S. and others,

however, not all aspects are sufficiently studied and reflected, which makes further research necessary and relevant.

The goal of the study is to analyze the common agricultural policy of the EU, to systematize its main stages and principles, and to formulate effective mechanisms that will contribute to the development of Ukrainian agricultural market.

## **5.2. The evolution of the EU Common agricultural policy**

For the first time, the Common Agricultural Policy (CAP) was introduced in the countries of Western Europe in the 50's of the 20th century. At that time, due to the war, it was impossible to provide sufficient amount of food, since Europe's agriculture was destroyed. Therefore, the first goal of CAP was to ensure high labor productivity throughout the entire food production chain and to provide the EU with a viable agricultural sector of the economy. The CAP encouraged the production of agricultural products by way of paying farmers and guaranteeing high sales prices for them. Financial support was provided to expand production, to introduce new technologies. It helped farms survive and develop. Although the CAP was very successful in moving the EU towards self-sufficiency, by the 1980s the EU had to contend with almost permanent surpluses of the major farm commodities, some of which were exported (with the help of subsidies), while others had to be stored or disposed of within the EU. These measures had a high budgetary cost, distorted some world markets, did not always serve the best interests of farmers and became unpopular with consumers and taxpayers. At the same time society became increasingly concerned about the environmental sustainability of agriculture.

The 1992 reform started the process of reduction in support prices and the introduction of direct payments for a few key agricultural sectors. A new set of reforms initiated in 2003 and continued in 2008 with the Health Check, aimed at enhancing the competitiveness of the farm sector, promoting a market-oriented, sustainable agriculture and strengthening rural development policy. A central element of the latter reforms was to 'decouple' the majority of direct payments from production. That is, farmers were no longer to receive payments related to a specific type of production. Instead, payments were linked to entitlements based on the value of historical subsidy receipts, conditioned to the provision of environmental public goods. In parallel, a comprehensive rural development policy was introduced as Pillar II of the CAP; this policy encouraged many rural initiatives while also helping farmers to diversify, to improve their product marketing and to otherwise restructure their businesses. The recent OECD evaluation of CAP reform confirmed that this reform process led to a significant

decrease in the distortion of production and trade and an increase of income transfer efficiency. Measuring the amount and type of support to producers using the OECD Producer Support Estimate (PSE) indicator, the share of potentially most distorting support in PSE decreased from 92% to 34% between 1986-88 and 2007-09; it is projected to further decrease to 27% when the Health Check reform is completed. The share of gross farm receipts derived from support to producers decreased from 39% to 23% between 1986-88 and 2007-2009, close to the OECD average of 22% in 2007-09.

At the next stage of CAP (2007-2013) the following priorities were set:

- strengthening competitiveness of agriculture. To achieve this, restructuring and modernization of the agrarian sector were foreseen; support for integration links; access to scientific and technical achievements and support of their implementation; access to the information and introduction of information technologies; support for the production of new agricultural products; support of producers cooperation;
- environmental protection in the countryside. State support was focused on the introduction of energy-saving technologies; preservation of natural resources; reduction of the harmful agricultural climate impact;
- improvement of life quality in rural areas and stimulation of non-agricultural employment.

State support was also needed for the development of small businesses and crafts in rural areas; tourism development; development of education for the needs of the rural economy; modernization of rural infrastructure; creation of the system for innovative use of renewable energy sources derived from agricultural products, etc. At the fifth stage, basing on the analysis results, the requirement for farmers to keep 10% of their arable land set aside was cancelled; a decision was made to gradually increase milk quotas and to eliminate them in 2015. A decision was made that surplus products will only be purchased by the governments to protect the market and growers income, when commodity prices drop below a dangerously low level.

### **5.3. New priorities of the European Union for 2014-2020: strategic directions for Ukraine's agricultural sphere development**

For the period 2014-2020, the goals and objectives of the CAP were identified basing on discussion held with the participation of representatives of European environmental organizations and farmers, consumer and animal rights protection organizations, transnational companies and the European Commission among others. The decision-making process was different from previous reforms, for the first time the European Parliament was only a co-author of the reforms. The main goals of the modern stage of the CAP:

- viable food production;
- sustainable management of natural resources and climate;
- actions for balanced development of the territories.

The peculiarity of the current stage of CAP is to focus on the provision of public and private benefits as a result of its implementation. Farmers should be rewarded for services they provide to the broad public, such as landscapes, biodiversity of agricultural land, even if they do not have market value. Thus, the goals of the new policy have two levels. The first level is the provision of environmental public benefits. The second level, a regional one, should complement first international level, given the wide variety of agriculture, production potential, environmental as well as socio-economic conditions and needs in the EU. Both levels are framed by clearly defined budget constraints, in order to ensure equal conditions at European level aimed at achieving common goals. EU countries are jointly responsible for balancing potential benefits and costs for both producers and national authorities. In order to achieve the set goals, measures have been taken to adapt the methods of CAP.

Thus, increasing the competitiveness of agriculture is achieved through the introduction of changes in the market mechanisms interference tools, in particular the abolition of 312 production restrictions. All existing restrictions on production volumes for sugar, dairy products and wine will be eliminated, which will allow farmers to amend production in response to world demand growth. Dairy quotas will expire in 2015, quotas for sugar – in 2017, and in the wine industry – in 2018. Regulatory measures should also enhance agriculture competitiveness: an enhanced legal framework extends the possibility for collective bargains (in some sectors) and supply contracts (for all sectors), and introduces a temporary exemptions from certain rules of competition during the periods of market imbalance.

Another tool that strengthens competitiveness at a farm level is young farmers support. This tool was introduced because the EU countries faced with the aging of the rural population (only 14% of EU farmers are aged under 40 years). From 2015, all young farmers entering the sector are able to receive an additional subsidy.

These tools are designed to help the agricultural sector adapt to the new trends and technologies, thus becoming more effective. The new CAP also offers tools that enhance the EU's ability to manage crises. The crisis fund, which counts 400 million euros per year in 2011 prices, was created. Its financial resources are planned to be spent in the event of a crisis, the source of fund filling – deductions from direct payments. Unused amounts are planned to be reimbursed to farmers in subsequent budget years. Other risk management tools are also offered: insurance for crops, animals and plants, as well as mutual funds and an income stabilization tool. Agriculture have to improve environmental efficiency through more sustainable production techniques. In order to receive full financing under the CAP the farmers have to comply with the mandatory basic ecological requirements and obligations, which will allow to achieve this goal. Also, from 2015, a new direct payment policy tool is introduced: 30% of national direct payments goes to farmers for meeting the three mandatory agricultural practices: keeping sustained pastures, environmental focus areas and diversification of crops. Based on these methods, rural territories development will play a key role in achieving the environmental goals of the CAP and in combating climate change. Also, at least 30% of the budget of each rural development program should be reserved for measures beneficial to the environment. These include agro-climatic events, organic agriculture, etc. All these activities make a significant contribution to the improvement of the environment, because they are adapted to the local needs. The entire set of complementary policy tools is accompanied by appropriate training and other maintenance from the Advisory Institutions.

#### **5.4. Organic component of the agricultural policy of Ukraine and common agricultural policy of the EU**

So-called environmentalization and organic production are among the key positions in the new program period of 2014-2020. Stimulation of environmentalization of agriculture within the framework of the CAP is provided through “green payments” - compensations for the maintenance of pastures, conservation of environmental areas (up to 7%), conservation of biodiversity and natural landscapes. To help farms to solve problems related to the quality of soil and water, climate change, about 30% of the budget of the

rural territories development program should be allocated for agro-ecological measures, support for organic agriculture and projects related to innovations or environmental investments in this area. Subsidies for these purposes are set proportionally to the area of arable land without fixing the upper limit of payments to farmers. CAP strategy till 2020 supports organic producers.

Today, large-scale agribusinesses account for 51% of the gross domestic product of agribusiness in the EU, the remaining 49% are farms. Thus, the strategy is to keep the equal opportunity for small and medium-sized farmers and cooperatives to enter domestic and local markets along with largescale agrarian companies, to protect their income from market and natural factors. In the new program period 2014-2020 compared to the previous period (2007-2013), the share of CAP in the EU budget drops from 39% in 2013 to 33% in 2020.

Priority also remains to be given to local resources used for ecosystem conservation and climate change risk prevention. Financing of preferential sales of organic products and the development of partner relations between processing enterprises, protection of rights of agricultural non-governmental organizations is increasing. In addition, the amount of direct compensation to farmers is changed depending on the recipient country: for old members these payments are reduced by 5% (from 282 euros/hectare to 269 euros/hectare), and for new members of the EU they increase by 60%. In the context of the European integration of Ukraine, the growing factor for increasing the competitiveness of the economy is the production of environmentally friendly (organic) products. Production of organic products is officially defined in Ukraine as a priority of the state support. The Strategy for Ukraine's Agriculture Development "3 + 5" developed by the Ministry of Agrarian Policy and Food suggests the following directions of the reform: stimulation of organic production, expansion of markets for agricultural products, development of rural territories, irrigation of land and food safety.

In particular, the Ministry and the State Geocadaster are developing a mechanism to stimulate the production of organic products through the special land auctions. They assume that the market operators will be offered land plots at preferential rental rates to place organic production. Preferences will only come to force from the moment of actual implementation of the investment project – the beginning of the certification process, which means confirmed fixed intentions. In case the stated auction conditions are not observed by the auction winner the rental rates applied will be returned to the market level – the average in the corresponding area. Today, foreign partners are interested to cooperate with Ukraine by way of purchasing organic raw commodities, rather than the ready to eat food product, which shifts the emphasis of this cooperation

towards the raw commodities market share. This is primarily due to the lack of effective legislation, and hence the mechanism for regulating the organic products market and the corresponding control system. Such conditions create a favourable environment for the consumer rights abuse and the development of unfair competition among producers. That is why, according to specialists, the Rada of Ukraine should adopt the draft Law “About Basic Principles and Requirements for Organic Production, Circulation and Marking of Organic Products” and regulatory bills for its implementation.

Having considerable potential for the production of organic agricultural products, their exports and domestic consumption, Ukraine has achieved some results in developing its own organic production. So, the area of certified agricultural land engaged in the cultivation of various organic products in Ukraine already exceeds four hundred thousand hectares, and our country holds the honourable twentieth place in the chart of world organic movement leaders. The share of certified organic areas among the total agricultural land in Ukraine is about 1%.

In this context, it should be noted that the lack of a network of domestic certification companies is a serious slowdown in the development of organic production in Ukraine. To date, Ukraine has only one domestic certification body (Organic Standard), which sets the high prices for certification and small and medium-sized agricultural enterprises do not have the financial capacity to undergo organic certification.

At the same time, Ukraine is a leader among Eastern European region in terms of the certified area of organic arable land, specializing mainly in the production of cereals, leguminous and oilseeds. Official IFOAM statistical surveys confirm that in 2002 there were 31 registered organic farms in Ukraine, while in 2016 there were already 360 certified organic farms, and the total area of certified organic agricultural land calculated 411,200 hectares. Studies of the Organic Movement Federation of Ukraine show that domestic consumer market for organic products in Ukraine began to develop from the beginning of the 2000s, amounting to: 2006 – 400 thousand euros, 2007 – 500 thousand euros, 2008 – 600 thousand euros, 2009 – 1.2 million euros, 2010 – 2.4 million euros, in 2011 this figure increased to 5.1 million euros, in 2012 – to 7.9 million euros, in 2013 – up to 12.2 million euros, in 2014 to 14.5 million euros, in 2015 – to 17.5 million euros, and in 2016 – to 21.2 million euros [Berlach, 2009].

In order to determine the importance of the organic sector in agricultural production, it is worth pointing out the rapid pace of development of this sector. For this we calculate the forecast, that describes the dynamics of organic production in Ukraine based on the theory of approximation, which requires the

construction of spline (coconvex polynomial of degree 2) and you must define the Finite differences of k-th order. In the role of approximant we use the quadratic coconvex spline L for which inequality is proved

$$|f - L| \leq c \omega_3(f; \rho_n),$$

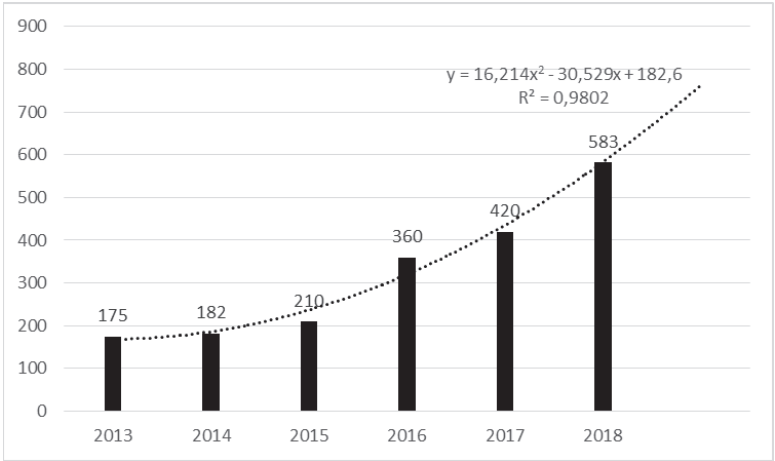
$$\rho_n = \frac{1}{n^2} + \frac{(1 - x^2)^{1/2}}{n}, n \in \mathbb{N}, x \in [a, b], a > b,$$

(1)

where f – a certain function given by the tabular method, c – constanta, which depends on the choice of the points of the partition (years),  $\omega_3(f; \rho_n)$  – the modulus of continuity (smoothness) of the third order, which is calculated using the mathematical tool Wolfram Mathematica 10 (details see, for example, [Zalizko and V. I. Martynenkov, 2016].

Thus, the short-term forecast for the development of the organic market of Ukraine for 2018 indicates an substantial increase of organic market (Fig. 1).

Figure 1. Forecast number of organic farms in Ukraine in 2018



Source: author’s calculations and presentation based on the data of the State Statistics Service of Ukraine

It should be noted that an increase in the number of certified producers will contribute to filling the domestic market with its own organic products by adjusting domestic processing of organic raw materials. For comparison, in 2014 there were about 260 thousand organic producers in the EU (340 thousand in Europe). The largest number in Italy - nearly 49 thousand and Turkey – 71 thousand. According to IFOAM, since 1999, the number of organic producers



has increased 10-fold to 2.3 million. More than 75% of all manufacturers are located in Asia, Africa and Latin America. Diagnosis of the current state of the domestic organic agri-food market has shown that the indicators of its functioning are increasing, but still they do not correspond to the level of highly developed countries. In order to ensure its effective development in the future, it is necessary to deploy a complex program for decisions and actions aimed at increasing the profitability of domestic production structures and infrastructure of this market.

Organic production plays an important social, economic and environmental role for the whole country. Organic production technologies are aimed at improving the ecological conditions, improving the quality of soils, preserving biodiversity (Zalizko et al. 2017). A positive effect shows itself also as increase of the competitiveness of Ukrainian products on the world markets, therefore the development of organic production and organic products market should become one of the priority directions of the state policy in the agricultural sector. The main task of the state in modern conditions is to maintain positive trends in the organic market of Ukraine. The adoption of the Law “About Basic Principles and Requirements for Organic Production, Circulation and Marking of Organic Products” should become an effective step in this direction, in line with the requirements and principles of organic production regulation in the EU, and the relevant regulatory bills for its implementation.

## **5.5. Summary and conclusions**

The value of the Common Agricultural Policy is the possibility to open new prospects for the formulation and implementation of a transparent agricultural policy in our country. Over the years of independence, Ukraine’s agrarian sector has become the most discussed and remains one of the priorities even in the worst times. However, a number of programs aimed at the revival of the Ukrainian village, the development of cooperatives, small and medium farms did not have the desired effect. CAP stands for a constructive dialogue between the authorities, the producer and the consumer, for an open and transparent agricultural policy.

Given the Ukrainian organic market forecast in the conditions of shrinkage of the budget framework (under the influence of the WTO requirements), it is important that resources should be distributed in such a way as to maximize the achievement of the CAP goals. Efficiency increases through the targeted support, fair distribution of subsidies between countries and within member states and a strategic approach to their use. The strategic task of

the CAP remains unchanged, but the current situation on the world markets, WTO agreements on trade liberalization of agricultural products, on the one hand, and the divergence of the agricultural sectors development levels indifferent EU countries, which had historically formed, on the other, make it necessary to review CAP regularly, to improve policy tools and to state new goals. So, under the influence of the trend to step away from direct subsidies and price support, the CAP in the coming years will direct more and more money to measures related to regional development programs, research and infrastructure development. Nevertheless, the policy is absolutely consistent, there are no discrepancies between the strategic goal and the tactical tasks, the policy is characterized as coherent and flexible at the same time.

In contrast to the EU, Ukraine has no clear state agricultural policy, adequate towards contemporary challenges and threats. This factor has a significant negative impact on the competitive position of Ukrainian agricultural sector in the world markets and will aggravate the vulnerability of the agro-industrial complex to both external and internal factors influence. It is, therefore, advisable to take into account the positive experience of the EU member states conducting the CAP.

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## 6 Farm's financing patterns and financial system development: evidence from Ukraine and Poland

*Prof. Olena Oliynyk-Dunn,  
National University of Life and Environmental Sciences of Ukraine, Faculty of  
Economics, Department of Banking*

*Prof. Viktor Adamenko,  
Kyiv National University of Trade and Economics, Faculty of Economics,  
Management and Psychology, Department of Economics and Business Finance*

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### **Abstract**

Using integral indicator of financial system development, we investigate how the financial system in Ukraine and Poland developed during 2010-2015 and how financial system development affects financing of farms in Ukraine and Poland. The results of the study indicate that there was a rapid decline in the development of Ukraine's financial system during 2010-2015 and positive tendency in the development of Polish financial system. The results of the paper deny the findings of some researchers that in countries with a less developed financial system, the role of external financing is lower. The results of the study showed that the dependence of Ukrainian farms on external financing increased significantly during 2010-2015. The main feature was that external financing grew not due to an increase in bank loans but due to informal sources. Contrary to Ukraine in Poland, the study revealed a strong statistical relationship between the integral indicators of the financial system and indicators characterizing the financing patterns of agricultural enterprises. This gives some arguments in favour of the confirmation of the hypothesis that the stable development of the financial system in advanced economies, generates a gradual increase the role of long-term debt and perpetuates its own sources of financing of agricultural enterprises.

**Keywords:** financial system, financial patterns, integral indicator of financial system development, farms, Ukraine, Poland

**JEL Codes:** G10; G21; G32

### **6.1. Introduction**

Recent scientific papers studying the financing patterns around the world emphasize the importance of financial system differences on capital structure (Hackethal et al., 2004; Booth et al., 2001; Demircuc-Kunt and Maksimovic, 1996, 1999; Beck et al., 2008; Giannetti, 2003; De Jong et al., 2008; Fan et al., 2010).

Hackethal et al. (2004) show that the differences between the financing patterns used in three selected countries (U.S.A., Germany, and Japan) are largely consistent with the differences between financial sector structures, corporate governance regimes and several other financial system elements of these countries.

Demirgüç-Kunt and Maksimovic (1999) find systematic differences in the use of long-term debt between developed and developing countries, and small and large firms. In developed countries with good legal systems, and consequently good financial systems, firms have more long term debt, which represents a greater proportion of their total debt. Also, they find that large firms have more long-term debt as a proportion of total assets and debt compared to smaller firms.

Beck et al. (2008) find that firm size, financial development and property rights protection are important factors in explaining the observed variation in financing patterns. Firms in countries with poor financial institutions and small firms use less external finance, especially bank finance.

De Jong et al. (2008) state that in countries with a better legal environment, and more stable and healthier economic conditions, firms are not only likely to take on more debt, and the effects of firm-level determinants of financial leverage are also reinforced.

Giannetti (2003) analyses a large sample of unlisted firms from eight European countries and finds a significant positive influence of a few institutional variables such as creditor protection, stock market development and legal enforcement on the financial leverage of individual firms.

Fan et al. (2010) find contrary results compared with the studies mentioned above. They contend that “firms in countries that are viewed as more corrupt tend to use less equity and more debt, especially short-term debt, while firms operating within legal systems that provide better protection for financial claimants tend to have capital structures with more equity, and relatively more long-term debt”.

In this paper, we investigate whether the financing patterns of farms in Ukraine and Poland depend on the level of financial system development that has been the focus of the prior literature. A direct implication of previous studies is that in countries with weak financial systems, farms obtain less external financing and that this results in lower growth. We also explore the relation between farms’ external financing and a country’s financial institutions and consider a broader spectrum of external financing sources such as supplier credit and informal sources.

6.2. Research methods

The most common (traditional) approach to assessing the impact of one research object (phenomenon or process) on the development of another object is based on an analysis of the interdependence of the indicators characterizing both of these objects. This interdependence could be analyzed using different methodological approaches; the most common are the following:

- 1) Time series analysis;
- 2) Regression analysis.

These two methodological approaches were chosen to assess the impact of financial system development and financing patterns of farms in Ukraine and Poland from 2010 to 2015.

To investigate the level of financial system development we used the model «3+3», which allows simplicity and affordability, and provides an adequate comparative analysis of financial systems of individual countries and identifies their type (bank-based or market-based)<sup>9</sup>.

The integral indicator of level development is calculated as an area of the geometric figure (hexagon – for financial system, triangle is for banking sector and financial markets), with the tops in a coordinate system of 6 or 3 axes. Each axis corresponds to one of the indicators listed in the Table 1. On each of the six or three axes, we plot the relative values, which are defined as a share of the maximum (or reference) value of the indicator.

Table 1. The indicators of the simplified model of the integral indicator

Integral indicator	Components of the integral indicator			
	Scale	(extensity	The resources	The efficiency
	development)			
Financial development:				
Banking sector	Commercial bank branches(per 100,000 adults)	bank 100,000	Bank deposits to GDP (%)	Domestic credit to private sector by banks (% of GDP)
Financial markets	Listed domestic companies (per 1,000 enterprises)	domestic (per 1,000	Stock market capitalization to GDP (%)	Stocks traded, total value (% of GDP)

Source: own development based on data (World Bank 2017a, 2017b).

<sup>9</sup> A more detailed explanation of the model “3+3” is in Oliynyk et al. (2015) and Oliynyk-Dunn (2017).

The integral indicator of the financial system development level as an area of the hexagon can be calculated by the formula:

$$II_{FS} = \frac{1}{2} \times [(I_1 \times I_2) + (I_2 \times I_3) + \dots + (I_6 \times I_1) \times \sin 60^\circ], \quad (1)$$

where  $II_{FS}$  – the integral indicator of the financial development level;

$I_1, I_2, \dots, I_6$  – relative values of indicators used in the model "3 + 3" (6 indicators):  $I_1, I_2, I_3$  – relative values of banking sector indicators,  $I_4, I_5, I_6$  – relative values of the financial market indicators (see table 1).

The integral indicator of the banking sector or financial markets level as an area of the triangle can be calculated by the formula:

$$II_{BS/FM} = \frac{1}{2} \times [(I_1 \times I_2) + (I_2 \times I_3) + (I_3 \times I_1) \times \sin 120^\circ], \quad (2)$$

where  $II_{BS/FM}$  – the integral indicator of the banking sector or financial markets level;

$I_1, I_2, I_3$  – relative values of indicators of scale, resources and efficiency.

The integral indicator describes the relative development level and it cannot be calculated only for one country for one year without comparison with another country or establishing reference values or time-series data.

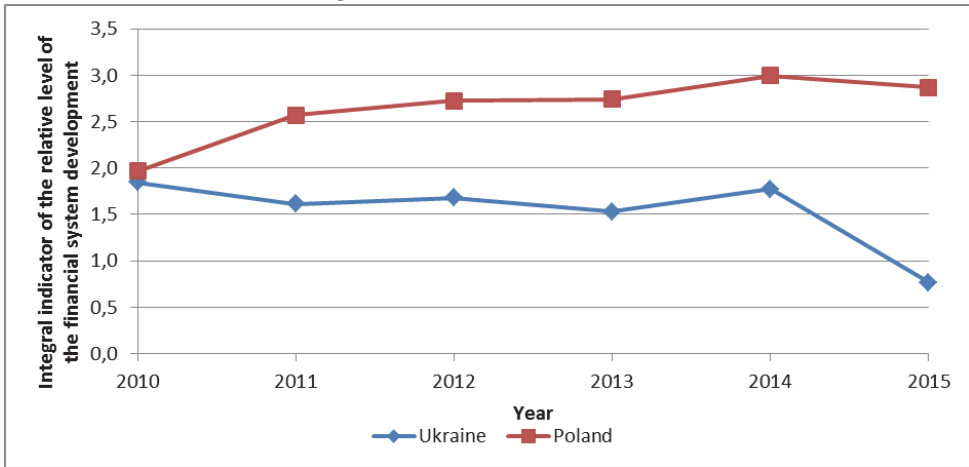
We used the coefficient of financial leverage, ratio working capital to current assets, ratio accounts payable to current assets, the share of current liabilities in the total amount of liabilities, the share of bank loans in the total amount of liabilities, the share of short-term bank loans in current liabilities to analyse the financing patterns of agricultural enterprises in Ukraine and Poland.

### 6.3. Results

The financial system of Ukraine during the last decade was experiencing a rather difficult period. During 2010- 2013, the value of the integral indicator of the level of financial system development of Ukraine indicates a post-crisis stagnation (see Figure 1). The rapid decline in the level of development of Ukraine's financial system was observed in 2015 after a slight recovery in 2014.

The level of development of Poland's financial system showed a general upward trend (the last of 2015 is the only exception when this level has slightly decreased).

Figure 1. Dynamics of financial system development of Ukraine and Poland according to the model “3 + 3“, 2010-2015



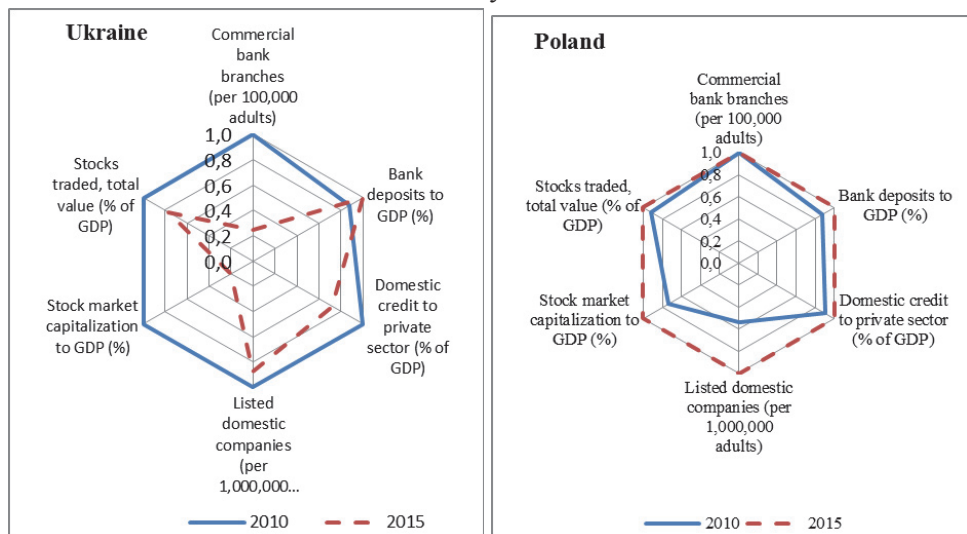
Source: Own elaboration based on data (World Bank 2017a, 2017b).

Figure 2 illustrates significant transformational changes in the financial system of Ukraine. The main reasons for negative changes in 2015 were: 1) the massive bankruptcy of Ukrainian commercial banks; 2) rapid depreciation of securities of Ukrainian issuers on the domestic stock market. The first reason, caused a significant decrease in the number of bank branches in the country (see indicator Commercial Bank branches per 100,000 adults in Figure 2), and the second reason brought the collapse of the indicator of the stock market capitalization to GDP to an unacceptably low value.

The financial system of Poland demonstrated positive tendency in 2015 compare with 2010. Particularly the most significant growth was demonstrated by the stock market (especially its scale indicator).

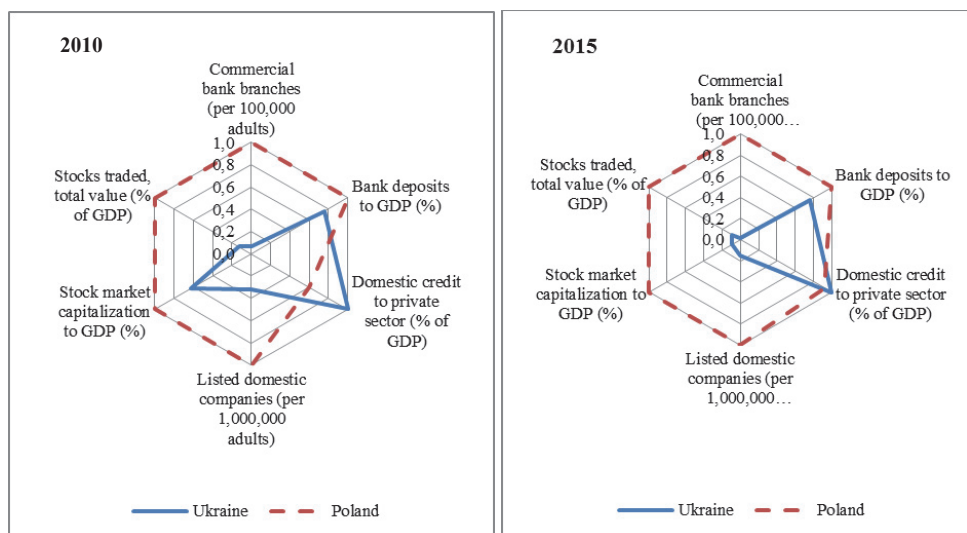
According to the data of Figure 3 the financial system of Poland demonstrated a significant development advantage over Ukraine in 2010 and 2015 with the exception of the efficiency of the functioning of the banking component. In spite of a catastrophic reduction in the scale of the banking component of the financial system of Ukraine (as a result of the bankruptcy many banks), this component provides a higher level of private sector lending to GDP. One of the reasons for this phenomenon is the degradation of the Ukrainian stock market as a component of the financial system, resulting in an additional burden on the banking component regarding the redistribution of financial resources in the economy.

Figure 2. Relative level of financial system development of Ukraine and Poland in 2010 and 2015 by the model “3 + 3”



Source: Own elaboration based on data (World Bank 2017a, 2017b).

Figure 3. Relationship between the level of financial system development of Ukraine and Poland in 2010 and 2015



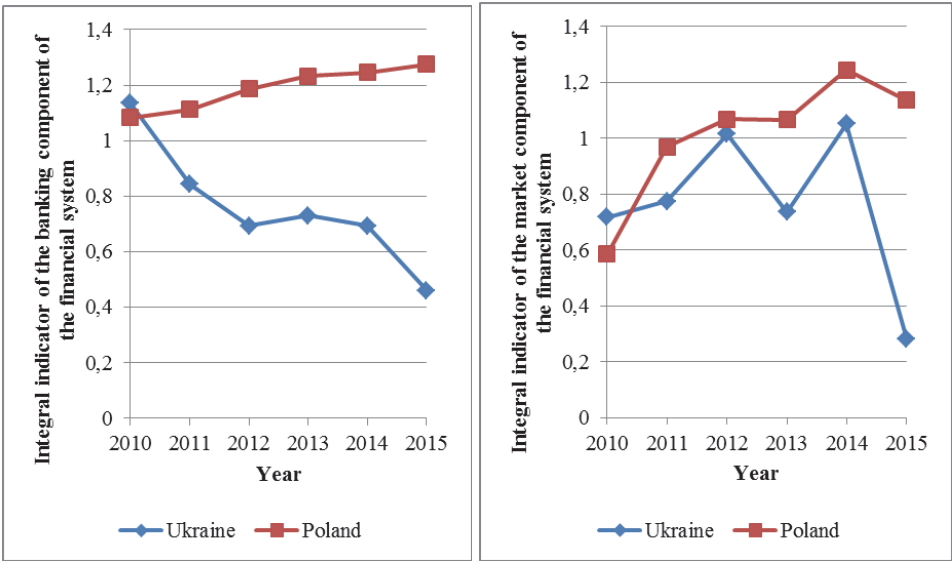
Source: Own elaboration based on data (World Bank 2017a, 2017b).



In Ukraine general negative changes are also observed in the development of each of the two components of the financial system: banking and market. According to the data of Figure 4, despite differences in dynamics at the initial stage of the study period, in 2015 both components showed a decline in development.

It is obvious that this kind of development of the Ukraine’s financial system and its components was associated with the general socio-political and economic situation in the country, in particular with the military conflict in the Donbass, which began in 2014, the loss of Russian markets and the depreciation of the national currency. The dynamics of both components of Poland’s financial system is characteristic of countries that successfully developed.

Figure 4. Dynamics of development of banking and market components of financial system of Ukraine and Poland according to the model “3 + 3”, 2010-2015



Source: Own elaboration based on data (World Bank 2017a, 2017b).

We observe that in Ukraine the coefficient of variation of the financial system development indicator are more volatile than in Poland (see Table 2). The fact that in Ukraine, the financial system development indicator is less than for certain components of financial system is explained covariance (the effect of the portfolio – fluctuations of individual components are partly offset by each other).

The coefficient of variation of the financial system development indicator illustrates the stability of the development of the Polish financial system, especially

the banking component; somewhat more volatile was the development of a market component, but it is quite natural in view of the mechanism of market pricing.

Table 2. Volatility of the financial system of Ukraine and Poland for 2010-2015, %

<b>Coefficient of variation of the integral indicator</b>	<b>Ukraine</b>	<b>Poland</b>
Financial system	23,3	12,5
Bank Component of Financial System	26,7	5,9
Market Component of Financial System	33,1	20,6

*Source: Own elaboration based on data (World Bank 2017a, 2017b).*

During the research period, significant changes were also observed in the indicators characterizing the financing patterns of Ukrainian farms. According to the data of the Table 3 and Figure 5, all of these indicators had generally unfavourable dynamics and worsened in 2015 compared with 2010. Particularly negative for Ukrainian agricultural enterprises were changes in the two indicators (indicated in Table 3): the financial leverage and the ratio of working capital to current assets.

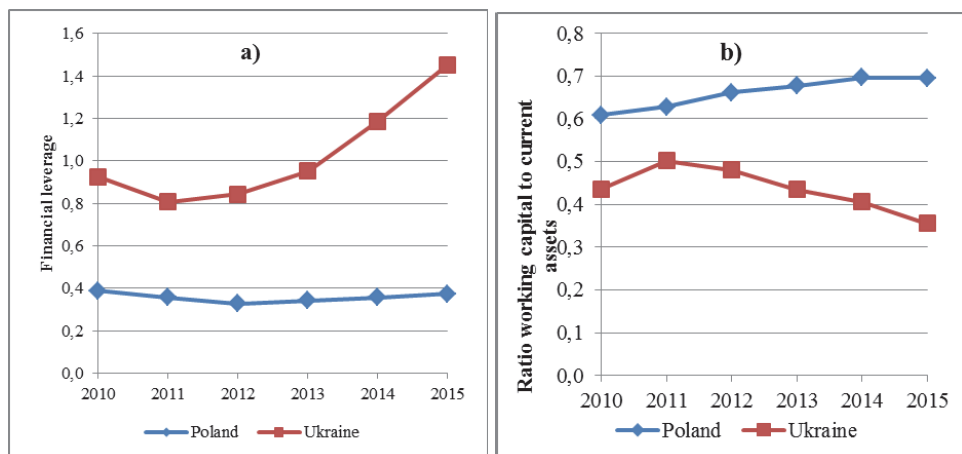
In Poland we observed opposite situation. The financial leverage decreased slightly in 2015 compared to 2010. As well, Poland's farms has increased the sufficiency of working capital in contrast to Ukraine. An increase in the share of long-term financing is also positive.

Table 3. Indicators, which characterize the financing patterns of agricultural enterprises in Ukraine and Poland, 2010 – 2015

Indicator	Ukraine		Poland	
	2010	2015	2010	2015
Financial leverage	0,926	1,453	0,389	0,373
Ratio working capital to current assets	0,436	0,356	0,608	0,695
Ratio accounts payable to current assets	0,452	0,266	0,266	0,191
The share of current liabilities in the total amount of liabilities	67,5	79,7	55,6	48,5
The share of bank loans in the total amount of liabilities	16,4	10,8	17,9	22,1
Share of short-term bank loans in current liabilities	3,4	48,0	14,3	15,3

*Source: Own elaboration based on data (SSSU 2017, CSOP 2017).*

Figure 5. Dynamics of a) financial leverage and b) the share of working assets financed by working capital of agricultural enterprises in Ukraine and Poland for 2010-2015



Source: Own elaboration based on data (SSSU 2017, CSOP 2017).

In spite of the general negative character of changes in the integral indicators of the financial system development and indicators characterizing the financing patterns of agricultural enterprises in Ukraine, in the process of correlation analysis a strong statistical relationship between them could not be found (with some exceptions), as evidenced by Table 4.

In Poland (as opposed to Ukraine) there is a significant statistical relationship between the main indicators characterizing the financing patterns of agricultural enterprises and the integral indicators of the development of the financial system. An exception is the financial leverage, which is significantly dependent on factors affecting the formation of enterprise's internal financial resources (free cash flows related to net income and depreciation). Also, the weak link is the last indicator, due to the fact that by nature it is not related to the activities of financial institutions and markets.

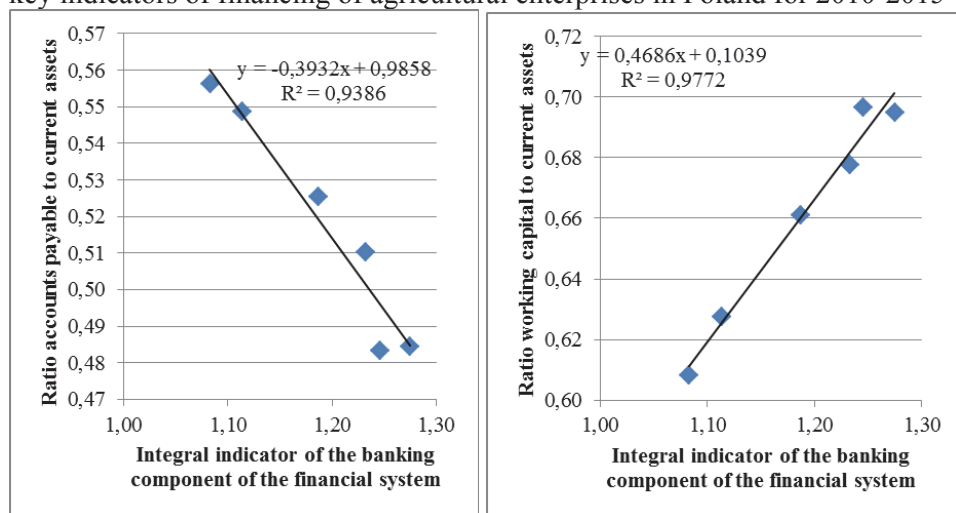
The relationship between the certain indicators characterizing the financing patterns of agricultural enterprises and the integral indicators of the development of the financial system of Poland proved to be so significant that it allowed to construct statistically reliable regression models, despite the small number of values in the dynamic series (Figure 6). This suggest that the development of the farm's financing patterns and the development of the financial system in Poland are directly linked.

Table 4. Correlation coefficients between the integral indicators of the development level of the financial system and the indicators characterizing the development of financing patterns of agricultural enterprises in Ukraine and Poland, 2010-2015

Indicator	Ukraine			Poland		
	Financial System	Banking Sector	Financial Markets	Financial System	Banking Sector	Financial Markets
Financial leverage	-0,752	-0,656	-0,592	-0,568	-0,314	-0,585
Ratio working capital to current assets	0,644	0,491	0,581	0,914	0,989	0,903
Ratio accounts payable to current assets	0,538	0,719	0,223	-0,947	-0,973	-0,939
The share of current liabilities in the total amount of liabilities	-0,854	-0,849	-0,587	-0,855	-0,969	-0,843
The share of bank loans in the total amount of liabilities	0,871	0,480	0,840	0,806	0,923	0,793
Share of short-term bank loans in current liabilities	-0,653	-0,691	-0,415	0,563	0,299	0,580

Source: Own elaboration based on data (World Bank 2017a, 2017b, SSSU 2017, CSOP 2017).

Figure 6. Regression models that illustrate the statistical dependence between the integral indicator of the banking component of the financial system and the key indicators of financing of agricultural enterprises in Poland for 2010-2015<sup>10</sup>



Source: Own elaboration based on data (World Bank 2017a, 2017b, CSOP 2017).

<sup>10</sup> All regression coefficients in the model are statistically significant (p-value does not exceed 0.05); adequacy model confirms the absence of autocorrelation residues, homoscedasticity condition is not violated.

To identify the most significant factors of influence on farm's financing patterns, a correlation analysis was carried out, the results of which are illustrated in Table 5. In Ukraine (as opposed to Poland), the development of financing patterns of agricultural enterprises is more related to the depreciation of the national currency and the general political situation in the country, as evidenced by the results of the correlation analysis (see Table 5).

The most significant factor in Ukraine was the statistical relationship between the coefficient of the financial leverage of agricultural enterprises and the average rate of national currency to the US\$, which is described by the pairwise linear regression equation (Figure 7).

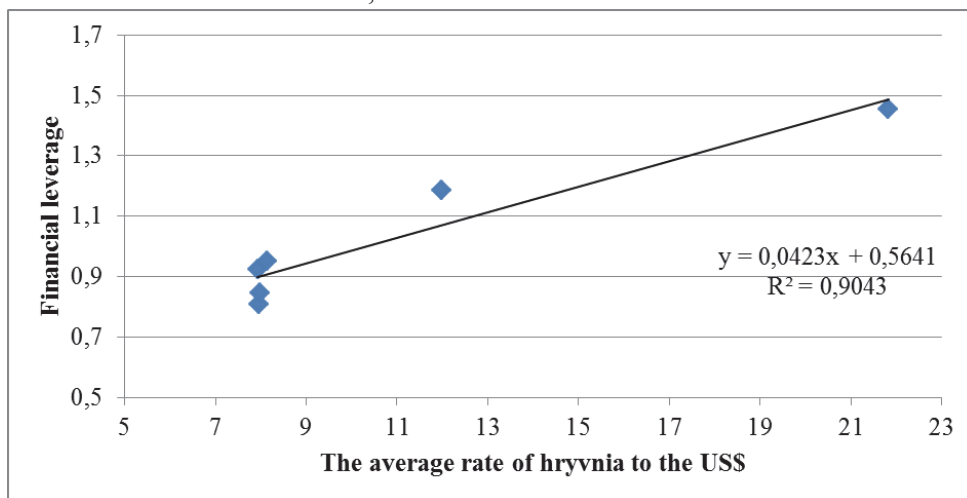
Table 5. Coefficients of the pair correlation between indicators which characterize the financing patterns of agricultural enterprises and the indicators considered by the potential factors of influence on this financing patterns in Ukraine and Poland, 2010-2015

Indicator	Political Stability and Absence of Violence/ Terrorism Index	The Global Competitive-ness Index	GDP per capita (current US\$)	Agricultural products (in comparative prices	The average rate of national currency to the US\$
Financial leverage	<u>-0,905</u> -0,228	<u>0,139</u> 0,904	<u>-0,827</u> -0,487	<u>0,443</u> -0,816	<u>0,951</u> 0,073
Ratio working capital to current assets	<u>0,842</u> -0,797	<u>-0,018</u> -0,242	<u>0,775</u> 0,281	<u>-0,412</u> 0,714	<u>-0,846</u> 0,661
Ratio accounts payable to current assets	<u>0,931</u> 0,725	<u>-0,454</u> 0,354	<u>0,650</u> -0,344	<u>-0,533</u> -0,787	<u>-0,805</u> -0,609
The share of current liabilities in the total amount of liabilities	<u>-0,804</u> 0,895	<u>0,329</u> 0,066	<u>-0,566</u> -0,221	<u>0,569</u> -0,586	<u>0,889</u> -0,690
The share of bank loans in the total amount of liabilities	<u>0,400</u> -0,922	<u>0,224</u> 0,057	<u>0,851</u> 0,134	<u>0,103</u> 0,465	<u>-0,880</u> 0,736
Share of short-term bank loans in current liabilities	<u>-0,951</u> 0,220	<u>0,295</u> -0,931	<u>-0,779</u> 0,588	<u>0,487</u> 0,851	<u>0,907</u> -0,160

Ukraine - in the numerator, Poland - in the denominator

Source: Own elaboration based on data (World Bank 2017a, 2017b, 2017c, SSSU 2017, NBU 2017, CSOP 2017).

Figure 7. Regression model for the financial leverage of agricultural enterprises of Ukraine, based on data for 2010-2015<sup>11</sup>

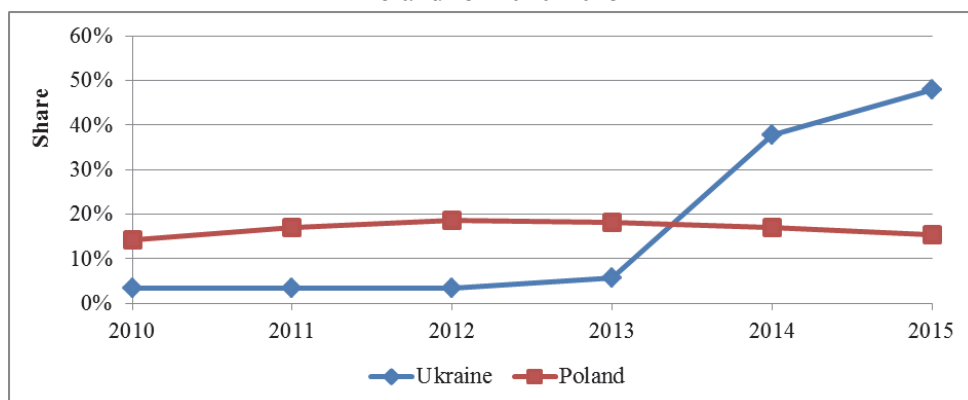


Source: Own elaboration based on data (NBU 2017, SSSU 2017).

The results of calculations of the pair correlation coefficients (see Table 4) indicate the average degree of influence of the financial system on the financing patterns of Ukrainian agricultural enterprises. These results can be considered quite logical in view of the specific changes that have occurred in the sources of funding in recent years of the study period. The main feature is the significant growth of other current liabilities, the amount at the end of 2015, according to the State Statistics Committee of Ukraine, exceeded accounts payable and amounted to almost 120 billion UAH, or almost half of the total volume of current liabilities of enterprises. Figure 8 illustrates the dynamics of individual components of current liabilities of Ukrainian and Polish agricultural enterprises. As far as Poland is concerned, there is stability in the share of other current liabilities.

<sup>11</sup> All regression coefficients in the model are statistically significant (p-value does not exceed 0.05); adequacy model confirms the absence of autocorrelation residues, homoscedasticity condition is not violated.

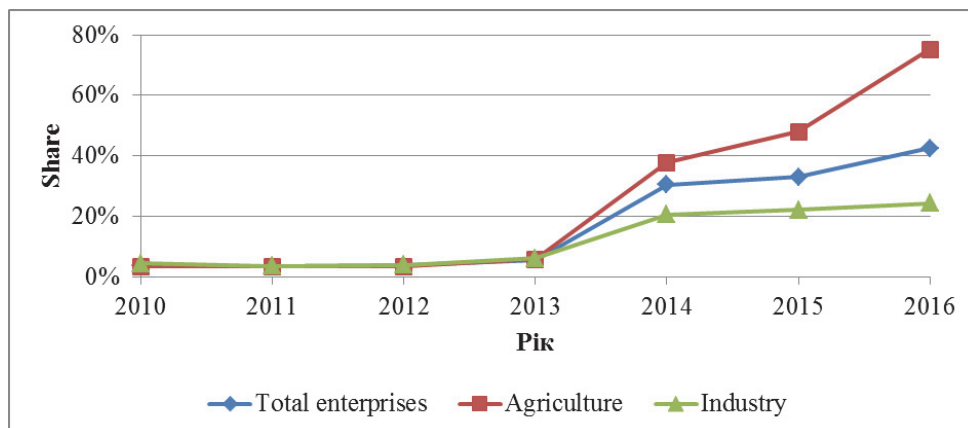
Figure 8. Dynamics of the share “Other current liabilities” in the total annual average volume of current liabilities of agricultural enterprises in Ukraine and Poland for 2010-2015



Source: Own elaboration based on data (SSSU 2017, CSOP 2017).

According to official statistics of Ukraine, other current liabilities of enterprises are reflected: current provisions, future income and deferred commission income from reinsurers, as well as an unidentified component of “other”. This unidentified component is more than 95% of the total volume of other current liabilities, the dynamics of which is illustrated in Figure 9. This process partially became possible due to changes in the Tax Code of Ukraine, which allowed businesses to provide each other with interest-free financial assistance without the use of traditional financial instruments.

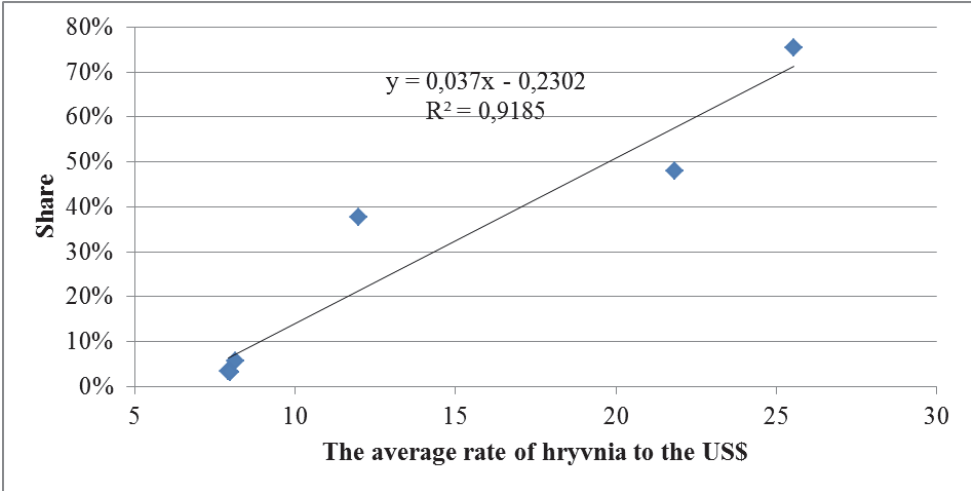
Figure 9. Dynamics of the share “Other current liabilities” in the total annual average volume of current liabilities of agricultural enterprises in Ukraine and Poland for 2010-2015



Source: Own elaboration based on data (SSSU 2017).

We also found a significant statistical relationship between the average rate of hryvnia to the US \$ and the share of other current liabilities in total current liabilities for agricultural enterprises in Ukraine in the years 2010-2016 (Figure 10). This gives grounds for concluding that the instability of the hryvnia leads to the refusal to use the services of the financial system with the availability of financial instruments that arise outside the financial institutions.

Figure 10. A simple linear regression model between the average rate of hryvnia to the US\$ and the share of other current liabilities in the total current liabilities for agricultural enterprises in Ukraine, 2010-2016<sup>12</sup>



Source: Own elaboration based on data (SSSU 2017, NBU 2017).

As a result, the impact of the financial system’s development on changes in financing patterns of Ukrainian agricultural enterprises has become somewhat weaker, compared with the situation before 2014. Consequently, it can be argued that the growth of other current liabilities of enterprises has become an additional significant source of financing for all types of economic activity in Ukraine, which is not directly related to the development of the financial system.

<sup>12</sup> All regression coefficients in the model are statistically significant (p-value does not exceed 0.05); adequacy model confirms the absence of autocorrelation residues, homoscedasticity condition is not violated.



#### **6.4. Summary and conclusions**

After a slight recovery in 2014, there was a rapid decline in the development of Ukraine's financial system during 2015. The level of development of Poland's financial system showed a general upward trend.

General negative changes are also observed in the development of the two main components of the financial system of Ukraine: banking sector and financial markets. The dynamics of both components of Poland's financial system is characteristic of countries that successfully developed.

The declining tendency of the development of the financial system and its components was related to the overall socio-political and economic situation in Ukraine, in particular, the military conflict in the Donbas, which began in 2014, the loss of Russian markets and the devaluation of the national currency.

During the study period, significant changes were also observed in the indicators characterizing the financing patterns of Ukrainian farms. Despite the general negative changes in the integral indicators of the financial system and indicators characterizing the financing patterns of farms in Ukraine, we could not find a strong statistical relationship between them using the correlation analysis process.

In general, there is an average degree of influence of the financial system on the financing patterns of Ukrainian farms, which can be considered quite logical given the significant growth of other current liabilities. This process became possible due to changes in the Tax Code of Ukraine, which allowed the provision of turn-around interest-free financial assistance without the use of traditional financial instruments. As a result, the impact of the financial system's development on changes in financing patterns of Ukrainian farms has become somewhat weaker, compared with the situation observed before 2014.

Unlike the situation in Ukraine, most of the indicators characterizing the financing patterns of agricultural enterprises in Poland show a significant correlation with the integral indicators of the financial system development and its separate components.

Statistical patterns are found in Poland give some arguments in favour of the confirmation of the hypothesis that the stable development of financial system in advanced economies, generating a gradual increase the role of long-term debt and perpetual own sources of financing of agricultural enterprises, thus create conditions for reducing financial risks of these enterprises.

But the final scientific confirmation of this hypothesis requires further research.

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## **7 The moratorium on agricultural land sale as a limiting factor for rural development**

*Prof. Anatolii Danylenko, academician of NAAS, PhD Tetyana Sokolska,  
PhD Olena Shust,*

*Bila Tserkva National Agrarian University, Bila Tserkva, Ukraine*

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### **Abstract**

The current state, conditions and possibilities on introduction the free circulation of agricultural land in Ukraine are investigated in the research, the main problems of its development are highlighted and the experience of agricultural land sale and lease of in European countries is analyzed.

The survey presents the results of interviewing shareholders and agricultural producers in two districts – Bila Tserkva, Kyiv region and Uman, Cherkassy region. The model of the agricultural land market should meet not only economic efficiency and expediency, but also contribute to the sustainable development of rural areas, where the circulation of agricultural land should be preceded by the introduction of appropriate restrictions. In order to prevent landlessness of peasants and the formation of latifundists, the free circulation of land can be implemented in two stages.

Stage 1: land inventory, cadaster and land management system, which includes four subsystems: 1) land rights (distribution and provision of land rights, legal registration of land borders, transfer of ownership rights or use rights through the conclusion of sales agreements or lease; the establishment of borders of land and property rights to them; the consideration and resolution of disputes concerning the rights on land plots and their boundaries.

Monetary valuation of land (valuation of land and property associated with it, provision of income on tax payments); 3) land use (land use control through territorial planning schemes and rules for land use at the national, regional and local levels; ensuring compliance with land use plans and rules; disputes over land use; compliance with resource-saving business practices and environmental measures); 4) infrastructure development.

Stage 2: opening the market for state and communal property land. The priorities on purchase are to be provided for the local communities, restriction on access the market for the legal entities, foreigners, introduction of other restrictions on the sale of agricultural land, the application the taxes differentiations on land sales, fees, etc.

**Keywords:** land, land relations, chernozem (black soil), sustainable development, agrisphere

**JEL:** Q15

## 7.1. Introduction

Modern development and efficiency of agricultural production in Ukraine depends largely on the efficiency of the resource markets functioning with land being the main one. Today Ukraine is considered to be a country with significant agrarian potential due to its biggest areas of the black soil in the world. However, due to the moratorium on the free land market, agrarian sector of Ukraine is far behind the leading countries in terms of labor productivity, crop yields, animal productivity and other indicators. The structural imbalance caused by inefficient production structure resulted in distortions in agriculture, in particular, growing simple production cycle crops like cereals, sunflower and forage crops as well as anthropogenic pressure on the environment and excessive exhaustion of natural potential. Also, there is inefficient organization of rural areas, their depression, insufficient diversification of activities, unemployment and poverty of the rural population and even the vanishing of some villages from the map of Ukraine.

Main limitation factors constraining the agricultural development are the following:

- high production costs;
- low financing level; high credit rates;
- lack of investments;
- price disparity;
- resource and structural imbalance of agricultural production;
- low level of technology and efficiency;
- devaluation of the national currency;
- high level of industrial risks, etc.
- legislative imperfection of normative-legal provision;
- absent legal protection of native producers;
- shadowing of native markets;
- not developed agricultural infrastructure;
- low wages and welfare of the rural population;
- deficit of professionals in agriculture.

One of the main deterrents is the moratorium on the land sales. Of more than 42 mln ha or 70% of agricultural land of the Ukraine over 41 mln ha or 97% is under moratorium. 68% of the moratorium land make private ownership land share of 6,9 mln Ukrainian people. Two directions have been formed due to divergence of opinions and public interests of the authorities, businesses, scientists and shareholders today in the state – one stands for the moratorium, another – for a free land market.

The extension of the moratorium is supported by the representatives of large businesses, which, under the veiled protection of peasant's interests and the preservation of national wealth, use shadow schemes for the alienation of agricultural lands.

That is, in fact, the shadow market of land related to the land plots sale already exists today. In the face of growing demand for agricultural products in the world, of significant reduction of natural resources, the existing format of land relations destructively affects socio-economic processes in rural areas and constrains the economic growth of the agrarian sector.

## **7.2. The main results of research**

The current model of land use in Ukraine was formed in the issue of sharing the land owned by collective agricultural farms. Consequently, the peasants, who became the owners of the shares, were deprived of the minimum necessary means for their productive use and farming.

Due to the shortage of an efficient system of preferential lending, support infrastructure and the possibility of harvesting modern agricultural machinery share owners are forced to give up independent land use and lease it on the basis of contracts concluded in the amount of 4.7 million with the total land area of 16.6 million hectares.

There are also about 56 thousand of state agricultural land lease contracts for a total area of about 2.5 million hectares, accounting for a quarter of the state land bank. The feature of the rental market is its local monopolies on a specific territory where the land is cultivated by several tenants, and their price offers are approximately the same.

According to the Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine on Business Conditions Facilitation (deregulation)" No. 191-VIII, 2015, the land of private peasant farms was allowed to be leased to agrarian holdings for minimum of seven years, and crop rotation compliance was not compulsory (The Verkhovna Rada of Ukraine, 2015).

In the absence of the law on soil fertility protection, which defines effective mechanisms for the soil quality monitoring and the measures to maintain their fertility, there was a negative tendency of humus loss, which decreased on average by 0.22 percent over the past 20 years in Ukraine.

The violation of crop rotation can contribute to soil fertility decrease as well. In particular, sunflower covers an area of over 30 percent of the arable land in some areas. In most cases, a crop is sown in the same field in three years while the recommended rotation makes six to seven years. The violation of

the requirements for crop rotation, in addition to weed level crops diseases raise results in soil depletion.

During the transfer of land plots to a long-term lease, any possibility to control abusive tenants is lost, which causes the loss of the value of national chernozems.

In the EU countries, the lease is also a common form of land tenure, which, for example, accounts for over 90% of the total amount in Slovakia and the Czech Republic. In France, Belgium, Germany and Estonia – over 60%; Great Britain – over 40%. The lowest proportion of leased land is in Ireland, Denmark, Finland and Austria – up to 30%.

Moreover, in most EU countries, the share of leased agricultural land in the total area of agricultural land use is increasing (Mostov’yak, M.I., 2009).

At the same time, the income of the shareholder to date is \$ 37, and the farmer’s income is \$ 418 while in the European countries agricultural land lease cost makes 200-450 \$/ha (Table 1).

Table 1. Comparison of the average rent for 1 hectare of land shares (shares) and the average cost of 1 hectare of land in Ukraine and Europe, \$ / ha

Value/price	Ukraine	Europe
average assessment of land value	1150 \$/ha	8000- 32 000 \$/ha
average rent payment:	35-84 \$/ha	200-450 \$/ha

*Source: Compiled by the authors and ( Swinnen, J., Van Herck, K. and Vranken, L., 2016).*

The current cost of land lease in Ukraine is lower than it could be under its free sale and availability of loan capital. At the same time, a significant share of the differential rent I and completely differential rent II is received not by the landowner, but by the lessee, which, therewith, is not always a direct land user.

An analysis of lease agreements content and their making practice has shown that 20% of contracts do not even specify the possibility of the rent indexation. According to expert estimations, local budgets lose more than UAH 1 billion annually due to the underpaid rent.

Shadow schemes for the land sale under the moratorium on agricultural land and making bonded lease agreements have become widespread in Ukraine due to the lack of the proper land owners rights protection and state control for the observance of legislation in the field of land use.

Large agribusiness in Ukraine, has been lobbying the extension of the moratorium on agricultural land sale by motivating the unwillingness of the owners to sell their land. Having summed up the scientific views of the leading

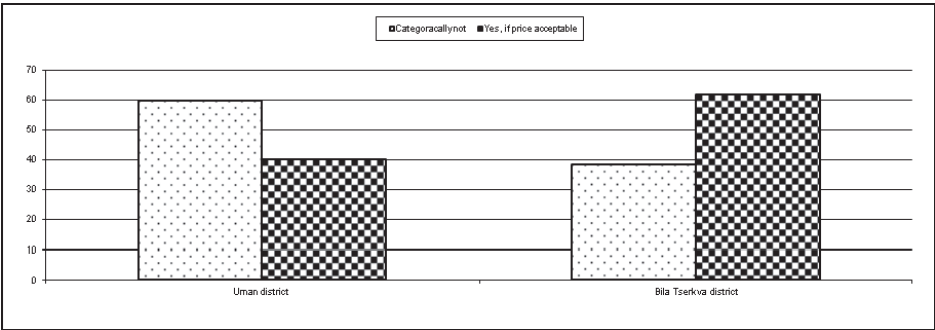
domestic and foreign scientists on the effective mechanism of forming land relations as well as the experience of the leading countries of the world, surveyed share owners and agricultural producers in two districts – Bila Tserkva, Kyiv oblast, and Uman’, Cherkasy oblast in 2017.

The amount of rural population in Bila Tserkva district is 71.92% of the total, with 99,520 hectares of agricultural land area and 160 enterprises engaged in agricultural production. In particular, 38 of the enterprises are business partnerships, 3 – agricultural industrial cooperatives, 94 – farms, 18 – private enterprises, 5 – public industries, 2 – other companies (Bila Tserkva District State Administration, 2017).

The amount of rural population in Uman district is 94,66% of the total population, the total area of agricultural land – 106.2 thousand hectares (“Uman district administration,” n.d.). 119 enterprises engaged in agricultural production including 81 farms operate in the district (Uman district state administration, 2017). The survey results are shown in Fig. 1-8.

Among the surveyed owners of land shares, in particular, in the Uman region, in February 2017, 59.8% were categorically against selling their land, while 40.2% would give their consent, provided they were fairly priced. In the Bila Tserkva district, the situation is different, 61.8% of the respondents are ready to sell at good price, and 38.2% are strongly against, Fig. 1.

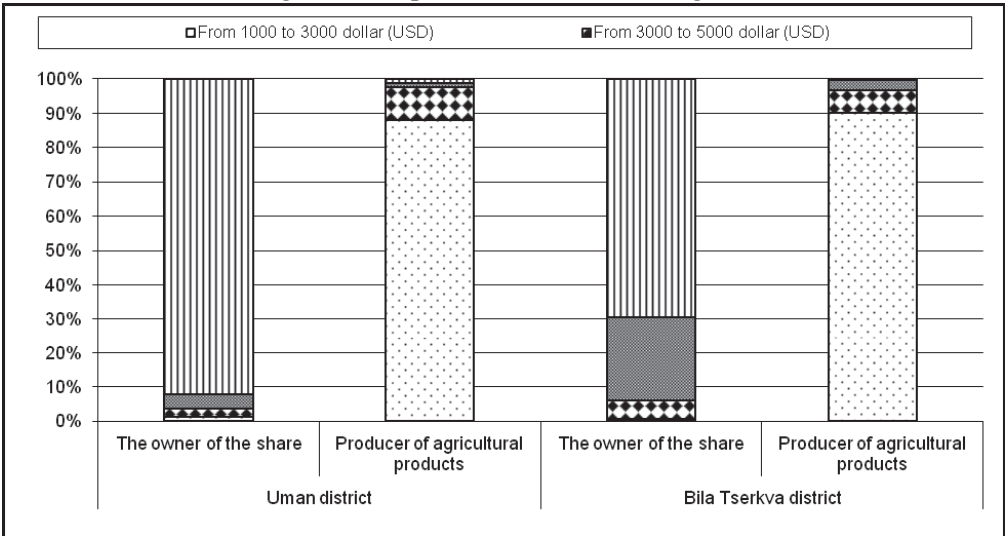
Figure 1. The results of a survey on land owners’ willingness to sell their share



Source: Compiled by the authors.

As for the “fair price”, the overwhelming number of owners of shares in both districts considers the maximum proposed in the questionnaire cost of over \$10,000, while the producers considered the one ranged \$1000-3000, explaining it with the lack of lending resources which makes it impossible to purchase necessary machines due to their high cost (Fig. 2).

Figure 2. Results of the survey on a fair sale price of land a plot or share (1 ha) for commercial agricultural production under calling the moratorium



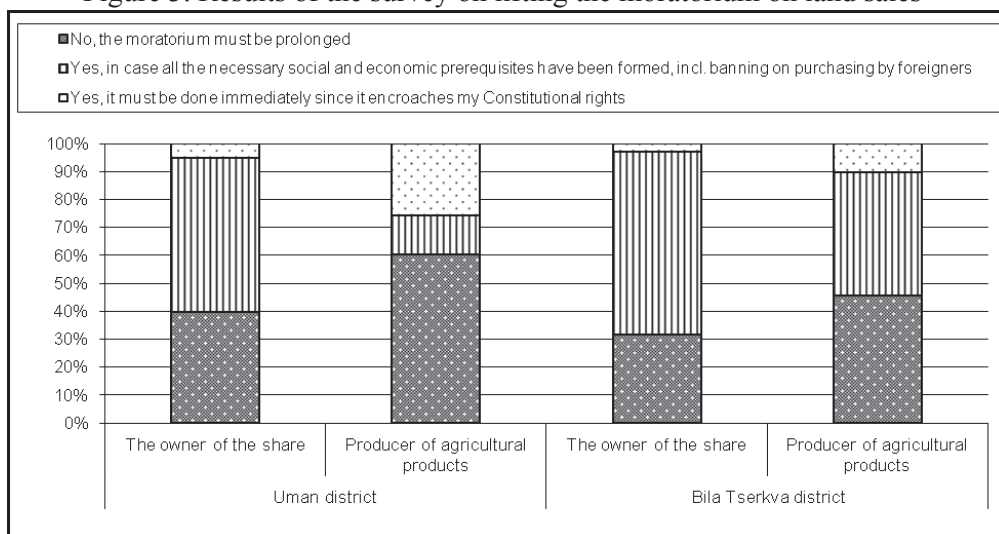
Source: Compiled by the authors.

As for the issues of calling the moratorium on agricultural land sale, the views of agricultural products manufacturers and land owners in both studied districts differ. Most manufacturers stand for the moratorium, due to unavailability of loans for land acquisition and the fear of “unfair” schemes by large holdings that would put medium and small farmers out of the market. The majority of large holdings are satisfied with cheap land lease as it enables them to make enormous profits while the owners do not mind calling the moratorium (55.1% in the Uman district and 64.5% in the Bila Tserkva district) under compliance with appropriate socio-economic measures, including acquisition banning for foreigners, Fig. 3.

When asked what the land market should be on the condition of lifting the moratorium, the opinions of the districts producers differed. In particular, 50.1% of the producers in the Uman district stood for a free market without restrictions vs. 23.1% in Bila Tserkva (Fig. 4), which can be explained by the significant share of foreign capital in the agricultural sector of Cherkassy region.

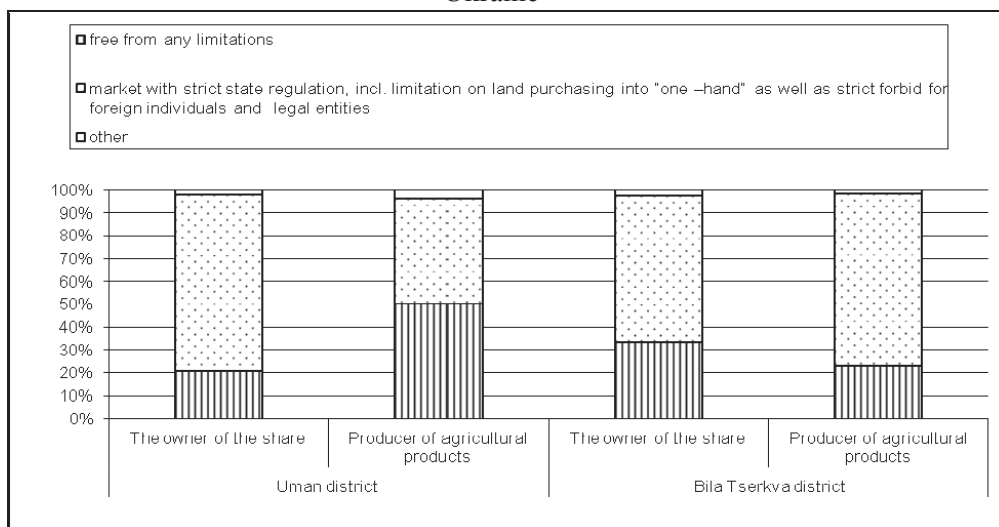


Figure 3. Results of the survey on lifting the moratorium on land sales



Source: Compiled by the authors.

Figure 4. Results of the survey considering the expected land market type in Ukraine



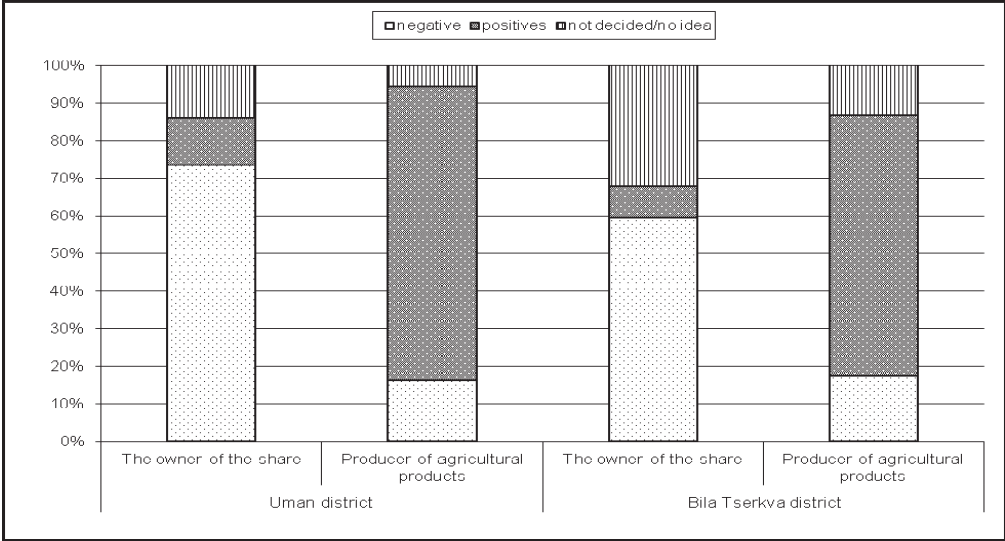
Source: Compiled by the authors.

We did not expect such a high share of land plots owners standing for the market with strict government regulation including restrictions in purchasing agricultural lands per customer and categorical banning on agricultural land purchasing by foreigners (77.6% in the Uman district and 64.3% in the Bila

Tserkva district). In our opinion, it was due to the severe economic situation in the country and the citizens’ fear that it might deprive them of the land.

In general, the results of the survey revealed differences in the attitude of the land share owners and agricultural commodities producers to emphyteusis. The former were against it since they believed that there was a hidden danger of acquiring land ownership in which the perpetual leaser can use someone else’s land without the owner’s consent. 73.3% of land share owners in Uman and 59.4% in Bilal Tserkva district were against it (Figure 5).

Figure 5. Results of the survey on the respondents’ attitude to emphyteusis



Source: Compiled by the authors.

However, 78.2% of producers in the Uman district and 69.3% in the Bila Tserkva district support the acquisition of long-term (up to 50 years) perpetual lease rights.

The survey results showed that the main concerns of shareholder owners were corrupt schemes of officials, pressure on land sales, low land prices. And in addition, political speculation in recent years has led to a negative attitude to the moratorium in the consciousness of Ukrainian citizens.

A number of significant changes took place in the political life of Ukraine towards decentralization of authority in 2017. In particular, in the regions studied, there was a unification of territorial communities, which still did not have the right to dispose of land outside their own settlements. At the same time, lease price for state land is sometimes less than the owner of a share when he leases his land to agricultural enterprises for rent, and a significant part of

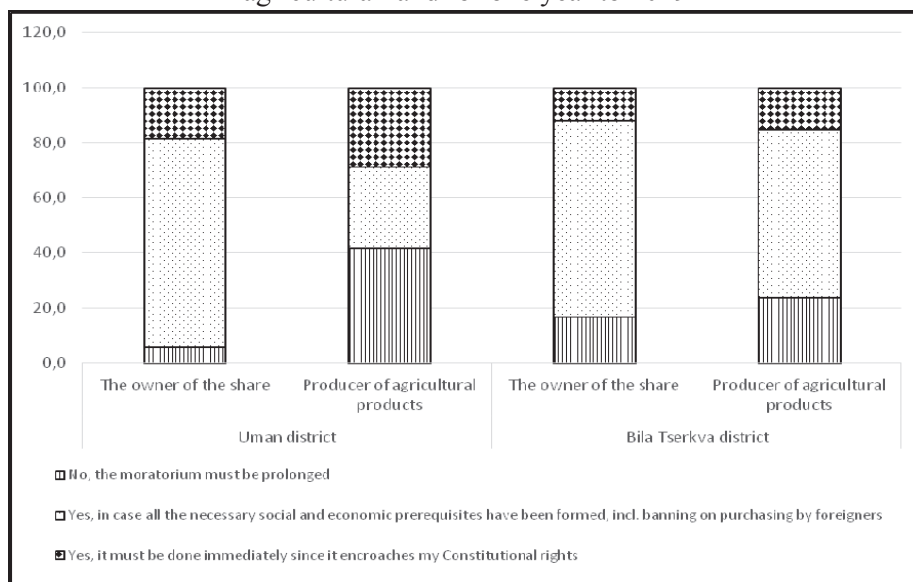
the land is not taken into account at all and forms the so-called “gray” market, and local budgets lose a significant portion of the funds. Thus, having no right to command their lands, communities lose their resources for development.

On December 7, 2017, the Verkhovna Rada renewed the moratorium on the sale of agricultural land until 2019. Such a situation greatly influenced the situation of agricultural producers. As a result, at the end of 2017, we conducted a second survey of respondents from the studied regions. The results differed significantly from the previous ones.

By that time the overwhelming majority of respondents voted for free circulation of agricultural land. In the Uman region, 75.9% of shareholders support the lifting of a moratorium on agricultural land in case all the necessary social and economic prerequisites have been formed, including banning on purchasing by foreigners and 18.4% expressed states that it must be done immediately since it encroaches citizens’ Constitutional rights and only 5.7% stood for the extension of the moratorium. As far as agricultural producers are concerned, 41.6% of the respondents stood for the moratorium extension, while 29.8% supported it in case all the necessary social and economic prerequisites have been formed, including banning on purchasing by foreigners and 28.6% for immediately since it encroaches my Constitutional rights. Completely different opinion of the agricultural producers was expressed in the Bila Tserkva district with only 23.7% of farmers standing against the abolition of the marathon, 61% supported it if all the necessary social and economic prerequisites have been formed, including banning on purchasing by foreigners has the same position and expressed 71.4% shareholders in the area (Fig. 6).

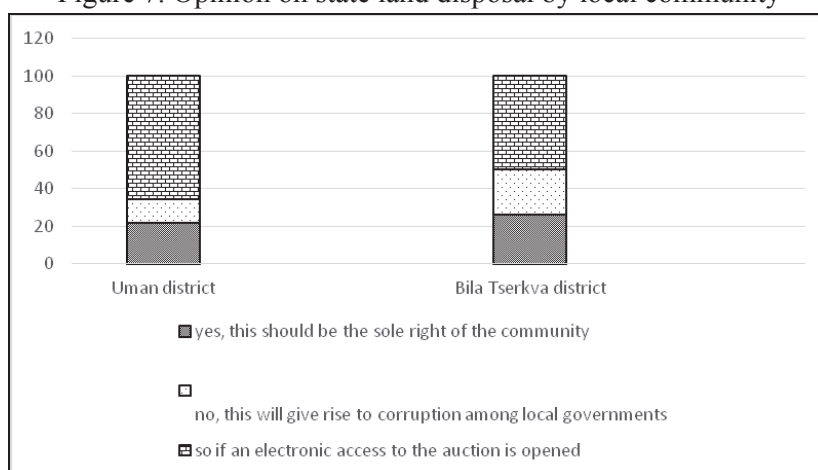
Interesting were the results of the survey on the question “who has the right to dispose of state-owned land”, in both regions the majority are inclined to the fact that it is the combined territorial communities that can dispose of land, but a rather high percentage of respondents are afraid of corruption of local authorities, that is 12.4% Uman district and 24.2% in the Bila Tserkva district (Figure 7).

Figure 6. Results of the survey on lifting the moratorium on land sales after the Verkhovna Rada extends the validity of the moratorium on sale or alienation of agricultural land for one year to 2019



Source: Compiled by the authors.

Figure 7. Opinion on state land disposal by local community



Source: Compiled by the authors.

Thus, currently, when the country's economy is in a fierce crisis, the delay in lifting the moratorium is one of the factors constraining the economic growth of the industry.

Having analyzed the experience of the leading countries of the world, it can be affirmed that the land should be possessed by those who cultivate it.

The most common regulatory instruments and constraints applied in world practice are the following: restrictions on the subject structure of buyers; qualification requirements for buyers; establishment of a transitional period during which there are temporary restrictions on the purchase / sale of land for foreigners, legal entities, etc.; limited sizes of land plots (both maximum and minimum) that may be owned or used by a natural person and legal entities; minimum and maximum terms of land lease; prohibition or restriction on changing the purpose of the land; price regulation; introduction of progressive scales of taxation of land transactions; environmental restrictions on land use; the establishment of a pre-emption right for the purchase of agricultural land depending on the country: the tenant, the owner of the adjacent land, a specialized agency.

For example, in Germany, the Law on the agricultural land sale regulates the procedure for the land sale and for the sale of land of a predetermined size, which varies depending on the federation, and must be approved by the regulatory body (in Bavaria, the minimum size of the plot for which the approval from the regulating body is required makes 2 hectares, in Lower Saxony – 1 hectare, and in Saxony – 0.5 hectares). The regulator checks whether there are pre-emptive rights to this land and may prohibit the sales. For example, the ground for refusals may be ineffective distribution of agricultural land or speculative suspicions (the price is too high or too low).

In the Czech Republic the following persons have the predominant right to purchase the state land: farmers, landowners, partners in corporate farms, members of cooperatives and the relevant restitution persons. Preferential rights are often used when state land is privatized. About 90% of all state land that was privatized in 2006 was bought by people who use their prevailing rights (Ciaian Pavel, Kancs d'Artis, Swinnen Jo and al., 2012). The abovementioned list clearly shows that these were the units able to lease land from the state at the beginning of the reform period, i.e. former heads of state and collective farms were in a favorable situation.

In Hungary, land ownership rights are prohibited for legal entities (both domestic and foreign, as well as land ownership rights, local governments and public organizations). Exceptions to this rule are church organizations with legal personality who have acquired the right to ownership by virtue of a will or on the basis of a donation agreement. The mortgage lending company may also acquire ownership of arable land for a limited period of time. In addition, there is an upper limit (300 ha) which may be owned by a physical person.

In Bulgaria, a law was passed to prevent the excessive fragmentation of agricultural land, which states that the site may not have a separate right of ownership if it is less than 0.3 hectares (0.1 ha for vineyards and 0.2 ha for pasture). In Turkey, the minimum size below which the agricultural area cannot be divided is 0.1 hectares (Ciaian Pavel, Kancs d'Artis, Swinnen Jo et al., 2012).

Romania is the only country in Europe that has not made any notification to the EU for the imposition of restrictions on the purchase of land by foreigners. In this area there are other several million hectares owned by foreign tenants with the right of first refusal to purchase. Interestingly, the Romanians do not have even a hectare of arable land in any EU country, according to the confederation of farmers. Accession Treaties concluded by the EU countries left to the discretion of each issue the sale of land to foreign countries, it is one that keeps the food safety of each state. In this context, the issue of land sales is a national, not a community (Butnaru, Elena-Sinziana, 2015).

Consequently, as the free land flow is one of the most important levers in the development of the agrarian sector, its use requires very accurate actions, a balance should be between economic benefits and the social effect must be found. For this, it is necessary to create the appropriate institutional and macroeconomic conditions and allow the land user, who cultivates the land, to feel like the owner of the land. At the same time, legal and social security and environmental safeguards should be legally enforceable, which would protect both the land owner and the agricultural producer. That is, the model of the agricultural land market should meet not only economic efficiency and expediency, but also contribute to the sustainable development of rural areas. First of all, the circulation of agricultural land should be preceded by a clear definition of the type of agrarian structure of Ukraine, taking into account the resource-saving economy and ecologically and socially oriented development.

It is worth mentioning that the domestic economists P. Gaiducky, Yu. Lupenko, A. Tretyak, P. Sabluk, A. Martin, M. Martynyuk and many others have made a significant contribution to solving this problem, In their view, the formation of an effective landowner and its involvement in economic circulation is one of the main conditions for the formation of an economic platform for agrarian reform. However, scientists are unanimous in the opinion that the procedures for opening a free market for land must precede the development of an economic mechanism and legislative framework for regulating this process (Gaiducky, P. I., 2004; Lupenko, Yu. O., Khodakivska, O. V., 2016; Tretyak, A.M., 2013; Sabluk P. T., 2006; Martin, A.G., 2011; Marty'nyuk, M. P., 2016).

Scientists prove that the extension of the moratorium on the purchase and sale of agricultural land restricts the rights of millions of owners who are not

able to dispose of their land, makes it impossible to use innovative technologies because of irrational land holdings. In particular, the Institute of Agrarian Economics has developed the so-called land road map, according to which the introduction of a free land market becomes possible only after certain conditions are fulfilled. It means the development of a consolidated model for the further development of land relations; creation of the legislative base, market infrastructure, completion of inventory of land; solution of problems of the state land cadastre (filling the cadastral system, demarcation of adjacent territories, etc.); financial and credit support for the purchase of land by peasants.

Y. Lupenko believes that in the case of uncontrolled introduction of purchase and sale of agricultural land in circulation up to 105 billion UAH may appear, which may result in money depreciation and the development of inflationary processes (Lupenko, Yu. O., Khodakivska, O.V., 2016) since land fragmentation does not allow the land to be used effectively.

M. Martyniuk also proposes the gradual introduction of the land market, although it is obvious that in the first stage there will be a place of speculation on land shares; impairment of land (the experience of other countries has shown that after the opening of the market in the first two years the value falls, and then equals); the risk of buying land by several large players, but delaying the introduction of the land market will lead to a reduction in the capitalization of agribusiness, since land fragmentation does not allow for the efficient use of land (Marty'nyuk, M. P., 2016).

The draft law "On Amendments to Certain Legislative Acts on Improving the Legal Regulation of Land Use for Agricultural Use (emphyteusis)", developed by the Ministry of Agrarian Policy and Food of Ukraine, was widely publicized in the society and among scientists, but it was deeply criticized because it opens the space for land speculation giving the opportunity to rent land at a low price, and then sell the right to lease much more expensive. In fact, this is an attempt to introduce a turnaround of land by passing the moratorium.

According to D.V. Ivanovsky, on the one hand, it creates conditions for raider seizure of farmland, and on the other it allows to evade tax payments (Ivanovsky, D.V., 2016). Obviously, such an innovation threatens the peasants, since there are no clear rules on purchasing prices and indexation, and the retiree has no opportunity to sell his share, lives on a meager pension. In addition, under the agreement of emphyteusis, the user has the right, without the permission of the land owner, to sell his right to use the site to a third person.

### 7.3. Summary and conclusions

Consequently, the issue of lifting the moratorium on land sales is extremely relevant for Ukraine, and therefore it requires detailed scientific substantiation of the ways of its solution. We propose to introduce the agricultural land market in two stages.

At the first stage, it is proposed to carry out a complete land inventory, cadastre and land management system, which includes four subsystems: 1) land rights (distribution and provision of land rights, legal clearance of land plots, transfer of ownership rights or use rights through the conclusion of sale or lease agreements, the establishment of boundaries of land and rights to them, the consideration and resolution of disputes regarding the rights to land parcels and their boundaries, and 2) monetary valuation of land (valuation of land and related land on, providing revenue through taxes); 3) land use (land use control through territorial planning schemes and rules for land use at the national, regional and local levels; ensuring compliance with land use plans and rules; disputes over land use; compliance with resource-saving business practices and environmental measures); 4) infrastructure development.

Extremely important for Ukraine is the establishment of safeguards for public land (trails, meadows, banks, airspace) and the right of territorial communities to buy disputed lands (unclaimed units, land of so-called dead heritage, socially unprotected, unallocated units, land owners, whose age is over 75-80 years old).

In order to prevent excessive concentration of agricultural land in the ownership of one owner, restrictions should be set i.e. no more than 300 ha in one hand. When purchasing agricultural land, the owner must have a guaranteed right to a loan for 10 years in the amount of 70% of the value of land (not more than 100 hectares of land purchased).

In order to prevent the encroachment on the territorial integrity of Ukraine and its food security, it should be forbidden to sell land to foreign citizens as peasants will not be able to compete with foreign capital.

At the second stage on opening the state land market and communal property the right to form the agricultural land market structure should belong solely to local communities. It should provide for restrictions on access to the market of legal entities, residents of other regions, foreigners, the introduction of other restrictions on the sale of agricultural land, the establishment of levels of taxes on land sales, fees, etc. The state and society must tightly control the transparency of the decision-making mechanism at the local level and adhere to the balance between social and economic benefits for individual rural areas. In



order to prevent corruption, all land transactions should be made through a single electronic window.

The priority right to purchase is given to the members of rural communities living in this territory, citizens of Ukraine, small agricultural enterprises, farmers who have been engaged in agricultural activity for at least 5 years and have proved their professional ability (have a specialized education, use land rationally, investing the funds for increasing its potential). The ability to in-depth processing of agricultural products and the creation of the product for final consumption with high added value is extremely important. Also, the first right to purchase the land should be given to farmers engaged in animal husbandry and generated added value.

The law must necessarily provide for the social responsibility of owners of agricultural land. In particular, applicants must be registered in the territory where they buy land, and for at least 5 years work there. In the case of non-fulfilment of these conditions, the legally developed mechanisms of alienation of these lands in favour of the community should be activated.

At the second stage, the infrastructure of the land market, land exchanges, land banks and medium and long-term mortgage lending systems should be actively developed.

It is extremely important for Ukraine to adopt a law on land consolidation for agricultural producers holding more than 1,000 heads of cattle, with a precise outline of mechanisms that, after the launch of the land market, will not allow unbalanced work of agricultural holdings. After all, it was they who in the most difficult times for the peasants made it possible to preserve the social infrastructure in the countryside, to create jobs.

It is worth noting that a number of draft laws were introduced to the Verkhovna Rada, which in various editions proposed to resolve the issue of the introduction of the land market and the transfer of powers to dispose of lands OTG, but the moratorium continued. One of the conditions for granting Ukraine a loan tranche, the IMF proposes lifting the moratorium. Despite the fact that the proposed bills contain some discussion clauses, they would automatically remove the moratorium and would be a powerful impetus to the development of the Ukrainian agrarian sector.

The absence of free land market, the introduction of which has been put off for decades in Ukraine have resulted in inefficient use of land resources, structural imbalances in the agricultural sector, rural depression, unemployment and poverty in rural areas.

Land must have an owner which can fulfill his constitutional right to dispose the land, take care of its quality and efficient production only under a free market.

However, free turnover of land can be implemented in two phases in order to prevent appearance of landless peasants and landowners. Free market must be preceded by developing legal preventive measures to protection of land areas (priority right to purchase, limits in the size of land area, providing medium and long-term mortgage for farmers, development of land market infrastructure, etc.).

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## 8 Solutions to the problems of rural territories development as a sign of their positive brand

*Prof. Oleksandr Pavlov, Iryna Pavlova  
Odessa National Academy of Food Technologies, Ukraine  
pavlovodessaep@gmail.com, irenpavlova1@ukr.net*

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### **Abstract**

The logic of the research is based on the identification of Ukraine as an agrarian country. Proceeding from this provision, the article substantiates the priority of rural development as the basis of the strategic course for sustainable development of Ukraine. The leading role in rural development is played by the agricultural sector, which forms a significant part of the country's GDP and is the main supplier of products for export. However, despite the dynamics of the development of agricultural production in the development of rural territories, there are a number of acute problems that need to be resolved. The main among them is the problem of the discrepancy between a sufficiently high level of development of agriculture and the depopulation of the rural settlement network, as well as degradation of the social infrastructure of the village, accompanied by a decline in the level and quality of life of the rural population. To solve the existing problems of rural territories development, the authors suggest the use of territorial branding as a marketing tool and brand management functions.

**Keywords:** agrarian development, brand, branding, problems of rural territories development, rural territories, rural development

**JEL Classification:** O13, M31, Z13

### **8.1. Introduction**

Globalization sets a certain algorithm for economic development, expanding its spatial and functional niches, and also strengthening integrative ties between the urban and rural segments of the space. In this sense, economic development overcomes sector and industry framework.

Spatial approach to economic development in the conditions of modern of the globalization stage, destroys the stereotypes of its dichotomies in the first half of the 19th century, the «agriculture-industry» and «village-city».

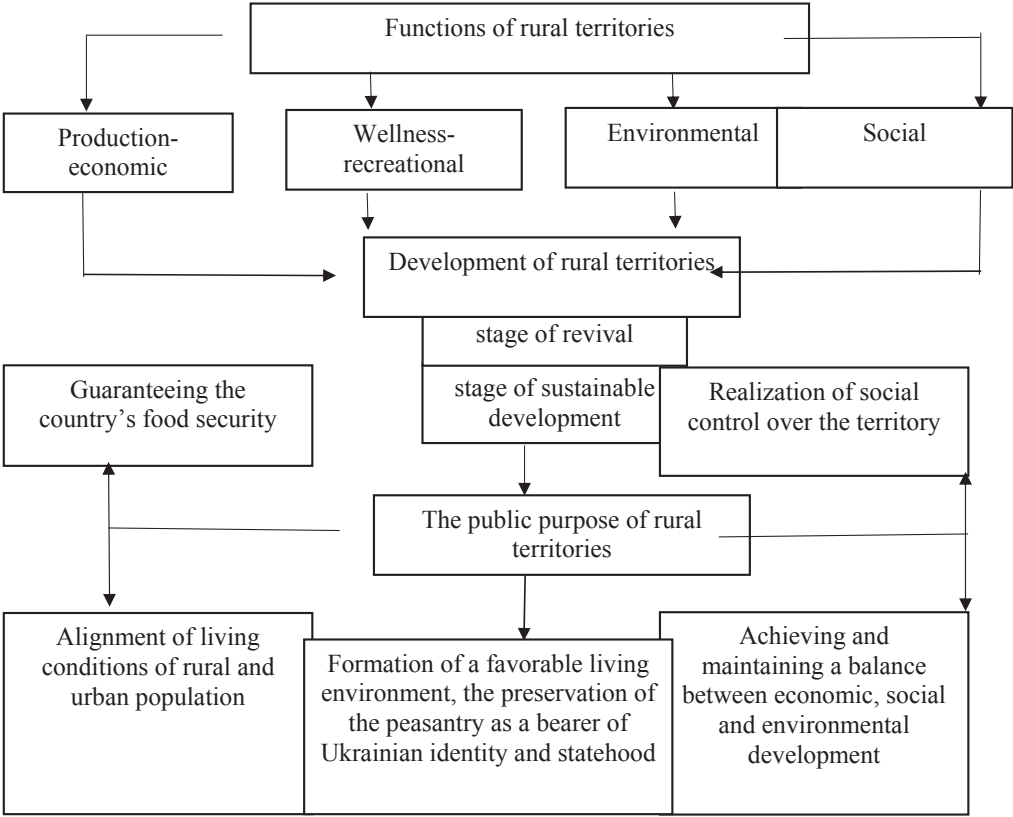
On the other hand, the dependence of dynamism and efficiency of economic development from the ecological and social components of the development of society.

If we analyze the global orientation of economic development of Ukraine, its strategy should be reoriented to give priority to rural development, which,

with one party, goes beyond the framework of sectoral development, being, by definition, and is the most promising direction of the euro-integration course and competitiveness of our country on global market – on the other.

The implementation of the strategic course on the priority of the rudimentary development actualizes the scientific direction, with the study of rural territories that occupy 80% of the state territory and significantly lag behind the urban territorial subsystem of society in terms of their social and economic development.

Figure 1. Functions of rural territories in the context of their social purpose



Rural territories are identified by us as an agroecosystem, economic space, social environment and mental image, as natural and socio-spatial entities consisting of territories of basic, regional, regional and social levels, are classified into typically rural (agrarian) territories, transitional, «mixed» territories (rural urbanized territories and areals, «agrarian» cities) and territories with the special regime of functioning (recreational, mountain, border).

In addition, rural territories differ among themselves in one or another characteristic of typology, have geographic, regional, historical, socio-cultural and other features (Pavlov, 2015).

Despite the specificity of the functioning of various types, levels and types of rural territories, due to their resource potential and location, the development strategy for these natural and socio-spatial entities is subordinated ensuring their expanded reproduction, carried out in the interests of rural society and food security of the country (Figure 1).

As it follows from Figure 1, rural territories are not simply a space endowed with physical characteristics, but a complex one nature, structure and functions of systemic education, within the boundaries of which the complex social and economic processes that have important social significance take place in different directions. Based on the specifics of space, these processes can be defined using the general term as rural development. An integral part of rural development, which determines the nature of the basic functions of rural territories, is agrarian development, which is based on a huge natural and resource potential, favourable natural and climatic conditions and the geographical location of Ukraine.

In terms of the level of provision of agricultural land (0,914 hectares per capita) and arable land (0,716 hectares per person), Ukraine occupies the first place in Europe (Tkachuk).

On rural territories, more than half of households use land with an area of up to 1 hectare, 27% – from 1 to 5 hectares, 12% of households – 5–10 hectares. For the cultivation of agricultural products, only 16% of the land is used by households for household needs, 11% for growing agricultural products, both for own needs and for sale, 73% of the land area is leased. In this case, the rent for 1 hectare of agricultural land varies from 33 to 280 USD, which is 3-20% of their normative assessment (Socio-demographic...).

The agrarian sector forms more than 11% of GDP, taking into account the processing industry – 27% of GDP. For these indicators, Ukraine is included in the TOP-10 agrarian countries of Europe (Table 1).

Considering the potential of agrarian development, the main task in the field of agricultural activity is to increase the export volumes of food products. Recent years is one of the leaders in the world grain markets; delivering 9% of this product. In addition to grain, Ukrainian commodity producers are on leading roles in the export of sunflower, sunflower oil, industrial crops. As a result, every fourth dollar goes to Ukraine from the export of agricultural products. In general, the state receives more than USD 11 billion annually from the sale of agricultural products on foreign markets (Tkachuk).

Table 1. Rating of Ukraine among European countries with the largest share of agriculture in the country's GDP

Place in the rating	Country	Share of agriculture in the country's GDP
The first	Albania	21,83
The second	Moldova	13,8
The third	Ukraine	10,43
The fourth	Macedonia	10,2
The fifth	Montenegro	10,1
The sixth	Serbia	9,66
The seventh	Belarus	9,2
The eighth	Bosnia and Herzegovina	8,45
The ninth	Bulgaria	6,7
The tenth	Romania	6,4

Source: [Ukraine...].

At the same time, despite the increase in export supply of agricultural products, the situation in rural territories is characterized by the depopulation of the settlement network, the degradation of the social infrastructure of the village and the deterioration of the conditions and living standards of the rural population.

## 8.2. Problems of rural territories development

Contrary to the dynamics of agrarian development, the functioning of rural territories has accumulated a lot of problems, primarily social, which are systemic and long-term.

The most acute problems of rural development in Ukraine include the following:

- the high degree of dependence of rural development on agrarian development;
- the disproportionality of the dual structure of agricultural production;
- spatial and sectoral uneven socio-economic development of rural territories;
- low rural employment and poverty of rural population;

- financial and economic insolvency of rural communities;
- the demographic situation in rural territories deteriorating from year to year;
- the increasing degradation of the rural settlement network;
- deterioration of socio-cultural and communal living conditions of the rural population.

Most of these problems are due to the trends in the demographic development of rural territories that have developed over a fairly long period of time (Table 2).

For rural territories of Ukraine, a regressive type of the age structure of the population is typical, according to which the proportion of grandparents (persons aged 50 and older) is slightly higher than the proportion of children (under 14 years of age). At the same time, during the last 15 years with the practically unchanged share of the parents (people aged 15–49) in the rural population, there is a significant reduction in the proportion of children, which in 2016 was more than half that of the parents. Thus, on the background of deepening of the general trends of population aging and the corresponding increase in the mortality rate, the share of the potentially childbearing continent is declining, which in the future will ensure the natural reproduction of the population. It is noteworthy that for most of the regions in which the rural population is higher than the average for Ukraine (30,77%), the intensity of the process of depopulation of rural areas is less typical than the national average. An exception to this rule is Chernigov (–28,64%) and Sumy (–23,46%) regions (The potential..., 2017).

Successful resolution of demographic problems is possible due to the creation of additional jobs in the countryside and thus ensuring the employment of the rural population. An analysis of the dynamics of employment of the rural population shows that only about 60% of the able-bodied population is employed in the sectors of the agrarian sector of the economy (Table 3).



Table 2. Demographic indicators of the development of rural territories of Ukraine in 1991–2017

Denomination	1991	2000	2010	2017
Number of administrative districts, units	481	490	490	490
Rural population, million/percent	18,6/32,46	16,1/32,55	14,4/31,41	13,1/30,77
Number of rural settlements, units	28845	28739	28471	28377
Regions, in which the rural population has the largest proportion:				
– Zakarpattia	–	–	–	63,02
– Chernivtsi	–	–	–	56,93
– Ivano-Frankivsk	–	–	–	56,15
– Ternopil	–	–	–	55,28
– Rivne	–	–	–	52,50
Regions with the largest number of settlements:				
– Lviv	–	–	–	1850
– Poltava	–	–	–	1805

Source: State Statistical Service of Ukraine and data calculated by the authors.

Table 3. The dynamics of the employed population in rural territories of Ukraine  
2013–2016

(at the age 15-70 years, thousand people)

Denomination	2013	2014	2015	2016
Total number of employed population,	6033,5	5292,4	5134,2	5098,4
of his working age	5339,8	4924,4	4872,5	4854,6
Population employed in agriculture, forestry and fisheries	3389,0	3091,4	2870,6	2876,5
The proportion of the population employed in agriculture, forestry and fisheries to the total number of employed	56,1	58,4	55,9	56,2

Source: State Statistical Service of Ukraine and data calculated by the authors.

The presence of a large part of the rural population of the unemployed in agriculture, forestry and fisheries is explained by several reasons. On the one hand, a considerable part of rural residents owning land plots provide their own income by leasing them to agricultural enterprises and farmers. A certain number of people living in rural territories are engaged in trade, in the socio-cultural sphere, in tourism. However, the low level of employment of the rural population in the agrarian sector is related to the territorial orientation of the distribution of agricultural land. So, the provision of the Odesa region with lands is 5,65 times higher than the Zakarpattya region. The latter region is 10,7 times less secure than the Dnepropetrovsk region. In addition to the Zakarpattya region, the Ivano-Frankivsk and Chernivtsi regions located in the western part of the country are also least provided with agricultural lands.

The central and southern regions of Ukraine occupy a leading position in this indicator. And this means that by the location of the regions, the presence or absence of sufficient land resources in them determines the dominant type of economic activity. This indicator is important in structuring and in determining the structure of agricultural production (Table 4).

Table 4. Share of types of agricultural holdings in the agricultural production by regions in 2017

	Crop production		Animal production	
	agricultural enterprises	households	agricultural enterprises	households
<b>Ukraine</b>	<b>60,3</b>	<b>39,7</b>	<b>46,1</b>	<b>53,9</b>
Vinnytsya	64,2	35,8	60,8	39,2
Volyn	39,3	60,7	44,2	55,8
Dnipropetrovsk	56,9	43,1	71,5	28,5
Donetsk	56,2	43,8	59,1	40,9
Zhytomyr	55,0	45,0	16,5	83,5
Zakarpattia	11,5	88,5	2,5	97,5
Zaporizhya	61,0	39,0	35,4	64,6
Ivano-Frankivsk	37,8	62,2	27,5	72,5
Kyiv	59,5	40,5	73,7	26,3
Kirovohrad	65,2	34,8	21,8	78,2
Luhansk	70,1	29,9	21,3	78,7
Lviv	42,3	57,7	32,7	67,3
Mykolayiv	66,7	33,3	15,0	85,0
Odesa	68,5	31,5	16,5	83,5
Poltava	64,0	36,0	59,1	40,9
Rivne	38,1	61,9	25,2	74,8
Sumy	74,5	25,5	36,9	63,1
Ternopil	62,1	37,9	31,9	68,1
Kharkiv	57,6	42,4	41,3	58,7
Kherson	56,4	43,6	35,9	64,1
Khmelnyskiy	67,7	32,3	44,5	55,5
Cherkasy	72,1	27,9	79,9	20,1
Chernivtsi	25,8	74,2	18,2	81,8
Chernihiv	76,1	23,9	45,6	54,4

Source: State Statistical Service of Ukraine and data calculated by the authors.

As shown in Table 4, the predominance of the share of households in the production of livestock products compared to the participation of agricultural enterprises in this process is explained by the labor intensity of the livestock sector. For this reason, the added value created here does not exceed 7%, which is 3–4,5 times lower than for grain and industrial crops. A small proportion of western regions in the production of crop production is due to a shortage of agricultural land. In the central and southern regions, the main producers of crop production (grains and industrial crops) are large agroholdings, used from 200 to 500 thousand hectares of agricultural land. In these regions, the largest number of agricultural enterprises are concentrated, the total number of which has decreased since 2005 by 4% (Pavlov, 2015). At the same time, for these regions are characterized by a large proportion of farms in the production of livestock products.

Another problem of the economic development of rural areas is the disproportion in the production of agricultural products between regions per 100 hectares of agricultural land and per person. The highest indicators are Cherkasy, Poltava, Kyiv, Vinnytsya regions, and the lowest – Donetsk, Luhansk, Kyiv, Zakarpattya regions.

Ukraine, perhaps, is the only country in Europe where life expectancy in rural areas is more than two less than in urban areas (Table 5).

Table 5. Average life expectancy in Ukraine

Urban population			Rural settlements		
both sexes	men	women	both sexes	men	women
72,03	67,08	76,00	69,88	64,70	72,29

Source: (Tkachuk).

According to the data in Table 5, the gap in the life expectancy of women is greater than that of men, which can be explained by their greater employment with hard domestic labor, farming.

The common cause of the low life expectancy of the rural population is the poverty of most of it. Every third person in the rural territories is classified as a poor person, in small towns this indicator is slightly lower, and in large cities the number of poor people is more than half that in villages (Human ..., 2014).

The following statistics testify to the depopulation of the rural settlement network: more than third of the villages (without taking into account obedient, but not taken off the register), there is no single economic entity, with 1869 rural settlements (6,5% of their total number), having a population of more than 300 people (Socio-economic ..., 2014).

The degradation of the social infrastructure of the village is manifested in the reduction of health facilities, culture, education, in the absence of paved roads connecting large settlements with small villages, in insufficient provision of housing equipment, so in 2017 only 0,6% of rural households were provided with central heating, 10,6% – gas columns, 15,7% – hot water supply, 27,4% – balloon gas, 50,5% – sewerage, 51,2% – water supply system (Socio-demographic ...).

The list and description of these problems of development of rural territories of Ukraine is not limited to their number. However, acquaintance with them requires the adoption of adequate measures to resolve them, which in turn requires the mobilization of the strengthening of business entities, rural territorial communities, public authorities, and public organizations.

Given the limited budgetary opportunities, the absence of enterprises in every village since 2015, a course has been taken to decentralize power and administration by creating joint territorial communities, the administrative centers of which are predominantly villages. This has its own explanation: a significant number of rural territorial communities are small in their population and incapable of financial, economic, political, managerial and social respect. Therefore, the unification of territorial communities is aimed at increasing their self-sufficiency, increasing their assets and increasing the level of social and economic development for the benefit of local residents. According to the Methodical for the formation of affordable territorial communities, a community is considered to be a well-off community, which, as a result of voluntary association, is able independently or through the relevant local government bodies to ensure the proper level of services, in particular in education, culture, health, social protection, housing and communal services, taking into account human resources, financial provision and infrastructure development (About...). To this end, the state budget for 2017 provided for 1,5 billion hryvnia (0,5 billion hryvnia more than in 2016), directed to the development of the infrastructure of general relativity (Ninety-four...). This contributed to the activation of the process of voluntary unification of territorial communities, the number of which at the beginning of 2018 increased to 665 (Table 6). As shown in Table 6, this process is manifested in different ways in different regions: among the leaders, as well as outsiders, there are regions representing both the West and the East, as well as the center. Nevertheless, we note that some efforts to create GRT are not enough to increase the assets of rural communities. First of all, a permanent robot is needed to create new jobs and prepare the conditions necessary for activating entrepreneurship in the countryside in all spheres of life.

Table 6. Number of united territorial communities of Ukraine

Denomination	Number of united territorial communities
Number of united territorial communities around the country	665
Regions with the largest number of united territorial communities:	
– Dnipropetrovsk	56
– Zhytomyr	45
– Volyn	40
–Ternopil	40
– Poltava	39
–Khmelnytskiy	39
Regions with the smallest number of united territorial communities:	
–Zakarpattia	6
–Luhansk	8
–Donetsk	9
–Kyiv	9
–Kharkiv	12
–Kirovohrad	13

*Source: State Statistical Service of Ukraine and data calculated by the authors.*

### **8.3. Branding as a marketing tool for solving the problems of rural territories development**

Among the ways to solve the problems of rural development, a special role belongs to marketing tools. Like any territorial entity, rural areas have their own marketing environment – a combination of conditions, factors and actors that influence their development. The internal environment of rural territories is represented by such components as resources, social and economic status parameters and management system. The external environment is divided into micro- and macro-environments. The first environment includes: consumers of resources and services of territories, competing territories, enterprises

(organizations, institutions), government bodies; to the second – the factors of irregular and indirect action. In the marketing context, rural territories are a specific natural and social product located in space.

For marketing, the economic essence of the image of rural territories, emerging in their positioning as a natural and social-spatial environment, favourable for living, visiting tourists, guests, doing business and investing capital, becomes paramount. At the same time, rural territories as a spatial object are simultaneously positioned as an objective material reality, constantly changing in space and time, and as a set of ideas, representations, images about this reality.

This positioning of rural territories is consonant with A. Lefevre's idea of «space production», as a process of reflecting the socioeconomic conditions that preceded its creation, the distribution of capital, the welfare of the society and their investment in the subsequent production of space (Lefevre, 2015).

Realization of this task is a marketing tool such as branding. Branding of rural territories, as a process of creating and promoting the brand, acts as a marketing tool and a management function. The brand of rural territories is not just a product of branding, but global communicators, which are designed to create an attractive image of these natural and socio-spatial entities. However, branding should not be based on substituting the logic of development of a brand object (rural territories) with the logic of marketing technology used to create positioning, launching and promoting a territorial product on the market.

Proceeding from this, it is extremely important to use in branding the categorical apparatus, concepts, methodology, language and rhetoric of not only marketing, brand management, but also social and behavioral and other scientific disciplines that constitute the corresponding marketing paradigm (Table 7).

The organizational component is aimed at streamlining the practical steps to promote the brand. The functional component («10P» – marketing complex) aims at positioning all consumer properties of rural territories as a specific product on the market, reflecting their essential characteristics in the form of visual and verbal images. The information component, including the parameters of the external and internal environment, provides an insight into the background of the brand of rural territories on the basis of analysis of marketing and socio-economic indicators. The purpose of the technological component of the marketing paradigm is to develop a structural and logical scheme for the brand to enter the market.

Table 7. Marketing paradigm of branding of rural territories

The content of the paradigm for its components			
Organizational	Functional («10P»)	Informational («7C»)	Technological
<p>1. Determine the target consumer audience.</p> <p>2. Formulation of the objectives of promoting rural territories as a specific product.</p> <p>3. Choosing a form of message and means of distributing information.</p> <p>4. Selection of means of influence of advertising, public relations.</p> <p>5. Compiling and distributing cost estimates for brand promotion.</p> <p>6. Formation of feedback channels.</p> <p>7. Coordination of the communication process.</p>	<p>1. Product (products produced in rural territories).</p> <p>2. Place (location of rural territories).</p> <p>3. Price (price level of living resources, goods and services).</p> <p>4. Production (basic industries, spheres and functions of rural territories).</p> <p>5. Promotion (reputation and image of rural territories).</p> <p>6. People (the level of the human index of rural territories).</p> <p>7. Personnel (availability and quality of labor resources of rural territories).</p> <p>8. Patterns (norms and standards of behavior of rural population).</p> <p>9. Placement of funds (investment attractiveness of rural territories).</p> <p>10. Pollution (rural environment).</p>	<p>1. Consumers (characteristics of rural consumers).</p> <p>2. Culture (cultural environment of rural territories).</p> <p>3. Capacity (industrial and economic dimension of rural territories).</p> <p>4. Commerce (level and condition of business development in rural territories).</p> <p>5. Control (the effectiveness of the functioning of power structures in rural territories).</p> <p>6. Competitors (level of competition development).</p> <p>7. Character (image characteristics of rural territories).</p>	<p>1. Definition of the object of strategic influence.</p> <p>2. Research of the external environment (market).</p> <p>3. Planning a communications policy for communication with market agents.</p> <p>4. Adaptation to environmental conditions.</p> <p>5. Development of tools for legal protection of the brand.</p> <p>6. Analysis of consumers' reaction to the brand.</p> <p>7. Analysis of the results of brand consumption.</p>

Source: own elaboration.

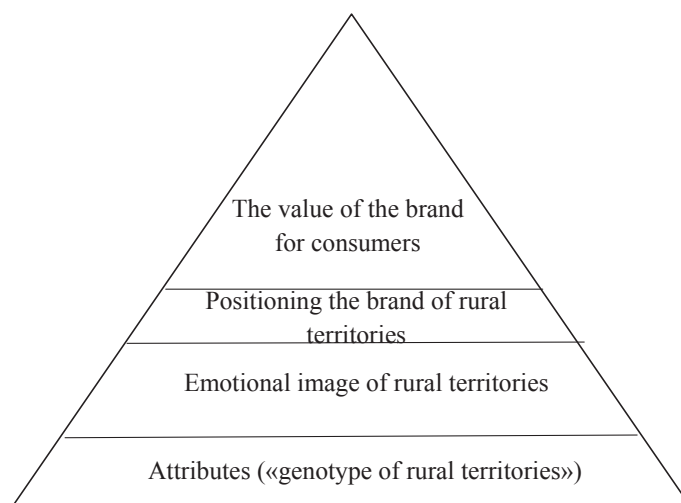


#### 8.4. Brand of rural territories development in Ukraine

Brand – the name of the branding object, its mental concept image, according to which this object differs from other similar objects. The mission of the brand of rural territories is to identify their attractive properties, which form the basis of interest to them from internal and external consumers.

Identity is the basic element of the brand (Figure 2). On the figure 2 the first riven piramid of representations «genotype» – competitive advantages of rural territories, which include the following: favorable natural and geographical position; presence of fertile black soil; developed agro-food complex; direct access to the coastal strip of the Black and Azov Seas, to transport communications. The second level of the pyramid presents the emotional component of the architecture of the brand of rural territories, the functional purpose of which is to create an attractive image of the branding object in the public mind. In this process, the active role is played by the mentality, in which the real space is reflected in the form of its corresponding figurative picture, which is the result of both a direct empirical reflection of reality by the sense organs and a conscious reflective reflection of reality in the process of thinking (Popova, 2007).

Figure 2. Pyramid of the brand identity of rural territories



*Source: own elaboration.*

In this sense, rural space appears as a system of images, which represents the object of identification in the representation of certain subjects of identification, which reflects the type of their thinking and level of consciousness (Table 8).

Table 8. Mental map of the image of the rural territories of Ukraine

Identification entity	Type of image	Characteristic of the type of image
Rural population	Partially vernakulyarny	Vernacular territories; the place of life in fact, not the choice
Business entities	Consumers	Place of investment of capital and profit
Urban population	Neutral	Nostalgic places of a small homeland; the territory of cottages; country estates
Public authorities	Interested	Territories within which farm raw material is grown and food is produced
Public organizations	Positive	Recreation and relaxation territories

*Source: own elaboration.*

The characteristics of the images of rural territories, inherent in the identification subjects listed in table 8, form a certain mental map of the rural space. The mental map, as a subjective reflection of reality, not only reproduces certain information about the state of rural territories, but accumulates and preserves it. The mental map of images of rural territories indicates their unattractive image. Therefore, in the process of branding of rural territories, the task is to reform at this image from mostly negative to positive with the use of various institutions, including marketing policies.

The representation of this direction of brand-building gives the third level of the pyramid – the positioning of the brand of rural territories (Figure 2). Here it is important to find out how the branding positioning paradigm of rural territories corresponds to the production and functional dimensions of their positioning.

Rural territories of Ukraine are actively positioned on the tourist brand in its recreational and recreational and tourist dimensions, which is attributed to the attribution of a certain proportion of these territories to the seaside coastal strip. But within the 50-kilometer availability of this band, there is a small proportion of rural territories, and therefore most of these territories belonging to administrative districts that have access to the seacoast are not attractive in recreational terms.

Not far from universal and successful in value measurement, as it is advertised, is the brand of rural territories as a territory of wine tourism and its variety – gastronomic tourism, associated with the movement of countries for the purpose of familiarization with national dishes, exotic products and exclusive drinks, the places of which are located in France, Italy, Spain, Austria, Japan, China, India, countries of the Arab world. Therefore, the attractiveness of the tourist brand with its wine-gastronomic direction in relation to the rural territories of Ukraine is relative.

At the same time, little involved is the niche of positioning the tourist brand of the rural territories in such territories as agrotourism, historical and cultural, entertaining, and sporting. The dissemination of these activities in rural territories has certain grounds, and their development would contribute to filling the budgets of rural communities.

However, in our opinion, the agro-food brand should be the basic brand of rural territories, which is responsible not only for the implementation of sustainable development of Ukraine, but also for the public expectations of the rural population associated with raising the level and quality of life.

Targeting the agro-food brand as a base corresponds to the fourth level of the identity pyramid – brand values for the consumer (Fig. 2). This value as a marketing characteristic of the brand forms a brand-concept, the purpose of which is to deliver a message in a verbal and visual form to the consumer of his idea. The concept of the brand is embodied in its name, slogan, logo, thus acquiring the signs of individuality, advertising using PR-tools in the consumer environment.

However, given the rather large number of local territories, it is not possible to confine itself to developing a single brand for them. In addition, local territorial units differ among themselves, in the subject of branding, with distinctive features and advantages, which are the basis of brands. These factors are grouped according to three criteria: structural or stable (location, climate, history) changing (size, quantity, welfare of the population, appearance of territories); symbolic (heraldry, cultural code, symbolic events and personalities, behavioral and communication characteristics) (Popova, 2007).

### **Brand «SHABO»**

One of enterprises, which is known not only in Ukraine, but also beyond its borders is OOO «Industrial and Trade Company Shabo», whose production facilities are located in the village of Shabo Belgorod-Dnestrovsky district of the Odesa region.

The village of Shabo is not only one of the largest villages of Ukraine in terms of population (7,1 thousand people), but also a settlement, unique in its history, traditions and labor achievements.

The centuries-old traditions of local winemaking were preserved and developed with the establishment in 2003 of LLC «Industrial and Trade Company Shabo» (Shabo Company) – a vertically integrated production holding with a full production cycle, producing all kinds of alcoholic products based on grapes, namely: sparkling wines, vermouths, cognacs, brandy. The assortment of these products is widely represented not only in Ukraine, but also in 18 countries of Europe, America and Asia.

In 2009 of the first in Ukraine «Wine Culture Center of Shabo» (Center). In the context of the branding strategy, the Center can be seen as the first step towards expanding the already existing «SHABO» brand. This is evidenced by the transformation of the village of Shabo into one of the centers of wine tourism in Ukraine.

The center was created to promote the products of the company «Shabo», increase the culture of consumption of famous varieties of wine and popularize a healthy lifestyle.

The social and economic effectiveness of the listed activities convinces us of the need to concentrate further branding efforts on creating personal brands related to the stay in this territories of such historical figures as the founder of the village of Shabo Louis Vincent Tardan and the great Russian poet Alexander Pushkin. This historical and cultural direction of tourism in the future can be enriched by including in the tourist facilities of the Belgorod-Dnestrovsky fortress located at a distance of 8 km from the village of Shabo, as well as the use of recreational resources of the Black Sea coastal strip (10 km distance). Given the creation of modern infrastructure within the village of Shabo, including the tourist infrastructure, it can be gradually turned into a tourist center of Bessarabia, given the distance from Odesa, which is only 75 km.

### **Brand «Frumushika New»**

The brand «Frumushika New» positions the cluster formed in the Tarutinsky district of the Odesa region.

The formation of a cluster and the creation of a brand are the result of a respectful attitude to their small homeland and the frugal use of natural resources by local entrepreneurs – the Palariev family, whose ancestors lived permanently in these fertile Bessarabian lands. From 1946 until the early 1990s, these lands were used as a military training ground, and now here is the largest sheep breeding complex in Europe that grows up to 7,000 heads. Over time, as a result of cooperation with nearby agro-food enterprises, a territorial

intersectoral cluster was formed, the core of which was «Borodino-A» LPS, the Center for Ethnographic, Rural Green Tourism and Rural Recreation «Frumushika New» and Odessa National Academy of Food Technologies. A complex of farms of the villages Staroselie and Veselyaya Dolina was formed around this center.

On the basis of the cluster organization sheep breeding has been further developed, the production of authentic honey and beekeeping products is being realized, the delivery of branded authentic foodstuffs to consumers on request, a network of eco-shops of authentic food products, creative workshops (breweries, wineries, bakeries), master classes on production technology related products. The next step is the creation of a research and development center for healthy and authentic food, a marketing and consulting center.

Further development of the cluster, thanks to the promotion of the «Frumushika New» brand, will promote the growth of economic opportunities of local communities and the promotion of a lifestyle based on the principles of permaculture.

## **8.5. Summary and conclusions**

To solve the problems of development of rural territories of Ukraine in the process of research, an interdisciplinary cognitive paradigm was used, based on the attraction of the scientific apparatus of related scientific disciplines – economics, sociology, geography, marketing, management and psychology.

In the light of the interdisciplinary approach, rural territories are identified as natural and socio-spatial entities, that have a complex internal structure and fulfill socially significant functions. The main contradiction of rural development as a social process occurring within the boundaries of rural territories is the discrepancy between the level and quality of life of the rural population in the strategic role of the agrarian sector as a guarantor of the country's food and national security. This contradiction is supplemented and deepened by disproportions between the agrarian and non-agrarian components of the rural economy, the uneven socio-ecological and economic development of rural areas of regional and district levels.

Along with the traditional ways of solving the existing problems of rural development, the article deals with territorial branding as a marketing tool and a brand management function. The task of branding is to create and promote the brand of rural territories as a specific territorial product among domestic and foreign consumers.

When revealing the process of creating a brand of rural territories, their positioning in the domestic and foreign markets, it was concluded that it is

necessary to emphasize the formation of the agro-food brand of these natural and social-spatial entities. Considering the presence of a huge variety of rural territories of the basic level, a proposal is made on the need to form various brands taking into account the unique properties, resources and characteristics of each of the territories.

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## **Instead of a summary**

As the editors of the Monograph “The Common Agricultural Policy of the European Union – the present and the future – non EU member states point of view”, we are aware that, despite the great scientific effort of the authors of all papers as well as the Committees: Scientific and Organizational, participating in the work related to the organization of the international scientific conference in Stare Jabłonki on 5-7 December 2017 entitled ‘The CAP of the European Union – the present and the future’ we have not exhausted all problems related to the analyzed issues. It is also not possible to make a comprehensive and complete summary of conclusions of the conference and this monograph. However, at this point we would like to stress out that the CAP (despite the entire bureaucratic burden as well as numerous, often justified, words of criticism regarding the efficiency, effectiveness and sustainability of its actions) it is a great common European project which contributed to the unification of Europe, building the foundations of its economic and political stability, relative prosperity of the society and high norms and standards of food safety, environmental protection and wellbeing of animals, rural cultural heritage and quality of life of the entire society.

The changing political, economic, social and environmental conditions, however, pose new challenges for the rural policy defined today also through the prism of the region and cohesion of the EU. In the face of these challenges and crises, some of the EU societies cease to tolerate the sectoral expenses. They accept, however, the so-called green economy, sustainable territory, social cohesion and good governance.

In this way, they are turning towards closer integration of the EU territory and stronger foundations of sustainable development. The key to this is transnational and cross-border cooperation, which exceeds the boundaries of agriculture and rural areas, and covers the area of transnational cooperation in operational and decision-making dimension. This is an innovative approach to the agricultural policy, which takes into account the characteristics and individual conditions of each region. It also gives more freedom to countries and regions in the adaption of the programmes to their individual needs.

At this point, the mechanisms of stronger impact on the creation of the EU development strategy are worth considering. This would bring an opportunity for simplification of complicated administrative procedures related to the implementation of programmes, audit thereof or the implementation of the EU solutions in the national legislation. These actions would certainly be able to lead to the reduction of the excessive transaction costs. The radical change of the

means of informing the EU citizens of the effects of the cohesion policy and rural policy is also necessary. Although their accomplishments are undeniable, an average citizen hardly notices them or does not connect them with the EU support. In order to increase the acceptance for the EU programmes, in particular in regions with partial participation, particular attention should be paid to the capacity building, extending knowledge and participation in local development.

Sustainable and multifunctional rural development, along with spatial cohesion of the EU, requires looking through the prism of many different sectors and regions. Because of their diversity, the policy after 2020 should reflect these differences and give the choice to the local rural communities. It is also necessary to focus more extensively on the territorial matters when distributing the financial resources. The improvement of the fund allocation mechanisms in terms of increasing their spatial concentration remains another challenge. The ability to maximize the advantages, synergy and achieve the territorial cohesion depends mainly on the CAP implementation itself as well as the cohesion and regional policies in each of the Member States, on the appropriate public funds allocation mechanisms, regional decision makers and finally on the people.

The public aid is desirable when discrepancies between the private and the social product occur. However, it is not always the best way to resolve the market failure problem. The results of measures taken by the state are difficult to foresee precisely, i.e. because we are dealing with the failure of public institutions (state failure). The beneficiaries of the public aid (regardless of whether it means the administrative authorities or private persons) often prefer their own interest (political, private) over the general interest and often adapt their actions to the opportunities it provides.

The public aid materialised by the public policy also is not able to provide social equality and justice, although it is generally believed that, in the greater social interest, public funds supporting the realisation of certain objectives should be provided. Such a solution, despite the fact that it is more of an attempt to cure the symptoms of a 'disease' than a systemic solution, is more advantageous than the lack of it. Therefore we work towards targeting the agricultural policy after 2020 so that its benefits concerned all citizens and the entire society.



## Annex I

List of conferences organised by the Institute of Agricultural and Food Economics – National Research Institute from 2005 to 2017 under the three editions of the Multi-Annual Programme and conferences proceedings related thereto.

All publications from research held under the Multi-Annual and monographs of proceedings from conferences organized by the Institute are available on the website: [www.ierigz.waw.pl](http://www.ierigz.waw.pl)

### **Multi-Annual Programme 2005-2009**

#### **“Economic and social factors conditioning Polish food economy development after Poland EU accession”**

Conference	Conference Proceedings
Economic and social factors conditioning Polish food economy development in the first year after Poland's accession to the EU, 12-13 December 2005, Warszawa, Poland	
Polish rural areas and agriculture two years after Poland's accession to the EU, 31 May 2006, Pułtusk, Poland	
Economic and social factors conditioning Polish food economy development after Poland's accession to the EU, 11-12 December 2006, Pułtusk, Poland	
The Polish agro-food economy after the four years of the EU membership, 12-14 December 2007, Pułtusk, Poland	Seria: Multi-Annual Programme 2005-2009, no 67.1
Farms in Central and Eastern Europe – today and tomorrow, 4-6 June 2008, Białowieża, Poland	Seria: Multi-Annual Programme 2005-2009, no 98, 98.1
Development of the agri-food sector in Poland at the background of global trends, 8-10 December 2008, Pułtusk, Poland	Seria: Multi-Annual Programme 2005-2009, no 101
The structural changes in the rural areas and agriculture in the selected European countries, 1-3 June 2009, Sterdyń, Poland	Seria: Multi-Annual Programme 2005-2009, no 128, 128.1
Economic and social conditions of development of the Polish food economy after Poland's accession to the European Union, 30 November - 2 December 2009, Pułtusk, Poland	Seria: Multi-Annual Programme 2005-2009, no 184, 184.1

Publications are available on the website:

<https://www.ierigz.waw.pl/publikacje/raporty-programu-wieloletniego-2005-2009>

## **Multi-Annual Programme 2011-2014**

### **“Competitiveness of the Polish food economy in the conditions of globalization and European integration”**

Conference	Conference Proceedings
European Union food sector after the last enlargements – conclusions for the future CAP, 14-16 June 2011, Rajgród, Poland	Seria: Multi-Annual Programme 2011-2014, no 6.1
Expectation and challenges for food sector from the EU enlargements perspective, 17-18 November 2011, Warszawa, Poland	Seria: Multi-Annual Programme 2011-2014, no 31.1
Competitiveness of food economy in the conditions of globalization and European integration, 5-7 December 2011, Pułtusk, Poland	Seria: Multi-Annual Programme 2011-2014, no 60, 60.1
Proposals for CAP 2013+ and competitiveness of food sector and rural areas, 18-20 June 2012, Kazimierz Dolny, Poland	Seria: Multi-Annual Programme 2011-2014, no 61, 61.1
Economic, social and institutional factors of agri-food sector growth in Europe, 10-12 December 2012, Ciechocinek, Poland	Seria: Multi-Annual Programme 2011-2014, no 67, 67.1
The new solutions of the CAP 2013+ to the challenges of the EU member states agriculture, 12-12 June 2013, Suchedniów, Poland	Seria: Multi-Annual Programme 2011-2014, no 91, 91.1
The new EU agricultural policy – continuation or revolution?, 9-11 December 2013, Jachranka, Poland	Seria: Multi-Annual Programme 2011-2014, no 99, 99.1
Achievements and challenges in the food sector and rural areas during the 10 years after EU enlargement, 12-14 May 2014, Rawa Mazowiecka, Poland	Seria: Multi-Annual Programme 2011-2014, no 123, 123.1
The CAP and competitiveness of the Polish and European food sectors, 26-28 November 2014, Józefów, Poland	Seria: Multi-Annual Programme 2011-2014, no 146, 146.1

Publications are available on the website:

<https://www.ierigz.waw.pl/publikacje/raporty-programu-wieloletniego-2011-2014>

## **Multi-Annual Programme 2015-2019**

### **“The Polish and the EU agricultures 2020+. Challenges, chances, threats, proposals”**

Conference	Conference Proceedings
Economy versus the environment – competitiveness or complementarity, 23-25 November 2015, Jachranka, Poland	Seria: Multi-Annual Programme 2015-2019, no 23
Competitiveness of the economy in the context of social policy measures, 22-24 June 2016, Jachranka, Poland	Seria: Multi-Annual Programme 2015-2019, no 26, 27.1
Risk in the food economy – theory and practice, 23-25 November 2016, Jachranka, Poland	Seria: Multi-Annual Programme 2015-2019, no 48, 49.1
Strategies for the agri-food sector and rural areas – dilemmas of development, 19-21 June 2017, Licheń Stary, Poland	Seria: Multi-Annual Programme 2015-2019, no 52.1
The Common Agricultural Policy of the European Union – the present and the future, 5-7 December 2017, Stare Jabłonki, Poland	Seria: Multi-Annual Programme 2015-2019, no 73.1, 74.1

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