

## STATE SUPPORT OF AGRICULTURE: THE ANALYSIS OF AN EXPERIENCE OF GERMANY

Galyna M. Fylyuk, Olena V. Pimenova  
Department of Business Economics  
Taras Shevshenko Kiev National University

**Abstract.** The role of state support in enhancing the competitiveness of agricultural sector is determined. Mechanisms of state support of developed countries are analyzed. A necessity of use of targeted financial support to the introduction of monitoring systems in domestic agriculture is proved.

**Key words:** agricultural sector, state support, agricultural policy, food safety

### INTRODUCTION

In modern conditions, when the economy of Ukraine is being in crisis, it goes declining of gross domestic product, unemployment is constantly growing, it is important to concentrate the state attention on priority areas of national economy, to which, in particular, belongs agriculture. More than 30% of Ukraine's GDP are produced in agriculture. Despite these indicators the domestic agriculture is much below of their potential. State support is one of the most effective means of regulation of agriculture, as its application is directly related to food security, incomes of farmers and improving of rural livelihoods.

We believe that state support of agriculture is a complex of legislative and organizational appointed long-term fiscal measures aimed at ensuring favorable conditions for sustainable development of agricultural production, creation a competitive environment to ensure the competitiveness of agricultural sector, meeting the domestic demand for food and formation an export potential of industry.

## LITERATURE BACKGROUND

Theoretical and practical aspects of various forms of state support of agriculture discussed in works of Western and Russian scholars in particular: S. Brue, J. Keynes, P. Samuelson, A. Smith, M. Tracy, T. Semkina, B. Chernyakov. Theoretical and methodological issues of the nature and the role of state in providing agriculture are widely covered in the works of native scientists like: M. Bulat, V. Heyets, V. Horovy, V. Zbarsky, L. Moldovan, O. Nechiporenko, B. Paskhaver, P. Sabluk and others. However, in despite the strength and solidity of scientific development, not illuminated remain priority aspects related to the study of different levers of mechanism of state support.

## RESEARCH METHODS

The aim of the study is to study an experience of implementation of existing effective mechanisms of state support of agriculture in emerging economies and developing proposals for their possible application in Ukrainian practice management.

In the study are used general scientific and special methods. A methodological base of study as to determine rational and effective forms of economy are general scientific methods. Through systematic analyses are used the economic, social and environmental components of forms of economy in their relationship and interaction between them.

## RESULTS

In modern conditions in agriculture of Ukraine are presented the following main forms of economy: farms, peasant economies and agricultural enterprises (mainly in the form of agroholdings). They produce agricultural products in following proportions: households (mainly peasant economies) – 46%, farms – 8%, agroholdings – 46% (Table 1).

**TABLE 1.** Gross agricultural production by major producers in 2013

Producer	GAP (mln UAH)	Share (%)
Public and private agricultural enterprises	117499,5	46,47
Farms	19091,4	7,55
Households	116268,1	45,98

Source: Compiled by the author according to: [4].



Agroholdings are a powerful agri-business enterprises that operate on wage labor, using tens of thousands of hectares of agricultural land for cultivation of the most profitable and technologically mechanized crops (sunflower, rapeseed, spiked cereals, maize) with chemical fertilizers, pesticides, herbicides and other crop protection products to get high yields. In Ukrainian legislation an activity of agroholdings is governed by the law "About Business Associations".

Unlike agroholdings the peasant economy it is the economy, which is mainly in production process uses its own labor and peasant families, grow agricultural products for own consumption and sell surplus, as a result receives labor income for their work. In Ukrainian legislation an activity of peasant economy is governed by the law "About peasant economy".

Farm it is the economy of business type, which in production process uses both its own work and a work of hired workers, but the purpose of his work is making a return on invested capital, according to what and organized the whole process of production and sales. Farm activity is governed by the law of Ukraine "About farming".

Consequently, farm and peasant economy are a producers of agricultural production, who their products fully or partially implement in a market: a farmer in accordance with its business-plan, and a peasant only excess [9].

And a farm and peasant economy play an important role in a development of agriculture, since the bulk of production in agricultural sector of Ukraine create these farms. According to the State Statistics Service of Ukraine, during the 2000–2013 biennium the largest number of certain types of animal products like meat, milk, and certain crop plants (potatoes, corn etc.) falls on peasant economies (Table 2).

**TABLE 2.** Gross agricultural output (mln UAH)

Producer	Year								
	2005	2006	2007	2008	2009	2010	2011	2012	2013
Households	106841,1	105302,8	97696,8	100112,8	101662,3	100797,5	112642,6	110172,5	116268,1
Agricultural enterprises (all types including farms)	72764,7	78793,0	74432,9	101451,2	96273,6	94089,0	121053,7	113082,3	136590,9

Source: Compiled by the author according to: [4].

The meaning "households" include peasant economies, agricultural producers on private land in areas of collective and individual horticultural and suburban areas. The group of agricultural enterprises includes also farms and their products in

total, according to the State Statistics Service of Ukraine, was 8%. Analysis of the data from Table 3 suggests that households take significant share in the production of many agricultural products.

**TABLE 3.** Production of major crops by category of producers (mln UAH)

Category of producers	Crops	2013
Households	Cereals and Pulses	14335,1
	Industrial crops	5758,1
	Potatoes, vegetables and melons	42079,7
	Berries and grapes	7063,5
	Forage crops	3083,3
	Other plant products	447,7
Agricultural enterprises	Cereals and Pulses	52662,2
	Industrial crops	43350,5
	Potatoes, vegetables and melons	3682,5
	Berries and grapes	2029,3
	Forage crops	1252,5
	Other plant products	150,8

Source: Compiled by the author according to: [4].

In particular, households are the main producers of food crops (potatoes, vegetables, fruits and berries), and livestock (cattle, including cows, pigs, sheep, goats, horses, rabbits, poultry and bees). Households are the main producers of animal products such as: milk, honey, wool (Table 4).

**TABLE 4.** Production of major livestock by category of producers (mln UAH)

Category of producers	Production	2013
Households	Meat	1258,8
	Milk	5874,2
	Eggs	6160,7
	Wool	3338,0
	Other products	40021,0
Agricultural enterprises	Meat	3099,0
	Milk	18634,1
	Eggs	10126,0
	Wool	26466,0
	Other products	10837,0

Source: Compiled by the author according to: [4].

These official figures suggest that agricultural enterprise, which mainly include business partnerships, primarily engaged in growing oilseeds, cereals and sugar beet, while peasant economies produce labor-intensive food like crops such as vegetables, including potatoes, fruits and berries.

According to the research of Institute of Economics and Forecasting of NAS of Ukraine, in 2010 the performance of production per 1 ha of agricultural land in the sector of households was 1.7 times higher than in agricultural enterprises. This is due to much higher level of investment of labor, subject to the terms of work, use of organic fertilizers and in animal husbandry – the prevailing level of provision of livestock and poultry per 1 ha. Analysis of grouping regions of Ukraine in terms of productivity of agricultural land in households has shown that every year a productivity of agricultural land, which is used in households as an average of Ukraine, and in most regional areas is increasing. This is an evidence of rational land use and application of crop rotation, thereby an increasing the yield by 30–40% and provides an efficient use of labor [10].

As you can see, agriholdings grow oil and fat export agricultural products and work with efficiency 50–55% crop, while peasant economies and farms grow labor-intensive basic food agricultural products and receive low labor income and profits. In addition, there is a disparity in a distribution of state support between these forms of economies (Table 5). However, monoculture production brings social and environmental threats that reduces the level of sustainability of its development.

**TABLE 5.** State support of agriculture in 2013 (mln UAH)

Detail	Agricultural enterprises (all types including farms)	Only Farms	Big Farms
Received state support funds – total	7478,0	836,6	386,4
through budgetary grants	381,9	45,7	12,7
to sustain crop production	56,7	5,1	–
for livestock development	241,7	24,5	7,6
for activities on a reproduction of aquatic resources	0,1	0,1	0,0
in other species (areas) of state support	83,4	16,0	5,1
by VAT	7096,1	790,9	373,7
to sustain crop production	4519,2	738,8	350,2
for livestock development	2576,9	52,1	23,5

Source: Compiled by the author according to: [19].

Given the importance of agriculture production development to the national economy of Ukraine we should emphasize that the national policy on agricultural support should be effective not just in terms of indicators of economic and social efficiency, but also stimulate the formation of our country as an agricultural state.



Unfortunately, today a mechanism of budget financing of agricultural sector could provide no more than 10–20% of total demand. Hence the constant underfunding the industry on a level of 80–90% leads to a significant reduction in the efficiency of use of public funds and does not provide to improve a performance of the industry. However, domestic agriculture is attractive for foreign capital as profitability with 50–55%, such as crop-oriented production of grains and oilseeds.

Financial support for Ukrainian producers of agricultural products is carried out by 16 major budget programs, which cover all areas of agricultural enterprises, including the provision of interest-free loans to farmers, cheaper bank loans and insurance premiums, help in the acquisition of heavy agricultural machinery of domestically produced. The amount of funds to support agriculture is growing every year and aims to support agricultural producers in the cultivation of crops and livestock. In particular, the largest share of expenditure of state budget has livestock subsidies and support of crop production, annually ranges from 40 to 60% of the total support [6]. Moreover, the most portion of financial state support receives agricultural enterprises (agroholdings) and partially (5% of total support) farms (Table 5). Separate programs in support of peasant economies in the budget are not provided.

As you can see, the national agricultural policy is not aimed at supporting farmers' economic model as a base. Instead, subsidies to farmers in the EU account for 40% of gross agricultural output. According to the State Statistics Service, in Ukraine in 2009 were 41,906 farms, while financial support was provided only 394 farms in the amount of 19,999.7 thousand UAH. The average index of the volume of financial support to farmers on the irrevocable basis amounted to 48.6 thousand UAH per farm. Loans under the program of state support in 2009 were only for 966 farms [14].

In order to identify ways of improving the state support in agricultural production in Ukraine we turn to the progressive world experience.

The need for state support of farmers and their associations are proven by experience of developed countries. A development of a farmers' economic model as a priority in agriculture is only possible with an active support of the state. In this case, the state is an institution that regulates the relationship of land through administrative and economic measures and provides legislation that limits the purchase of the land by big capital and a potential withdrawal of the land from agricultural circulation, also provides for targeted programs through the funding of certain activities.

For example, in USA 38% of farms those produce 92% of US food and raw materials for industry and whole life work and live on agricultural activities, receive 87% of all types of state support. However, 62% of farms, which called «rural residence farms», receive only 13% of state support. However, they produce 8%

of food and agricultural raw materials and their income from sale products from a farm is not the main [2]. These data suggest that US agricultural policy aimed at ensuring an effective functioning of the farmers' economic model, since the bulk of state support gets the agricultural producer that produces 90% of the gross food of the country.

According to the European Commission, the EU state support for development of farming is carried out in the following areas:

- state support for newly established farms,
- state support for farmers who are in disadvantaged areas,
- special support for young farmers,
- support of inheritance,
- state support of creation of groups of farmers associations [16].

Overall, among the main directions of state support of agriculture in developed countries are the following:

- use mostly economical methods of state regulation of the industry,
- implementation of targeted programs through the funding of certain activities,
- ensuring equal economic conditions for all subjects of the agricultural market through the price mechanism, payments per unit of area, cow,
- establishment and operation of extension centers [3],
- develop and provide funding for special programs to support small farmers and farmers who work in difficult conditions,
- an effective and adequate system of income support for farmers with minimal impact on the market economy [1].

Summarizing we should say that state support of agriculture in developed countries is aimed at helping a farmer, who is also an employee on his own farm and a land owner; a manager and a entrepreneur for creation a stable farms.

In our opinion, for Ukraine is the most valuable experience of Germany. The studies have shown that state support in Germany is used as one of the most effective types of agriculture regulation, and seeks to comply with the requirements concerning:

- preservation of agricultural land in agricultural working condition, namely the prevention of soil erosion; preservation of organic matter in a soil, which protect a structure, conduct studies of humus-soil; strict enforcement of legislation rotation; bans on burning of stubble and irrigation of agricultural land; application of the protection and preservation of permanent pastures; conservation in agricultural areas of landscape elements,
- conservation of flora and fauna, including compliance with the requirements for the conservation of bird, the conservation of groundwater, the restrictions on use of nitrates, including requirements to ground nitrogen, fertilizer re-



- quirements to store liquid fertilizer and solid manure and silage, introducing restrictions on the use of pesticides, enforcing the protection of plants, including cultural, the requirement to protect farm animals including bees, enforcing the protection of animal diseases,
- enforcing the identification and registration of animals, including pigs, cattle, goats and sheep as well as the labeling of meat,
  - requirements for production, hygiene and food safety, requirements for manufacturing and hygiene of feed,
  - conduction a regular monitoring and implementation of sanctions [18].

As we can see in Germany follows the system of state support for agriculture, which allows solving the problems of agriculture, including an effective use of agricultural land, food security and creating a competitive market for agricultural products. Agrarian relations in Germany are governed by different laws in particular Regulation (EU) № 1760/2000 of the European Parliament and Council, establishing a system of identification and registration of bovine animals and labeling of beef and beef products (EU) № 820/97 Council, Article 4 and 7, the Law about the protection of crops from 06.02.2012, Regulations on use of hazardous pesticides for bees etc., but for ease of use and application by farmers they are uniting in the "Information brochure on the cross compliance obligations – Cross Compliance 2013 final version 12.12.2012" (Informationsbroschüre über die einzuhaltenden anderweitigen Verpflichtungen – Cross Compliance 2013 Endfassung 12.12.2012) [18].

In Cross Compliance 2013 are strictly regulated the rules of farming in Germany and in case of violation are used a system of sanctions to reduce the size of state budget support for farmers. Thus, in Section I of Cross Compliance provides a direct financial support for farmers who follow the principles for the conservation of agricultural land and the environment in good agricultural condition, in particular stipulates that farmers are engaged in crop production must adhere to measures to prevent soil erosion based on: finding the farm, degree of erosion of each individual arable land, the degree of water or wind erosion etc. Cross Compliance stipulates that arable land that are prone to water erosion and are not included in the special funding mechanism measures to protect against erosion in the period from 1 December to late February 15 should not be plowed. Plowing after harvesting the previous culture allowed only for sowing until 1 December. If farm is located across the slope, there is used the restrictions on use the plow during plowing.

In order to prevent water erosion are used the prohibition of plowing in the period from December to February 15th. Plowing between 16 February and to the end of 30 November is allowed immediately after sowing. Before planting of row crops with row spacing of 45 cm or more the plowing is prohibited. On arable lands that are prone to wind erosion can be sown only until 1 March. Exception-



ally the plowing for cultivated crops with row spacing of 45 cm or more is allowed only on March 1 [18].

Thus defined and other different rules on use of agricultural land and agriculture, particularly in Part I p. 2.3. "Compliance with the requirements for rotation (3 plants)" is determined that farmers engaged in crop rotation should be observed and cultivated for at least three varieties of crops, each of which must cover at least 15% of the arable farm land. Crops, cultivation which there is an area of less than 15%, may be partly attributable to the share of other cultures [18].

The farm, which is engaged in crop production should grow at least three crops each culture that must be at least 15% of arable land. The rules clearly define which crops are different and which are the same and how they should be allocated on arable crops land. Farmers who adhere to all the rules of farming receive budget state support. It is not less than 1% of farmers regularly checked by the competent authority for a special observance of the requirements of the Cross Compliance. If farmers do not follow or break the rules is used a system of sanctions to reduce state support. In assessing violations are taken into account the following criteria: frequency of occurrence, volume (size) of the area, the severity of the violation, the length of the period.

- Frequency of occurrence means the incidence of repeated non-compliance involves the same requirements for the next three calendar years, provided that the farmer was warned about the violation, and he was able to take the necessary steps to correct this violation,
- Volume (size) of the area: spatial binding, in particular, whether the breach of far-reaching consequences and are limited to the area of the farm or operation,
- The severity of the violation is calculated based on the goals that according to the legislation to be achieved,
- The length of the period means a period of time during which the effects must be address.

The responsible authority must assess the extent of the violation on the following criteria: mild, moderate or severe. According to these criteria and based on the results of the assessment are implemented sanctions that reduce the payments from the budget. When calculate the total amount of reduction of payments take into account the level of sanctions including: minor offenses by 1%, the average breach 3%, serious accident at 5%.

Rules are grouped in four categories:

1. Category: environment (pp. 1–5, Appendix 1 of the Compliance).
2. Category: health, animals and plants (pp. 6–15, Appendix 1 of the Compliance).
3. Category: reserves and national parks (pp. 16–18, Appendix 1 of the Compliance).



4. Category: main principles for the preservation of agricultural land in a certain position and environment, as well as permission to use permanent pastures, meadows particularly in regions where the corresponding reduction of permanent pastures is constantly decreasing.

Violations are multiplied during the year in each such category is the reason to apply sanctions. For example, a farmer gives first year rules for the application of fertilizers, as well as legislation on sewage sludge. In this case, use the following calculation: violation (average): recovery rate of 3%. Violations (average) against sewage sludge of Compliance: recovery rate of 3%. Thus, the overall decrease is 3%. Both disorders can be attributed to the first zone (environment). Therefore, they are regarded as a violation and an overall reduction in payments is 3% [17].

Thus, the study of German experience of state support of agriculture has shown that state support is used as a financial and economic lever of state regulation of agriculture, which includes not only the targeted transfer from funds to farmers, but also measures to support the effective development of agricultural production, competitiveness of enterprises of agricultural sector, and provides a control over the observance of certain events.

## CONCLUSIONS

Given the experience of existing mechanisms of state support of agriculture in emerging economies, particularly in USA and Germany, we can draw conclusions as to improvement the directions of state support of domestic agriculture. We believe that improving of state support of agriculture in Ukraine can be achieved by:

- shift towards at support of farmers' economic model,
- increase in state support for those producers who produce the bulk of the main agricultural products, live in rural areas and live off the income which derived from work in agriculture,
- implementation of targeted programs through the funding of certain activities of agricultural producers with the use of control and, if necessary, impose the sanctions,
- shift to use mainly economic methods of state regulation of the industry,
- follow the principle of competition in the provision of state support in order to ensure equal conditions for all economic entities of agricultural market.

## References

1. The agricultural sector of the USA in the early XXI century: Proceedings of sector of agrarian problems ISCRAN USA and Canada, Volume I / ed. B.A. Chernyakov – M.: ISCRAN, 2008, 405 p.



2. The agricultural sector of the USA in the early XXI century: Proceedings of sector of agrarian problems ISCRAN USA and Canada, Volume 2 / ed. B.A. Chernyakov – M.: ISCRAN, 2008, 427 p.
3. BULAT M.A. State support in the system of regulation of agriculture: Abstract. Dis. ... Ph.D.: 08.00.03, Bulat Maria; Nat. Science. center "Inst Agrar. economy" Agrarian Sciences. Kyiv. 2010, 19 p.
2. Gross agricultural output Ukraine (in constant prices of 2010) for 2013 / State Statistics Service of Ukraine. // Statistical Bulletin – K.: State Statistics Service, 2014.
3. HEYETS V.M. Society, State, Economy: phenomenology of interaction and development / Valery Heyets; National Academy of Sciences of Ukraine; Institute of Economics and Forecasting of National Academy of Sciences of Ukraine – K., 2009, 864 p.: tab., fig.
4. ZBARSKY V.K, HOROVY V.P. State Support of Agriculture / V.K. Zbarsky, V.P. Horovy // Economics of APC. 2010 – №4. [Electronic resource]:  
[http://eapk.org.ua/sites/default/files/eapk\\_files/2010/2010\\_04/10\\_04\\_11.pdf](http://eapk.org.ua/sites/default/files/eapk_files/2010/2010_04/10_04_11.pdf)
5. MOLDOVAN L.V. Estates are a threat to Ukraine / L.V. Moldovan // News of Village – November 19, 2010, P. 2.
6. MOLDOVAN L.V. Socio-economic nature of agricultural enterprises – In the book "Innovative transformation of agricultural sector" / [O.B. Shubravska, L.V. Moldovan, B.J. Pashaver et al.]; ed. Dr. Sc. Science, O.V. Shubravska from NAS of Ukraine, Institute of Economics and Forecasting – K., 2012 – C. 235–250.
7. PIMENOVA O.V. Institutional maintenance of forms of economy in the system of agrarian relationship: Dis. ... PhD: 08.00.01 / Pimenova Olena; Taras Shevchenko National University of Kyiv. – Kyiv, 2013, 253 p.
8. Development of agricultural production as a prerequisite for food security of Ukraine / NISS. K.: NISS, 2011, 39p.
9. The site of the Association of International Food and Agribusiness Management IFAMA. [Electronic resource] / Association of International Food and Agribusiness Management IFAMA. Electronic data – Texas: USA Department of Agriculture, 2012. Mode of access: <https://www.ifama.org/Default.aspx>
10. Site of USA Department of Agriculture. [Electronic resource] / USA Department of Agriculture. Electronic data. Washington: USA Department of Agriculture, 2012. Mode of access: <http://www.ers.usda.gov/Browse/view.aspx?subject=FarmEconomy>
11. The Site of the State Statistics Service of Ukraine. [Electronic resource] / State Statistics Service of Ukraine. Electronic data – K: State Statistics Service of Ukraine, 2013. Mode of access: <http://ukrstat.gov.ua/>
12. Ministry of Agrarian Policy and Food of Ukraine. [Electronic resource] / Ministry of Agrarian Policy and Food of Ukraine. Electronic data – M.: Ministry of Agrarian Policy and Food of Ukraine, 2012. Mode of access: <http://minagro.gov.ua>
13. Agricultural Ukraine (at constant prices 2010); for 2011 / State Statistics Service of Ukraine // Statistical Bulletin – K.: State Statistics Service, 2010, 384p.



14. The Site of the European Commission. [Electronic resource] / EC, Electronic data. Brussels: European Commission, 2008 – Mode of access: [http://ec.europa.eu/agriculture/agrista/2010/table\\_en/C7-1-375.pdf](http://ec.europa.eu/agriculture/agrista/2010/table_en/C7-1-375.pdf)
15. Chernyakov B.A. American farming: XXI century. / B.A Chernyakov – M.: Fiction, 2002, 399 p.
16. Informationsbroschüre über die einzuhaltenden anderweitigen Verpflichtungen – Cross Compliance. 2013 Endfassung 12.12.2012.
17. Basic economic indicators of agricultural production in agricultural enterprises by 2013 / State Statistics Service of Ukraine // Statistical Bulletin – K.: State Statistics Service, 2014.

### **POMOC PUBLICZNA A ROLNICTWO: ANALIZA DOŚWIADCZEŃ W NIEMCZECH**

**Abstrakt.** W artykule określono rolę pomocy państwa w zwiększeniu konkurencyjności sektora rolnego. Analizie poddano mechanizmy wsparcia stosowane w krajach rozwiniętych. Udowodniono konieczność ukierunkowania wsparcia finansowego oraz wprowadzenia systemu monitorowania sektora rolnego w danym kraju.

**Słowa kluczowe:** rolnictwo, pomoc publiczna, polityka rolna, bezpieczeństwo żywności

