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Methodological bases of estimating the efficiency of organizational and economic mechanism of regulatory policy in agriculture

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ABSTRACT

Ukrainian agriculture creates 12-14% of GDP. Ensuring the conditions for sustainable economic development implies the use of adequate mechanisms for regulating economic processes by the government. In the process of formation and implementation of the organizational and economic mechanism of regulatory policy, a system of indicators plays an important role in assessing the impact of such policy on the participants, monitoring and, in case of the deviation from planned results, adjusting regulatory measures. This research analyzes and systematizes the indicators that determine organizational and economic mechanism of regulatory policy effectiveness in agriculture. The systematization of indicators to evaluate organizational and economic mechanism of regulatory policy effectiveness in agriculture has allowed to substantiate the methodological principles of its integrated assessment. Application of the proposed methodological approach to assessing the organizational and economic mechanism of regulatory policy effectiveness in agriculture in Ukraine was performed during the 2010, 2016-2017 period. It revealed a slow progress in the organizational and economic mechanism of regulatory policy efficiency during the investigated period. This result is primarily attributed to the lack of purposeful, systematic change management, the lack of mid-term planning, the strictness of most programs, imperfect financial instruments of the organizational and economic mechanism, and procedures for application.

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INTRODUCTION

Agriculture plays an important role in ensuring the sustainable development of the Ukrainian national economy and has significant potential for further growth. Government regulation of agriculture is carried out through the formation and implementation of the organizational and economic mechanism of regulatory policy, which affects the volume and structure of production and the income of people employed in the industry. In the process of formulating and implementing the organizational and economic mechanism of regulatory policy, a system of indicators plays an important role. Indicators for assessing the effectiveness of state measures are a part of studies that analyze state regulation of the economy, in general, and agriculture, as one of its important components, in particular. In works that focus on agriculture, a system of state support indicators is often used. Leading foreign and domestic scholars (Anderson, *et al.,* 2008; Josling, 2004; Onegina, 2007 and 2017; Kalashnikova*, et al.,* 2014) have made significant contributions to the creation, improvement, and further use of this system of indicators at both the theoretical and practical levels. Agricultural support indicators are used in international statistical and analytical studies and in reports of organizations, such as the Organization for Economic Co-operation and Development (OECD), Food and Agriculture Organization, and the World Trade Organization (WTO). Comparatively, research related to the use of a system of indicators characterizing the impact of the organizational economic mechanism directly on the macro level and on specific areas of agriculture is scant. These issues have been discussed in the studies of (Lyapin, *et al.,* 2015; Golodnyuk, *et al.,* 2007; Babenko, *et al.,* 2017; Jonathan, 2010). This study has been carried out in Ukrainian agriculture Center in 2010-2017.

MATERIALS AND METHODS

An assessment of the effectiveness of the government's regulatory policy in agriculture is conducted based on the methodology used by the OECD. Josling (2004) initially developed the formula, also known as the PSE. This methodology determines the level of support for agriculture, as the annual monetary value of gross transfers to agriculture by consumers and taxpayers as a result of government policies, regardless of the objectives of such policies and their economic consequences. The indicators of the level of state support for agriculture in Ukraine according to the OECD method are shown in Table 1.

According to the OECD methodology, the bases for assessing a state's regulatory policy in agriculture are quantitative indicators that directly reflect the process of state regulation. Analysis of these indicators shows that the policy in Ukrainian agriculture is characterized by a lack of compliance with strategic guidelines, as well as a lack of stability and consistency. The relative PSE indicator was negative for the 2013–2017 period. In 2017, it was −7.12%. The decline in the level of agricultural state support in 2013–2017 was due to the decrease in the domestic prices of agricultural products below the world level. This was in turn attributed to the macroeconomic instability in Ukraine and the devaluation of the Ukrainian hryvnia. In 2014–2017, the state focused on deregulating and liberating

Table 1: Indicators of the level of state support for agriculture in Ukraine for 2010-2017 according to the OECD method (OECD. Stat., 2018; OECD, 2019)

Years	Indicators								
	Total value of production (at farm gate), millions USD	MPS, millions USD	Share of MPS commodities in total value of production (%)	PSE, millions USD	GSSE, millions USD	CSE, millions USD	TSE, millions USD	PSE (% of GFR)	Percentage TSE (% of GDP)
2010	29533	195	82.2	2009	613	-	2622	6.41	.....
2011	37400	-2445	83.4	-746	676	-	-70	-1.91	.....
2012	34908	-1766	82.2	531	775	750	1306	1.43	0.8
2013	41399	-4662	81.0	-2196	657	1500	-1539	-5.01	.....
2014	33626	-4705	79.7	-3095	293	1231	-2802	-8.79	.....
2015	25701	-3129	81.4	-2016	115	1813	-1901	-7.52	-2.1
2016	26354	-2799	82.3	-2278	110	1903	-2168	-8.48	-2.3
2017	28488	-2234	81.8	-2043	139	1387	-1904	-7.12	-1.8

agricultural policies and regulatory measures. Deregulation policies are feasible and necessary, but the provision of funding at the appropriate level for basic general services for producers should remain a priority. Ukrainian researchers suggest using the indicator of state and local budget expenditures in support of agriculture and their share in the total budget expenditures on all levels to measure the effectiveness of the government policy in agriculture (Onegina, 2017). The state budget expenditures on financing agriculture are given in Table 2. The calculations show that the expenditures in 2010–2016 tended to decrease because of the macroeconomic and political situation in the country and not because of a switch to a new strategy. The increase in financial assistance on agriculture generally began in 2017, but in the meantime, the share of expenditures for the industry in the state budget remains low. Ukrainian agrarian policy does not contradict the requirements of the WTO. According to agreements, Ukraine has no obligations to reduce domestic state support provided through yellow programs—the annual cumulative support does not exceed 3 billion and 43 million UAH (Ministry of Economic Development and Trade of Ukraine, 2012). In terms of WTO compliance, the country's agricultural policy is effective in terms of ensuring sustainable development. However, increasing the volume of financial support for *green* box programs is necessary, as well as using the possibilities for funding *yellow* box programs in the permitted amounts.

Unlike state agricultural policy indicators, those indicators that directly reflect the effectiveness of the organizational and economic mechanism of regulatory policy are less clearly defined. This is due to a lack of an integrated definition of the content of regulatory policy in domestic economic science and practice. When using the term *regulatory policy* in the broad sense, utilizing indicators of agricultural policy effectiveness as an actual manifestation of state regulation is fully justified. On the other hand, viewing regulatory policy in the narrow sense necessitates identifying a system of indicators that can assess its effectiveness. In this sense, a regulatory policy is defined as the direction of economic policy aimed at implementing the strategic and tactical priorities of economic state regulation by identifying the economic and legal foundations of the economic relations between state authorities, local governments, and stakeholders. In international practice, intuitive and formalized indicators are used to assess the effectiveness of government regulatory policy. Intuitive indicators mostly reflect the institutional aspect of regulatory policy results and are in the form of indices. *Doing Business* index is one of the major intuitive indicators. Ukraine's ranking in *Doing Business* is considered one of the benchmarks for the 2020 Strategy and 2014 Coalition Agreement. Ukraine's ranking in *Doing Business* is presented in Table 3. The dynamics of this indicator reflect the improvement in formal conditions for businesses in Ukraine as a result of deregulation policy. However, the index is based on the analysis of a typical business located in a large city and is engaged in industrial, commercial, or construction activities; it does not reflect the specifics of agriculture (Shibaeva and Baban, 2017).

The World Bank Worldwide Governance Indicators takes the lead among the indices that directly reflect the quality of state measures in the economy. Ukraine's spot is shown in Table 4. The above-listed intuitive indicators allow us to make an overall assessment of regulatory policy measures at the national level. The Enabling the Business of Agriculture rating reflects the comparative conditions for conducting business in agriculture. It is directly

Table 2: The share of state budget expenditures on financing agriculture in Ukraine for 2010-2019
(Legislation of Ukraine, 2019; on the state budget of Ukraine; Ministry of agrarian policy and food of Ukraine, 2019)

Indicators	Years									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
State budget expenditures (general and special funds) Ministry of Agrarian Policy, UAH billions	5.7	5.3	8.4	8.7	6.4	2.2	2.1	9.4	14.2	14.8
State Budget of Ukraine expenditures, UAH billions	307.7	342.7	413.6	419.8	441.6	581.8	681.5	800.0	991.9	1112
The share of the state budget expenditures administered by the Ministry of Agrarian Policy from the total amount in %	1.87	1.54	2.04	2.08	1.44	0.38	0.31	1.18	1.43	1.33

Table 3: Ukraine in "Doing Business" 2010-2019 (The World Bank, 2018)

Indicators	Years									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Ranking in general rating	142	145	152	137	112	96	83	80	76	71
Total distance to goal (0-100)	-	-	-	-	-	61.52	63.04	63.90	67.31	68.25

Table 4: Ukraine in "Worldwide Governance Indicators" in 2012, 2017 (World Bank Group, 2019. The Worldwide Governance Indicators)

Indicator	2012	2017	Changes 2017 to 2012
Voice and Accountability	40	47	+7
Political stability and absence of violence/terrorism	48	7	-41
Government effectiveness	32	35	+3
Regulatory quality	29	40	+11
Rule of law	26	25	-1
Control of corruption	12	22	+10

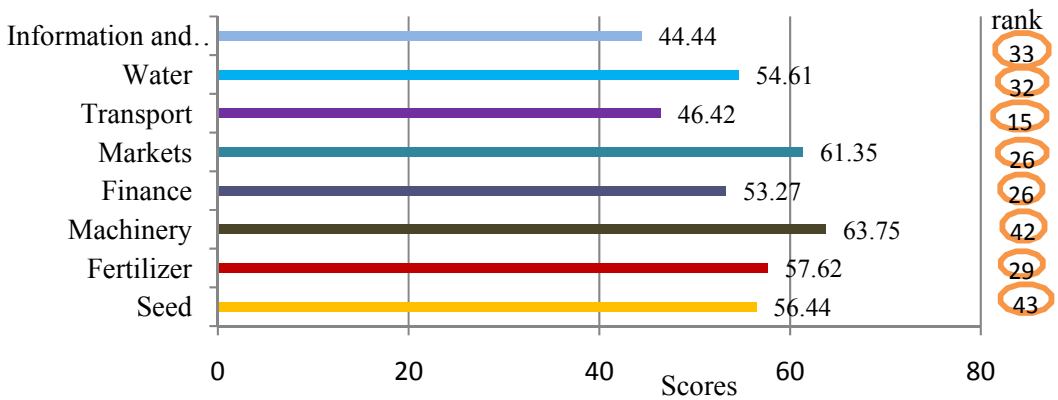


Fig. 1: Ukraine is ranking in "Enabling the business of agriculture" in 2017

sectorial and allows determining the influence of the organizational-economic mechanism of the regulatory policy on agriculture. It also enables the assessment of the transaction costs arising from the introduction of official documents that regulate the conditions of participants' activities. Ukraine's ranking in this rating is presented in Fig. 1 (World Bank Group, 2017; Enabling the business of agriculture, 2017).

The intuitive indicators for assessing the state's regulatory policy include surveys led by international and national institutions. Despite discrepancies in the methodology for compiling international and national ratings, financial constraints are the main factors affecting production, according to Ukrainian respondents. The use of indices as indicators for assessing state policy consequences has certain limitations. For international comparisons, the immutability of countries' composition is important. Minor differences in the index values between countries may lead to significant gaps in ranking. Furthermore, indicators based on a survey are subjective, as they depend on factors that do not have a quantitative dimension (e.g., attitude toward the government, sense of confidence, cultural traditions). On the other hand, indicators based solely on objective assessments do not consider informal constraints and informal methods of mitigating bureaucratic procedures. The dynamics of these indicators in Ukraine are shown in Table 5. If both types of indicators (intuitive and formalized) change in one direction, the interpretation becomes unambiguous. The organizational and economic

mechanism of the regulatory policy can be assessed as effective or ineffective.

RESULTS AND DISCUSSION

The indicators of regulatory policy effectiveness by degree of formality are mostly intuitive; they are those that more closely determine and assess the regulatory process directly. By contrast, the assessment of state regulation effectiveness in agriculture as a whole is based on a set of quantitative indicators. With the advantages and disadvantages of these indicators duly considered, the following components of the assessment of regulatory policy effectiveness indicators are identified as:

- Indicators of the regulatory policy process (e.g., changes in the number of permitted documents, conditions for documents obtainment, conditions for receiving support within the framework of state programs);
- Indicators that reflect agricultural reaction to changes in the regulated environment (e.g., dynamics of agricultural production indices, dynamics of the profitability of agricultural production, changes in the gross output structure).

The general classification of the indicators of regulatory policy effectiveness is shown in Fig. 2 (Shibaeva, 2018).

The systematization and goal structuring of indicators for state regulations and the organizational

Table 5: Main indicators for agriculture in Ukraine for 2010, 2014-2017

Indicators	Years				
	2010	2014	2015	2016	2017
Agricultural production in 2010 prices; millions UAH	194.9	251.4	239.5	254.6	249.2
Crop production in 2010 prices,%	63.9	70.7	70.3	72.7	72.0
Livestock products in 2010 prices,%	36.1	29.3	29.7	27.3	28.0
Agriculture product indices,% to the previous year	98.5	102.2	95.2	106.3	97.8
Price index of agricultural products sold by enterprises,% to the previous year	130.0	124.3	154.5	109.0	111.5
Profitability level of all types of activity, %	17.5	9.3	30.4	25.6	18.7
Gross value added c.-r., billions UAH	82.9	161.1	239.9	279.7	305.2
Agricultural Gross value added of GDP, %	8.4	11.7	14.2	13.5	12.1
Value of the basic assets at the end of the year billions UAH	113.4	171.4	210.2	270.5	-
Labor productivity in agricultural enterprisesper 1 employee in agricultural production, in 2010 prices, thsd. UAH)	132.7	227.8	223.3	275.3	271.5
Capital investment in agriculture index,% to the previous year	6.1	8.6	11.0	14.1	14.3
Capital investment by Agriculture, forestry and fishing including agriculture, hunting and respective services fact prices; millions UAH)	11.6	18.8	30.2	50.5	64.2
Energy intensity of agricultural land, the so-called / million UAH	10.9	10.1	-	8.02	-
Loans granted to agriculture, billion UAH	26.0	40.1	55.3	48.4	55.1
Annual weighted average interest rates,%	17.6	14.0	14.5	17.7	15.1
Average weighted interest rates on annual loans for agricultural products,%	19.2	13.1	20.1	20.2	18.4

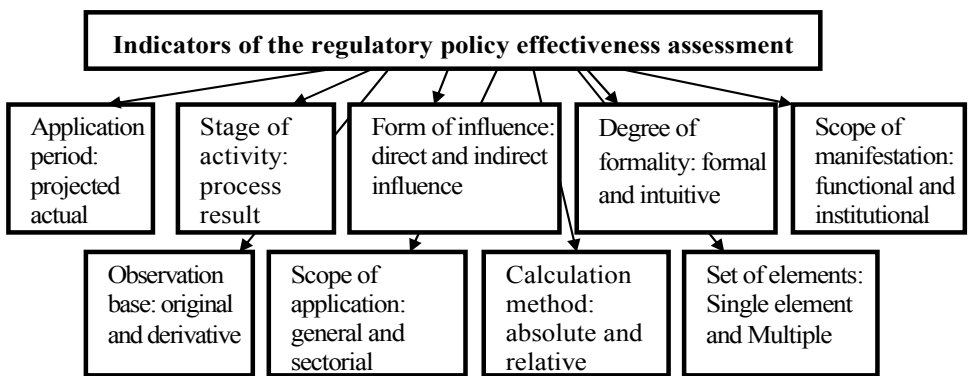


Fig. 2: Classification of the regulatory policy effectiveness assessment indicators

economic mechanism of regulatory policy evaluation provide an opportunity to substantiate related methodological principles. These indicators characterize market reaction to regulatory measures, progress, the degree to which the goals of sustainable development and state programs are achieved, and changes in the institutional and functional status of the organizational economic mechanism of regulatory policy. The proposed comprehensive assessment considers the objectives of sustainable development, which were approved in 2015 at the United Nations Summit on Sustainable Development and concretized in Ukraine in the national system of the CSR (86 development tasks and 172 indicators for monitoring their implementation) (United Nations Ukraine, 2017; United Nations– Disability, 2015). The goals of sustainable development in the proposed integrated assessment are specified in accordance with the current legislative acts of Ukraine, particularly with the methodology for defining the main indicators of food security. The following are the proposed sustainable development goals for agriculture (set A) and their corresponding groups of indicators: (a_1, a_2, ... a_n). Indicators of the sustainable development of agricultural production, which not only reflect trends in agricultural production but also serve as the basis of such a component of food security as the physical sufficiency of food: the average index of agricultural production growth over the last five years (indicator a_1). Indicators of the providing food security components (a_2). As the main indicators for assessing the achievement of this goal (a_{21}–the share of food costs in the total household expenses, a_{22}–the daily energy value of a person's diet, a_{23}–adequacy of product consumption at the level of the established rational norm of its consumption, and a_{24}– of self-sufficiency as the ratio of the domestic production of a product to the norms of its consumption). Indicators of rational resource use (a_3): dynamics of the production of agricultural land products per 1 ha of agricultural land (a_{31}), dynamics of the production of agricultural land products per 1 employee, on average (a_{32}), dynamics of the production of agricultural land products for 1 UAH of working and fixed assets(a_{33}). Indicators increase in incomes employed in the agriculture (a_4): the indicators are the dynamics of average wages in agriculture and their correlation with the average wages in the country. Indicators of the development of rural areas (a_5), the indicators of which are improved quality of life and social infrastructure conditions (the development of educational, medical, and cultural services, as well as infrastructure development), and the reduction in the difference of this indicator between city and rural areas, thereby reducing the poverty rate in rural areas. Indicators of protection and restoration of ecosystems in the process of their use (a_6): the share of agriculture in greenhouse gas emissions (a_{61}) and humus content in the soil (a_{62}). The comprehensive assessment of the organizational economic mechanism of the regulatory policy should also be based on the assessment of the extent to which state agricultural policy and rural development programs meet their goals (set B), as well as include the following indicators of achievement (b_1, b_2, ... , b_n). Indicator b_1 – creation of favorable economic conditions for innovation and investment opportunity (b_{11}–volume of investments, b_{12}–volume of loans, and b_{13}–cost of loans for agricultural producers, b_{14}–volume of leasing in agriculture). Indicator b_2 – strengthening and updating the material and mechanical bases (b_{21}–number of machinery units per unit of area of agricultural land and b_{22}–the capacity of agricultural machinery per unit of area of agricultural land). Indicator b_3–stimulating the development of the livestock sector (b_{31}–volume of livestock production, b_{32}–number of livestock, and b_{33} –livestock productivity). The indicators of farmers' support are b_{41}–production volumes of agricultural land products by farms and b_{42}–farm profitability (indicator b_4). Indicator b_5–others, in accordance with the goals of state programs (e.g., number of operating service cooperatives and the price index of agricultural products). A comprehensive assessment of the organizational and economic mechanism of regulatory policy effectiveness in agriculture should take into account the institutional component through the inclusion of the following indicators (set C) of institutional progress that reflect the achievement of the regulatory policy's strategic goals (c_1, c_2, … , c_n). Ukraine's place in the world rankings that reflect the conditions for conducting business (indicator c_1). Ukraine's place in the world rankings that reflect the quality of state regulation (c_2). Indicator c_3–the redistribution of regulatory powers in favor of local self-government bodies and local executive bodies (the indicators are the increase in the share of powers of local self-government

bodies, local executive bodies, and their financial autonomy). Indicator c_4–introduction of elements of government–public–private partnership and financial support for the development of rural areas (the indicator is the number of projects implemented The general assessment system of the organizational and economic mechanism of regulatory policy effectiveness in agriculture should include the following functional indicators that reflect tactical measures (set D) and their cost (d_1, d_2, … d_n). Indicator d_1–the state's expenditures on agriculture as a whole (the indicator is the correspondence between planned and actual expenditures). Indicator d_2–state expenditures for commodity producers' support (the indicator is the correspondence between planned and actual expenditures). Indicator d_3–indicators of the dynamics of agricultural support according to the OECD methodology. Indicator d_4–the dynamics of the indicators of support in the context of the WTO boxes. The methodological basis for assessing the effectiveness of the organizational and economic mechanism of the regulatory policy of the state should be a managerial approach to the interpretation of efficiency. This approach determines the effectiveness of achieving the identified goals, the planned effects, and the results. However, it should not exclude the use of a purely economic approach to efficiency, which involves comparing the achieved regulatory results to the costs of regulatory measures. Evaluating the organizational and economic mechanism effectiveness of the regulatory policy in agriculture is therefore proposed on the basis of the following factors:

- Indicators and progress toward the goals of sustainable development
- Indicators and progress toward the achievement of state programs' goals
- Progress in the institutional provision of the organizational and economic mechanism of the regulatory policy
- Actual indicators of the process of regulation in agriculture

The proposed components of the system of indices for the integrated assessment of the organizational and economic mechanism of regulatory policy effectiveness are summarized in Fig. 3.

The proposed methodological approach will allow a more objective measurement of the effect of the organizational and economic mechanism of regulatory policy on achieving the goals of sustainable development, coherence and consistency between these goals and state programs goals and agricultural financing, and the creation and support of market institutions. On the other hand, the use of a set of indicators can ensure the introduction of effective principles, forms, methods, and tools of the organizational and economic mechanism of regulatory policy, as well as enable results evaluation in the process of forming a regulatory policy strategy. A comprehensive assessment of the organizational and economic mechanism of the regulatory policy effectiveness in Ukrainian agriculture in 2010–2016 and in 2017 with the use of our methodological approach is given in Table 6. Such an assessment in relation to the proposed methodological basis has shown the progress of the following indicators of sustainable development: ensuring

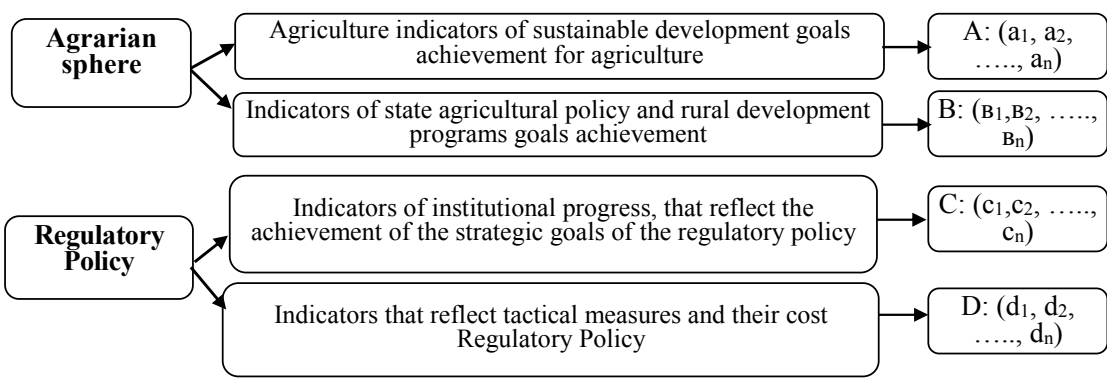


Fig. 3: The structure of the organizational and economic mechanism of regulatory policy effectiveness assessment indicators in agriculture

the economic availability of food, the rational use of agricultural resources, wage increase for people employed in agriculture, and poverty reduction in rural areas. By contrast, no progress has been observed in the following indicators: sufficiency of consumption of a single product, the level of product's self-sufficiency, rural development, and protection and restoration of ecosystems in the process of their use for agricultural purposes. Consequently, there is partial progress in achieving

Table 6: Comprehensive assessment of the organizational and economic mechanism of the regulatory policy effectiveness in Ukrainian agriculture 2010-2016, 2017 (State Statistics Service of Ukraine, 2017; Legislation of Ukraine, 2011)

	Goals	Years		
		2010	2016	2017
1. Indicators of progress towards the sustainable development goals:				
Average index of annual growth of agricultural land production over the last five years,%	More than 2,5% increase	1.96	2.50	2.84
Share of food expenditure in total household consumption expenditure, %	Less than 50% / decrease	56.7	54.3	53.1
Daily energy value of diet	reach / exceed the threshold value 2500 kkal	2933	2742	2707
Sufficiency of consumption of a product:	reaching / exceeding the norm of its consumption			
-meat	No less than 80 kg	52	51	52
-milk and dairy	No less than 380L	206	210	200
-fish	No less than20 kg	14.5	9.6	10.5
- vegetables and squash	No less than161 kg	144	164	161
-fruit	No less than 90 kg	48	50	54
Self-sufficiency, as the ratio of domestic production of a product per person to the norms of its consumption;	reaching / exceeding the norm of its consumption			
- meat and meat products	No less than 1	0.56	0.68	0.69
-milk and dairy	No less than 1	0.65	0.64	0.64
- vegetables and squash	No less than 1	1.2	1.46	1.42
-fruit	No less than 1	0.52	0.62	0.65
Production of agricultural product (at constant prices), UAH: -per 1 ha of agricultural land	Increase	4687.5	6135.2	6005.3
-per the average employee, in thousand UAH, at constant prices	Increase	72.6	275.3	271.5
-per UAH 1 of working and fixed assets	Increase	0.9	0.2	
Average monthly wages in agriculture, UAH	Increase	1472	4195	6057
The ratio of average monthly wages in agriculture and their level in the economy as a whole	Increase/ No less than 1	0.66	0.81	0.85
Poverty rate in rural areas (share of population with per capita equivalent cumulative incomes below the living wage estimated), %	Decrease	20 (to living wage set by the law)	3.3 (to living wage set by the law) 51.7 (to lining wage calculated)	3.9 (to living wage set by the law) 36.3 (to living wage calculated)
Rural settlements with paved roads and street lighting	Increase	-	47.8% and 22%	-
Rural settlements with stationary and mobile cultural institutions and services	Increase	-	Less than 50%	-
The amount of humus in the soil, %	compliance with the requirements of DSTU 4362: 2004 DSTU 7923: 2015/ Increase	3.2	3.14 (the negative balance on average per year is 110-130 kg/ha)	No data available

Continued Table 6: Comprehensive assessment of the organizational and economic mechanism of the regulatory policy effectiveness in Ukrainian agriculture 2010-2016, 2017 (State Statistics Service of Ukraine, 2017; Legislation of Ukraine, 2011)

	Goals	Years		
		2010	2010	2010
2. Indicators of achievement state programs goals achievement in agriculture				
Investments in agriculture, UAH million, actual prices	Increase	11568	50484	64243
Loan amount, million UAH	Increase	26500	55100	59700
Loan cost, %	Decrease	13.7	18.4	18.3
Number of leased machinery	Increase	352	-	1100
Number of machinery, thousand	Increase	151.3	132.7	129.3
Tractors, pieces per 100 hectares of arable land	Increase / achievement of the EU average	1.7	1.9	1.9
Combine harvesters, pieces. per 100 hectares of arable land	Increase / achievement of the EU average	0.36	0.38	0.38
Average power of the tractor engine, kW	Increase	83.0	95.1	97.3
livestock (cattle), thousand	Increase	4494.4	3682.3	3530.8
Pig, thousand	Increase	7960.4	6669.1	6109.9
Bird, thousand	Increase	203839.8	201668.0	204830.9
Agricultural livestock performance, incl. Average annual milk yield, kg / animal.	Increase	4082	4735	4820
Production volumes of agricultural land production by farms (at constant prices), UAH million	Increase	11965.8	22101.4	21743.1
3. Indicators of progress in the institutional provision of organizational and economic mechanism of regulatory policy				
Ranking in "Doing business"	joining the top 20 countries for doing business	142	83	80
"Quality of Public Administration" (regulatory policy), points	Increase	33.0	36.1	40.4
The share of expenditures of the State and local budgets on agriculture in the Consolidated Budget of Ukraine,%	an increase in the share of expenditures of local self-government bodies and local executive bodies	98% (state) 2% (local)	76% (state) 24% (local)	85% (state) 15% (local)
The number of projects providing financial support for the development of rural areas on the basis of state-public-private partnership	Increase	No data available	No data available	No data available
4. Indicators of tactical measures and expenditures of organizational and economic mechanism of regulatory policy in agriculture				
Government expenditures on agriculture, UAH million	compliance with a defined need / plan	5754.5	2112.0	9442.2
Direct government support of commodity producers, million UAH	compliance with a defined need / plan	364.2	420.0	5430.7
State support of agriculture (OECD methodology)	compliance with a certain level	PSE = 7% TSE =2.1%	PSE= -8.5% TSE = -2.3%	PSE = -7.1% TSE = -1.8%
Government support in the context of the WTO "boxes"	compliance with obligations in accordance with WTO requirements	compliance with obligations	compliance with obligations	compliance with obligations

the goals of sustainable development in terms of economic growth through the development of the agro sphere; this is mainly due to the increase in volume and efficiency of agricultural production. But there is little to no progress in issues related to food security, the adequacy of livestock product consumption, the level of income of those people employed in the industry, and the poverty level in rural areas. The assessment of goal achievement related to the government's agricultural policy and rural development programs (B), which is based on indicators, such as volumes of investments and number of loans, the cost of loans for agricultural producers, and the provision of agricultural machinery. It reflects an increase in investments in agriculture and the number of loans provided while

maintaining high interest rates. Attention is drawn to the lack of progress in increasing the number of livestock, which is partially offset by an increase in livestock's productivity.

The analysis of the indicators (set C) reflecting the achievement of the strategic goals of the organizational and economic mechanism of the regulatory policy shows improvement in the institutional conditions for conducting business in Ukraine and in regulatory policy quality. While decentralization processes are relatively slow, there is a decrease in the share of local budget expenditures in the consolidated budget of Ukraine. The analysis of functional indicators (set D) reflects the tactical measures and expenditures of the organizational and economic mechanism of regulatory policy, and it indicates that the state's expenditures on agricultural financing are subject to significant fluctuations. In recent years, however, state's expenditures have been carried out in accordance with the plan, although their substantiation needs to be reconciled with mid-term programs. In practice, budget planning is short term (1 year) and reflects the impact of the political situation and the power distribution on budget formation, rather than its relevance to a well-grounded medium-term development strategy. At the same time, the indicators of state support based on the OECD methodology are negative (net taxes on agricultural producers) and are weakest among those countries for which OECD carries out such calculations. OECD indicators are not widely used for planning and forecasting measures of state regulation in Ukraine. Ukraine complies with WTO requirements on the level of support for agriculture. The limits of state support for agriculture included in the yellow box in Ukraine are significantly lower than those in the EU. Ukraine's budget capacity does not allow agriculture to be maintained at the level defined by WTO requirements, but the indicators of agricultural support in the WTO methodology are important for the development of budget programs, ensuring compliance of the regulatory policy with the undertaken commitments.

CONCLUSION

In the course of this study, systematization of indicators to evaluate the effectiveness of the regulatory policy was carried out. Goals structuring, methods of economic state regulation, and the organizational and economic mechanism of regulatory policy made it possible to formulate a methodological basis for a comprehensive assessment of the effectiveness of the government's regulatory policy in agriculture. Proposed comprehensive assessment of the effectiveness of the government's regulatory policy in agriculture takes into account: 1) progress in achieving the goals of sustainable development, related to the functioning of agriculture (sustainable economic growth, food security, rational use of resources, lack of poverty, income increase, reduced inequality, rural development, environmental conservation); 2)The goals of state programs for agriculture; 3) Progress in the institutional provision of the regulatory policy; 4) Regulatory policy measures and expenditures. This comprehensive assessment of the regulatory policy was used as the main methodology in the process of determining the effectiveness of the Ukrainian government policy in agriculture in 2010-2017. The analysis conducted shows slow progress in the organizational and economic mechanism of regulatory policy efficiency due to the prevalence of short-term planning, inadequate budget programs funding, frequent changes in the allocation of budgetary resources. The analysis of regulatory policy effectiveness based on the proposed methodology will allow objectively reflect government actions aimed at achieving sustainable development goals, consistency between them, amounts of agricultural programs financing, and the development of market institutions. Also, the use of the proposed system of indicators can contribute to the spreading of effective principles, methods, and instruments of regulatory policy, given that they are taken into account at the developmental stage of regulatory policy.

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CONFLICT OF INTEREST

The author declares that there is no conflict of interests regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancy were completely observed by the authors.

ABBREVIATIONS

%	Percentage
CSE	Consumer support Estimate
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
Fig.	Figure
GDP	Gross domestic product
GSSE	General service support estimate
Kg	Kilogram
Kkal	Calorie
L	Liter
MPS	Market price support
OECD	Organization for Economic Cooperation and Development
PSE	Producer support estimate
TSE	Total support estimate
UAH	Ukrainian hryvnia
USD	United States Dollar
WTO	World Trade Organization

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