Financial Mechanisms of Regulatory Development of Entrepreneurial Activity of Agricultural Business Entitiese

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Abstract. Market relations in the agrarian sector of the economy of Ukraine influenced the growth of the independence and commercial responsibility of agricultural business entities regarding the formation and rational use of financial resources. The development of market mechanisms for the regulation of agriculture, the liberalisation of the economy with the simultaneous reduction of the regulatory role of state management structures, without the appropriate preliminary elaboration of the legal, economic, and financial foundations of the transition to market relations led to an increase in the financial risks of many economic entities in the agricultural sector, which are successfully levelled at the expense of financial mechanisms of regulatory development of their entrepreneurial activity. An effective financial mechanism and an effective agrarian policy, its implementation, have been relevant in the context of scientific research for an extended period. Considering this, the purpose of this study was to substantiate a complete system of financial mechanisms for the regulatory development of entrepreneurial activity of economic entities in the agricultural sector of Ukraine. The study used economic and mathematical methods of analysis using statistical data of the EU and OECD countries for 1986-2020, using regression modelling of the interdependencies between the volumes of agricultural production and general state support to farmers, its volumes in terms of types, the influence of individual vectors of support for the total cost of products. The obtained studies indicate the need to develop measures related to the transformation of the system of financial mechanisms for the regulatory development of entrepreneurial activity of agrarian business entities of Ukraine, related to the prioritisation of mechanisms aimed at increasing the volume of investments in the agrarian sector of the economy, comprehensive development of the knowledge system, changes in the infrastructure of services, restrictions on control over the activities of business entities, the volumes of which in Ukraine substantially exceed similar indicators of the countries of the European Union with developed market relations and countries that are part of the OECD

Keywords: subjects of agrarian business, financial mechanisms of regulatory development of entrepreneurial activity, national support, agrarian policy

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INTRODUCTION

The financial mechanisms of the regulatory development of business activities of the agrarian business entities of Ukraine affect the food security of the country, providing the rural population with the income necessary for its existence. The effectiveness of entrepreneurial activities of Ukrainian farmers depends on both macroeconomic and microeconomic factors. Their list includes economic growth, inflation, the exchange rate of the national currency, which is used to set prices for material, labour resources, fixed and non-current assets.

The agricultural sector of Ukraine is the riskiest compared to all spheres of the national economy. Considering this, the agrarian industry is most in need of national financial support since the primary purpose of agrarian policy is both national interests and the creation of the most favourable conditions for the development of entrepreneurial loyalty of business entities of all organisational and legal forms of business. In the arsenal of world practice, to solve this problem, agrarian business entities apply price liberalisation on the one hand, and on the other hand – limit access to markets, provide various types of subsidies, while simultaneously applying measures related to trade protection.

The war between Ukraine and Russia, the global budgetary crisis caused by COVID-19 brought substantial adjustments to the regulatory development of entrepreneurial activity of Ukrainian farmers. The problems of the agricultural sector have become even more acute due to the following factors – the increase in migration of the Ukrainian population, mostly able-bodied, the occupation of up to 20% of Ukrainian territories, namely the Donetsk, Luhansk, Kherson, Zaporizhzhia, Kharkiv oblasts, the blocking of last year's grain harvest in seaports for its further implementation until countries of the Third World, specifically to Africa. The above actualises the need to increase national support through the application of proper programs aimed at the smooth functioning of business entities of the industry.

The purpose of this study was to substantiate the system of financial mechanisms for regulatory development and national support for entrepreneurial activity of agrarian business entities of Ukraine using EU and OECD data.

LITERATURE REVIEW

Financial mechanisms of regulatory development of entrepreneurial activity of economic entities in the agricultural sector of Ukraine for a long time have been a priority and are in the centre of attention of both theoreticians and practitioners investigating this issue. Thus, Joe Dewbre and Cameron Short (2002) investigated the impact of political measures on the competitiveness of agribusiness entities and on trade indicators. They put special emphasis on government incentives in the form of agricultural subsidies, which are paid to agribusinesses to supplement their income, manage the supply of agricultural products,

and influence the price and supply of such goods. This enables them to compete on the domestic and global markets. Evaluating the impact of political measures on competitiveness, scientists substantiated that the causes of competitiveness are its factors – phenomena and processes of production and economic activity of agrarian business entities that cause a change in their competitiveness.

Management of the competitiveness of agricultural business entities allow ensuring the best ratio of the constituent elements (factors) of competitiveness in production and economic activities. Jared Greenville *et al.* (2019), Gibran J. Puntak (2020) comprehensively assessed the driving forces that create value in the agricultural sector and developed a strategy due to the supply of agricultural products to foreign markets with high added value by forming the main vectors of export potential at the national support of agrarian business entities. Miranda Meuwissen, Tsion Tai Assefa, Marcel van Asseldonk (2013), Alan Matthews (2018) concluded that overcoming the instability of agricultural incomes is and should remain a priority vector for agricultural policy. Guillaume Gruere and Jonathan Brooks (2021) examined the impact of the COVID-19 pandemic on the economies of countries with developed market relations, which mostly applied effective measures aimed at financial support for farmers, and those developing countries that took the state of trade policy as a basis, providing information about their food security. Scientists prove that the COVID-19 pandemic will disrupt the labour market but will not fundamentally change the strategic trends and challenges to supporting food security. The uninterrupted functioning of the agrarian sector of the economy is based on such key points as productivity and the state of ecology, which is the main prerequisite for national support for farmers. This issue is explored in the studies of Gwen DeBoe (2020), Cohen Deconinck (2020), Ben Henderson (2020), and Yussi Lankoski (2019; 2020), who substantiated the environmental consequences of greenhouse gas emissions, water quality, biodiversity, and market price support. Scientists state that reducing emissions and increasing the volume of waste processing will contribute to the production of ecologically clean organic products and encourage business and private investors to advance funds for progressive environmental technologies and infrastructure. Considering this, the authors propose to create a more effective waste management system capable of stimulating and handling the reduction of their volumes, while simultaneously increasing their reuse and recycling.

Attracting foreign direct investment in the agricultural sector of the economy, according to the research of J. Punthakey (2020), is one of the main vectors of the industry development. The same thesis is followed by P. Heisey and K. Fuglie (2018), who substantiate that state investments in development of the agricultural sector and scientific research have recently slowed down,

because of which the quality of agricultural products and the productivity of the functioning of agricultural companies are decreasing. Z. Kristkova, M. van Dijk, and H. van Meijl (2016) investigated the influence of the amount of public investment on scientific research and development in agrarian business, which positively affects the productivity of agriculture. Therewith, according to the results of their studies, the investments provided cannot stimulate agricultural production to a level capable of satisfying the production of agrarian business entities.

Research by Alessandro Olper (2014) proved that national support has different forms, and therefore, affects the amount of labour involved in the agricultural sector. O'Toole & Hennessy (2015) emphasise the effectiveness of investments in active farms. K. Anderson & E. Valenzuela (2021) comprehensively assessed the agricultural export indicators under the conditions of expanding sales markets, increasing the net profit of agricultural entities, which can positively influence the national economic well-being with a simultaneous increase in investment volumes. Integration into the global trade space allows supplying agrarian business entities with an institutional environment capable of adapting production to the standards and requirements of international markets. Under such conditions, technological and innovative decision-making will be simplified, thereby increasing the productivity of labour and capital, stimulating the renewal of existing industries and expanding the offer for the foreign market.

According to the studies of Kassum Ayouba, Jean-Philippe Boussemart, Stefan Vigeant (2017), the provision of state subsidies is important for stimulating the inflow of investments, the introduction of innovations and progressive effective technologies for farmers, because of which their recipients can effectively use their resources. The same opinion is held by Laura Latruffe and Ian Desjeux (2016), who note the positive impact of the provided subsidies on the productivity growth of the agricultural sector. The results obtained by Jean-Joseph Minviel, Laura Latruffe (2017) confirm the positive effect of government subsidies on the capital intensity of their recipients and argue that such government support is sensitive to the modelling method.

Considering the conducted research, under present-day conditions, scientific discussions regarding the financial mechanisms of the regulatory development of the entrepreneurial activity of the agrarian business entities are still ongoing, which confirms the need for further studies, the structural volumes of national support, and their impact on the final results of the agrarian activity.

MATERIALS AND METHODS

For the empirical analysis, panel data based on the unified data of the OECD database (2021a, 2021b) for 1986-2020 were used.

During the study on this issue, the following tasks were set:

1. To investigate the dependence between the total volume of agricultural products in terms of value and national support to farmers.

2. To provide a comprehensive analysis of the impact of the structural volumes of general national support, its types, on the total value of agricultural products.

3. To specify which types of national financial support of agrarian business entities of Ukraine are the most effective, capable of contributing to the increase in the volume of agricultural products.

4. To carry out a comparative analysis of the financial support of agrarian business entities of the EU, OECD, and Ukraine for 1986-2020.

As for the dependence between the total volumes of agricultural products in terms of value and national support to farmers, the results were obtained upon applying a regression analysis between the independent variable TSE (total support directed towards agricultural entities) (OECD, 2021b) and an indicator that is effective TVP – the total value of production (OECD, 2021a), using formula (1):

$$TVP=b_0+b_1*TSE \qquad (1)$$

where b_0, b_1 are the independent variables used in the regression equation.

The assessment of the dependence between the total cost of production and the general support provided to the agrarian sector is based on the construction of a regression equation between the independent variable given to it and the effective indicator. The studies conducted show that the parameters of the regression analysis are measured using the indicators of multiple determination R^2, p-criterion, and F -criterion.

Analysis of the influence of the structural volumes of general national support and its types on the total value of agricultural products is calculated using the following indicators:

– general national support (TSE), the part of which is transfers by producers (PSE producer support (OECD, 2021b)).

– consumer support from budgets of all levels (Consumer support, CSE (OECD, 2021b)).

– public expenditures directed to general services for the agricultural sector (GSSE general service support (OECD, 2021b)).

– b_2, b_3 are independent variables used in the regression equation.

The results of the study of the influence of the structural volumes of general national support, its types on the total value of agricultural products were constructed using the following regression equation (2):

$$TVP=b_0+b_1*PSE+b_2*CSE+b_3*GSSE \qquad (2)$$

The regression equation estimation parameters are measured by the multiple determination index R^2, the p-criterion and the F-criterion.

To find the most effective areas of support for the agricultural sector, the values of the parameters of the regression equation b_1 and the pairwise correlation coefficients of the resulting TVP indicator and the PSE, CSE, GSSE factors were estimated as follows (3):

$$r_{xy} = \frac{\overline{x \cdot y} - \overline{x} \cdot \overline{y}}{s(x) \cdot s(y)} \qquad (3)$$

To find more effective areas of national support for farmers and to detail the system of financial mechanisms for the regulatory development of agricultural business entities, a regression equation was constructed (4):

$$TVP = b_0 + \sum b_i * x \qquad (4)$$

where x is the volumes, types of the most effective vectors of national support for agrarians; i is the total number of types of national support in the most effective areas.

The regression equation estimation parameters are measured by the multiple determination index R^2, the p-criterion, and the F-criterion. To find more effective vectors of national support for farmers, the assessment of the values of the parameters of the regression equation b_1 and the pairwise correlation coefficients of the resulting TVP indicator and the chi factors are used.

Indicators of support, their volumes, types that are the most effective in the EU, OECD, and Ukraine countries were calculated by applying a comparative analysis using graphic interpretation, the total amount of support and vectors of support in the agricultural sector of the EU and OECD that are the most effective using the relevant statistical data of Ukraine. This allowed substantiating the transformation vectors of the system of financial mechanisms for the regulatory development of business activity for agricultural producers of Ukraine.

RESULTS AND DISCUSSION

Study of the dependence between the total volume of agricultural products in terms of value and national support to farmers. Using EU and OECD panel data for 1986-2020, a regression equation was constructed (5):

$$TVP = 27955.3 + 3.303424 * TSE \qquad (5)$$

The simulation results show that the total cost of agricultural products in the absence of national financial support in EU and OECD countries will amount to USD 27,955.3. Therewith, the coefficient b_1 shows that when increasing the amount of national financial support by USD 1 million, the total value of agricultural products will increase by USD 3.303424 million dollars. The regression statistics of equation (5) are presented in Table 1.

Table 1. Regression statistics of the equation of dependence between the total financial support provided to the agricultural sector and the total cost of agricultural sector products

Regression statistics	
Multiple R	0.816343585
Several R^2	0.66641685
Adjusted R^2	0.661511215
F(1.68)	135.847226
P	0.0000
Standard error of estimate	198947.59

The criteria of statistical significance of the equation in the research process are reliable and verified (Table 1). The results of the study show that 66.64% of the total variability of the value of agricultural sector products is due to changes in the factors of general support of the agricultural sector.

Analysis of the impact of the structural volumes of general state support, its types, on the total value of agricultural products. The results of the analysis per the constructed regression equation based on EU and OECD panel data for 1986-2020 show a substantial impact of structural volumes, types of general support on the total value of agricultural sector products (6):

$$TVP = -75277.4143 + 4.6268 * PSE + \\ + 4.5431 * CSE + 10.0329 * GSSE \qquad (6)$$

The results of the simulation (6) show that the total value of agricultural products of the agrarian sector upon increasing the total amount of national financial support for agricultural producers by USD 1 million leads to its growth by USD 4.6268 million. Under the condition of increasing financial support of consumers, the volume of agricultural products increases by USD 4.5431 million, and with the increase in support for services to the agrarian sector – by USD 10.0329 million. Considering the results of the analysis, the most influential is the

support of services to the agrarian sector, which contributes to the corresponding increase in the total value of the products of the agrarian sector. The significance of the equation constructed according to the criteria of statistical data (2) is reliable and verified (Table 2). In this situation, 96.79% of the total variability of the value of agricultural products is directly dependent on the provided financial support, its types and structural volumes.

Table 2. *Regression statistics of the equation of influence of structural amounts of general national support, its types, on the total value of agricultural products*

Regression statistics	
Multiple R	0.92843889
Several R^2	0.967948797
Adjusted R^2	0.845491924
F (1.68)	664.401693
P	0
Standard error of estimate	62595.2366

The conducted studies give reasons to claim that the assessment of paired coefficients of determination is more closely related to the total cost of agricultural sector products under the conditions of national financial support of the agricultural sector (r=0.928). This indicator is less close, but in comparison with the support of producers, the relationship is more significant – (r=0.845), and the support of consumers of agricultural products has the least significant influence (r=-0.38). Considering the study results, the most influential type of national support for the development of the agricultural sector is national support for infrastructure and services.

Analysis of national agrarian financial support of agrarian business entities. In the structure of national financial support, which is effective and contributes to increasing the volume of agricultural products and services, the following are highlighted:
– Agricultural knowledge and innovation system – AKIS.
– Inspection and Control – IC.
– Development and maintenance of infrastructure – DI.

– Marketing and promotion – MP.
– Cost of public stockholding – PS.

Based on OECD data (2021a), an analysis was conducted for the EU and OECD countries for 1986-2020, based on the results of which the following regression equation was constructed:

$$TV=26495.3561+58.821*AKIS+68.1605*IC+ +9.6531*DI-21.6207*MP+15.3409*PS \qquad (7)$$

The analysis of the conducted research shows that the most substantial impact on the total cost of agricultural products of the agrarian sector, and the effective vector of service support are innovations in the agrarian sphere, support for inspection and control, and knowledge systems. The statistical significance of equation (7) was verified (Table 3). The conducted studies show that 98.21% of the total variability of the value of agricultural products in the agrarian sector depends on changes in the factors of general support services.

Table 2. *Regression statistics of the equation of influence of structural amounts of general national support, its types, on the total value of agricultural products*

Regression statistics	
Multiple R	0.991009055
Several R^2	0.982098947
Adjusted R^2	0.980700428
F(1.68)	702.241747
P	0
Standard error of estimate	47505.1162

The results of the research show that national financial support to the agricultural sector has a close relationship with the cost of products, namely due to the support of the system of knowledge and innovations in the agricultural sector (r=0.958), support for inspection and control (r=0.966); less close connection – with infrastructure development and support (r=0.877) and marketing and promotion support (r=0.806); and public shareholding (r=-0.147).

Comparative analysis of national support, their volumes, types, which are the most effective in the EU, OECD countries, and Ukraine. The agricultural sector of

Ukraine proves on average higher volumes of agricultural production in the structure of GDP compared to EU countries and OECD countries (Fig. 1), which indicates that Ukraine uses specific regulatory policy mechanisms.

The results of the conducted research show a reduction in the share of support for innovations and knowledge systems in the agrarian industry in Ukraine since 2015. Since 2020, this indicator is the lowest compared to EU and OECD countries (Fig. 2).
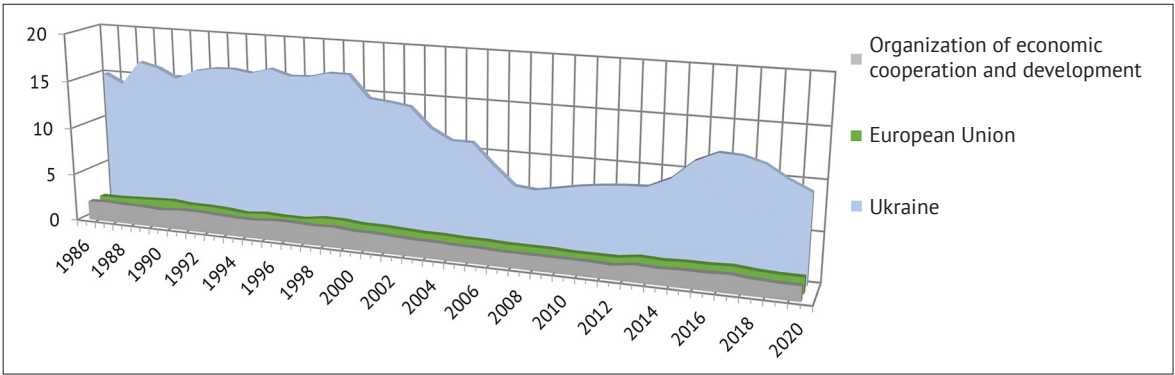

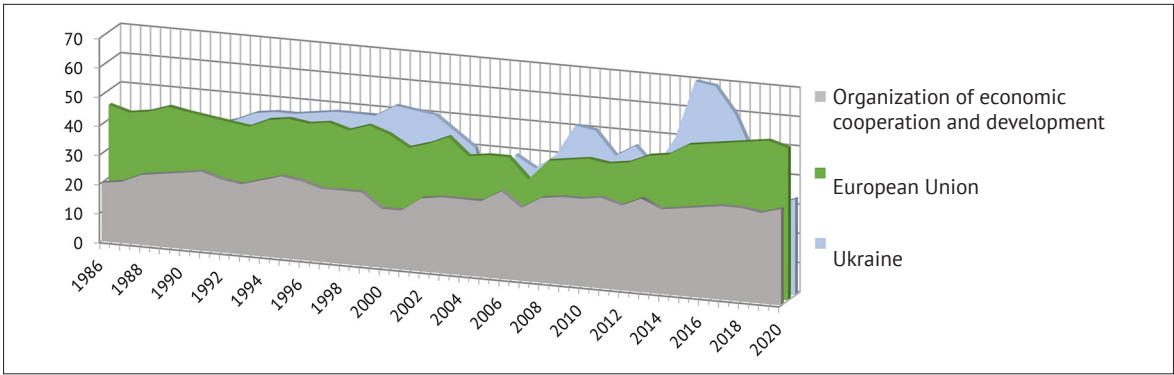*Figure 1*. The share of agriculture in GDP, % (based on OECD data (2021)

Figure 2. Agricultural knowledge and innovation system, % GSSE (constructed according to OECD (2021a) data)
Source: constructed according to OECD data (2021a)

At the same time, during this period, an increase in the share of inspection and control in the agricultural sector is observed, and as of 2020, it is equal to 63.0% of the total support of services in the agricultural sector of Ukraine (Fig. 3). During 2006-2020, there is a tendency to decrease national support for the infrastructure of the

agricultural sector of Ukraine (Fig. 4). The obtained analysis of the development and maintenance of the infrastructure of Ukraine, the EU, and the Organisation for Economic Cooperation and Development shows a substantial decrease in the indicator under study, in comparison with 2020 to 2000, in the OECD – by 6%, the EU – by 11%, and Ukraine – by 22%.
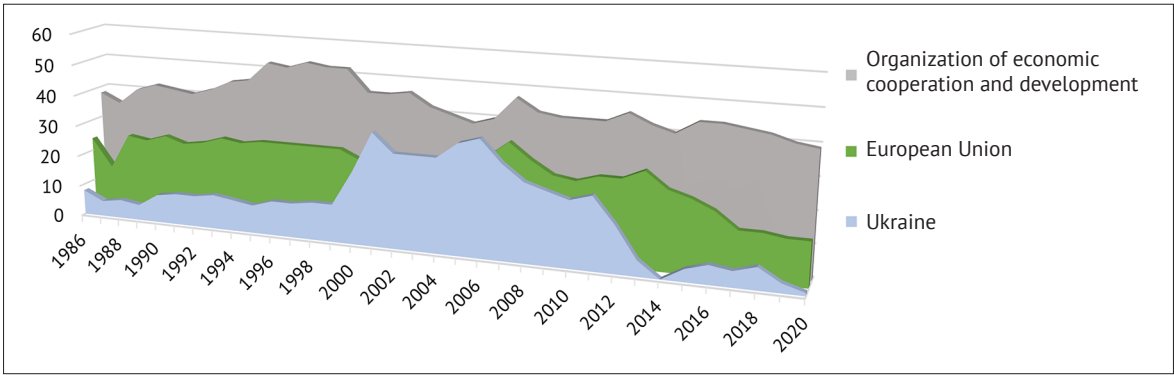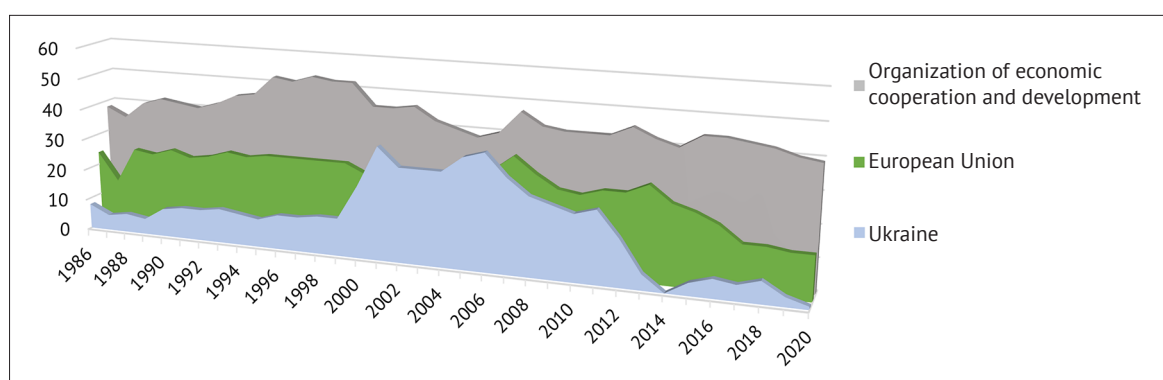

Figure 3. Infrastructure development and maintenance, % GSSE Source: constructed according to OECD data (2021a)
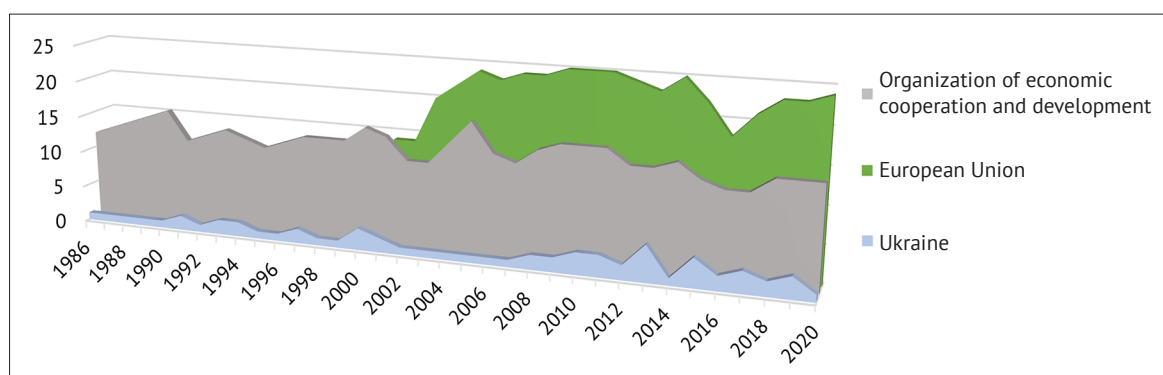*Source:* constructed according to OECD data (2021a)

Figure 4. *Infrastructure development and maintenance, % GSSE*
Source: *constructed according to OECD data (2021a)*

At a stably low comparative level for 1986-2020 in Ukraine, marketing support for the agricultural industry is and stays at an insufficient comparative level (Fig. 5). Considering this, the financial mechanism for the regulatory development of the entrepreneurial activity of domestic economic entities in the agrarian sector needs improvement towards transformation of mechanisms aimed at national financial support of services in the agrarian sector.

Figure 5. *Marketing and promotion, % GSSE*
Source: *constructed according to OECD data (2021a)*

It should be emphasised that a more substantial effectiveness in predicting the dependence of the development of the agrarian sector depends on national financial support, considering its types and structure. This is convincingly evidenced by the lower level of the coefficient of multiple determination in modelling the dependence of the value of agricultural sector products on the total amount of national support (Table 1) compared to the similar dependence on the structural amount of the same support by its types (Table 2).

Producers of agricultural products receive transfers, specifically to support the market price, payment of budget payments of all levels, and the cost of lost income. Considering this, transfers substantially affect the productivity of the agricultural sector, calculated in value terms, as they reduce the price of finished products.

From the perspective of national financial support, the most effective is the provision of services and infrastructure of agricultural activity. In this regard, it is important to finance innovations and the system of knowledge in the agrarian sphere, subject to continuous control and inspection of the activities of economic

entities in the agrarian sector, and financing for the development of infrastructure and marketing of business activities in the agrarian sphere. According to the simulation results of equation (6), the financing of innovations has a close correlation and influences the cost of products of economic entities in the agrarian industry, which is confirmed by the results of studies by Kassum Ayouba (2017), Laura Latruffe, Yana Desjeux (2016), Zuzana Kristkova, Van Dijk, Van Meijl (2017).

At the same time, GSSE transfers do not contribute to an increase in income and do not reduce the costs of commodity producers of agricultural products, while creating favourable conditions for the agricultural industry through the development of public services or private institutions and OECD infrastructure (2021c).

The data show that Ukraine has considerable agricultural potential. Therewith, it does not make sufficient use of financial mechanisms for supporting services in the agricultural sector. Much of such support, up to 60%, is directed to ensuring inspection and control, and such a critical area as innovation, infrastructure, and marketing still is out of the focus of agricultural policy.

The results of the analysis and proof of effectiveness indicate the need to transform the regulatory financial mechanism for the development of entrepreneurial activity in the agrarian sector and to ensure those mechanisms aimed at innovative activity, the development of the knowledge system, the infrastructure of services by optimising inspection and control (simplification of procedures for registration, certification, regulation of inspection activities).

Reforming the national agrarian policy should ensure the solution of these problems, while simultaneously creating favourable conditions for effective entrepreneurial activity, communication, and coordination of agricultural market participants, namely the international one, which will contribute to increasing the export of agricultural products, the development of coordination and transport systems.

CONCLUSIONS

The results of this study, which aimed to solve the problem of figuring out effective financial mechanisms for the regulatory development of entrepreneurial activity of agricultural entities in Ukraine, the effectiveness of which has been proven by world practice, can be adapted to Ukrainian agrarian policy.

The obtained results of the study allowed showing that the change in the volume of the value of the agricultural products of Ukraine by 94.72% depends on the national support for the agricultural sector of the economy. According to the analysis, the most productive vector of support for the development of business activities of agricultural producers of Ukraine is national support, specifically innovations in the agricultural sphere (r=0.971), control (r=0.91), support and development of infrastructure (r=0.802), marketing support (r=0.810).

The results of the study allowed proving that the increase in the total value of the products of the ag-

ricultural industry is determined not only by the amount of general national financial support provided to the agricultural industry, but also by its structure and types. The results of the conducted research using the EU and OECD statistical data for 1986-2020 confirm that the most effective vector of financial support for the development of entrepreneurial activity is national support for services in the agricultural sector: inspection and control, development and support of infrastructure, and support for marketing and promotion of the knowledge system and innovations in the agricultural sector.

The obtained results proved the expediency of the transformation vectors of the system of financial mechanisms for the regulatory development of entrepreneurial activity in the agricultural sector of Ukraine by providing components aimed at innovative activity, the development of the knowledge system, the infrastructure of services by optimising the support of control and inspection, namely the simplification of procedures for registration, certification, regulation of inspection activities, the volumes of which are overestimated in the regulation of the agricultural sector of Ukraine, comparing with the indicators of the EU and OECD countries.

The obtained provisions are of fundamental importance and can be used in the agricultural sector of Ukraine, which allows reducing direct financial support directly to producers by creating favourable conditions for effective entrepreneurial activity, strengthening coordination and communication of agricultural market participants, including the international one.

The perspective of further research on this problem and scientific discussions should be to figure out the predicted effectiveness of the proposed financial mechanisms for the regulatory development of entrepreneurial activity of agrarian business entities of Ukraine, which will contribute to their effective development.

REFERENCES

[1] Anderson, K., & Valenzuela, E. (2021). What impact are subsidies and trade barriers abroad having on Australasian and Brazilian agriculture? *Australian Journal of Agricultural and Resource Economics*, 65(2), 265-290. doi: 10.1111/1467-8489.12413.

[2] Ayouba, K., Boussemart, J., & Vigeant, S. (2017). The impact of single farm payments on technical inefficiency of French crop farms. *Review of Agricultural, Food and Environmental Studies*, 98(1-2), 1-23. doi: 10.1007/s41130-017-0049-2.

[3] Bechko, P., Kolotukha, S., Ptashnyk, S., & Nahorna, Ju. (2020). Tax stimulation of agricultural goods manufacturers. *Scientific Horizons*, 6(91), 60-67. doi: 10.33249/2663-2144-2020-91-6-60-67.

[4] DeBoe, G. (2020). *Impacts of agricultural policies on productivity and sustainability performance in agriculture: A literature review. OECD Food, Agriculture and Fisheries Papers*. Paris: OECD Publishing. doi: 10.1787/6bc916e7-en.

[5] DeBoe, G., Deconinck, K., Henderson, B., & Lankoski, J. (2020). Reforming agricultural policies will help to improve environmental performance. *EuroChoices*, 19(1), 30-35. doi: 10.1111/1746-692X.12247.

[6] Dewbre, J., & Short, C. (2002). Alternative policy instruments for agriculture support: Consequences for trade, farm income and competitiveness. *Canadian Journal of Agricultural Economics*, 50(4), 443-464. doi: 10.1111/j.1744-7976.2002.tb00348.x.

[7]   Greenville, J., Kawasaki, K., Flaig, D., & Carrico, C. (2019). *Influencing GVCs through agro-food policy and reform.* Retrieved from https://www.oecd-ilibrary.org/docserver/9ce888e0-en.pdf?expires=1657607618&id=id&accname=guest&checksum=02AC075A3B9B326B93A258331B5675D5.

[8]   Gruère, G., & Brooks, J. (2021). Viewpoint: Characterising early agricultural and food policy responses to the outbreak of COVID-19. *Food Policy*, 100, article number 102017. doi: 10.1016/j.foodpol.2020.102017.

[9]   Heisey, P., & Fuglie, K. (2018). Public agricultural R&D in high-income countries: Old and new roles in a new funding environment. *Global Food Security*, 17, 92-102. doi: 10.1016/j.gfs.2018.03.008.

[10] Henderson, B., & Lankoski, J. (2020). Assessing the environmental impacts of agricultural policies. *Applied Economic Perspectives and Policy*, 43(4), 1487-1502. doi: 10.1002/aepp.13081.

[11] Henderson, B., & Lankoski, J. (2019). *Evaluating the environmental impact of agricultural policies.* Retrieved from https://www.oecd-ilibrary.org/agriculture-and-food/evaluating-the-environmental-impact-of-agricultural-policies_add0f27c-en.

[12] Kristkova, Z., van Dijk, M., & van Meijl, H. (2016). Projections of long-term food security with R&D driven technical change – A CGE analysis. *NJAS – Wageningen Journal of Life Sciences*, 77, 39-51. doi: 10.1016/j.njas.2016.03.001.

[13] Lankoski, J., & Thiem, A. (2020). Linkages between agricultural policies, productivity and environmental sustainability. *Ecological Economics*, 178, article number 106809. doi: 10.1016/j.ecolecon.2020.106809.

[14] Latruffe, L., & Desjeux, Y. (2016). Common agricultural policy support, technical efficiency and productivity change in French agriculture. *Review of Agricultural, Food and Environmental Studies*, 97(1), 15-28. doi: 10.1007/s41130-016-0007-4.

[15] Matthews, A. (2018). *The EU's common agricultural policy post 2020: Directions of change and potential trade and market effects.* Geneva: Food and Agriculture Organisation of the United Nations.

[16] Meuwissen, M.P.M., Assefa, T.T., & van Asseldonk, M.A.P.M. (2013). Supporting insurance in European agriculture: Experience of mutuals in the Netherlands. *EuroChoices*, 12(3), 10-16. doi: 10.1111/1746-692x.12034.

[17] Minviel, J., & Latruffe, L. (2017). Effect of public subsidies on farm technical efficiency: A meta-analysis of empirical results. *Applied Economics*, 49(2), 213-226. doi: 10.1080/00036846.2016.1194963.

[18] Nesterchuk, Y., Prokopchuk, O., Tsymbalyuk, Y., Rolinskyi, O., & Bilan, Y. (2018). Current status and prospects of development of the system of agrarian insurance in Ukraine. *Investment Management and Financial Innovations*, 15(3), 56-70. doi: 10.21511/imfi.15(3).2018.05.

[19] O'Toole, C., & Hennessy, T. (2015). Do decoupled payments affect investment financing constraints? Evidence from Irish agriculture. *Food Policy*, 56, 67-75. doi: 10.1016/j.foodpol.2015.07.004.

[20] OECD. (2021a). *Agricultural support estimates (Edition 2020).* Retrieved from https://www.oecd-ilibrary.org/agriculture-and-food/data/oecd-agriculture-statistics/agricultural-support-estimates-edition-2020_466c3b98-en.

[21] OECD. (2021b). *Agricultural support (indicator).* Retrieved from https://data.oecd.org/agrpolicy/agricultural-support.htm.

[22] OECD. (2021c). *Agricultural policy monitoring and evaluation 2021: Addressing the challenges facing food systems.* Retrieved from https://www.oecd-ilibrary.org/agriculture-and-food/agricultural-policy-monitoring-and-evaluation-2021_2d810e01-en.

[23] Olper, A., Raimondi, V., Cavicchioli, D., & Vigani, M. (2014). Do CAP payments reduce farm labour migration? A panel data analysis across EU regions. *European Review of Agricultural Economics*, 41(5), 843-873. doi: 10.1093/erae/jbu002.

[24] Petrick, M., & Zier, P. (2012). Common Agricultural Policy effects on dynamic labour use in agriculture. *Food Policy*, 37(6), 671-678. doi: 10.1016/j.foodpol.2012.07.004.

[25] Punthakey, J. (2020). *Foreign direct investment and trade in agro-food global value chains.* Retrieved from https://www.oecd-ilibrary.org/agriculture-and-food/foreign-direct-investment-and-trade-in-agro-food-global-value-chains_993f0fdc-en.

[26] Prokopchuk, O.T., Ulyanych, Y.V., & Bechko, V.P. (2015). Integral estimation of assets backing in Cherkasy region. *Actual Problems of Economics*, 163(1), 276-284.

[27] Prokopchuk, O., Prokopchuk, I., Mentel, G., & Bilan, Y. (2020). Parametric insurance as innovative development factor of the agricultural sector of economy. *AGRIS On-line Papers in Economics and Informatics*, 12(3), 69-86. doi: 10.7160/aol.2020.120307.

Фінансові механізми регуляторного розвитку підприємницької діяльності суб'єктів господарювання аграрної галузі

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Анотація. Ринкові відносини в аграрному секторі економіки України суттєво вплинули на зростання рівня самостійності та комерційної відповідальності суб'єктів господарювання аграрної галузі щодо формування та раціонального використання фінансових ресурсів. Розвиток ринкових механізмів регулювання сільського господарства, лібералізація економіки з одночасним зниженням регулюючої ролі державних структур управління, без відповідного попереднього опрацювання правових, економічних та фінансових основ переходу на ринкові відносини призвели до зростання фінансових ризиків багатьох суб'єктів господарювання аграрної галузі, які успішно нівелюються за рахунок фінансових механізмів регуляторного розвитку їх підприємницької діяльності. Дієвий фінансовий механізм і результативна аграрна політика, її реалізація є актуальними в контексті наукових досліджень за тривалий період. З огляду на це, мета дослідження полягає в обґрунтуванні цілісної системи фінансових механізмів регуляторного розвитку підприємницької діяльності суб'єктів господарювання аграрної галузі України. Дослідження здійснювалися із застосуванням економіко-математичних методів аналізу з використанням статистичних даних країн ЄС та ОЕСР за період 1986-2020 рр., з використанням регресійного моделювання взаємозалежностей між обсягами аграрної продукції та загальною державною підтримкою аграріям, її обсягів у розрізі видів, тісноти впливу окремих напрямів підтримки на загальну вартість продукції. Отримані дослідження свідчать про необхідність напрацювання заходів, пов'язаних із трансформацією системи фінансових механізмів регуляторного розвитку підприємницької діяльності суб'єктів аграрного бізнесу України, пов'язаних з наданням пріоритетності механізмам, які спрямовані на нарощування обсягів інвестицій до аграрного сектора економіки, всебічний розвиток системи знань, зміни інфраструктури послуг, обмеження контролю за діяльністю господарюючих суб'єктів, обсяги яких в Україні суттєво перевищують аналогічні показники країн Європейського союзу з розвинутими ринковими відносинами та країн, що входять до ОЕСР

Ключові слова: суб'єкти аграрного бізнесу, фінансові механізми регуляторного розвитку підприємницької діяльності, державна підтримка, аграрна політика