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Adaptation of business entities in the agrarian sector of the economy to activities in wartime conditions

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► **Abstract.** The need for business entities to exit from an extreme state activates the development of processes of adaptation of business entities to functioning in wartime conditions. The purpose of the article is to substantiate the theoretical and methodological principles, socio-economic and legal problems of adaptation of business structures to activities in extreme conditions. System analysis and institutional economic theory served as the methodological basis of the research. Normative, graphic, abstract-logical methods and approaches to summarizing the results were used. Prospects for the development of entrepreneurship have been determined. It was established that during the period of economic recovery, issues of material and technical and financial support of production facilities and logistics routes will be problematic. The economic difficulties of large corporate structures are revealed (destruction of assets, disruption of logistics connections, blocking of sales markets). The essence of adaptation of business entities to activities in the conditions of armed conflict, functioning in wartime conditions, and integration-cooperative structures from the point of view of systemicity is substantiated. The concept of "adaptation" of business entities is clarified as a process of development and application of strategies for reflection by the enterprise and its structures of the effects of the consequences of the war in the management decision-making system to ensure competitiveness and efficiency of functioning. It was established that the adaptation of business entities to risk conditions in the post-war period will contribute to the development of integration structures (cooperatives, simple societies, cluster associations), the growth of independence in determining the programs of their economic activity, ensuring the interest of peasants as commodity producers with the rights of formal bearers of entrepreneurial status to meet their economic and social needs. It was found that the most adapted to the crisis conditions associated with military operations are farms and private peasant farms. The results of the study can be taken into account when developing programs for determining the priorities of the development of agrarian entrepreneurship subjects, in particular, integration-cooperative structures; development of regulatory and legal acts for the formation and development of cooperation and integration in the agrarian sphere of the economy

► **Keywords:** subject of entrepreneurial activity, adaptation to the conditions of martial law, agricultural cooperative, integration-cooperative structures, integration associations, mechanism of integrated structures, integrative formations, agricultural holdings, clusters

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► Introduction

The successful development of entrepreneurship as the main driving force in the development of the country's economy, and the agricultural sector in particular, depends on the state of the business environment. Martial law conditions have a significant impact on socioeconomic and political instability. The limited activity of business entities places new demands on the formation of an effective system of adaptation of the organizational and economic mechanism of business to the conditions of martial law. Adaptation of entrepreneurial activity to the conditions of martial law is characterized by the possibility of conducting economic activity both from the point of view of spatial freedom and from the standpoint of financial capabilities and logistical support.

The practice of business structures in wartime conditions showed certain advantages of the functioning of small and medium-sized business structures compared to larger ones, such as agro holdings. Small business structures were able to quickly adapt to the extreme conditions of the organization of production, storage, and sale of agricultural products. For large enterprises, disruption of the financial condition, and sociopsychological aspects of activity led to a significant decrease in export potential, logistics, and financial complications.

Studying the processes of adaptation of the economic mechanism of the functioning of agribusiness enterprises to extreme conditions of activity, most researchers paid attention to the feasibility of creating innovative and integrated structures in the agro-industrial complex; the formation of social capital of large enterprises and the military and economic importance of economic entities. The attention of economists is also focused on the problems of infrastructural provision of rural areas; priority vectors of development of business entities in agriculture and assessment of target parameters of anti-crisis stability and resource potential at enterprises. Peculiarities of business process and personnel management are substantiated; by the marketing strategy of enterprise development; increasing the investment activity of households and the impact of the armed conflict on the functioning of business structures.

The concept of "adaptation" was defined as a process of reaction to changes in the external and internal environment of the enterprise's functioning (Problems of adaptation..., 2018). A.V. Ivanko (2018) and R.V. Grinchenko (2019) substantiated the use of the system, process, and functional approaches in the management of benefits.

N. Taran (2019) substantiated the main features of the implementation of the adaptive organizational and economic management mechanism to increase competitiveness; special attention is focused on the identification and dynamism of directions of changes in management systems that mobilize the possibilities of effective functioning. M. Odnorog et al. (2019) established that business entities are most adapted to extreme operating conditions; found

that the functioning of inefficient institutions in the state reduces the guarantees of property rights and the level of life of the peasant.

M. Berdar, O. Yevtushevska (2020) revealed the management system of innovative activity of an entrepreneurial entity as a survival mechanism; the components of block diagrams were added to the ways of improving the management system: evaluation of innovative activity, directions of innovative development, strategies of innovative functioning, audit of the implementation of the company's development strategy. A. Potapov (2020) indicated the need to model the influence of resource factors on the production of agricultural products.

O. Shpykuliak and O. Sakovska (2020) substantiated that the cooperative system of interactions in rural and agro-industrial farms reflects state program actions regarding the institutional adaptation of cooperation in general as a special form of integration, as a mechanism of self-regulation and entrepreneurship. O. Sakovska (2020) proved that agricultural cooperation reflects the economic potential of the state, stimulates the growth of volumes of marketable products, ensures the social condition of competitive agricultural producers, and develops the infrastructure of the agricultural market in general.

However, some issues concerning the adaptation of business entities of the agrarian sector of the economy to functioning in wartime conditions remain insufficiently researched and require further consideration.

The purpose of the article is to evaluate and substantiate from the point of view of a systemic approach the theoretical, methodical, and practical principles of adaptation of business entities of the agrarian sector of the economy of Ukraine to activities in wartime conditions.

► Literature Review

The emphasis in literary sources on the problems of the development of the processes of adaptation of the economic mechanism of the functioning of enterprises to extreme conditions is focused on the essence of concepts, factors, assessment methods, management tools, the influence of external and internal factors affecting the processes of production and sales activities. In particular, it was established that the adaptation of the business entity to changes in the environment is carried out using search, investment, technological, and management operations; it is substantiated that the form of adaptation expands the possibilities of adaptation to extreme conditions and increases the flexibility of decision-making; it was found that the adaptation reflects a change in the organizational structure, goals, and strategy of functioning. Attention is focused on the idea of combining the mechanisms of various approaches to predicting the nature of the influence of external factors and flexibly varying the internal components of the enterprise's functioning. The essence of the adaptive model of the functioning of the

business entity is revealed as a model of making adequate changes in the structure and parameters of the management regulator to ensure the stability of the functioning.

A. Natorina (2019) assessed the implementation of the conceptual model of the adaptive marketing policy management system; substantiated the need for the formation of an adaptive system of marketing product policy management using the example of online retailers. N. Pylypenko et al. (2019) developed a methodology for calculating integral indicators of resource availability of business entities; justified the need to use innovations and reduce costs; identified human resources as essential for survival in extreme conditions. I. Vinichenko, T. Shutko (2019) revealed a methodological toolkit for assessing the investment attractiveness of business entities in agriculture and a matrix assessment model taking into account quantitative and qualitative criteria for assessing the entity's investment, financial, and production status.

N. Fedosieieva (2019) substantiated the system of goals for the sustainable development of business entities in agriculture in the conditions of competitive functioning and survival. O. Shpykuliak, I. Bilokinna (2019) revealed the importance of "green" cooperatives in the mechanism of development of alternative energy; proved that the rural population can ensure energy independence due to the sale of produced fuel, reduction of energy costs, functioning of established "green" cooperatives.

N. Golych, O. Panukhnyk (2020) revealed the concept of "enterprise adaptation" as a process of adjustment from the moment of creation of the business entity to its liquidation to ensure competitiveness and efficiency of functioning through a system of adaptation measures and actions; developed a coefficient of adaptation possibilities. The concept of "adaptive strategy" is related to project activities and the choice of subsequent decisions. Y. Kvach et al. (2020) substantiated the need to manage the adaptation of sustainable agrarian entrepreneurship to the conditions of tax changes in environmental investments; evaluated the effectiveness of environmental investments. K. Chimosh (2020) defined the adaptation mechanism of transport logistics management of agricultural enterprises; improved the adaptive logistics system; substantiated the adaptive decision support system.

M. Berdar, O. Yevtushevska (2020) revealed the management system of innovative activity of an entrepreneurial entity as a survival mechanism; to the ways of improving the management system, the components of block diagrams were added: evaluation of innovative activity, directions of innovative development, strategies of innovative functioning, audit of the implementation of the company's development strategy. A. Potapov (2020) indicated the need to model the influence of resource factors on the production of agricultural products.

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rural and agro-industrial farms reflects state program actions regarding the institutional adaptation of cooperation in general as a special form of integration, as a mechanism of self-regulation and entrepreneurship. O. Sakovska (2020) proved that agricultural cooperation reflects the economic potential of the state, stimulates the growth of volumes of marketable products, ensures the social condition of competitive agricultural producers, and develops the infrastructure of the agricultural market in general.

V. Hrosul et al. (2021) developed the concept of the economic core of the development of an entrepreneurial entity; identified strategic components of entrepreneurship development; substantiated that the component of resource potential provides the number of resources necessary for the subject; established that the component of the business model most of all increases the efficiency of the functioning of the subject of agrarian entrepreneurship. A. Shpakov et al. (2021) revealed the dependence of the ability to change in enterprises on the adaptive capabilities of personnel, established the internal factors of change using the McKinsey "7S" model, created a model of the influence of "personnel" on the flexibility of implementing changes in business structures using fuzzy modelling logic. O. Penkova et al. (2021) stated that the marketing strategy of agribusiness enterprises is the most important element of the management system for the survival of the population and for providing citizens with quality food products.

N. Kravchuk et al. (2021) investigated the tools for eliminating the causes of socio-economic decline in the infrastructural provision of rural areas; revealed the state of the modern level of socio-economic development of rural areas; revealed the interdependence of the development of rural areas with infrastructural support. O. Semenenko et al. (2021) identified the basics of the military-economic importance of agriculture for the use of food resources for military purposes and developed recommendations regarding the importance of agricultural development indicators in the formation of the military-economic potential of the state. O. Semenenko et al. (2021) conducted an analysis of the impact of the armed conflict on the development of business entities and changes in the average prices of agricultural products; determined the relationship between the change in the sale price of products and financial costs for defence needs; established a connection between the change in the volume of military expenditures, the gross collection of grain and leguminous crops, the harvested and threshed area, and the levels of their productivity.

N. Trusova et al. (2021) developed a model for assessing the stability parameters of the anti-crisis development potential of agrarian business entities; revealed the features of the matrix for choosing an alternative scenario of self-financing; revealed scenarios of resource provision for anti-crisis development of an agrarian enterprise. I. Vinichenko et al. (2021) revealed the criteria for evaluating the components

of the efficiency of using the resource potential of business entities in agriculture; determined the integral indicator of efficiency (quantitative and qualitative characteristics of the involved resources, productivity, and efficiency) of the main types of activity of economic entities on agricultural lands.

A. Bitkowska et al. (2022) revealed the mechanism of business process management; substantiated the need to increase the sharpness of management from the point of view of Agile Business Process Management due to the use of an adaptation system for making optimal decisions; established that the adaptation process is a component of the Agile BPM concept; have proven that the implementation of the Agile BPM concept allows for a more effective response to market changes and the implementation of radical changes in the business environment. O. Zinchenko et al. (2022) proved that in the system of adaptive strategic management, the use of indicative management decision-making tools is actualized; discovered in the mechanism of implementation of the adaptive strategy subsystems of implementation of the strategic scenario, optimization of strategy options, diagnostics of the state of strategy implementation.

► Materials and Methods

The information base of the study is the laws and regulatory acts of the Verkhovna Rada of Ukraine (2019); materials of the Ministry of Agrarian Policy and Food of Ukraine (2022), and the Ministry of Finance of Ukraine, (2022). Also, the National Bank of Ukraine (2022), publications of national and international information agencies, in particular, the National Academy of Sciences of Ukraine (2022), and the Agrarian Information Agency (2022). The data of the Ukrainian Future Institute (2022), the Razumkov Center (2022), and the Centre for Food and Land Use Research (KSE) were used in the Centre for Food ..., 2022. Materials from Agroportal (2022), UkrAgroConsult (2022), and Economic Foresight (2022) were significant contributions to the conducted research. Works of Ukrainian and foreign scientists regarding the development of processes of adaptation of business entities of the agrarian sector of the economy of Ukraine to activities in wartime conditions (Gerasymenko et al., 2022; Kazak & Obelets, 2022; Shpychak et al., 2022); the results of own research (Development of agricultural..., 2019; Kravchenko et al., 2022; Malik et al., 2022). Calculations were made using modern computer technologies (Microsoft 365 programs for business; Web versions of Word, Excel, and PowerPoint) and analysis methods. The research was implemented in 4 stages: analysis of statistical and informational and literary sources; study of historical Ukrainian and foreign experience; development of adaptation processes of business entities of the agrarian sector of the economy to functioning in wartime conditions; formulation of research conclusions and recommendations.

The main provisions of institutional economic theory and system analysis served as the theoretical

and methodological platforms of the study. The systematic method was applied to determine the historical experience of the development of agrarian entrepreneurship subjects, where the peculiarities of their functioning and the economic characteristics of separate integration structures and agricultural holdings were considered. Abstract-logical methods were used to determine the essence of the processes of adaptation of business entities of the agrarian sector of the economy of Ukraine to functioning in wartime conditions. To carry out empirical assessments and identify trends of change and development of business entities, monographic, graphic, and normative methods approaches to generalizing results for formulating conclusions and recommendations, establishing cause-and-effect relationships in the characteristics of the development of individual groups of business entities were used. Trend analysis was used in the construction of the forecast for 2025 of annual changes in the capitalization of agricultural holdings. The forecast for the development of business entities is based on the number of agricultural holdings that produce commercial products. Provided that there will be state support for such business entities, they can change their status and create integrated structures – cooperatives, clusters, agricultural holdings, and simple partnerships.

► Results and Discussion

Subjects of agrarian entrepreneurship are quite sensitive to extreme conditions of the economic system, transformational upheavals, and wartime conditions. When observing the main aspects of the market environment, the model of adaptive behaviour chosen by the business entity in the environment of functioning in wartime conditions is of great importance. For an individual business entity in the agricultural sector of the economy, adaptation processes are revealed at the level of response to external changes (Kravchenko et al., 2022).

When an entrepreneurial entity of the agrarian sector of the economy faces a new (for its activity) type of wartime instability in market conditions, its staff implements the process of adaptive change management. Under certain socio-economic and political circumstances, the problem of the survival of the business entity is the loss of its market niche capacity. But, if the management of the business entity is ready for operational appropriate actions, then it implements the process of adaptive management of the changes that occurred in the course of military operations. An adaptive approach to management in the languages of wartime is connected with the development and application of strategies for reflecting the effects of the consequences of the war by the subject of entrepreneurship and its structures. In the management decision-making system to ensure the adaptive status of the business entity, optimal management strategy options are selected (Malik et al., 2022).

The development of integrated structures can become the main driver of the economy. Among the

short-term tasks that will arise after the war will be the following: the question of providing benefits for the development of livestock breeding should be reviewed; repurpose the program of available loans to stimulate the technical re-equipment of production and the development of enterprises for the production of agricultural products of agriculture in farms and small farms (in the field of animal husbandry); to prepare business entities for the production of animal husbandry products for adaptation to the sanitary norms of the European Union and norms of technical regulation (Ukrainian Institute..., 2022).

The draft order "On the Approval of the Concept of Stimulating the Development of Entrepreneurship in Rural Areas Until 2030" proposes to actualize attention to the formation of the agricultural advisory system. In addition, attention is focused on long-term support for the development of small agrarian business entities and the activation of the creation of family farms (Concept of stimulation..., 2022). The general goal of the strategy for the development of entrepreneurship and integration processes in the countryside in the post-war period is the formation of an environment capable of ensuring the employment and growth of the incomes of the able-bodied rural population, rural households, and communities, the development of rural areas based on entrepreneurial initiative, personal peasant farms (Lupenko, 2021).

The main strategic goals of the development of entrepreneurship and integration processes in the war and post-war period in the countryside, taking into account the stated goal, are: ensuring food security. Also, the implementation of strategic directions for the development of business structures includes meeting the socio-economic needs of product manufacturers; provision of economic entities with technical and material resources, as well as basic means of production; increasing the competitiveness of product manufacturers; additional funding for personnel development; formation of associations for the development of rural areas and communities (Strategic directions..., 2020).

Inflationary pressure is intensifying in the world, but consumer inflation is accelerating in Ukraine. The main factors of its increase remain violations of production capacities, logistics routes, destruction of infrastructure, occupation of territories, and high energy prices. Inflation in Ukraine will harm economic dynamics and will not allow us to hope for investment expansion in the next 2-3 years. This is how subjects of agrarian entrepreneurship assessed the prospects of their economic activity (Results of the monthly survey..., 2022). Low estimates of the business activity of agrarian entrepreneurs were influenced by worsening inflationary expectations, damage to transport infrastructure, destroyed facilities and supply chains, rising production costs of enterprises, blocking of ports, rising prices of energy sources, and continuation of intensive hostilities.

A decrease in the volume of manufactured products, purchases of agricultural machinery, and services provided by agricultural cooperatives is expected; as a reduction of purchase prices for agricultural products. Enterprises lost parts of their agricultural product warehouses; land; capacity for crop storage. Also, in the country, there is an increase in the price of its products (services) and a reduction in the number of employees against the background of a significant increase in the prices of raw materials, lubricants, energy carriers, and suppliers' goods. Logistic links are broken (Results of the monthly survey..., 2022).

It was established that adaptation is a form of reflection on the active subject of agrarian entrepreneurship and its structures of the mechanisms of environmental influence in the conditions of military operations. The stability of the agricultural sector balances between export capacity (in particular, the global situation) and readiness to fill domestic markets (to ensure food security). The development of Ukraine's economy in 2022 will depend on the ability and willingness of businesses to achieve positive results, relying on their resources, and supporting the economic capacity of households (Ukraine..., 2022).

In the process of research, it was found that due to the armed conflict as of the beginning of August 2022, according to the estimates of KSE experts (Kyiv School of Economics), the total amount of losses is 27.6 billion dollars. It is substantiated that out of 4.3 billion dollars, there were losses because of destroyed equipment (926 million USD) and unharvested winter crops (1.4 billion USD). And 613 million dollars is the estimated total value of oil and grain crops stolen by the occupier. Also, in 2022, the need for long-term storage of 45% of wheat, 50% of barley, and 30% of corn is expected; a general decrease in the number of grain exports; a decline in grain production. If grain exports are not restored to the level of at least 2021, the country's GDP will lose up to 10% (Agrarian Information..., 2022). In the next marketing year, according to forecasts of the USDA (US Department of Agriculture), the country's indicators for the production of corn will remain unchanged, and wheat will decrease by 2 million tons to 19.5 million tons; wheat export parameters remain stable (Agrarian information..., 2022).

It was established that in 2022, from the position of experts of the Ministry of Agrarian Policy and Food of the country, a decrease in the production of corn (-18%), barley (-31%), sunflower (-32%), wheat (-33%) is expected; other crops (-22%). In animal husbandry, experts estimate total losses of \$682 million. A decrease in livestock in animal husbandry is a decrease in the volume of production by several years. Due to increased production expenses for the agricultural producer, the total losses amount to -859 million dollars. These are the consequences of rising prices for diesel fuel (+39 US cents per litre) and fertilizers (Ministry of Agriculture... 2022). A two-year reduction in livestock production is assumed (Table 1).

Table 1. The number of losses due to a decrease in production in crop and livestock production

| Volume of production in 2021 | Product | Projected volume after invasion 2022 | The amount of losses, million dollars |
|------------------------------|-------------------------------------|--------------------------------------|---------------------------------------|
| 32.15 | Wheat, million tons | 21.54 | 2027 |
| 42,11 | Corn, million tons | 34.70 | 1296 |
| 9.44 | Barley, million tons | 6.59 | 564 |
| 16.39 | Sunflower, million tons | 11.16 | 2427 |
| 1.45 | Pome crops, million tons | 1.42 | 35 |
| 0.53 | Stone crops, million tons | 0.50 | 98 |
| 0.14 | Berries, million tons | 0.13 | 89 |
| 71.06 | Others crops, million tons | 56.06 | 3315 |
| 2704 | Cattle, thousands of heads | 2409 | 64 |
| 5559 | Pigs, thousand heads | 4769 | 327 |
| 1089 | Sheep and goats, thousands of heads | 943 | 2316 |
| 193940 | Poultry, thousands of heads | 176637 | 41 |
| 2751 | Milk, thousand tons | 2386.7 | 0.26 |
| 6928.6 | Eggs, million pieces | 5397.2 | 247 |

Source: research given data (KSE Center ..., 2022)

Losses of manufacturers amount to: 378.9 million dollars – from the increase in fertilizer prices; 480.4 million dollars – from the increase in diesel

fuel prices; 11.9 billion dollars – from a decrease in prices for export-oriented crops (wheat, corn, barley, sunflower) (Table 2) (KSE Center..., 2022).

Table 2. The number of losses from blocking ports and the increase in the price of production factors

| Estimated volume without ports | Product | Amount of losses, million dollars |
|--|---------------------------|-----------------------------------|
| From blocking ports | | |
| 32.15 | Wheat, million tons | 2958 |
| 42,11 | Corn, million tons | 4127 |
| 9.44 | Barley, million tons | 670 |
| 16.39 | Sunflower, million tons | 4180 |
| Quantity required in 2022 | | |
| Product | | |
| Amount of losses, million dollars | | |
| From the increase in the price of production factors | | |
| 3.22 | Fertilizers, million tons | 379 |
| 1228 | Fuel, million litres | 480 |

Source: research given data (KSE Center ..., 2022)

Therefore, the total amount of losses due to the reduction of production in crop and livestock production, from the blocking of ports and the increase in the price of production factors is predicted at the level of 23327 million US dollars (KSE Center ..., 2022).

Within the framework of the State Program "Affordable Loans 5-7-9%" during hostilities, the following was issued: UAH 0.413 billion (for the conclusion of 143 credit agreements, the beginning of October 2022); UAH 142.6 billion (for 48,138 loans); UAH 1.23 billion (for 253 soft loans, beginning of October 2022); UAH 52.98 billion (for investment, anti-war and anti-crisis purposes; refinancing of loans already received; for agricultural producers) (Ministry of Finance..., 2022).

Since July 1, 2022, the Cabinet of Ministers has launched 6 state programs for active businesses for

entrepreneurs, farmers, and IT specialists. 600,000 entrepreneurs-individuals reduced their economic activity due to the war. The total budget of the programs is UAH 40 billion from the reserve fund. Resolution of the Cabinet of Ministers dated June 21, 2022 No. 738 "Some issues of granting business grants" provides the procedure for obtaining three grant programs: creation or development of a greenhouse economy; creation or development of horticulture, berry growing and viticulture; starting one's own business or investing in an existing enterprise (Agrarian information..., 2022). The legally defined, structured, and organizationally ensured right of the production organizer to create any types of enterprises and integration structures, to independently determine the program of his economic activity; choose suppliers and consumers; set prices and tariffs for their

products (works and services); freely dispose of income (profit) (Development of agricultural..., 2019).

An important economic problem of the formation of business structures is related to the circulation of land. The real value of the land depends on the income that remains after the costs incurred for production in the course of entrepreneurial activity. This is justified by the fact that the amount of land rent depends on the volume of agricultural production. Due to the change in the exchange rate of the hryvnia to the dollar, the capitalization of agricultural production became negative. Reforming land relations is inseparable from the development of business activities, especially small and medium-sized business structures. It continues the development of land relations: during the time of war, 10341 agreements were concluded, covering an area of 18153 ha. By quantity agreements and the area of land, about whose registered transactions with the most active land market during the war were the following: Vinnytsia (2.2 thousand ha), Dnipro Region (1.3 thousand ha), Poltava Region (2.2 thousand ha), Kirovohrad Region (2.4 thousand ha), Khmelnytskyi (1.8 thousand ha). For the last one in the week of July 2022, 1,317 transactions were concluded within the land market on an area of 2,256 hectares (Agroportal, 2022).

By combining their efforts based on corporatization, cooperation, clustering, and integration, business entities achieve significantly better results in production volumes, namely cost reduction. In the period of post-war reconstruction, the main factor in the development of the economy will be the union of peasants into cooperatives and simple societies. In their activities, the peasants understood that their existence can be ensured only based on mutual aid (Malik, 2021).

Large agricultural enterprises or their associations (agricultural holdings) functioned effectively alongside state enterprises, farms, private enterprises, and business associations. Such trends of

preservation of large-scale agrarian business management reflected the processes of market reforms in the field of agricultural production (Lupenko & Kropyvko, 2013). The agrarian structure of agriculture reflects the functioning of the individual labour sector (ensuring internal food security); the corporate sector (large agricultural enterprises and agricultural holdings; expansion of monoculture and export).

During wartime, the largest players – agricultural holdings with access to external financing are radically transformed (foreign management; audited reporting; investment resources of banks and foreign exchange funds; pressure on family farms; unfair competition, and reduced profitability of enterprises). Large corporate structures risk more. The stagnation of agricultural holdings began even before the war (land banks were shrinking; less than 15% of agricultural land was controlled; EBITDA indicators (Earning Before Interest, Depreciation, Taxes, and Amortization) had average values; minimization of mandatory payments is limited. We have a shortage of working capital; the growth of the dollar against the background of a commodity surplus; decline in assets; disruption of logistics chains, environmental disasters on livestock complexes, blocking of sales markets; rent; blocked export or risks of large-scale export of raw materials (three main export-oriented crops – wheat, corn, sunflower); external obligations; sowing and harvesting campaigns under fire; lack of prospects for participation in recovery programs (the maximum size of the land bank of aid recipients is 250-1,000 hectares); shortage of labour force, professional development, and training of personnel in the long term; the advantages of niche production are updated high-margin crops (chickpeas, peas, berries, mustard, medicinal herbs), for which there is variability in logistics, etc.) (National Academy..., 2022). Capitalization is also decreasing (Table 3, Fig. 1) (Agroportal, 2022).

Table 3. Change in the capitalization of agricultural holdings in the period April-November 2022, million euros

| Agricultural holdings | 04/25 | 05/09 | 06/20 | 06/27 | 07/04 | 07/25 | 08/29 | 09/26 | 11/21 | 11/28 |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Kernel Holding Sa | 512.06 | 406.84 | 335.65 | 346.37 | 335.96 | 447.00 | 376.53 | 300.55 | 314.59 | 306.17 |
| Mhp Se | 415.08 | 356.78 | 418.69 | 377.77 | 415.93 | 420.48 | 410.88 | 389.98 | 361.79 | 336.01 |
| Astarta-Kyiv | 138.06 | 120.25 | 115.92 | 112.29 | 98,91 | 129.71 | 108.69 | 115,16 | 116.51 | 110.25 |
| Imc Sa | 124.00 | 109.25 | 120.28 | 113.54 | 115.18 | 112.69 | 112.63 | 116.20 | 113.23 | 108.95 |
| Agroton Public | 23,33 | 23.01 | 17.54 | 15.95 | 15.63 | 18.31 | 15.50 | 17.59 | 17.52 | 16.57 |
| Agro Generation | 3.82 | 3.12 | 3.82 | 3.44 | 3.37 | 4.25 | 3.82 | 3.58 | 3.02 | 3.26 |
| KSG Agro | 8.23 | 7.50 | 6.99 | 7.07 | 6.73 | 8,19 | 6.87 | 7.38 | 7.18 | 7.27 |
| Ovostar Union | 58,13 | 53.38 | 57.70 | 58,38 | 55,64 | 56,67 | 53,44 | 55,53 | 57.20 | 55.87 |
| Agroliga Group | 6.91 | 6.17 | 6.02 | 6.52 | 6.53 | 6.63 | 6.54 | 7.01 | 6.53 | 6.72 |

Source: research based on data from UkrAgroConsult (2022)

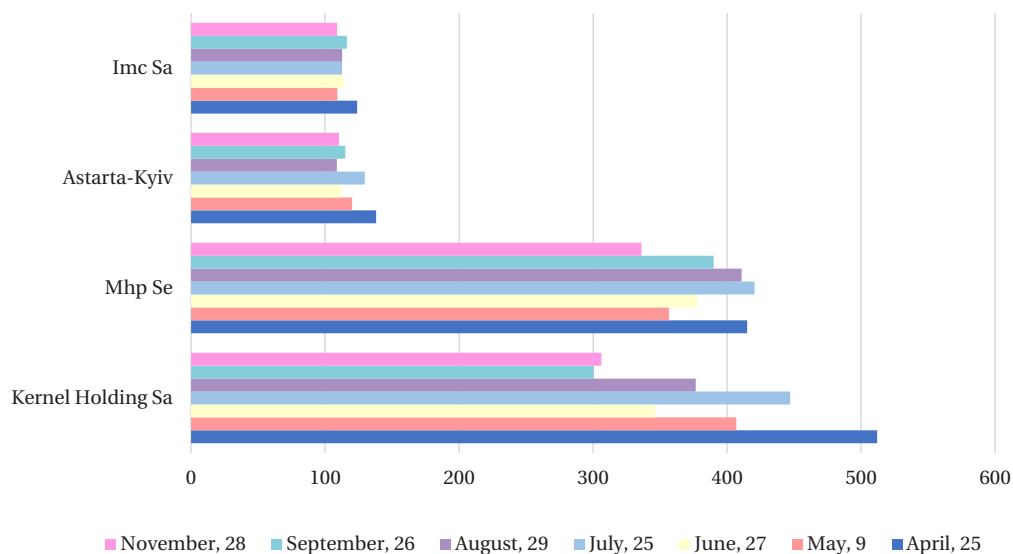


Figure 1: Change in the capitalization of agricultural holdings Kernel Holding Sa, Mhp Se, Astarta-Kyiv, Imc Sa in the period from April to November 2022, million euros

Source: research given data from UkrAgroConsult (2022)

The structure of crops is changing area, namely magnification square under oily cultures, rapeseed, and soy. The enterprises of agricultural holdings in the Luhansk region remain in the occupied territories (Agroton Public), Donetsk region (Mhp Se, HarvEast), Zaporizhzhia region (HarvEast), Kherson region (Mhp Se, Privat Agro Holding), Crimea (Mhp Se, HarvEast).

The full-scale invasion of Russia partially limited the potential of new opportunities for the socio-economic development of the country and the activation of the activities of the subjects of agrarian entrepreneurship. Due to the uncertain nature of the development of the war, high risks of socio-economic development will remain. This will restrain the inflow of capital into the country's economy and agriculture.

Diversified companies with assets abroad have the greatest ability to adapt and survive. We have negative consequences of the agricultural holding model of Ukrainian agriculture (Government Courier, 2022). Programs that are already being implemented in Ukraine by FAO (Food and Agriculture Organization) and other donors, implement a farmer-centric model in agriculture. The trend for self-sufficiency, the practice of gardening, and homestead farms for personal needs are being updated (Economic foresight, 2022).

The main role in the preservation and development of local markets and food supply chains is played by farmers and individual peasant farms. Farmers and private peasant farms function for the sake of the existence of the producer himself, and not for profit and rent. The development of farmers and personal peasant farms will contribute to ensuring the adaptation of the agrarian structure of Ukraine to the EU (National Academy..., 2022).

In the course of my research, it was established that the change in the forms and methods of survival

is connected with the improvement of the parameters of the main components of the adaptation of the economic mechanism of the functioning of the subjects of agrarian entrepreneurship. It is substantiated that the main components of the system for diagnosing the adaptive state of business entities in agriculture are subsystems of adaptive risk management of agricultural production, planning, modelling, and forecasting. In contrast to the existing positions of other researchers, it was found that: an adaptive approach to management is related to the implementation of forms of reflection by the economic entity and its structures of environmental influences; the most effective method of diagnosing adaptive processes is economic and mathematical modelling (Kravchenko et al., 2022; Malik et al., 2022).

Priority measures for organizational and economic support for the formation of integrated structures based on the principles of sustainable development of rural areas (Strategic directions..., 2020) in wartime conditions include the following: restoration of the lost material and production base and creation of institutional support conditions – encouraging the activities of business structures to implement programs to ensure sustainable development of rural areas; state institutional and economic support for the development of cooperation in the countryside to strengthen the integration ties of small forms of business; support of cooperative and integration initiatives in the field of non-agricultural business in the countryside to promote the implementation of social and economic projects; development and implementation of cooperative projects for the implementation of “green” initiatives; strengthening the institutional capacity of integrated structures to implement measures in the context of the UN Sustainable Development Goals for the period up to 2030 (Verkhovna Rada..., 2022);

formation of an effective mechanism of institutionalization of industry associations; implementation of program measures to solve the production and marketing problems of small agricultural producers; support for the development of cooperation of peasant farms to ensure their emergence from the shadows, functioning in the conditions of war and post-war recovery; development of voluntary associations for representation and protection of interests (simple societies, cluster associations).

The study of the theoretical, methodological, and practical principles of adaptation of business entities of the agrarian sector of the economy to functioning in wartime conditions is an urgent problem. Some economists considered these questions in various integrations.

J. Lopes and S. Gomes (2022) investigated the potential of innovative and sustainable strategic management in the mechanism of development of small and medium-sized enterprises to expand the competitive advantages of the enterprise; developed adaptive sustainable management strategies; adaptation processes were classified as mechanisms for the realization of social and environmental benefits for the enterprise. N. Krasnostanova et al. (2022) substantiated specific types of financial stability of agricultural business entities (budget crisis, normal state, unstable financial state, absolute stability); identified opportunities for improving the procedure for conducting financial reporting.

O. Kazak, T. Obelets (2022) assessed the introduction of bitter forms of personnel adaptation and their employment in the production process as a short-term strategy of adaptation of the business entity in extreme conditions; the need to change the conditions of work organization is substantiated. N. Bondarchuk et al. (2022) implemented a marketing approach to uncovering the personnel motivation system, developing ways to increase personnel motivation, establishing quantitative and qualitative indicators of personnel selection, personnel audits, training programs, job profile optimization, labour market monitoring, etc. A. Gerasymenko et al. (2022) established that one of the directions for the recovery of agricultural production after the war and the growth of employment and welfare of the rural population is the development of cooperation; determined ways of further development of agricultural service cooperatives.

V. Rudenko et al. (2022) revealed the influence of the fiscal mechanism on the investment activity of households; calculated the tax burden on individuals; established the need to improve the fiscal functioning mechanism. L. Kononenko et al. (2022) substantiated the feasibility of optimizing the taxation of small-scale business entities and creating innovative integrated structures by involving employees of Advisory Services in the accounting and analytical work of small-scale agricultural producers.

D. Dabrowski (2022) focused on market turbulence and its connection with commercial efficiency of functioning, labour productivity, market

infrastructure, the novelty of innovative products, suppliers, and buyers; argued that the introduction of innovative products has a double effect on the commercial efficiency of production. I. Dmytriyev et al. (2022) substantiated that the creation of a marketing strategy for subjects of agrarian entrepreneurship is characterized by lower prices for raw materials and labour; a lower level of innovativeness of business structures; a higher level of aggressiveness in capturing markets. O. Shpychak et al. (2022) proposed a gravity model of the integrated level of export potential of agribusiness enterprises; established that the main part of exports is grain and oil crops, vegetable (sunflower) oil; determined tariff quotas for duty-free exports of crops, livestock, and processing products.

Yu. Lupenko et al. (2022) revealed the priority areas of development of business entities in agriculture; which justified the need to increase the investment potential of Ukraine. S. Kovalenko and N. Bykovets (2022) determined that the formation of cross-border innovation clusters is the most effective survival mechanism for enterprises under martial law. R. Dymczyk et al. (2022) evaluated the factors of social capital formation using the example of agricultural holdings.

► Conclusions

When considering the issue of adaptation of business entities in wartime conditions, it was determined that great attention should be paid to the peculiarities of the structure of agricultural production in Ukraine, namely, the export orientation of agricultural production, the structure of business entities in the agrarian sphere (this is the presence of different size and organizational and legal status of entrepreneurial structures), their specialization and areas of sales activity. It is characteristic that in the structure of production of agrarian products, a significant share (up to 40%) of the private entrepreneurial sector, which is mainly aimed at the personal satisfaction of needs and provision of the domestic market. Therefore, the possibilities of adaptation to extreme conditions of the personal entrepreneurial sector have certain advantages compared to other specialized economic structures.

The data obtained from the conducted research indicate that the institutional uncertainty of the state in the conditions of military operations regarding the ability to provide support for the development of agrarian entrepreneurship leads to a decrease in production volumes. The capitalization of agricultural business entities is also decreasing as a result of losses from military operations. The main problems that arise in the process of adapting business structures to functioning in wartime conditions are the disruption of sales channels for agricultural products and the breakdown of logistical connections both in large and small business entities.

Small business structures are more adapted to activities in wartime conditions. Therefore, in the future, the development of small business structures

and family farms should be promoted, which are represented by niche products and ensure the preservation of jobs and the protection of the surrounding environment. In the conditions of martial law, the perspective of the institution of self-sufficiency and the provision of food aid to other citizens increases, and the development of rural social capital becomes a priority.

The results of the study showed that there is a need to achieve the goal of accelerated entrepreneurship development in the most promising areas

that will provide a significant increase in added value. This is the field of processing of agricultural raw materials, innovative renewal of production, and infrastructure. In further research, there is a need to clarify the strategic directions and principles of entrepreneurship, to accelerate the integration of the domestic agricultural sector into the world economy, to develop the content and terms for intensifying the participation of entrepreneurial structures in the restoration and acceleration of the post-war development of the Ukrainian economy.

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Адаптація суб'єктів підприємництва аграрного сектору економіки до діяльності в умовах воєнного часу

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► **Анотація.** Необхідність виходу суб'єктів господарювання з екстремального стану активізує розвиток процесів адаптації суб'єктів підприємництва до функціонування в умовах воєнного часу. Мета статті – обґрунтувати теоретико-методологічні засади, соціально-економічні та правові проблеми адаптації підприємницьких структур до діяльності в екстремальних умовах. За методологічну основу дослідження слугували положення системного аналізу та інституційної економічної теорії. Використано нормативний, графічний, абстрактно-логічні методи та підходи узагальнення результатів. Визначено перспективи розвитку підприємництва. Встановлено, що в період відновлення економіки проблемними будуть питання матеріально-технічного та фінансового забезпечення виробничих потужностей, логістичних шляхів. Розкрито економічні труднощі великих корпоративних структур (руйнування активів, розрив логістичних зв'язків, блокування ринків збуту). Обґрунтовано сутність адаптації суб'єктів підприємництва до діяльності в умовах збройного конфлікту функціонування в умовах воєнного часу та інтеграційно-кооперативних структур з точки зору системності.

Уточнено поняття «адаптація» суб'єктів підприємництва як процес розробки й застосування стратегій відображення підприємством і його структурами впливів наслідків війни в системі прийняття управлінських рішень для забезпечення конкурентності та ефективності функціонування. Встановлено, що адаптація суб'єктів підприємництва до ризикових умов у повоєнний період сприятиме розвитку інтеграційних структур (кооперативів, простих товариств, кластерних об'єднань), росту самостійності у визначенні програм своєї господарської діяльності, забезпеченню інтересу селян як товаровиробників на правах формальних носіїв підприємницького статусу задоволенню своїх економічних і соціальних потреб. Виявлено, що найбільш адаптованими до кризових умов, пов'язаними з воєнними діями, є фермерські і особисті селянські господарства. Результати дослідження можуть бути враховані при розробленні програм визначення пріоритетів розвитку суб'єктів аграрного підприємництва, зокрема, інтеграційно-кооперативних структур; розробці нормативно-правових актів для формування і розвитку кооперації і інтеграції в аграрній сфері економіки

► **Ключові слова:** суб'єкт підприємницької діяльності, адаптація до умов воєнного стану, сільськогосподарський кооператив, інтеграційно-кооперативні структури, інтеграційні об'єднання, механізм інтегрованих структур, інтегративні формування, агрохолдинги, кластери
