Geo-Economic Changes in the Development of the Financial and Credit Policy of the Agro-Food Industry of Ukraine

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Abstract

The article examines effective measures for the development of the financial and credit policy of the agro-food industry of Ukraine in the geo-economic space. Proved that financialization in geo-economics has a global vector of development, which transforms the models of the general balance of financial and credit flows. The geo-financial approch is presented. A detailed analysis of Ukraine’s foreign trade with the EU was carried out, and the specific structure of exports of agro-food products was determined. The geographical structure of the geo-financial system of Ukraine. The influence of currency risks on the export of grain crops on average per subject of the agro-food industry of Ukraine was calculated. The dynamic fluctuations of the inflation rate. The structure of the sources of the formation of the financial and credit system of the agro-food industry of Ukraine by global financial institutions during the period of martial law is given.

Keywords: geo-economics, geo-finance, financial and credit policy, agro-food industry, bank lending, financial support, grants, financial institutions
Introduction

The full functioning of the agro-food industry of Ukraine depends on various factors. It gave birth to hypertrophied disparities in the banking sector, significantly reduced the supply of credit resources from financial institutions, accelerated the recession of financial and credit provision of the agro-food industry, sharply scaled the uncontrolled fluctuation of the exchange rate and its impact on the increase in the cost of raw materials in the production sphere, reduced cash receipts of various levels and suspended the capitalization of financial resources of the agro-food industry. During the martial law, the agro-food sector of Ukraine faced the destruction of infrastructure, the loss of human capital and the spread of production disparities. The situational nature of this trend complicated the activity of the agro-food industry and negatively affected the volume of its tax revenues to the budgets of different levels of Ukraine.

This requires the government to respond effectively to challenges and threats. This trend requires new variants of the strategy of the financial and credit policy of the agro-food industry of Ukraine, which would lead to an increase in the volume of cash receipts, an increase in the income of local budgets of territorial communities and the state budget through the introduction of new financial and credit instruments. The effectiveness of measures of the financial and credit policy of the agro-food industry is directly determined by the resource base and the diversified structure of the formation of its sources. It is the proper functioning of the production sphere of the agro-food industry that is able to meet the needs of the state and is a key task at the stage of rapid geo-economic changes in Ukraine. At the same time, the stability and effectiveness of the country’s financial instruments will be determined by the movement of financial flows from global financial institutions to the post-war restoration of economic ties in the agro-food industry, provided that the recession of financial support is suspended, and the demand for agricultural production increases. The restoration of the financial development of the agro-food industry in the future should be carried out through the channels of the transmission monetary mechanism, which transmit impulses to the activation of the financial and credit policy of economic entities of all types. However, their financial progress is often hampered by inadequate financial and credit regulation in the state, since Ukraine is connected to the monetary policy of most countries in the geo-economic space, and is an important part of the favorable environment for the functioning of the agro-food industry in a country in which subordinate financial development takes place.

Many scientists and practitioners prove the impossibility of separating the development of financial and credit policy and monetary policy in the agro-food sector of the economy, as they have a powerful distributional influence on the formation of the amount of tax revenues to the budget and the use of loans for business entities, regardless of the group of banking institutions and the size of the investment funds to the industry (Beckman, 2022). The functioning of the monetary transmission mechanism in Ukraine, before the start of martial law, was in the mode of inflation targeting. This is confirmed by the close relationship between the NBU discount rate and the value of loans granted to subjects of the agro-food industry in national currency (Ilichuk et al., 2019). Proposals for quantitative easing of financial and credit policy instruments of the central bank proved to be effective in facilitating the financial development of financial market participants (Bernanke, 2020), and therefore the analysis of monetary market indicators showed that at the beginning of the armed conflict, there was a logical reduction in the supply of available resources from banking institutions for business-structures of the agro-food industry. The reason for this trend was an increase in the NBU discount rate and a significant increase in the risk of borrowers’ creditworthiness (Chizh & Urban, 2023). This proves the need to make adjustments to the policy of the NBU to stimulate lending to the agro-food industry of Ukraine.

The priority of our research is the substantiation of the directions of geo-economic changes in the development of the financial and credit policy of the agro-food sector of Ukraine with the aim of suspending the monetary, banking and budget recession, restoring economic ties with the EU and the world during the period of martial law, establishing temporary support and activating the
movement of financial flows from global financial institutions.

2. Materials and Methods

Geo-economics reflects the main trend in the development of the financial and credit policy of the agro-food industry in the modern world, as the internationalization of its system through the monetary, banking and budget component has entered the final phase and has become a single whole in the period of military conflicts, which is gaining strength (Filipenko, 2008). Based on the system of national accounts (SNA), it is possible to reduce all geo-economic changes in the development of the financial and credit policy of the agro-food sector to four interrelated institutional sectors: private, budgetary, monetary and foreign economic (Dergachev, 2002).

The private sector in the financial and credit policy of the country provides savings from the production sphere of the agro-food industry in the domestic and foreign markets. It reflects the cyclical demand for monetary resources in the national currency, and in case of unsatisfied needs – for financial resources of foreign financial institutions. The expression in parentheses on the left side of the equation is nothing but domestic savings of the agro-food industry ($S'$) and investment ($I'$). The right side of the equation is the net export of the agro-food industry ($NX'$), (Rokocha et al., 2017):

$$ S'd - I'd = NX', \quad (i) $$

Therefore, accumulations for the financing of the agro-food industry can be closely related to the external activities of the entities representing this sector.

The budget sector in the financial and credit policy of the country forms tax revenues to budgets of all levels ($T$) and reflects part of the aggregated demand for budget financing of the agro-food industry, which is represented by the formula (2), (Rokocha et al., 2017):

$$ G = C''d + C'\alpha + I''d + I'\alpha \quad (2) $$

where,
- $G$ – budget expenditures for financing the agro-food industry;
- $C''d$ – the volume of financial resources for targeted use under programs of state financial support of the agro-food industry;
- $C'\alpha$ – the amount of state expenditures on the consumption of foreign financial aid by subjects of the agro-food industry;
- $I''d$ – the amount of budget investment at the national level for the restoration of agro-food production;
- $I'\alpha$ – the volume of budgetary investment expenditures on foreign resources consumed by national producers of the agro-food industry.

The difference between budget receipts and budget expenditures constitutes the budget surplus (savings) ($BS$), (Rokocha et al., 2017):

$$ BS = I' - G \quad (3) $$

The monetary sector in the financial and credit policy of the agro-food industry ensures international cooperation of the country with global financial institutions. They temporarily (during times of war or crisis) direct financial flows into the budget and banking system to support agro-food production at certain interest rates to be used by banking institutions at the national level. As a result, there are liquid requirements for this country, where national and foreign subjects of the agro-food industry (private sector) operate, as well as for budgetary institutions. They form assets, which later, at the request of global financial institutions, must ensure a rhythmic cycle of the outflow of financial resources from the country. Along with this, there are obligations of national banking institutions to the private sector of agro-food production and budgetary institutions, and their totality represents the entire monetary mass of the country (Orekhova, 2007).

Based on the conditions of the equilibrium state of the monetary sector serving the agro-food industry, mutual repayment of requirements and obligations is formed (Rokocha et al., 2017):

$$ M = NFA + NDA \quad (4) $$

where,
- $M$ – liabilities (money supply);
- $NFA$ – net foreign assets;
- $NDA$ – net internal assets.

Net foreign assets of the monetary sector for both the National Bank and banking institutions under its control represent the country’s net international reserves ($R$). They are the main source of financing the deficit of funds of the private (agro-food) and budget sectors. Another source is the net export of capital ($KA$), as a source of financing the deficit of funds in the domestic financial and credit
policy of the agro-food industry (Rokocha et al., 2017).

\[ KA = K_{ex} - K_{im} \quad (5) \]

The need for the inflow of foreign financial flows (capital), from the standpoint of financing the deficit of own savings of the private (agricultural) sector and the deficit of budget investment to support industry entities, is defined as the inverse variable to the official reserve budget assets in the state (\( \Delta R \)). An increase in net foreign financial flows (capital) will occur when the budgetary investment expenditures exceed the cash savings of the subjects of the agro-food industry (Rokocha et al., 2017):

\[ KA - \Delta R = (I - S) + (G - T), \quad (6) \]

The external economic direction of the financial and credit policy of the agro-food industry of a specific state arises as a result of the interaction of the above-mentioned sectors at the national level with partner countries of the European and world level. This interaction is a geo-financial system that can be formalized as follows (Rokocha et al., 2017):

\[ NX = (S - I) + (T - G) \quad (7) \]

Comparing this equation with equation (6), we find that they reflect the movement of financial and credit flows in the opposite direction (Rokocha et al., 2017):

\[ KA - \Delta R = -NX \quad (8) \]

This means that with a negative value of the net export of monetary savings of subjects of the agro-food industry, there is an inflow of foreign investments and financial loans from global financial institutions of the EU and the world into the country. An equilibrium is reached, which, under the condition of real developments, substantiates our hypothesis that financialization in the geo-economy has a global vector of development, which transforms the models of the general balance of financial and credit flows between two countries (both for the world (large) and for the national (small) economy).

By using a system of algebraic equations, the balance of own savings of subjects of the agro-food industry, the interest rate and the balance of financial and credit payments for both states is determined at the same time, which embodies international cooperation as a whole (Rokocha et al., 2017):

Line (y) of equilibria in national markets

\[ \begin{align*}
\text{Investment market (IS)} & : S(r, y) + I(r) + IM'(y') \\
\text{Financial and credit market (LM)} & : PL(r, y) = D + R
\end{align*} \]

Line (y) of equilibria in world markets

\[ \begin{align*}
\text{Investment market (IS')} & : S'(r', y') + I(r) + IM'(y') \\
\text{Financial and credit market (LM')} & : P'L'(r', y') = D' + R'
\end{align*} \]

Balance of financial and credit payments

\[ (BP = \Delta R = -\Delta R') \text{ or } \]

\[ ((BP, B'P') = IM'(y') - IM(y) + KA(r, r')[, \text{=} 0]) \]

Where, \( S \) – own savings; \( I \) – national investments; \( IM \)– import for foreign investments; \( PL \) – demand for financial resources (capital); \( D \)– offer of financial resources at the expense of internal loans; \( R \) – international reserves of partner countries (offer of financial resources (capital)); \( \Delta R \)– changes in international reserves of partner countries (offer of financial resources (capital)); \( KA \)– balance of financial and credit flows (capital); \( r \) – interest rate (banking factor); \( *' \) – designation of indicators of the partner country (market participants).

This correspondence in the open geo-financial system, which ensures geo-economic changes in the development of the financial and credit policy of the state’s agro-food sector, is achieved through a logistical window that opens the movement towards the localization of global financial institutions of those partner countries (market participants) that balance financial and credit on its territory flows, regulate the interest rate of bank lending according to the tariff method, that is, they are engaged in the global development of new economic ties with the EU and the world (Lanovska & Demyanenko, 2013).

The geo-financial approach makes it possible to determine the influence of the banking sector
on the financial and credit policy of the agro-food sector of the country, since it is the dominant vector of the financial stability of banking institutions, which are able to bypass serious strategic miscalculations in the financial and credit system of subjects of the agro-food industry when forming a new foreign economic paradigm and their concept financial security (Lanovska & Demyanenko, 2013).

It should be noted that, remaining within the limits of the trade and mediation doctrine, the model of the reproduction of the financial and credit system (FCS) of the subjects of the agro-food industry may experience a prolonged recession. That is, the national financial and credit system of subjects of the agro-food industry, spending financial resources through foreign trade, loses its dominant redistributive function in the reproductive process of the financial cycle. At the same time, a larger share of capitalized financial resources goes to international financial institutions. Therefore, according to national legislative requirements, banking institutions must form reserves for assets (for financial assets and for receivables) and reserves for financial liabilities (Tulush, 2023).

Banking institutions use the formed reserves for assets only when the assets are assigned to the lowest (unreliable) quality category. The use of reserves by banking institutions under the provided guarantees, mandates, letters of credit and acceptances is carried out if it is necessary to fulfill their financial obligations. According to the International Monetary Fund (IMF), the assessment of the financial stability of banking institutions is formed by maturity, and in the monetary sector it is grouped by indicators (Korneva, 2015; Lanovska & Demyanenko, 2013). Thus, the "Capital Adequacy" group includes indicators that determine the stability of banks in relation to sudden changes in the structure of their balance sheets. The most common measures of capital adequacy are total risk-adjusted capital ratios (as the ratio of regulatory capital to risk-weighted assets) (National Bank of Ukraine, 2022a; International Monetary Fund, 2022).

According to the group of indicators "Quality of assets", there may be risks of solvency of banking institutions, which are caused by a decrease in the quality of assets, which provoke deterioration in the financial condition and a decrease in the profitability of subjects of the agro-food industry. The ratio of non-performing loans to total gross loans and advances is often used as a proxy for asset quality. The coverage ratio – the ratio of created reserves to non-performing loans - is an indicator of the share of bad loans for which reserves have already been created (National Bank of Ukraine, 2022b; International Monetary Fund, 2022).

In addition, insufficient diversification of the credit portfolio of banking institutions indicates the significant vulnerability of the country's financial and credit system, which negatively affects lending to small and medium-sized business structures of the agro-food industry in the overall structure of the studied sector. The concentration of loans in the agro-food industry or business structures subordinate to it during the crisis (war) period (the measured share of loans granted to business entities in the total volume of loans) makes banking institutions vulnerable to the development of crisis events in the state. An unfavorable trend in the dynamics of these ratios may indicate the growth of the equity capital crisis. In addition to the amount of capital, it is recommended to monitor indicators of the quality of capital (Verkhovna Rada of Ukraine, 2015).

In the group of indicators "Profit and profitability", generally accepted coefficients of profitability of banking institutions are used: the rate of return on assets and the rate of return on equity (International Monetary Fund, 2022; International Financial Corporation, 2023). When analyzing the indicators of this group, it is worth taking into account the specifics of the activity of certain banks. For example, in the retail activity of banking institutions that cooperate with business structures of the agro-food industry, higher loan rates, lower deposit rates and higher operating expenses are characteristic compared to wholesale corporate banking activities. They are characterized by a high margin associated with high operating costs. Banks that offer a wider range of services for subjects of the agro-food industry (for example, investment banks) have higher non-interest income (International Monetary Fund, 2022; Tulush et al., 2021).

In the group of indicators "Liquidity" the level of ability of banking institutions to withstand shock changes in factors of the foreign economic sector is determined. For example, a financial crisis,
the negative impact of which leads to losses on loans, can cause a loss of trust in banking institutions on the part of both financial market participants and subjects of the agro-food industry (depositors). In turn, this can lead to a liquidity crisis capable of turning solvent banks into insolvent ones, due to a decrease in the price of their assets and loss of access to financing of the strategic agro-food subsector (International Monetary Fund, 2022; Tulush et al., 2021).

The group of indicators "Sensitivity to market risk" determines the level of activity of banking institutions to introduce financial instruments in a timely manner as a result of changes in market prices for assets and minimization of market risk. The most significant components of market risk are interest rate and currency risks. Derivative financial instruments can be used to manage such risks (Yurchyshyn, 2022).

From the point of view of capital adequacy, the banking institutions of the second group are in a favorable position compared to the banks of the first group. First, a significant share of Western European capital is in banks of the second group. Since the parent companies of banks with European investments are subject to the requirements of Basel III, they are forced to take a more balanced approach to the assessment of accepted risks and more responsibly to ensure these risks with a sufficient amount of capital. In addition, despite the significant shares of foreign currency loans in bank portfolios, such banks are less prone to currency risks, as they can count on support from the parent structure (National Bank of Ukraine, 2020). Secondly, in banks of the second group with both foreign and domestic capital, there is a significant share of loans in the portfolio of loans granted to subjects of the agro-food industry. However, this fact increases banks' susceptibility to credit risk. At the same time, the relatively high diversification of the resource base allows banking institutions to maintain an acceptable level of liquidity (National Bank of Ukraine, 2020).

According to the IMF methodology, a systematic analysis of the financial condition of banking institutions should be used to determine the risk of exchange rate changes, the risk of interest rate fluctuations, credit risk, liquidity risk, as well as the risk of spreading instability (Papaika & Gorbanskyi, 2010). According to the methodology of the IMF's system analysis, we have presented formalized calculations for more important indicators that affect the geo-economic changes in the development of the financial and credit policy of the country's agro-food industry.

According to the methodology of the Basel Committee, to assess the risk of exchange rate fluctuations, it is necessary to monitor the net open currency position of banking institutions for each type of currency according to the following indicators (Ministry of Agrarian Policy and Food of Ukraine, 2022): net current currency position (all assets minus all liabilities, including accrued interest on current accounts in foreign currency); net forward currency position (the total amount of received payments minus the total paid amounts for future currency transactions, including currency futures and "swaps" provided to subjects of the agro-food industry); calendar of guarantees provided (or similar instruments) in foreign currency for subjects of the agro-food industry; net future revenues (expenses) that have not yet accrued.

If the monitoring of these indicators indicates shock fluctuations of the exchange rate and its impact on the activities of banking institutions provokes a crisis in the financial condition and solvency of subjects of the agro-food industry, then the model of sensitive analysis is used. The impact of the shock of exchange rate fluctuations on the level of financial resources (capital) is determined by formula (12) (Mishchenko, 2005):

\[
\Delta [C(E)/A_{rw}(e)] = \frac{\Delta e}{e} \frac{C}{e} \frac{A_{rw}}{C} \times \left(1 - \frac{\Delta A_{rw}}{A_{rw}} \frac{C}{\Delta C} \right)
\]

where, \(F\) – net currency position (an analysis is carried out for that position and for that currency, where the monitoring has determined the growth of threatening trends); \(e\) – current exchange rate on the reporting date; \(A_{rw}\) – risk-weighted assets as of the reporting date; \(C\) – amounts of financial resources (capital) as of the reporting date; \(\Delta e\) – exchange rate change over a period of time.

It is quite important that the relationship between the dynamics of the exchange rate and its impact on financial resources (capital) has a linear relationship only if the change in the indicator of
the open currency position is uniform. If banking institutions have significant growth dynamics of the open currency position, then the relationship between the exchange rate and its impact on capital will have a non-linear nature, which will require the inclusion of not only balance sheet but also off-balance sheet indicators in the stress test.

Two approaches are used to assess the risk of interest rate fluctuations in systemic analysis: the gap model and the term structure model (Mishchenko, 2005).

Gap model (GAP-analysis). This model of interest rate risk is based on the analysis of the difference between the movement of interest income of national financial institutions according to their assets and the movement of interest expenses according to obligations to global financial institutions. That is, to determine the change in the net interest income of both a separate group of banks and certain types of assets and liabilities, as a result of a change in the interest rate, an analysis of the change in the gap between interest rates can be used \( GAP_{ij} \), (Mishchenko, 2005):

\[
\Delta N_{et,ij} = \sum_{i=1}^{k} \sum_{t=1}^{n} GAP_{ij} \Delta R_{ij}, \quad (13)
\]

where, \( \Delta N_{et,ij} \) - exchange in net interest income and group of banks by type of net assets; \( n \) - number of banks; \( k \) - the number of types of net assets.

The model of the term structure of lending to subjects of the agro-food industry measures the correspondence of the terms of the movement of financial and credit flows of banking institutions by calculating and comparing their volume and the terms of the duration of lending to subjects during the reporting period. The model is represented by formula (14) (Mishchenko, 2005):

\[
D = \frac{\sum_{t=1}^{n} CF_{t} \times DF_{t}}{\sum_{t=1}^{n} CF_{t} \times DF_{t}} = \frac{\sum_{t=1}^{n} PV_{t}^{xt}}{\sum_{t=1}^{n} PV_{t}} \quad (14)
\]

where, \( D \) - the term structure of lending to subjects of the agro-food industry during the reporting period; \( CF_{t} \) - the financial flow that will be received or returned by the end of the period \( n \); \( n \) - the end of the reporting period; \( DF_{t} \) - is the discount level, which is equal to \( \frac{1}{(1 + R)^{2}} \), where, \( R \) - the current value of the interest rate; \( PV_{t} \) - is the current value of cash flows, which is equal to \( CF_{t} \times DF_{t} \).

The determination of the term structure of the credit portfolio is carried out using the share of this instrument in the total portfolio according to the formula (15) (Mishchenko, 2005):

\[
D = \sum_{i=1}^{n} x_{i} \times D_{i} \quad (15)
\]

where, \( x_{i} \) - the share of the \( i \)-th instrument in the loan portfolio; \( D_{i} \) - term structure of the \( i \)-th financial instrument.

The application of the model of the term structure of lending to subjects of the agro-food industry in the analysis of the interest rate risk of banking institutions is carried out by calculating the elasticity of the value of assets and liabilities to fluctuations in interest rates. The higher the value of the term structure, the more sensitive the price of assets and liabilities to interest rate fluctuations (Mishchenko, 2005):

\[
\frac{\Delta A(r_{a})}{A(r_{a})} = - \frac{D_{a} \Delta r_{a}}{(1 + r_{a})^{2}} \quad \frac{\Delta L(r_{l})}{L(r_{l})} = - \frac{D_{l} \Delta r_{l}}{(1 + r_{l})^{2}} \quad (16)
\]

where, \( A(r_{a}) \) - market value of assets of banking institutions; \( L(r_{l}) \) - market value of liabilities of banking institutions; \( D_{a} \) - term structure of assets; \( D_{l} \) - term structure of obligations; \( r_{a} \) - interest rates on relevant assets; \( r_{l} \) - interest rates on relevant obligations.

The effect of interest rate fluctuations on capital is determined by the formula (17) (Mishchenko, 2005):

\[
\Delta [C(r_{a}, r_{l}) / A_{rw}(r_{a})] \equiv - \frac{(1/A_{rw}) \times GAP_{D}}{(1 + r_{a})} \quad (17)
\]

where, \( GAP_{D} \) - gap of the term structure of assets and liabilities, which is determined by the formula (18), (Mishchenko, 2005):

\[
GAP_{D} = D_{a} - D_{l} \quad (18)
\]

where, \( D_{a} \) - term structure of assets; \( D_{l} \) - term structure of obligations; \( r_{a} \) - interest rates on relevant assets; \( r_{l} \) - interest rates on relevant obligations.
The credit risk of banking institutions is assessed by two methods of system analysis. The first method is based on the analysis of indicators of the state of the credit portfolio, both in terms of its structure of loans granted to subjects of the agro-food industry, and its dynamics (State Financial Monitoring Service of Ukraine, 2021). The analysis determines the impact of shocks (non-repayment of loans during the crisis (war) period) on the quality of the credit portfolio using regression analysis methods to determine the relationship between the state of the credit portfolio and the geo-financial system in the state. Determining the impact of shocks on the state of the credit portfolio consists of estimating the amounts of unforeseen losses that may arise as a result of deterioration in its quality. These losses are covered by forming reserves based on the support of global financial institutions and including these losses in the value of the guaranteed loan (standard deviation is used to calculate them) (Mishchenko, 2005).

The application of VaR models of regression analysis to determine the influence of factors of the geo-financial system of the state on the state of the credit portfolio of national banking institutions involves medium-term forecasting of the impact of changes in the main macroeconomic indicators on the growth of non-performing loans to global financial institutions. The use of regression analysis in this case can be carried out both in relation to the entire banking sector and to separate groups of banks that serve subjects of the agro-food industry. The main problem that can affect the quality of the result when applying regression analysis is the probability of geo-economic changes in the structure of the financial and credit policy of the country’s agro-food industry (that is, a change in financial and credit flows and their transformation between borrowers and creditors), which negatively affects the quality of the forecast. Therefore, the value of the parameters of the model should be controlled and checked with the help of an expert assessment of the financial stability of the entire set of sectors that are part of the financial and credit policy of the agro-food industry (Mishchenko, 2005). The second method of determining the credit risk of banking institutions involves the analysis of the financial condition of subjects of the agro-food industry. Advantages: firstly, credit risk is formed in the private sector; secondly, it demonstrates the deterioration of the quality of the loan portfolio before the classification of banking sector loans deteriorates (Mishchenko, 2005). So, for example, the results obtained by this method in various countries of the world indicate that a 10% increase in leverage (the ratio of equity capital to leverage) of the corporate sector leads to an increase in doubtful debt in the total volume of loans by 1.8%; real GDP growth by 1% reduces the level of doubtful debt by 2.6% (Mishchenko, 2005).

The systematic analysis of the liquidity risk of banking institutions when lending to subjects of the agro-food industry determines as fluctuations the value of the gap between the terms of return of assets and liabilities due to the influence of market private (agro-food) sector. The IMF recommends, when conducting liquidity risk analysis, to focus on the level of growth of the gap between highly liquid assets and liabilities (Mishchenko, 2005). The most well-known channel of risk transfer is unsecured loans granted on the interbank market. Another reason for the spread of risks is the low level of trust in banks that are part of a certain geo-financial system that has a low international rating. In this case, the resource base of banking institutions is artificially narrowed, which is limited by the movement of financial and credit flows and does not have access to international financial markets (Mishchenko, 2005).

3. Results

The economic environment of the agro-food industry of Ukraine, both at the global and national level, as a result of Russian aggression, has suffered systemic negative effects, which has formed a number of short- and medium-term risks and challenges in the financial and credit policy of Ukraine, to which the partner countries are reacting in a coordinated manner. The aggression revealed the contradictions of the modern world regarding the integration of the value of food flows and financial and credit flows of one country and its ability to interact with other countries. This is due to the competition (political, economic, financial and humanitarian) between the democratic and
authoritarian world, which increases attention to the problems of interaction and opposition of the three most influential centers of the geo-financial and geo-economic systems (Tulush et al., 2022; Cabinet of Ministers of Ukraine, 2022). However, the war waged by the aggressor country against Ukraine accelerated the realization of the country’s lack of alternatives to full membership in the European Union. This requires Ukraine to increase institutional efforts, introduce measures and tools to preserve financial stability, strengthen the capital of the agro-food industry in the conditions of military operations and post-crisis recovery.

Ukraine is a global player in the markets of agricultural and food products, on which the food security of many countries of the world depends. Foreign trade in agro-food products in Ukraine is supported from the state budget. In Ukraine, in 2020-2021, the export of agro-food products increased by 20.5%, import – by +9.5% (Fig. 1).

In 2022, Ukraine exported products of the agro-food industry and food industry in the amount of 21.1 billion USD. Among the mentioned products, the following were exported: corn for 5.3 billion USD, wheat for 2.3 billion USD, sunflower oil for 5.0 billion USD, rapeseed for 1.4 billion USD (Ministry of Agrarian Policy and Food of Ukraine, 2022). During the period of operation of the “grain corridor”, 15.9 million tons of agricultural products were exported from Ukraine, including 4.7 million tons of wheat and 7 million tons of corn (Ministry of Agrarian Policy and Food of Ukraine, 2022; Ministry of Infrastructure of Ukraine, 2022). In 2023, the key challenges for Ukraine were the blockade of the Black Sea and road logistics, the destruction of agricultural infrastructure by the aggressor country, the destruction of stable interstate ties, and the creation of obstacles to the export of agro-food products by individual EU countries. In 2023, the total export income amounted to 21.9 billion USD, which is 8% less than in 2022 (Chamber of Commerce and Industry of Ukraine, 2023).

In the structure of export income, grain crops provide business structures of the agro-food sector with their own savings in the amount of 8.28 billion USD, which is 15.4% more than in 2022. The export value of oil crops in 2023 amounted to 2.78 billion USD, which is 25.6% less than in 2022 (Chamber of Commerce and Industry of Ukraine, 2023), (Fig. 2).
The main reasons for the decrease in export income in 2023 were the drop in prices for almost all types of agro-food products compared to 2022. The five countries of the world and Europe in terms of exports of agro-food products from Ukraine in 2023 included Romania – 2873.7 million USD (changes +371 million USD by 2022), China – 2212.4 million USD (changes +329.6 million USD by 2022), Turkey – 1989.9 million USD (changes -371 million USD by 2022), Spain – 1761.9 million USD (changes +456.4 million USD by 2022), Poland – 1749.6 million USD (changes -877.4 million USD by 2022), (Fig. 3).

In the geographical structure of the geo-financial system of Ukraine, in 2023, in terms of the level of provision of agro-food industry entities with own savings, the countries of the European Union were in first place – 56.9%, the countries of Asia were in second place (30.6%), and the countries of Africa were in third place (7.1%), North and South America occupied the sixth position in the structure – 0.9% (Fig. 4).
In view of the situation related to Ukraine’s accession to the EU, the main task for the country is to adapt the financial and credit policy to the provisions of the Common Financial and Credit System of the EU and bring Ukrainian legislation to the relevant requirements in the field of agro-food. At the same time, legislative and regulatory acts, which will be difficult for agrarians to implement in wartime, should be adopted with a delayed implementation period – after the end of martial law (and in some cases – with the introduction of an adaptation period for certain provisions after its end).

The foreign economic sector of the agro-food industry faces significant currency risks on export-import operations, which affect the monetary sector and increase the dependence of production entities on financial and credit flows of national banking institutions and global financial institutions. So, it should be noted that when exporting grain crops in 2023, the loss of profit for 1 ton of products (own savings) on average for one subject of the agro-food industry amounted to 129.34 USD. The reason for the lack of own financial savings is the increase in the revaluation of the national currency in relation to the US dollar by 1.2 times, which led to a loss from 1 ton of grain exports in the amount of 74.71 USD per subject of the agro-food industry.

At the same time, if we assume that in 2024 hostilities in the country will cease, geo-economic policy and the geo-financial system in the world will form stabilization dynamics, then, hypothetically, it is possible to calculate how much the level of own financial savings of subjects of the agro-food industry has increased in relation to 2023 during devaluation processes of the national currency in Ukraine to stabilize the price mechanism for the export of agro-food products by 1.26 times (due to the return of the exchange rate of the national currency to the initial period of 2022, i.e. the pre-war period). This will allow Ukrainian producers of the agro-food industry to ensure the capitalization of their own financial savings. At the same time, on average, the profit for 1 ton of products for one economic entity will be equal to 317.75 USD (Fig. 5).

Figure 4. Geographical structure of the geo-financial system of Ukraine according to the level of provision of the subjects of the agro-food industry with their own savings in 2023, %

Source: compiled by the authors based on data (National Bank of Ukraine, 2023)
Figure 5. The impact of currency risks on the export of grain crops on average per subject of the agro-food industry of Ukraine for 2022-2024

Source: Calculated by the authors

Despite the military actions, the subjects of the agro-food industry of Ukraine have a high demand for financial resources, state aid and compensation for financial losses from banking institutions, which in 2022 replenished foreign exchange reserves to cover the trade deficit, fulfill debt obligations, level exchange rate shocks and suspend rising inflation.

With the beginning of the war in Ukraine, geo-economic changes took place in the financial and credit policy of the agro-food sector of European countries. Fiscal balances have deteriorated; price growth has prompted an increase in interest rates on loans (Gordienko & Tchaikovsky, 2012). This worsened the conditions of access to financial resources, especially for those developing countries in the European world, simultaneously devaluing their currency, increasing the cost of food and energy imports, closing the cycle. It is these risks in the conditions of further escalation of the confrontation between the leading countries of the world, on the one hand, and new unions of poorer countries, on the other, that may cause the processes of disintegration of geo-economics and eco-finance in the global dimension (Razumkov centre, 2022). The only way to prevent this is the fastest de-escalation of the current financial situation and the widest possible financial support by the countries of the developed world to the poorer countries in order to reduce risks and introduce progressive liberalism in the democratic to implement the strategy of financialization and stabilization of processes in the economic sectors, restrain the stratification of the population and internal disintegration disturbances caused by this. Such measures of developed countries should focus not only on domestic markets, but also on the markets of developing countries in order to curb stratification at the regional level as well. The analysis of the manifestation of these risks on the territory of the EU shows the existence of prerequisites for such stratification in the European community as well (State Financial Monitoring Service of Ukraine, 2021; Razumkov centre, 2022).

In 2022, in the group of European countries, inflation is at the level of 2% to 12%, that is, higher than the EU average (Fig. 6). Given that these countries are the closest to the territory of the war, therefore they experience increased financial losses from it due to the disruption of logistics chains, the influx of refugees, the additional cost of financial services (including loans and insurance), etc. This group of countries needs substantial financial support from the European Central Bank. Otherwise, such a stratification of the incomes of Western and Eastern European countries may provoke the strengthening of administrative contradictions at the EU level.
It should be noted that Eastern European countries, which have kept their own currencies, are additionally at risk of devaluation. In the medium-term period, devaluation may stimulate the export of agro-food products, but in the short-term it will mean an even greater increase in the price of agro-food products and energy sources for business entities. Therefore, maintaining the stability of the exchange rate for these countries becomes one of the key tasks for the financial security of subjects of the agro-food industry (Razumkov centre, 2022).

The NBU interest rate in the first quarter of 2022 was 10%, in the second quarter of 2022 it rose to 25% in order to preserve macroeconomic balances, reduce inflationary pressure and maintain the stability of the national currency, as well as the need to ensure financial stability and reduce the progressive deficit in the country’s foreign economic and budgetary spheres, since during this period the real inflation rate was within 25% (Fig. 7).

The instruments of the financial and credit policy of the agro-food industry coincide with the instruments of the country’s monetary policy, but they are not identical (Bezemer et al., 2021). Both of them are measures of intervention in the process of credit distribution among the producers of the agro-food sector and can be applied as instruments of control over the supply of money and inflation. The key instrument of credit and monetary policy is the discount rate of the central bank, which is an indicator for assessing the value of money. Interest rate management is one of the most important monetary instruments of the financial and credit policy of the agro-food industry, which regulates the supply (demand) of financial and credit resources, the value of money and capital, the investment readiness of partner countries to invest in the restoration and provision of a stable financial system of...
industry entities, as well as stopping the outflow of their capital (Beckman, 2022; Ministry of Finance of Ukraine, 2023).

4. Discussion

The emergence of geo-economic changes in the development of the financial and credit policy of the agro-food sector is associated with the following factors: increased interdependence between the monetary and budget sectors; the creation of various digital financial and credit systems and a network of intensive financial flows in the agro-food industry, in particular its financial support, which led to the expansion of the “geography” of financial resources. At the same time, the space and time of movement of financial resources becomes more mobile (Trusova et al., 2020).

In real time, financialization in geo-economics is a priority of many states, which is a symbiosis of formative and distributive financial flows based on financial technologies and strategic development tools (Papaika & Gorbanskyi, 2010). The growing influence of financialization in geo-economics blurs the line between internal and external spheres of activity, and, especially, between internal and external policies in the banking and budgetary spheres of the agro-food industry. Since the global geo-financial transformation manifests itself in the formation of new centers of financial diplomacy, it resolves international conflicts regarding the sustainable financial security of any country that is increasingly dependent on geo-financial factors (Pavlikha, 2008). As a result, geo-financial methods of analysis are increasingly used by national governments when building models for the development of the financial and credit policy of the agro-food industry, both in the short-term and in the long-term (Shevchenko, 2007).

At the same time, geo-economics and geo-finance are closely interconnected. They outline a number of important issues in the modern functioning of the agro-food industry. Among them, the following are distinguished (Filipenko, 2008; Shevchenko, 2007): the geographical factor of influence on geo-economic changes in the development of financial and credit policy, in particular, the influence of climatic and landscape features on the specifics of financial support of the agro-food industry; separation of the movement of financial resources from local military conflicts in the direction of financial and credit flows for the recovery of the industry; financial policy and strategy for increasing the competitiveness of the industry in the conditions of economic globalization; merger of the financial and credit and monetary system of the state in the field of international cooperation and financial and economic relations; formation of systematic and consistent strategic interaction of market participants and the basis of global coordination of financial flows that increase the volume of food flows; change in the system of division of labor and stabilization of the financial security of the agro-food industry.

According to the results of international agreements, the main goals of geo-finance in the agro-food industry are the rational use of the financial potential of the territory, complex financial and credit regulation of nature use processes and environmental protection in the infrastructure of the agro-food industry. Special attention is paid to rational planning and distribution of financial and credit and budgetary resources in rural (border, coastal and depressed) territories (Pavlikha, 2008).

The functioning of geo-finance in the agro-food sector and their institutional design are determined by the following factors (Tulush et al., 2022; Tulush, 2023; Tulush et al., 2021):

- modification of commodity production of the agro-food industry through the globalization of production, investment and financial cooperation, which is carried out on the basis of technological chains. The exchange takes place at new junctions of the division of labor between agricultural production and in new forms (agricultural production-group, agricultural production-object, agricultural production-program), and financial diplomacy in the agro-food industry has a transnational form of financial and credit support;

- the formation of internationalized reproductive nuclei (financial cycles) in the bowels of the interstate financial and credit provision of the agro-food industry – engines of the financial and credit system, which sometimes acquire a wandering character. The financial limits of these cycles (cores)
do not coincide with the national features of the development of the financial and credit policy of individual states, which are filled with other content: geo-finance in the agro-food industry does not depend on the political system or on powerful international enclaves. The goal of geo-finance in the agro-food industry is to reproduce monetary, budgetary, and tax incentives on a new scale. The boundaries of the zones of influence of financial cycles (cores) are movable, which determine the new division of the financial and credit system in the agro-food industry. In general, understanding that the financial and credit system in the agro-food sector is redistributed daily between its branches (in conditions of military conflict or without the use of military or political force) gives a new level (status) of understanding the financial relations of states in the network of changing borders. In order to preserve sovereignty and establish international cooperation in the restoration of food relations, countries with a national financial and credit system of the agro-food sector become links of various reproductive financial cycles, and the national interests of the agro-food sector are anchored not on political, but on economic borders, thanks to the activities of economic sub-entities to which the state delegates the protection of its national food and financial interests;

the formation of a mobile cross-border financial and credit system, where it continues to be the economic environment for the functioning of global conveyors – mobile reproductive financial cycles (cores). At the same time, it showed itself as a self-sufficient system that develops according to its own laws. There was a separation of the financial and credit system from reproductive financial cycles and a layer of the virtual financial and credit system was born, which dominates the economic superstructure of the agro-food sector of the studied industry;

formation within the agro-food chain of the system of incoming financial and credit flows as interstate reproductive nuclei (IRN). That is, according to the geo-financial approach, foreign trade is added to the national model of the reproduction of the financial and credit system (RFCS) of the agro-food industry as the most important link of food flows, which has a value basis in the Ministry of Internal Affairs, and which affects the attraction of financial and credit resources for individual subjects management (restoring their cycle of financial stability and solvency);

the struggle for the redistribution of income (financial capital) as a strategic reference point for the reproduction of the foreign economic sector (geo-economic vector). It’s important links are: a geo-economic organizational-functional and management form with the appropriate methodological tools – volumetric-spatial mathematical models that implement and clearly delineate the boundaries of integration between the value component of agro-food flows and financial and credit flows in time space, with a defined contour of national interests. It is in this way that most states realize their strategic goals, that is, on the geo-economic and geo-financial map of the world.

Threats to the financial and credit policy of the agro-food industry in European countries are geo-economic changes and the instability of supply chains, which provokes the risk of rising interest rates on bank loans. A characteristic detail is that most European countries are confident that the state of financialization of their national economy will differ from the global background for the better. This may indicate the presence of sovereignization sentiments in order to limit spending in favor of other countries (Yurchyshyn, 2022). Thus, inflation and the risk of interest rate increases are the biggest financial risks for subjects of the agro-food industry in European countries.

However, both risks in one way or another embody one threatening process – an increase in financial costs in the business structures of agro-food production and reduce the real consumption of financial resources. Based on this, monetary regulation in the financial and credit policy of the agro-food industry in European countries should be coordinated with the possibilities of fiscal support for risk groups of agrarian business. The International Monetary Fund emphasizes that it is better for the EU to rely more on fiscal rather than monetary levers in the context of the challenges of the war in Ukraine (Prushkivska & Vladykina, 2010; Tyshchenko, 2019). This means that the European Central Bank and national banks in the interest of fighting inflation can resort to raising rates, but this must be accompanied by fiscal support for small agricultural businesses to compensate them for the financial costs associated with raising rates. This is exactly the practice observed in the EU. In some countries, energy taxes have been reduced on a long-term basis in 2022. France, for example, in the
first quarter of 2022 introduced a one-year reduction in taxes on electricity (allocated 8 billion EUR, or 0.3% of GDP) and reduced the tax on gasoline by 0.15 EUR/liter for 4 months, which cost the budget more EUR 2.2 billion, or 0.1% of GDP. In Germany, the gasoline tax was reduced by 0.3 EUR/liter (Razumkov centre, 2022).

In Western European countries, there are enough state programs for compensating interest rates on loans to subjects of the agro-food industry. This clearly emphasizes the risk of disintegration of the EU. The EU needs to start developing financial security programs for vulnerable business structures of agricultural production at the level of regional financial and credit policy as soon as possible, through the expansion of monetary supply and related fiscal stimulus measures and preservation of its own currency. There is a high probability that this influence may manifest itself in the form of intensification of speculative operations in their currency, securities and real estate markets as a result of the uncontrolled movement of cross-border financial and credit flows (capital). An increase in the volume of such speculations can increase inflationary processes. Including and for this reason, international financial institutions have long emphasized the need for a policy of control over financial and credit flows (capital), which can be implemented by means of macroprudential instruments and requires a review of approaches to freely floating exchange rates (Razumkov centre, 2022).

In order to restore credit activity (regulate credit risk) and avoid significant arrears on loans, the NBU made changes to the Rules of Banks (National Bank of Ukraine, 2022a) due to the introduction of martial law in Ukraine. In addition, in order to promote the intensification of lending to economic sectors, the NBU has taken relaxing measures regarding the regulatory policy on credit risk assessment. Such measures of the NBU include the following: banking institutions were given the right not to recognize default on loans, long-term restructuring of which leads to a decrease in the value of future cash flows by more than 10%; the effects of signs of high credit risk, which were determined by the financial results and debt burden of borrowers, have been suspended; restrictions on carrying out operations with parent companies of banking institutions regarding the exchange of foreign currency on the terms of "swap" were abolished; reduced from 150% to 100% of the risk weight for consumer unsecured loans (banking institutions had the opportunity to use accumulated capital to partially cover losses caused by military aggression) (National Bank of Ukraine, 2022c).

The central role of banking institutions in the financial and credit policy of the agro-food industry gives them the opportunity to influence the way of financing and investing. They are actively implementing financial instruments aimed at supporting and restoring their financial capabilities. However, it is important for the banking sector to independently adhere to responsible business practices, as the trend of bank lending in Ukraine had a downward trend (Fig. 8).

**Figure 8.** Volumes of bank lending in Ukraine from 2019-2023, billion USD

**Source:** Compiled by the authors based on data (National Bank of Ukraine, 2020)
The decrease in the amount of loans granted in 2023 by 39.1% compared to 2021 was due to the decrease in the amount of loans granted to state authorities and individual entrepreneurs. The structure of bank lending is dominated by loans granted to business entities, which in 2023 compared to 2021 also had a tendency to decrease by only 2.3%. This is due to the relocation of business structures from the occupied territories and their loss of property and economic ties and between partners, including with banking institutions.

It should be noted that 20.72 billion USD of loans were issued for the development of economic sectors during the martial law in Ukraine (National Bank of Ukraine, 2023). Strengthening of credit support for producers of the agro-food industry from the side of the state made it possible to intensify state lending programs in which state banks take an active part. Thus, out of the total amount of issued bank loans, 56.4% of them are directed to sources of financing of agribusiness structures under the state program "Available Loans 5-7-9%". Loans under the program make up about 40% of the net corporate portfolio in national currency. In 2022, bank lending grew primarily due to this program, which has been activated in state banks. Within the framework of this program, for 2022-2023, more than 80.42 thousand business structures of the agro-food industry were credited for the restoration of their financial potential in the amount of 6.94 billion USD. In the first two months of 2024, the amount of loans under the state program amounted to 7.32 billion USD (Fig. 9).

![Lending to business structures of the agro-food industry under the state program "Affordable loans 5-7-9%", billion USD](image)

**Figure 9.** Lending to business structures of the agro-food industry under the state program "Affordable loans 5-7-9%" in 2022-2023, billion USD

**Source:** Compiled by the authors based on data (National Bank of Ukraine, 2022a; National Bank of Ukraine, 2023; Cabinet of Ministers of Ukraine, 2022)

The synergy of the "Affordable loans 5-7-9%" program with portfolio guarantees has significantly expanded customers' access to credit. The recovery of the economy, the improvement of the financial indicators of the agro-food industry, as well as the severe limitation of budget resources caused the need to narrow the focus of the program in order to support small and medium-sized agribusiness and enterprises vulnerable to security risks [34; 40; 58]. The purpose of issuing a loan was added to the program – business support during wartime, expanded lending to the agricultural sector, support for the sowing campaign, restoration of the destroyed business of subjects, their relocation. Farmers of the following regions received the largest amount of loans under the state support program (Fig. 10): Kyiv region – 0.36 billion USD (1029 enterprises), Dnipro region – 0.20 billion USD (893 enterprises) and Vinnytsia region – 0.18 billion USD (1558 enterprises), Cherkasy region – 0.17 billion USD (564 enterprises), Kirovohrad region – 0.15 billion USD (1803 enterprises), Odesa region – 0.13 billion USD (1179 enterprises).
Sources of financial and credit support for the agro-food industry of Ukraine are external loans and grants from global financial institutions in Europe and the world. In 2022, Ukraine received 32.2 billion USD in international financial aid and 32.7 billion USD in support of the agro-food industry. Over the three quarters of 2023, the share of loans increased by 11.2 percentage points, while the share of grants decreased by 13.6 percentage points (Fig. 11).

In 2023, the general fund of the State Budget of Ukraine received about 5 billion USD of external financing. Grant funds provided on non-refundable terms made up 11% of the total amount of financial assistance (Ministry of Finance of Ukraine, 2023). Among the donors: Japan – 2.2 billion USD (concessional financing and grants), the EU – 1.6 billion USD (concessional financing), the International Monetary Fund - about 900 million USD (concessional financing), Norway – 190 million USD (grant), Germany – 55 million USD (grant), USA – 50 million USD (grant), Switzerland – 20 million USD (grant), World Bank – 8 million USD (concessional financing).

In January 2024, as part of a World Bank project aimed at social protection and restoration of the agro-food industry, the State Budget of Ukraine received 390 million USD from Japan. From the
total amount of funds, a share of financial assistance in the amount of 89.8 million USD is directed to
the project "Emergency project of providing inclusive support for the restoration of agriculture of
Ukraine" (Shushkova et al., 2023).

5. Conclusions

Thus, the geo-economic changes in the development of the financial and credit policy of the agro-
food sector of Ukraine testify to the transformation of the financial support of agribusiness structures
through important macro-financial indicators such as the stability of prices for the export of
agricultural products during exchange rate regulation, efforts to implement financial activity of
banking institutions to restore and increase the financial capabilities of economic entities objects It is
in the conditions of economic instability that the monetary, budgetary, banking and foreign
economic sectors as components of the financial and credit policy of the agro-food industry
determine the readiness of the country to resist external aggression, and therefore affect the financial
stability of commodity producers.

The full-scale invasion of the aggressor country into Ukraine made adjustments to all branches
of the economy, changed the rules of their operation and introduced new restrictions on lending and
financial assistance to the agricultural sector. Thanks to the coordinated work of the NBU, the
banking sector in the country is stable and controlled. The restoration and further development of
the financial and credit policy of the agro-food industry of Ukraine requires the coordinated work of
all links of the internal mechanism and the financial support of partner countries and international
organizations.

As the main directions affecting the effectiveness of financial credit instruments, we can
highlight: maintaining the level of capitalization of banks by ensuring their liquidity through a
flexible refinancing mechanism and, as a result, increasing bank creditworthiness to support agro-
food industry entities; improving the quality of credit resources due to the improvement of the
quality of bank assets; creation of appropriate loyal conditions for obtaining a loan, which can
become temporary tax benefits, as a tool for stimulating lending and investing in priority sub-sectors
of the agro-food sector of the economy; expansion of the internal market opportunities through the
NBU’s use of coordinated instruments of influence on the mechanism of the entire financial market;
development of a comprehensive strategy for the expansion of lending to agribusiness structures of
agrarian orientation in the country.

Today, Ukraine is facing a new challenge due to the need to introduce rapid and significant geo-
economic changes in the development of the financial and credit policy of the agri-food sector, which
must be correlated with "green", "digital" priorities in the context of the formation of technological
sovereignty and strategic autonomy in the EU, including, to counter the global threats that emerged
as a result of an aggressor country’s attack on Ukraine. The formation of a flexible financial and credit
policy of the agro-food industry in accordance with the priority directions of the development of
Ukraine must be coordinated with the general mechanisms of geo-financial regulation and depend on
many factors at the national level.

The strategy of the financial and credit policy for the development of the agro-food industry
should ensure an increase in direct and indirect financing of its business entities to increase output
and, subject to increased state support, attract economic structures to capital investment and growth
of own savings. This will significantly increase the financial indicators of the subjects of the agro-food
industry and tax payments to the budget, in particular VAT and income tax. The main measures of
financial support for producers of the agro-food industry during the period of martial law should be:

- the validity of the state program "Affordable loans 5-7-9%" has been extended;
- within the framework of the government grant program to support small and medium-sized
  agribusiness, the list of crops for which grants are provided for the development of horticulture, berry
growing and viticulture has been expanded. In total, in 2023, agribusiness structures received state
  aid in the amount of 13.1 million USD for the development of gardens and greenhouses. In particular,
10.5 million USD was paid for the development of gardens, 2.6 million USD for greenhouses;
additional state incentives for the creation and development of family farms without the
creation of a legal entity, which were suspended, were restored. Thus, for the 1st quarter of 2023,
compensation of the single social contribution to family farms in the amount of 0.05 million USD was
carried out;
state support for the organization of water use on reclamation lands has been implemented to
increase the efficiency of agricultural production in the conditions of climate change, and to
stimulate the increase of agricultural production. Provide funds to producers of the agro-food
industry on a non-refundable basis in the amount of up to 25% of the cost of expenses (excluding
VAT);
price regulation of certain types of agro-food products was continued to support the stability of
the population’s food supply. For a period of three months after the end of the war, establish the
maximum level of trade allowance for wheat flour, milk, eggs, poultry carcasses, sunflower oil, rye-
wheat bread (in the amount of no more than 10%). Licensing for the export of certain types of
agricultural products of the livestock industry will be canceled;
approval of the action plan for demining agricultural land, which defines the priority tasks for
coordinating the actions of state authorities, mine action operators, local self-government bodies and
economic entities of Dnipropetrovsk, Zaporizhzhya, Kyiv, Mykolaiv, Sumy, Kharkiv, Kherson,
Chernihiv and Cherkasy regions (about 470 thousands hectares of agricultural land);
provision of grant aid from the Food and Agricultural Organization of the United Nations
(FAO) for financing micro and small agricultural producers, cooperatives; providing assistance for the
purchase of seeds of spring crops (wheat, barley, peas) for small farmers in the front-line regions,
namely: in Sumy, Chernihiv, Donetsk, Kharkiv, Dnipropetrovsk, Zaporizhzhia, Mykolaiv, Kherson
and Odesa regions.

The above measures will reduce the negative consequences of the war for the agro-food industry
and create conditions for preserving and restoring its financial potential.

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