Ensuring the financial safety of Ukrainian agricultural enterprises in the context of export products and the impact on macroeconomic indicators

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Received: September 28, 2021 | Revised: September 28, 2021 | Accepted: September 29, 2021

JEL Classification: J28, Q17.

DOI: 10.38188/2534-9228.21.3.20

Abstract
This article is devoted to the study of directions of financial safety of Ukrainian agricultural enterprises through the assessment of indicators economic activity and analysis of the export potential of agricultural products. The financial indicators of economic activity of Ukrainian agricultural enterprises, which affect the ensuring of financial safety, are determined. The activity of large Ukrainian agricultural enterprises in terms of their capitalization and formation of own capital are studied. Analyzed the commodity structure of exports agricultural products of Ukrainian agricultural enterprises and determined the amount of foreign exchange earnings from EU countries. Due to economic-statistical and mathematical tools, a study of the dependence of GDP and the euro on foreign exchange earnings from exports of agricultural products of Ukrainian agricultural enterprises to the EU countries. Offered the scheme of directions of maintenance of financial safety of the agricultural enterprises of Ukraine in the context of internal environment of activity of economic entities and stabilization of macroeconomic indicators of the country.

Keywords: exports, foreign exchange earnings, gross domestic product, exchange rate, financial safety, agricultural enterprises.

Introduction

Ukrainian agricultural enterprises are economic entities of the country that make a significant contribution to the development of the national economy – provide food security and form a significant part of GDP. The activities of such entities are focused on both the domestic and foreign markets. The results of Ukrainian agricultural enterprises reflect the real economic situation in the form of results. It should be noted that the economic activity of such enterprises has specific features, such as seasonality of production, the presence of livestock and crop subcomplexes, low employment in agriculture, state regulation of prices for agricultural products, the system of state subsidies, export-import regulation, fluctuations in foreign market conditions, etc. These factors actively affect indicators (production and turnover, income and profit, profitability), capitalization and overall financial safety. The instability of the external environment, the presence of risks and threats cause financial danger to Ukrainian
agricultural enterprises.

Given the activities of Ukrainian agricultural enterprises at the present stage, it should be noted that the formation of export potential provides foreign exchange earnings from turnover in foreign markets, which, in turn, ensuring adequate financial safety for these enterprises, and for the state – foreign exchange earnings, which stabilizes the exchange rate in the country, reduces the demand for foreign currency, promotes the formation of GDP, state foreign exchange reserves, stabilization of the national currency.

Large Ukrainian agricultural enterprises, which are represented by agricultural holdings or financial-industrial groups, carry out capitalization through the formation of equity capital in the form of securities, which are placed on various stock exchanges. Ensuring financial safety through capitalization is realized through the quotation of shares of Ukrainian agricultural enterprises on stock exchanges and depends on a prudent asset management policy, their optimal structure, financial flows, image, etc.

In today’s conditions, an important aspect is the intensification of foreign economic activity of Ukrainian agricultural enterprises, namely the export potential. Under favorable climatic conditions, technologies for growing cereals and seeds, technical equipment, exports of agricultural products increase in the context of globalization and international integration, transformation of international economic relations and the structure of the world agri-food market.

**Material and methods**

Thus, in scientific publications there are studies of methods for assessing the level of financial safety of agro-industrial enterprises, application of the methodology for assessing the level of financial safety and calculation of the integrated index of financial safety assessment to identify the financial condition of agricultural associations (Lynenko & Konyev, 2017). Research of the essence of the mechanism of formation of financial safety of agricultural enterprises concerns development of measures of realization of effective system of protection of entities – maintenance of own functioning, strategy of formation of financial safety of enterprises – for the purpose of vision of financial prospects of the enterprises, prevention of financial threats and negative financial phenomena in the activities of enterprises, stabilization of activity and development in the conditions of growth of competition (Khomenko, 2016). The factors influencing the financial safety of agricultural enterprises for the purpose of their stable functioning are assessed, the mechanism of financial safety of agricultural enterprises on the basis of organizational support of financial safety management and stable financial condition, overcoming threats to financial safety through application of risk minimization tools in agricultural enterprises (Davydenko, et al., 2021). The state of financial safety of Ukrainian agricultural enterprises is assessed, threats at the macro-, meso- and micro-levels of the economy are outlined in order to form measures to minimize such threats (Pataridze-Vyshynska, 2019).

The determinants of increasing economic safety of agricultural regions of Ukraine are considered, the analysis of hidden properties of competitiveness of agricultural entities and their impact on economic safety of regions in the system of production and reproduction process is proposed, a modified systematic approach to assessing the level of economic safety of regions is proposed, taking into account the universal method of expanding the functionality of the indicative components of innovative development and competitiveness of agribusiness entities, developed the foundation of structural transformations of the economic safety system of regions through an integrated approach to assessing the potential financial capabilities of agricultural entities (Trusova & Tanklevska, 2019).
Improving the mechanism of development of the innovation potential of the agricultural sector of Ukraine is considered in the direction of ensuring its economic safety and substantiation of the relevant strategic imperatives – the effective use of the existing innovation potential; introduction of organic production; use of investment incentives; use the benefits of public-private partnership (Shestakovska & Kushnir, 2019). Economic safety of agricultural enterprises is considered as an effective use of the potential of homesteads, determines the impact of socio-economic factors on the economic safety of farmers through home production of vegetables, it is established that increasing financial safety is achieved through efficient land use and income from its use (Suza, et al., 2021).

Emphasis is placed on the need to assess the state of economic safety of agricultural holdings in Ukraine, pointed out the lack of a single methodology for its assessment (Dub, 2019). On the example of the functioning of agricultural holdings of Ukraine Kernel Holding S.A. and MHP S.A., financial indicators and features of capital formation were studied using the WACC model and the CAPM method (Didukh, et al., 2017). Levels of debt safety, reputation, financial reliability, efficiency of the largest agricultural holdings of Ukraine are considered, the need to improve the system of economic safety of integrated agricultural formations on the basis of full consideration of functional components is indicated (Dub, 2017).

Ensuring the financial safety of agricultural enterprises is considered through the implementation of foreign economic activity (export of products) within the EU. In order to build indicators of trade competitiveness, a set of data on the volume of production and concentration of agri-food products in EU countries was used. On the example of Romanian agricultural enterprises, an analysis of the impact of indicators on the concentration and competitiveness of foreign trade (Andrei, et al., 2020). The analysis of export potential of the Ukrainian agricultural enterprises with use of the generally accepted methods of the statistical analysis and the analysis of factors of external environment of indirect influence is carried out (Balbash & Huen, 2019).

The commodity-economic dimension of Ukraine’s foreign trade, commodity structure of Ukraine’s exports and imports, indices of favorable national development environment and efficiency of Ukraine’s foreign trade logistics are studied, the state of Ukrainian exports of agricultural products and food in general is presented (Granovska, 2018). The volumes and efficiency of attracting foreign direct investment by enterprises of the agricultural sector, which influence the development of foreign economic activity, have been studied (Fedyuk, 2021).

Considerable attention in research on financial safety of agricultural enterprises to food security, which is based on the concept of food sovereignty and agri-environmentally friendly production systems, is considered on the example of Cuba, Brazil, the Philippines and Africa. The paradigm of agro-ecological development, which is based on the revitalization of small farms and social processes of community participation in expanding the rights and opportunities to meet current and future food needs, is substantiated. (Altieri, et al., 2012).

Thus, the research of scientists does not sufficiently cover the problems of ensuring the financial safety of agricultural enterprises. There are no studies of the impact of economic results on the formation of GDP and exchange rate through the receipt of foreign exchange earnings from exports of agricultural products.

Results and discussion

In order to ensure the financial safety of Ukrainian agricultural enterprises, we will assess the indicators of economic activity that affect the final financial results.

The dynamics of production value and turnover of Ukrainian agricultural enterprises is presented in Figure 1.
The data of the Figure 1 show that for the period 2013-2019 the production volume and turnover of Ukrainian agricultural enterprises increased by 3.4 and 3.2 times, respectively. The increase in activity is due to magnification in sown areas for growing cereals and their yields, livestock and higher selling prices for crop and livestock products in domestic and foreign markets, which affected the financial safety of Ukrainian agricultural enterprises.

Obtaining financial results should have a direct impact on ensuring the financial safety of the enterprise. Financial results before taxation of Ukrainian agricultural enterprises are shown in Figure 2.

It should be noted that the financial results before taxation of Ukrainian agricultural enterprises in 2019 increased 6.2 times compared to 2013. In 2017, the indicator decreased by 24% compared to 2016 due to increased operating costs and other financial income of Ukrainian agricultural enterprises, which is associated with material costs for the purchase of seeds and agricultural machinery.

Indicators of net profit in terms of costs of Ukrainian agricultural enterprises are presented in Table 1.

According to the Table 1, during the study period there is an increase in costs, which was reflected in the formation of net profit of Ukrainian agricultural enterprises and affected the ensuring the financial safety. Thus, in 2019, compared to 2014, the largest increase is in the cost of goods sold – 3.0 times, which is due to an increase in selling prices for agricultural products. Operational costs of Ukrainian agricultural enterprises for this period increased 2.6 times, which is due to an increase in purchase prices for seeds, herbicides, agricultural machinery, wage growth, depreciation costs. Taking into account changes in the total costs of Ukrainian agricultural enterprises, we get the result of revenue. It should be noted that during the study period, Ukrainian agricultural enterprises received a revenue. Its largest size in 2015.
Table 1 – Revenue generation (expenditure) of Ukrainian agricultural enterprises in 2014-2019, mln. UAH

<table>
<thead>
<tr>
<th>Years</th>
<th>Operational costs</th>
<th>Other costs</th>
<th>Total costs</th>
<th>including cost of goods sold (goods and services)</th>
<th>Revenue (expenditure)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>212891,7</td>
<td>27638,3</td>
<td>240726,5</td>
<td>151037,8</td>
<td>21481,3</td>
</tr>
<tr>
<td>2015</td>
<td>307469,1</td>
<td>40397,0</td>
<td>348159,3</td>
<td>231825,1</td>
<td>102849,1</td>
</tr>
<tr>
<td>2016</td>
<td>339758,9</td>
<td>26042,1</td>
<td>366297,7</td>
<td>278375,7</td>
<td>90613,2</td>
</tr>
<tr>
<td>2017</td>
<td>402619,4</td>
<td>28011,4</td>
<td>431116,4</td>
<td>328071,3</td>
<td>68858,5</td>
</tr>
<tr>
<td>2018</td>
<td>487906,0</td>
<td>29168,9</td>
<td>517551,4</td>
<td>400452,2</td>
<td>71002,6</td>
</tr>
<tr>
<td>2019</td>
<td>549221,4</td>
<td>28354,0</td>
<td>578362,3</td>
<td>456453,0</td>
<td>93255,4</td>
</tr>
</tbody>
</table>

Source: built by the authors according to the State Statistics Service of Ukraine

Obtaining revenue by Ukrainian agricultural enterprises was reflected in the profitability indicator (Figure 3).

Figure 3 – Profitability of operating and all activities of Ukrainian agricultural enterprises in 2013-2019, %
Source: built by the authors according to the State Statistics Service of Ukraine

In 2019, compared to 2013, the profitability of Ukrainian agricultural enterprises increased by 8.1%. The highest level of profitability is observed in 2015, due to favorable price conditions in world markets for agrarian products and optimization of operational costs by Ukrainian agricultural enterprises. In 2018, there is the lowest level of profitability – 18.9% due to the growth of operational and financial costs of Ukrainian agricultural enterprises.

Ensuring the normal profitability of activity allows forming a stable financial safety of Ukrainian agricultural enterprises, to have working capital for production and commercial activities, to increase equity and reserve capital, to update the technical and technological base of production, etc.

Large Ukrainian agricultural enterprises, represented by agricultural holdings, form their equity capital at the expense of their own financial resources and attract external funds, thus ensuring the capitalization and of securities listed on stock exchanges. All this has a positive effect on ensuring the financial safety of Ukrainian agricultural enterprises. The dynamics of equity capital of Ukrainian agricultural enterprises are presented in Table 2.

Table 2 – Equity capital of Ukrainian agricultural enterprises with a breakdown on large, medium, small and microenterprises in 2013-2019, mln. UAH

<table>
<thead>
<tr>
<th>Years</th>
<th>Total</th>
<th>Equity capital</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>including</td>
</tr>
<tr>
<td></td>
<td></td>
<td>large enterprises</td>
</tr>
<tr>
<td>2013</td>
<td>156819,9</td>
<td>21630,8</td>
</tr>
<tr>
<td>2014</td>
<td>163931,7</td>
<td>25534,4</td>
</tr>
<tr>
<td>2015</td>
<td>275303,8</td>
<td>59624,2</td>
</tr>
<tr>
<td>2016</td>
<td>369370,9</td>
<td>61377,7</td>
</tr>
<tr>
<td>2017</td>
<td>436337,6</td>
<td>64820,1</td>
</tr>
<tr>
<td>2018</td>
<td>482978,7</td>
<td>63650,0</td>
</tr>
<tr>
<td>2019</td>
<td>522778,7</td>
<td>91593,0</td>
</tr>
</tbody>
</table>

Source: built by the authors according to the State Statistics Service of Ukraine
According to Table 2, during the study period, the equity capital of large Ukrainian agricultural enterprises increased 4.2 times, which is much more than in medium, small and micro enterprises, despite the fact that the share in the total capital structure of all enterprises is only 18% (in 2019). The largest share in the structure of equity capital is occupied by medium-sized enterprises. Despite the lowest share in the structure of equity capital (in 2019 – 13%), microenterprises in the agricultural sector have significantly increased its volume – 3.6 times due to tax optimization and flexibility in doing activity. The growth of equity capital of Ukrainian agricultural enterprises provided stable financial safety for the period under study.

The capitalization of large Ukrainian agricultural enterprises for the period of July 2021 is as follows: “Ovostar Union” – 123 mln. USD; Avangard – 1 mln. USD; Agroton – 45 mln. USD; Milkiland – 8 mln. USD; Astarta-Kyiv – 307 mln. USD; IMK – 227 mln. USD; Kernel – 1.1 bln. USD; MHP – 577 mln. USD (according to agravity.com).

Ensuring the financial safety of Ukrainian agricultural enterprises is actively influenced by foreign economic activity, in particular, the export of agricultural products. It should be noted that the constant demand for agrarian products and the growth of price supply in foreign markets activates the export potential of Ukrainian agricultural enterprises, thus, economic entities receive foreign exchange earnings, which affects financial safety. Considering the commodity structure of exports of Ukrainian agricultural enterprises (Table 3).

<table>
<thead>
<tr>
<th>Agrarian products</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mln. USD</td>
<td>% of the</td>
<td>mln. USD</td>
</tr>
<tr>
<td></td>
<td>total volume</td>
<td>total volume</td>
<td>total volume</td>
</tr>
<tr>
<td>Live animals and livestock products</td>
<td>1210,6</td>
<td>2,6</td>
<td>1277,0</td>
</tr>
<tr>
<td>Plant products</td>
<td>9886,1</td>
<td>20,9</td>
<td>12914,5</td>
</tr>
<tr>
<td>Animal or plant fats and oils</td>
<td>4496,5</td>
<td>9,5</td>
<td>4732,2</td>
</tr>
</tbody>
</table>

Source: built by the authors according to the State Statistics Service of Ukraine

Based on the data given in the Table 3, the largest share in the structure of agricultural products of Ukrainian agricultural enterprises is occupied by grain crops (more than 20% of total exports). In 2020, the volume of grain exports decreased by 8% compared to 2019 due to the growth of oilseeds and oil exports. The volume of oilseeds exports in 2020 increased by 21.4%, and the share increased by 2.2% compared to 2019. Such changes are due to growing demand for oilseeds and oil abroad due to rising prices. It should be noted that this trend was characteristic of the domestic market.

Considering the geographical structure of foreign trade, we state that a significant part of the products of Ukrainian agricultural enterprises falls on the EU countries (Figure 4).
Figure 4 – Top EU Agri-Food imports from Ukraine in 2020


The data in Figure 4 show that in 2020, Ukrainian agricultural enterprises exported the most to the EU countries vegetable oil (26%) and cereals (26%). Wheat (2%) and soybeans (3%) were the least exported.

The volume of foreign exchange earnings received from exports of Ukrainian agricultural enterprises to EU countries is presented in Figure 5.

According to Figure 5, in 2020 the volume of foreign exchange earnings for sales of Ukrainian agricultural enterprises to EU countries increased by 50% compared to 2016, including agricultural food and feed products – by 45%. Due to the pandemic in 2019 compared to 2018, these indicators decreased by 14% and 16%, respectively. These trends, of course, affected the financial safety of Ukrainian agricultural enterprises and the macroeconomic indicators of the country.

Given the above, there is a need to study the impact of results of economic activity of Ukrainian agricultural enterprises, including export potential, on the macroeconomic indicators of the country. It should be noted that in this context we are talking about strengthening the exchange rate and growth of GDP.

Figure 5 – Evolution of EU Agri-Food imports from Ukraine in 2016-2020, mln. EUR


Using the capabilities of the Excel software (correlation function) for 2016-2020, we built the dependence of GDP and the euro exchange rate on foreign exchange earnings from exports of Ukrainian agricultural enterprises to EU countries (Figure 6).

Figure 6 – Dependence of GDP and euro exchange rate on foreign exchange earnings from exports of Ukrainian agricultural enterprises to EU countries

Source: calculated by the authors

The results of the calculations show that there is a direct dependence between foreign exchange earnings from exports of Ukrainian agricultural enterprises to EU countries and GDP (the value of the approximation is 0.7828), there is a slight dependence with the euro exchange rate (R² = 0.0321).
rate (0,0321). This is due to the impact on the exchange rate of other indicators that determine it.

Generalization of researches of economic activity of Ukrainian agricultural enterprises and their influence on macroeconomic indicators allowed to offer the scheme of directions of ensuring the financial safety (Figure 7). Such directions involve obtaining positive financial results, capitalization and development of export potential. Effective management of these directions will ensure the financial safety of Ukrainian agricultural enterprises and improve of macroeconomic indicators oh the country.

![Figure 7 – Scheme of directions of financial safety of Ukrainian agricultural enterprises](source: suggested by the authors)

**Conclusions**

Thus, in modern conditions the functioning of Ukrainian agricultural enterprises is under the influence of changing external environment, which is manifested in the conditions of economic activity, formation of resource potential and its efficient use, fluctuations of internal and external of conjuncture of agricultural market, state economic policy. Ensuring the financial safety of Ukrainian agricultural enterprises is carried out through the formation of positive financial results, capitalization and asset management of economic entities, increasing export potential, favorable opportunities within the country and abroad, etc.

Studies of financial indicators show positive trends in ensuring the financial safety of Ukrainian agricultural enterprises by increasing production and turnover of agricultural products, revenue, profitability, growth of equity capital and capitalization through quotations of securities on the stock market. The growth of consumer demand and price supply in the domestic and foreign markets of agricultural products contributed to the growth of export potential and foreign exchange earnings.

The development of agricultural exports and the increase in foreign exchange earnings contributed to the growth of the GDP in the country and the stabilization of the exchange rate. Due to the use of Excel software, defended the dependence and influence of foreign exchange earnings on the growth of GDP and the stabilization of the exchange rate in the country have been established. Positive trends in agricultural exports and foreign exchange earnings from exporters of agrarian products will have a positive impact not only on financial safety of Ukrainian agricultural enterprises, but also on food safety and macroeconomic indicators – meeting the needs of producers of consumer goods in raw materials, food demand, improving trade and payments balances, a positive balance of foreign trade turnover, reducing the state budget deficit, regulating the indicators of central bank of the country.
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Протягом тижня акції провідних українських агрохолдингів знизилися. Доступно на: https://agravery.com/uk/posts/show/protagom-tizna-akcii-providnih-ukrainskih-agroholdingiv-znizilisa