THE IMPACT OF UKRAINE'S EU CANDIDACY STATUS ON TECHNICAL AND TECHNOLOGICAL BUSINESS SECURITY

Abstract. The economic security of business has a number of components that contribute to its provision, however, during military aggression, the technical and technological losses of business are colossal. It is important to investigate the tools of business recovery and reform in the conditions of Ukraine's acquisition of the status of a candidate for EU membership despite the war. The article examines EU financing instruments that directly or indirectly affect the economic security of business in Ukraine, according to the main criteria.

Given the military aggression and the strengthening of European integration processes, there is a need to assess the impact of Ukraine's candidate status in the EU on the technical and technological component of economic security of business. Namely, to determine how Ukraine's existing candidate status in the EU will affect the technical and technological component of economic security of business.

The research uses general scientific methods of cognition: analysis and synthesis, induction, deduction, comparison, system approach.

The impact of Ukraine's EU candidate status on the technical and technological component of economic security of business is considered from the standpoint of: the
degree of compliance of technologies used in business. Since the beginning of the war, Ukraine has suffered a total loss of 100 billion dollars, and this only applies to the destruction of fixed assets, business facilities and other important infrastructure. The status of a candidate, in addition to consulting assistance for our country, opens up the possibility of receiving financial assistance in business transformation. The progress of the implementation of the plan of technical and technological measures is considered according to the indicator of funding: science, technology and innovation and technical barriers to trade, as those that directly or indirectly relate to the technical and technological component of the economic security of business.

The technical and technological component of economic security of business plays an important, strategic role in the system of economic security of the state. The results of the study show that since the signing of the Association Agreement with the EU, the transformation of this area has been extremely slow. Under the influence of the war, the technical and technological condition of the business has deteriorated critically, but there is hope that obtaining the status of a candidate in the EU will allow to restore and modernize the specified component through mixed financing and EU financial instruments.

**Keywords:** integration, candidate status of Ukraine in the EU, international cooperation, technical and technological security, economic security of business.

**Intraduction.** Considering the important place of business, in the conditions of war, we note that its economic security is one of the factors of national security. Economic security has a number of components that contribute to its provision, but a special role in the conditions of the total destruction of industrial capacities and business infrastructure would like to be given to the technical and technological component, which plays an important role in modern conditions. The historic decision of the European Union regarding Ukraine's acquisition of the status of a candidate for EU membership actually means total reformation of the country despite the war. Preparation for membership in the EU involves a comprehensive transformation of all spheres, which are also aimed at protecting the economic security of business, and the candidate status opens up the possibility of receiving financial assistance in this transformation.

**Problem.** In view of the unprecedented and complex challenges of modern times, related to the crisis caused by military aggression and the strengthening of European integration processes, for a better understanding of the opportunities and the use of the advantages of the new reality in the search for new solutions to the problems faced by domestic business, there is a need to assess the impact of the status candidate of Ukraine to the EU for the technical and technological component of economic security of business.

**Analysis of recent research and publications.** The issue of the influence of factors on the components of economic security of business is revealed to one degree
or another in the works of domestic scientists, in particular: T. Zubko [1, 2], Z. Varnalii, T. Tomashevskyi [3], O. Bogma, O. Vialets, L Klymash, G. Silakova [4, 5] and others. It is worth noting scientists investigating the impact of European integration processes on domestic business: A. Mazaraki, T. Melnyk, V Yukhymenko, N. Kalyuzhna, L. Kudyrko [6], and a number of authors, in particular: I. Pidopricheva [7, 8], V. Lyashenko, V. Antonyuk [8] indicated the impact, specifically on the technological component.

Among the foreign specialists who pay special attention to the integration of technical and technological spheres, the works of Yaya Li, Yuru Zhang, Chien-Chiang Lee, Jing Li [9] can be noted, which analyze international cooperation in the field of green technologies and insist that economic, technological and social proximity of countries and strict environmental regulations are key factors contributing to international technological cooperation. And also, the works of: M. Stadler [10], V. Karagianni, A. Papagrigoriou, P. Kalantonis, M. Halikias, D. Drosos [11] regarding the influence of the innovative-technological component on the level of economic security of business. Currently, there are many studies in the field of technical and technological business security in the context of integration, however, given the relevance of the research topic, we consider it appropriate to deepen the already existing knowledge, emphasizing the significance of the impact of the status of Ukraine as a candidate for EU membership on the technical and technological component to ensure the economic security of business as a whole.

The aim is to determine how Ukraine's existing candidate status in the EU will affect the technical and technological component of economic security of business.

Methods. The research uses general scientific methods of cognition: analysis and synthesis, induction, deduction, comparison, system approach to determine the features of the impact of European integration processes. The basis of the research information base was the current legal acts of Ukraine and the EU, publications of domestic and foreign scientists on the subject of the study, domestic and foreign analytical reports.

Results. The study of scientific sources shows the lack of a single methodical approach both in determining the level of economic security of business, and in the lack of unity of views of the authors regarding the number and names of functional components of economic security. The majority of authors assign a leading role to financial security as part of the economic security of business, and assign significant variability to other components. However, most scientists agree that the economic capacity of the state and the region is determined by its industrial potential, and the technical and technological security of business is a leading component of maintaining a high level of scientific and technical potential at all hierarchical levels, and it can be ensured by preserving and increasing innovative technology - technological potential of the country. The diversity in the interpretation of the
technical and technological component of business indicates the multifacetedness of this term and has certain differences in this component depending on the specifics of doing business. Taking into account the above, the article examines the impact of Ukraine's EU candidate status on the technical and technological component of economic security of business from the standpoint of: the degree of compliance of the technologies used in business with the best global models; conditions for optimization of resource costs; development of technological potential; innovative activity.

An important topic for discussion in the scientific, political and business circles, in addition to Russia's military aggression, is the forced radical technological transformation of business in Ukraine. The driving force behind technological discoveries, which affect all factors of production, are accompanied by changes in technological, organizational, resource, infrastructural and social provision of economic relations and ultimately lead to structural changes in the economy, is the desire to ensure an appropriate level of business safety and to improve production techniques, technologies and organization, increasing its effectiveness.

The process of European integration is a large-scale, multi-vector, complex process in terms of the development of a high-tech country, and in the conditions of war - recovery and further development. An indicator of the effectiveness of European integration processes in the pre-war period was the level of implementation of the Association Agreement, which, unfortunately, was unsatisfactory due to a number of subjective and objective circumstances. In particular, Fig. 1. the state of progress of implementation of the action plan by Ukraine within the framework of the Association Agreement with the EU is given

![The progress of the implementation of the Association Agreement with the EU by Ukraine, %](image)

**Fig. 1. Progress of the implementation of the Association Agreement with the EU by Ukraine, % [summarized by the authors based on data 12]**

The above data indicate a rapid deterioration in the fulfillment of the terms of the Agreement, and this is not only due to the crisis situation in the country due to a
full-scale war, but also because the main provisions of the Agreement were agreed back in 2011, more than two years before the signing, and do not correspond to the realities and potential of Ukraine-EU relations. Therefore, even before the start of military aggression, it needed a comprehensive renewal. Table 1 shows the progress of implementation of the action plan by main sectors, and Fig. 2 illustrates the progress of the technical and technological component.

Table 1
Progress of implementation of the Association Agreement with the EU by main sectors, %

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Progress of implementation of the Association Agreement with the EU, in % by year</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>2017</td>
</tr>
<tr>
<td>General progress</td>
<td>75</td>
</tr>
<tr>
<td>Energy</td>
<td>75</td>
</tr>
<tr>
<td>Technical barriers to trade</td>
<td>86</td>
</tr>
<tr>
<td>Humanitarian policy</td>
<td>100</td>
</tr>
<tr>
<td>Government Procurement</td>
<td>100</td>
</tr>
<tr>
<td>Social policy and labor relations</td>
<td>85</td>
</tr>
<tr>
<td>Science, technology and innovation</td>
<td>86</td>
</tr>
<tr>
<td>Environment and civil protection</td>
<td>84</td>
</tr>
<tr>
<td>Transport, transport infrastructure, postal and courier services</td>
<td>49</td>
</tr>
</tbody>
</table>

Source: summarized by the authors [based on data 12]

The data in the table show that the highest overall indicator of implementation of the Association Agreement, for the analyzed period, was in 2017 - 75% in the subsequent implementation, which significantly decreased. Out of the total number of sectors, in 2022 the situation in the aspect of meeting the requirements of the Agreement improved significantly, with social policy and labor relations, progress increased more than five times, and with the science, technology and innovation sector, progress doubled.
It is worth noting that the progress of the implementation of the plan of technical and technological measures is considered according to the indicator: science, technology and innovation and technical barriers in trade, as those directly or indirectly related to the technical and technological component of economic security of business.

The above figure illustrates regression rather than progress in meeting the requirements of the Agreement, which indicates the need to make adjustments to the priorities of the partnership even before a full-scale war. It is worth noting that military aggression on the part of Russia accelerated the need to actualize the issue of expanding cooperation in the field of technical and technological modernization, introducing new contactless technologies, strengthening cooperation in the field of economic security of business and ensuring employment. But at the same time, it should be emphasized that, on the one hand, technical assistance and the potential of financial resources currently do not correspond to the scale of the transformational problems that Ukraine faced during the war. After all, the full-scale war and crisis prevailing in Ukraine slow down the movement towards the European community due to unfavorable geopolitical trends and centrifugal processes within the EU. In addition, before the start of the military aggression, it was not yet possible to effectively convert the course of European integration into tangible social and economic changes for both citizens and businesses.

Since the beginning of the war, the state of the technical and technological component of the economic security of business has deteriorated enormously, because since the beginning of the war, the Russian occupying forces have caused a total loss of 100 billion dollars to Ukraine, and this only applies to the destruction of
fixed assets, business facilities and other important infrastructure. So, in addition to reducing current production, worsening the level of economic security of business, the war significantly reduces the potential of the economy. According to NBU estimates, physical capital losses from the destruction of business, housing, and infrastructure reached $100 billion at the beginning of May, which is the equivalent of 50% of GDP in 2021 [13].

To restore the technical and technological component of domestic business in Ukraine, according to the estimate of the head of the European Investment Bank - Werner Heuer, more than 1.1 trillion dollars (about a trillion euros) of foreign aid will be needed to compensate for the damage caused by the invasion of Russia [14].

The above data indicate that it is practically impossible to restore the state of the technical and technological component of the economic security of business to the pre-war level without external assistance. That is why we will try to analyze how Ukraine's acquisition of candidate status in the EU will contribute to the restoration of the technical and technological component of business.

Ukraine acquired the official status of a candidate for EU accession on June 23, 2022. with the adoption of the decision of the European Council, accordingly, this status officially launches the process of Ukraine becoming a member of the EU, which will contribute to the reform of the country despite the war, in all areas in compliance with the principles and regulations of the EU aimed at protecting every citizen and business. Candidate status, in addition to consulting assistance for our country, opens up opportunities to receive financial assistance in business transformation, in particular, financial assistance will be available to Ukraine for countries that are preparing to join the EU (Instrument for Pre-Accession Assistance, IPA). Such assistance will be provided through grant programs, investments or, what is important for the technical and technological component of business, technical assistance, including through participation in programs and initiatives of the European Union. In addition to access to the instrument of pre-accession assistance, candidate status for Ukraine significantly increases the level of EU responsibility for processes in all strategic areas, which is an important driver of reforms. It is worth noting that before receiving the candidate status (from 2014 to 2021), our country received macro-financial assistance through the European Neighborhood Policy (ENP) instrument, which is designed to restore the stable external position of businesses of countries facing external financing difficulties. In fig. 3 provides a comparative description of financial instruments for supporting Ukraine, including the technical and technological component.
The above data in Figure 3 show that comparing the IPA programs for the candidate countries and the ENP programs for the neighboring countries, it can be argued that the significance of the IRA program is much greater. If we compare the GDP volumes of the recipient countries (except Turkey) with the volumes of IPA-II financial aid for 2014-2020, then this figure was 9.5% of the annual GDP of the candidate countries for EU accession, and the budget of the ENP instrument, for countries neighbors for 2014-2020 was equal to only 1.2% of their annual GDP.

The Instrument for Pre-Accession (IPA) is a special EU fund intended for the development of candidate countries on the model of the EU and is an instrument of development, including the technical and technological component through the development of transport infrastructure, regional cooperation, improving the quality of intellectual capital and innovations, activation of mechanisms of economic development of countries that are preparing for accession. But the key direction of changes, which is expected from the candidate countries and for the implementation of which massive technical and financial assistance is provided, is the full adoption of common EU legislation at the time of joining the EU. The specialists of the European Commission point out that the EU pre-accession funds finance investments in the future of both the EU enlargement region and the old EU members. These funds support the efforts of the beneficiaries in carrying out important economic and political reforms, preparing for the adoption of the rights and obligations associated with EU membership.
IPA-III, which will function until 2027, is based on the principles of achieving policy goals and fulfilling the fundamental requirements for the acquisition of EU membership by candidate countries. IPA-III aims to provide support to those reforms that contribute to sustainable socio-economic development and bring the recipient country closer to EU values and standards, including in the aspect of the technical and technological component.

However, for domestic business, in addition to the above assistance, it is important to restore the technical and technological component due to losses from the war. Therefore, it is worth noting the fact that upon acquiring the status of a candidate in the EU, the European Council and the European Commission announced the creation of a Solidarity Fund with Ukraine, which was supposed to become operational in May. The purpose of creating this fund is the primary reconstruction of the technical and technological component, and it can also be used to achieve the goals of pre-admission preparation and bringing Ukraine closer to EU standards.

For the technical and technological component of the business, the EU aid for the post-war reconstruction of Ukraine, which was announced to be carried out at the expense of the Fund for the Reconstruction of Ukraine ("Rebuild Ukraine' Facility") - as a new financial instrument of the EU, to finance measures for the reconstruction of Ukraine and the rapprochement of the Ukrainian economy with European, in the following 4 directions[16]:

- reconstruction of infrastructure, health care, education, destroyed housing, as well as the formation of its energy and digital sustainability in accordance with the latest European policies and standards;
- technical modernization of the state and its institutions to ensure quality management and respect for the rule of law, providing administrative support and technical assistance, including regional and local level;
- implementation of the regulatory and structural agenda with the aim of deepening the economic and social integration of Ukraine and its people with the EU;
- supporting the revival of the Ukrainian economy and society through increasing its economic competitiveness, expanding foreign trade and stimulating the development of the private sector, as well as ensuring "green" and digital transformation of the economy [16].

Conclusions. The technical and technological component of economic security of business plays an important, strategic role in the system of economic security of the state. The results of the study show that since the signing of the Association Agreement with the EU, the transformation of this area has been extremely slow. Under the influence of the war, the technical and technological condition of the business has deteriorated critically, but there is hope that obtaining the status of a candidate in the EU will allow to restore and modernize the specified component through mixed financing and financial instruments of the EU. The main thing is that, in parallel with financing, there should be effective control mechanisms for the
targeted and effective use of funds, only under such conditions will domestic business be able to integrate into the EU single market and attract foreign investments for the innovative modernization of technologies in Ukraine.

References:

