

Challenges for the Economic Security of the State in the Context of the Formation of the Digital Economy

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Abstract. The rapid pace of technological progress has created new opportunities for every person, enterprise and state in achieving their goals and interests. The digital economy is now considered as a component of the traditional one, and its share indicates the level of use of the latest digital technologies, which becomes the dominant factor for improving the competitive position of a certain country in the global economic space. The development of high-tech industrial production with the simultaneous digitalization of all areas of the socio-economic environment creates conditions for the further technological dominance of a limited circle of leading countries. At the same time, the changes caused by digitalization require a revision of the basic principles for ensuring the economic security of the state. Timely tracking of changes manifested in challenges is important to counter new threats. A detailed study of the world experience, in particular, of economically developed countries, in the formation of the digital economy made it possible to identify a number of challenges for which it is advisable to develop adequate response measures in order to avoid possible threats to the economic security of the state.

1 Introduction

Over the past few decades, there have been significant changes in all spheres of society. If a few years ago the digital transformation of the economy was considered as a phenomenon of individual countries with a high level of economic development, then the pandemic actualized the need to focus on the essence of such concepts as “digitalization”, “digital transformation”, “Digital Economy” and “Industry 4.0” of a wide range participants in the global economic space. In the context of the introduction of quarantine restrictions, those companies that fully or partially maintained contact with employees and consumers through digital platforms, and their production facilities, which were automated, continued to produce products and provide services, turned out to be a significant winner. In addition to these new facts, the growing gap between countries oriented towards the formation of a digital economy, where information and knowledge are the main resources, and countries

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for which agricultural production and industrialization remain a priority without significant technological progress, is becoming more and more obvious. The gap itself is more and more difficult to eliminate, because it is based on technologies, the production of which requires maximum innovative activity of the scientific community and commodity producers. Digital transformation has provoked a revision of the paradigm of the development of society, when natural resources, the area of the country and the population are no longer decisive for meeting needs, but the ability to generate new knowledge that forms the basis for a more rational use of natural resources and the creation of new materials, ensures the interaction of man, technology and natural environment. By acquiring ready-made technological products, one can imitate the leaders, but the effect will be significantly less, as well as the pace of development, which directly affects the level of economic security of the state, and therefore cannot be ignored in today's conditions of increasing globalization, open markets and the need to achieve national interests.

2 Materials and Methods

The problems of the formation of the digital economy have become the object of attention of such scientists as R. Berger [6], R. Lipsey [3], D. Stiglitz [8], T. Tapscott [4] and others. Scientific publications define the parameters of the digital economy, study the process of introducing the latest digital technologies, characterize structural changes in national economies and their impact on social processes.

The purpose of the article is to summarize scientific developments with the subsequent identification of key challenges that arise in the process of forming the digital economy.

In preparing this article, general scientific methods of comparative, systemic, structural-functional, economic-statistical analysis were used. Scientific works on theoretical and applied aspects of the development of the formation of the digital economy and the management of the economic security of the economy served as the methodological basis.

3 Results

The management of the economic security of the state is an activity aimed at maintaining sustainability, achieving stability and independence of the economy by implementing protective measures against internal and external threats to realize national interests and create a safe environment for development and meeting the needs of the population. "Today it has become obvious that there can be no absolutely safe systems: only danger is absolute" [1]. The implementation of protective measures should include the mandatory identification of key challenges, which allows to prepare in advance for a possible change in the situation in terms of the emergence of additional opportunities or new threats. Therefore, the effectiveness of activities in the framework of ensuring the economic security of the state largely depends on the ability to recognize precisely the challenges, which is of particular relevance in the context of the formation of the digital economy.

It should be noted that for the first time the term "digital economy" was used in 1994 in a publication called "Digital Economy" [4] by T. Tapscott. Later, this idea was spread by another researcher - N. Negroponte [7], who substantiated the key differences between the digital economy and the traditional one.

4 Discussion

The digital economy is the basis of the Fourth Industrial Revolution and the third wave of globalization. At the same time, it can be argued that the high pace of development of the

digital economy has become possible only through the active use of the latest technologies. The specifics of the digital economy, first of all, can be determined by the fact that, despite further scientific discussions regarding its main parameters, there was a rather rapid practical implementation of the idea itself. The digital economy is the most important factor in increasing productivity and optimizing the structure of the economy. The above facts prove that the digital economy is not just another scientific theory, in relation to which there are active discussions among scientists. Rather, it can already be defined as a new economic reality that provides a realistic perception of technological progress within the Fourth Industrial Revolution.

Today, the digital economy is seen primarily as a component of the traditional national economy, providing a gradual digital transformation of business processes based on the widespread use of new technologies that have become available during the implementation of the Fourth Industrial Revolution. The increase in the share of the digital economy is considered by most countries as an important condition for improving competitiveness and developing national economies. Therefore, from the standpoint of ensuring the economic security of the state, creating favorable conditions for digital transformation, including by identifying and developing an appropriate response to all related challenges, is an important task that must be performed on an ongoing basis.

The first challenge is related to the need to allocate significant economic resources for the formation of a digital economy. Such expenses can be carried out by a limited circle of economically developed countries, when the situation in others is complicated by a critical level of physical and obsolescence of fixed assets. Despite the existence of hypotheses about the possibility of a technological breakthrough, bypassing the second and third industrial revolutions, it is very difficult to actually implement this, at least from the position that in most less economically developed countries there is no real demand for digital products. Given the orientation of a significant part of the population on the priority satisfaction of the need for food, the issue of purchasing devices connected to the Internet is less relevant. Therefore, with a low purchasing power of the population, there are no prerequisites for the development of production, which over time will only increase the technological gap, increase poverty and resource orientation, and therefore negatively affect the economic security of the state.

The second challenge is the “deepening of the digital divide”, the essence of which lies in the unequal access of the population of different countries to the Internet and digital technologies. The digital divide should be considered not only in terms of the level of access of the population of individual countries, regions to the Internet, which is associated with the technical ability to provide such access and the level of solvency of the users themselves, but also in terms of age restrictions (youth in the digital era, freely use digital technologies when older people have difficulties) and the availability of basic knowledge (safe use requires at least minimal knowledge, the acquisition of which is still associated with the educational level of each individual). The magnitude of this problem is evident in the analytical data, according to which “...60% of the world’s population does not have access to the Internet, and only 15% have the ability to pay for broadband access; for 80% of people in developing countries, mobile phones are the point of access to the network” [2]. On the one hand, each country is implementing measures to ensure public access to the Internet, along with this, the quality of the connection itself (the availability of developed modern telecommunication networks), as well as other digital technologies, are developing at a high pace, which generally creates the basis for the continued existence of this challenge. In the absence of more active actions to eliminate the digital divide, a threat is possible that will negatively affect the economic security of the state. “The need to use technological innovations is due to the active development of scientific and technological progress, increasing the pace of digitalization and informatization of society” [6].

In the digital economy, information and knowledge become the main resources, and consequently, the need for natural resources (material, natural) is reduced, which is generally focused on achieving sustainable development. Therefore, “waste in the use of resources” can be defined as a problem. The basis is the facts already available today, that is, the increase in the need for electricity for the operation of data processing centers. Companies, thanks to the use of digital technologies, are able to create demand for goods, pushing consumers to buy unnecessary goods. In addition, manufacturers deliberately adhere to a policy of rapid product aging, that is, creating the next model with minimal technical improvement to increase production volumes despite the suitability of previous products for further use and / or designing new products with a limited useful life. It can be argued that “wastefulness in the use of resources” in the future may lead to the leveling of the advantages of the digital economy in the use of natural resources, as well as the deepening of the raw material orientation of individual countries, which will make it difficult to ensure their economic security.

The development of a set of protective measures for such a challenge as “an increase in the number of cyber attacks” is becoming increasingly important with the growth in the level of digitalization not only of the economy, but also of strategic infrastructure. The object of attack can be both public administration systems and banking institutions, as well as nuclear power plants and chemical plants, the transport network and medical institutions, etc. Accordingly, improving the protection of information and communication systems is an important direction in ensuring the economic security of the state.

The implementation of the fourth industrial revolution is based on high-tech industrial production. Therefore, the lack of industrial production, that is, the focus on the acquisition of finished digital products, causes the emergence of technological dependence on other countries. The essence of this challenge (increasing technological dependence) also lies in the fact that imported equipment and software may contain chips or algorithms that can cause the theft of valuable information and / or gain control over important objects, in particular critical infrastructure.

The definition of structural changes in the economy as a challenge (uncontrolled structural shifts in the economy) is due to the faster growth of trade compared to industrial production. This moment cannot be ignored, because in general, any changes provoke a loss of stability, after which new threats may arise, and a return to the previous state of equilibrium, or the search for a new one, requires targeted state regulation, that is, in any case, the process of ensuring economic security is updated states. If we consider structural changes in the economy, then they should be carried out in accordance with the national digitalization strategy, taking into account the priority of high-tech industrial production, which is more capital-intensive, but also ensures the growth of labor productivity and the improvement of the competitiveness of the national digital product.

In fact, unlimited access to any information that the Internet provides, and the possibility of free communication and doing business through social networks has a negative side – “high probability of loss of confidentiality.” This is not only about the criminal activities of hackers, but also about the actions of companies behind the creation of social networks, which, based on the systematic tracking of user activity, form the targeted content of advertising campaigns. In addition to the promotion of goods, the same information can be used to carry out information impact, which actualizes the provision of the economic security of the state at all levels, that is, a person, an enterprise and the state.

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5 Conclusion

It should be emphasized that the formation of a digital economy today is a basic condition for the development of any country, and ignoring or insufficiently high rates, while strengthening globalization processes, worsen the situation in the world economic space. The results obtained indicate both the challenges that are already relevant today in the process of transition to a digital economy, and for countries that are trying to implement the experience of developing countries.

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