

# ECONOMIC SECURITY OF UKRAINE AND ENTITIES

UDC 338.242(477)  
JEL O032

DOI 10.26906/EiR.2020.2(77).1954

## ROLE AND IMPORTANCE OF INFORMATION SECURITY IN A PANDEMIC ENVIRONMENT

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*Стаття отримана редакцією 20.05.2020 р.*

*The article was received by editorial board on 20.05.2020*

**Introduction.** The scale and impact of the COVID-19 pandemic have dramatically changed the world economy and the paradigm of socio-economic development of each country. The viral danger has become a challenge / danger not only to the health care system, but also to the ability of public authorities and local self-government, businesses to face such serious challenges and threats. The pandemic had a negative impact not only on the level of economic and national security, but also on income and consumption, business conditions (critical decline in demand and loss of markets, deterioration of the financial condition of enterprises) and others.

In addition, the COVID-19 pandemic has intensified digitalization processes. After all, the global isolation of the population around the world has led to a sharp increase in Internet users. Thus, according to research by experts from international companies We Are Social and Hootsuite [1], today the Internet is used by more than 4.5 billion people, which is almost 60% of the world's population. As of the beginning of 2020, the Internet was used by 7% (298 million) new users more than in January 2019 and the dynamics remains positive.

Given the above, it is fair to say that the study of the COVID-19 pandemic cannot be limited to the medical field. The immersion of society in cyberspace poses challenges to the national security system and the need for a radical change in strategic vectors. In this aspect, the priority is to ensure a high level of information security of the state. Therefore, the need to study the nature and importance of information security in a pandemic is undeniable.

**Overview of recent researches and publications.** Problems of ensuring the security of the national economy are widely relevant in the works by domestic scientists such as O. Baranovskyi, Z. Varnalii, O. Vlasiuk, V. Heiets, A. Halchynskyi, Ya. Zhalil, M. Yermoshenko, S. Kirieiev, V. Kyrylenko, V. Martyniuk, V. Muntian, S. Pyrozhkov, V. Predborskyi, A. Sukhorukov, V. Shlemko, N. Yurkiv and many others.

Thus, O. Baranovskyi in his research reveals the genesis of security from the standpoint of philosophical, sociological and religious perception. In the works of Z. Varnalii the theoretical principles of

economic security are considered, the mechanism of its provision is substantiated. An important contribution is the detailing of threats to the security of the national economy and ways to prevent them. V. Heiets research is devoted to the problems of ensuring economic security. The developed indicators of economic security of Ukraine deserve special attention. In the works by N. Yurkov theoretical and methodological principles and applied means of achieving security of the real sector of the economy are revealed.

Noting the role and importance of existing scientific research on the security of the national economy, it is clear that in a pandemic, one of the most pressing issues is the problem of information security.

**The purpose of the paper.** The purpose of the article is to substantiate the role and importance of information security in a pandemic, which includes analysis of cyber information aspects of the COVID-19 pandemic, study of the conceptual and categorical basis and regulatory information security, determination of strategic priorities for strengthening information security in Ukraine.

**The main body and results of the research.** The multi-faceted nature of the COVID-19 pandemic is manifested in the fact that its devastating impact has spread to all spheres of life of the world community. The international movement of people and goods has practically stopped. Production volumes in different countries of the world are critically decreasing, and, consequently, the volumes of trade operations. Given the global nature of the modern economy, this causes supply chains to break down and, consequently, negatively affects production not only in countries most affected by coronavirus, but also in countries with trade relations with them [2]. Thus, the reduction in world trade in 2020, according to the World Trade Organization, will range from 13% to 32% depending on the scenario, which is more significant than the fall in world GDP [3].

Almost all industries have suffered large-scale losses due to quarantine restrictions. As a result of the coronavirus pandemic and the introduction of quarantine measures, the fall in Ukrainian GDP according to the Ministry of Economic Development, Trade and Agriculture in the first half of 2020 amounted to 6.5% [4].

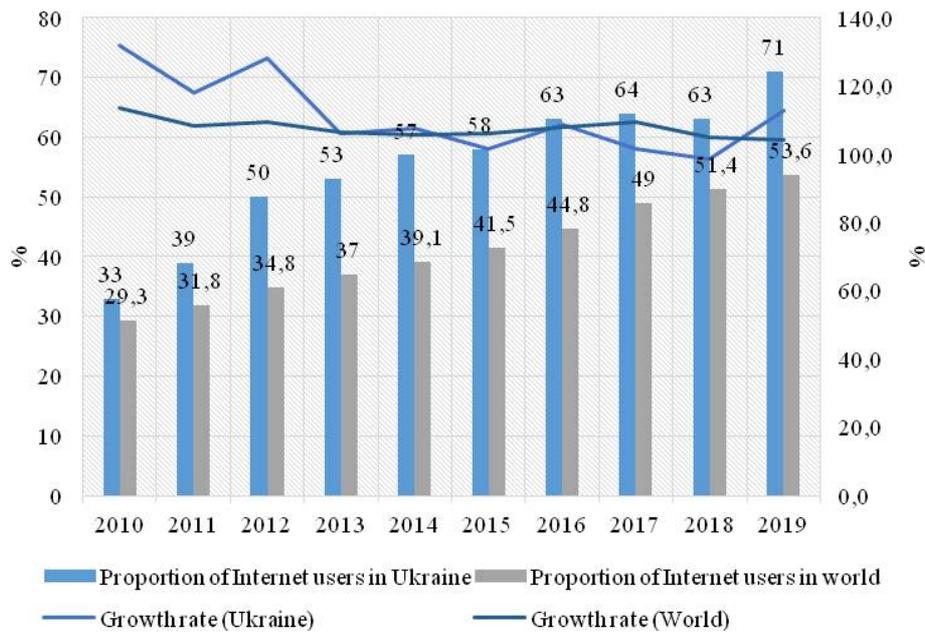
The suppression, and in some areas the cessation of economic activity has led to rising unemployment. According to the State Employment Service, as of April 1st, 349,424 unemployed were registered in Ukraine, as of May 1st, this figure was 457,005 people, as of June 1st – 511,388 people, and as of July 1st – 517,284 people [5]. Thus, for several months of the quarantine period (from early April to early July) the number of unemployed increased by more than 48%. For comparison, as of July 1st, 2019, total of 287,086 unemployed were registered in Ukraine (1.8 times less than on July 1st, 2020). According to the estimates of the Chamber of Commerce and Industry of Ukraine, the real unemployment rate is 13.7–15.4%. This is the highest figure for the last 15 years [6].

Rising unemployment has led to a decline in household incomes and, consequently, a decrease in state budget revenues. As of May 2020, the state budget was executed with a significant deficit (UAH 24.5 billion). As a result, given the critical need for medical funding, research, and business support, the lack of funds only exacerbates the socio-economic crisis caused by the pandemic.

The complexity of the situation is only exacerbated by the fact that the COVID-19 pandemic is developing in a high-tech society, and misinformation in the cyberspace is spreading almost instantly, in particular through social networks. Thus, the number of social network users in the world at the beginning of 2020 increased by 9% or 321 million new users compared to 2019. The most popular platform is Facebook (2.449 billion active users per month), followed by YouTube (2 billion) and WhatsApp (1.6 billion) [1].

The growth of Internet users during self-isolation and quarantine is evidenced by Huawei's data. Thus, in the most affected countries (China, Italy, Spain, Germany, Great Britain, France) there is a significant increase in fixed Internet traffic. In particular, in Italy and China there was an increase in traffic by more than 70%, in Spain – by more than 40%, in the UK – by 30%. In Ukraine, this figure is about 25% [7].

Over the last decade, there has been a rapid spread of digitalization processes (Fig. 1). According to the official data of the International Telecommunication Union at the UN in 2019, Internet users accounted for 53.6% of the world's population. At the same time, in developed countries this figure reaches about 87%, in the least developed – 19% [8]. In Ukraine, according to research by the Internet Association of Ukraine, the number of Internet users in 2019 was 71% [9].



**Fig. 1. Dynamics of Internet users in Ukraine and the world in 2010-2019**

Source: author's development according to [8, 9]

Information has become a factor that can lead to significant technological accidents, military conflicts, disorganize public administration, the financial system, and the higher the level of intellectualization and informatization of society, the more reliable information security becomes necessary, since the interests of people and states are increasingly realized through informatization [10].

Information security is an integral component of every sphere of national security and is designed to protect vital interests of an individual, society and the state, to minimize losses due to inaccurate and incomplete information, computer crimes and other destructive information impact on society.

Misinformation due to modern information technology spreads extremely quickly and, in a pandemic, is significantly destructive and characterized by negative chain and synergistic effects. A separate cyber information aspect of the pandemic was the intensification of cybercrime. Cyberattacks on health care systems have become more frequent. During the pandemic, the number of cybercrimes related to e-banking and online commerce also increased. The increase in the volume of online payments using various electronic banking services has increased the number of thefts from bank customers' accounts [2]. According to the results of the first half of 2020 alone, the Security Service of Ukraine [11] has neutralized 300 cyberattacks and cyber incidents.

Therefore, today, ensuring information and cybersecurity of each individual citizen, society and the state as a whole is a priority and acquires strategic importance.

The importance of information security has been declared at the highest level. Article 17 of the Constitution explicitly stipulates that along with the protection of the sovereignty and state integrity of Ukraine, "ensuring its economic and information security are the most important functions of the state, the cause of all Ukrainian people" [12].

The analysis of the current regulatory framework allowed to identify the following levels of regulatory information security.

The first level of regulation is formed by the basic law of our state – the Constitution of Ukraine.

The second level of regulation is formed by the Law of Ukraine "On National Security of Ukraine", which is the basic one on the researched issue, and the Law of Ukraine "On Information". In particular, the Law "On National Security of Ukraine" stipulates that the national security of Ukraine is ensured by conducting a balanced state policy in accordance with duly adopted doctrines, concepts, strategies and programs in political, economic, social, military, environmental, scientific, technological, informational and other areas.

The third level of regulation is formed by other laws on information security or on the activities of the subjects of information security of the national economy: the Law of Ukraine "On the Concept of the National Informatization Program", the Law of Ukraine "On Basic Principles of Information Society

Development in Ukraine for 2007-2015". Thus, according to the Concept of Digital Economy and Society of Ukraine for 2018-2020, information security along with cybersecurity, personal data protection, privacy and rights of users of digital technologies, strengthening and protection of trust in cyberspace is determined by the precondition of simultaneous digital development and appropriate prevention, elimination and management of associated risks [13].

The fourth level of regulation is formed by by-laws, i.e. regulations issued on the basis of the law, in accordance with the law and aimed at its implementation by specifying legislative requirements or establishing primary norms. Prominent among them are the Decree of the President of Ukraine "On the decision of the National Security and Defense Council of Ukraine of January 27th, 2016" On the Cyber Security Strategy of Ukraine ", the Decree of the President of Ukraine on the decision of the National Security and Defense Council of Ukraine of May 6th, 2015" On the National Security Strategy Of Ukraine ", Order of the Cabinet of Ministers of Ukraine " On approval of the Concept of development of the digital economy and society of Ukraine for 2018-2020 and approval of the action plan for its implementation ", etc.

However, in general, given the need to reduce the destructive cyber information impacts and threats in the context of the COVID-19 pandemic, regulatory information security needs to be improved.

The analysis of theoretical developments of specialists in the field of security provides an opportunity to systematize the main conceptual scientific approaches to the interpretation of the category "information security". Thus, in the scientific literature today there are three main conceptual approaches to defining the essence of information security:

- 1) information security as a component of national security;
- 2) information security as a state of protection of the information environment and national interests from possible threats;
- 3) information security as a state of the system that is able to provide target security parameters [14].

In general, economic studies consider the concept of "information security" from the standpoint of protection of national economic interests and compare the cost of implementation and operation of information security systems in the field of economic security and possible losses from risks and threats. The role of information security is determined, as a rule, by the ability of means and methods of information security, as an important component of economic security at all levels, to withstand threats to the economic integrity of the state [15].

The conceptual nature of further information security research should be shaped by the challenges and threats that have arisen in a pandemic. The widespread use of digital technologies caused by global quarantine will be an indicator of the rapid development of digitalization, and the insufficient level of cyber information literacy, its unwillingness to use Internet systems and IT technologies in everyday life, inability to ensure their cyber and information security are the main challenges today.

Strategic priorities for improving the level of information security should be: strengthening the protection of the national segment of cyberspace; development of domestic cyber and information technologies, new high-tech electronic and software products, etc.

Thus, the COVID-19 pandemic highlighted the need to strengthen Ukraine's national security, and the need to reduce the negative effects of cyber information destructive influences - the need to improve public policy in the field of information security.

**Conclusions.** The COVID-19 pandemic has been the greatest challenge to humanity in decades. Its destructive influences have spread to all spheres of society. At the same time, the pandemic did not cause, but only highlighted the dangers that inevitably arise in today's globalized world.

Based on the study, the rapid spread of digitization processes under quarantine restrictions, which in turn raised the issue of information and cybersecurity of citizens, society, the country as a whole, the development of special tools to detect and neutralize harmful content in cyberspace.

The analysis of the current regulatory framework allowed to identify four levels of regulatory and legal support of information security. Given the need to reduce the destructive cyber information impacts and threats of the COVID-19 pandemic, regulatory information security needs to be improved.

The growth of activity in the cyberspace, including social networks, the transition to remote modes of operation and learning require further in-depth research to ensure information security, taking into account the challenges and threats that have arisen in a pandemic.

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УДК 338.242(477)

JEL O032

**Онищенко Світлана Володимирівна**, доктор економічних наук, доцент. **Глушко Аліна Дмитрівна**, кандидат економічних наук, доцент. **Янко Аліна Сергіївна**, кандидат технічних наук, доцент. Національний університет «Полтавська політехніка імені Юрія Кондратюка». **Роль та значення інформаційної безпеки в умовах пандемії**. У статті актуалізовано проблему забезпечення інформаційної безпеки в умовах пандемії. Обґрунтовано, що вірусна небезпека стала викликом/небезпекою не лише системі охорони здоров'я, а й спроможності органів державної влади та місцевого самоврядування, бізнесу протистояти таким серйозним викликам і загрозам. Розглянуто особливості впливу пандемії COVID-19 на світову економіку, національну економіку та безпеку. Деталізовано, що саме інформація (dezinformatsiia) в кіберінформаційному просторі стала найважливішим ресурсом та основною миттєвою, рушійною силою. Наголошено на значенні інформаційних ресурсів у житті суспільства й ролі інформаційної безпеки у забезпеченні національних інтересів будь-якої держави. Проведено статистичне дослідження динаміки процесів цифровізації в умовах карантинних обмежень, результати якого підтвердили необхідність забезпечення інформаційної та кібербезпеки громадян, суспільства, країни в цілому, розроблення спеціальних інструментів для виявлення та знешкодження шкідливого контенту в кіберпросторі.

Проведено аналіз нормативно-правової бази реалізації державної регуляторної політики в напрямку забезпечення інформаційної безпеки в Україні. Виокремлено чотири рівні нормативно-правового забезпечення інформаційної безпеки. Обґрунтовано потребу в удосконаленні нормативно-правового забезпечення інформаційної безпеки з огляду на необхідність зменшення деструктивних кіберінформаційних впливів та загроз в умовах пандемії COVID-19. Визначено стратегічні пріоритети підвищення рівня інформаційної безпеки, зокрема посилення захисту національного сегменту кіберінформаційного простору; розвиток вітчизняних кібер- та інформаційних технологій, нових високотехнологічних електронних і програмних продуктів, тощо.

**Ключові слова:** інформаційна безпека, пандемія COVID-19, національна безпека.

UDC 338.242(477)

JEL O032

**Onyshchenko Svitlana**, D.Sc. (Economics), Associate Professor. **Hlushko Alina**, PhD (Economics), Associate Professor. **Yanko Alina**, PhD (Technical Sciences), Associate Professor. National University «Yuri Kondratyuk Poltava Polytechnic». **Role and Importance of Information Security in a Pandemic Environment.** The peculiarities of the impact of the COVID-19 pandemic on the world economy, national economy and security are considered, and it is detailed that information (misinformation) in cyberspace has become the most important resource and the main instantaneous driving force. The importance of information resources in the life of society and the role of information security in ensuring the national interests of any state are emphasized. The analysis of the normative-legal base of realization of the state policy in the direction of maintenance of information security in Ukraine is carried out and the strategic priorities of increase of its level are substantiated.

**Keywords:** information security, COVID-19 pandemic, national security.