

## STATE REGULATION OF THE NATIONAL ECONOMY IN THE CONDITIONS OF WAR (FOR EXAMPLE ELECTRONIC COMMUNICATION SERVICES MARKET)

### ДЕРЖАВНЕ РЕГУЛЮВАННЯ НАЦІОНАЛЬНОЇ ЕКОНОМІКИ В УМОВАХ ВОЄННОГО СТАНУ (НА ПРИКЛАДІ РИНКУ ЕЛЕКТРОННИХ КОМУНІКАЦІЙНИХ ПОСЛУГ)

*The purpose of the article is to systematize and generalize the features of state regulation of the market of electronic communication services under martial law. It is noted that the needs for regulation during the war may change depending on market conditions and the structure of the legal framework, shelling of critical infrastructure, cyber attacks, but the key components for effective regulation are the functional aspects of the regulatory body, its subordination, the analysis of the preventive and operational regulatory impact at decision-making, protection of the industry and protection of consumer rights, etc. The article presents the regulatory framework of the state regulation of the market of electronic communication services in modern and historical aspects. It was determined that the national regulator of the market of electronic communication services in Ukraine is the National Commission, which carries out state regulation in the fields of electronic communications, radio frequency spectrum and the provision of postal services (NCEC), the main functions of the regulator are given. The main directions of state regulation of the market of electronic communication services in Ukraine are considered. It is substantiated that the trends towards liberalization in the field of electronic communications are related to global processes and opportunities that regulatory bodies face as services expand, platforms and network operators converge. It was noted that responding to market behavior and the growing need to ensure the safety of critical infrastructure and protect consumer rights determines the use of appropriate regulatory tools, the choice and adoption of which is complicated for the industry regulator in the modern convergent environment due to military actions. The corresponding institutional structure is described. It was concluded that the institutional structure in the field of electronic communications is complex, it includes relations of industry regulation between the state and international institutions, relations between the industry regulator and the antimonopoly authority, during the years of independence, the regulatory system in the field of electronic communications of Ukraine has gone through many stages and, accordingly the object of regulation changed (electrical communications, telecommunications, electronic communications). In conclusion, it is stated that a certain dualism of the need for state regulation can be traced due to the inefficient functioning of market mechanisms, which, in turn, is due to the lack of the necessary institutional structure that would fully satisfy the needs of the national economy in wartime. It is emphasized that usually the state regulation of electronic communications is aimed at ensuring a competitive market structure in order to achieve advantages from such a structure, from the point of view of the consumer, lower tariffs, better quality and an expanded range of services, and from the point of view of the state and business entities – to achieve maximum market growth with an increase in volume, lower costs, development of new services. However, in wartime, aspects of security, preservation of infrastructure and protection against cyberattacks come to the fore. It was concluded that in the field of electronic communications, in the presence of significant network effects, important areas of state regulation appear in wartime, which are related to standardization and compatibility, which shape the nature of innovation and price competition, as well as ensuring the stable functioning of networks after shelling of critical infrastructure. In the absence of compatibility of security and market aspects, the benefits for consumers and the provision of competition in the relevant market are reduced, as well as the fulfillment of social functions historically inherent in the communications industry is impossible.*

**Key words:** *electronic communications, electronic communication services, market, national economy, state regulation, war.*

*Метою статті є систематизація та узагальнення особливостей державного регулювання ринку електронних комунікаційних послуг в умовах воєнного стану. Зазначено, що потреби в регулюванні під час війни можуть змінюватися залежно від умов ринку та структури нормативно-правової бази, обстрілів критичної інфраструктури, кібератак, однак ключовими складовими для ефективного регулювання виступають функціональні аспекти регуляторного органу, його підпорядкування, аналіз попереджувального та оперативного регуляторного впливу при ухваленні рішень, захисту галузі та захисту прав споживачів тощо. У статті наведено нормативну базу державного регулювання ринку електронних комунікаційних послуг у сучасному та історичному аспектах. Визначено, що національним регулятором ринку електронних комунікаційних послуг в Україні є Національна комісія, що здійснює державне регулювання у сферах електронних комунікацій, радіочастотного спектра та надання послуг поштового зв'язку (НКЕК), наведено основні функції регулятора. Розглянуто основні напрями державного регулювання ринку електронних комунікаційних послуг в Україні. Обґрунтовано, що тенденції до лібералізації в сфері електронних комунікацій пов'язані із світовими процесами і можливостями, з якими стикаються регуляторні органи у міру розширення послуг, зближення платформ і мережевих операторів. Відзначено, що реагування на ринкову поведінку і зростаюча потреба в забезпеченні безпеки критичної інфраструктури та захисті прав споживачів обумовлює використання відповідних інструментів регулювання, вибір і прийняття яких ускладнюється для галузевого регулятора в сучасному конвергентному середовищі через військові дії. Описано відповідну інституціональну структуру. Зроблено висновок про те, що інституціональна структура в сфері електронних комунікацій є складною, вона включає відносини галузевого регулювання між державою і міжнародними інститутами, відносини між галузевим регулятором і антимонопольним органом влади, за роки незалежності система регулювання в сфері електронних комунікацій України пройшла*

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багато етапів і відповідно змінювався об'єкт регулювання (електрозв'язок, телекомунікації, електронні комунікації). У підсумку стверджується, що простежується певна дуалістичність необхідності державного регулювання через неефективне функціонування ринкових механізмів, що, в свою чергу, обумовлено відсутністю необхідної інституціональної структури, котра б повністю задовольняла потреби національної економіки у військовий час. Наголошено, що зазвичай державне регулювання електронних комунікацій спрямоване на забезпечення конкурентної ринкової структури, щоб досягти переваги від такої структури, з точки зору споживача нижчих тарифів, кращої якості і розширеного асортименту послуг, а з точки держави та суб'єктів підприємництва – досягнення максимального росту ринку із збільшенням обсягу, нижчих витрат, розвитку нових послуг. Проте у військовий час на перший план виходять аспекти безпеки, збереження інфраструктури та захист від кібератак. Зроблено висновок про те, що у сфері електронних комунікацій за наявності значних мережових ефектів у військовий час постають важливі напрями державного регулювання, які пов'язані із стандартизацією і сумісністю, що формують характер інновацій і цінової конкуренції, а також забезпечення стабільного функціонування мереж після обстрілів критичної інфраструктури. За відсутності сумісності безпекових і ринкових аспектів зменшуються вигоди для споживачів та забезпечення конкуренції на відповідному ринку, а також унеможливується виконання соціальних функцій, історично притаманних галузі зв'язку.

**Ключові слова:** воєнний стан, державне регулювання, електронні комунікації, електронні комунікаційні послуги, національна економіка, ринок.

**Introduction and problem statement.** During the war the creation and preservation of the national electronic communication infrastructure for the preservation of the national economy with the provision of consumer access to electronic communication services and a sufficient level of quality of their service is due to the need for appropriate regulation of the market of electronic communication services. The needs for regulation during war may change depending on market conditions and the structure of the regulatory framework, attacks on critical infrastructure, cyber attacks, but the key components for effective regulation are the functional aspects of the regulatory body, its subordination, the analysis of regulatory influence in decision-making, and the protection of consumer rights etc.

Despite the constant change of regulatory measures, the main goals of state regulation of the market of electronic communication services during the war are as follows: facilitating access to electronic communication services; promoting the development of competitive markets; creation of a favorable investment climate for the expansion of electronic communication networks; transparent regulation and licensing; consumer rights protection; preservation and protection of property and capabilities of electronic communication networks against enemy attacks, etc.

**Analysis of recent research and publications.** Many foreign and Ukrainian scientists were engaged in researching the market of electronic communication (formerly - telecommunication) services, as well as the problems of state regulation of the economy during the war, including O. Bohutskyi [2], V. Marhasova [14], V. Koval [2], A. Zhavoronok [3; 17], O. Popelo [15; 16], O. Franchuk [10], L. Shostak [11] etc.

However, despite a significant number of works devoted to the electronic communications market, the problem of state regulation of the market of electronic communications services under martial law remains insufficiently developed.

**The aim of the article is the** systematization of state regulation features of the electronic communication services market in wartime conditions.

**Results of the research.** The main issues regarding state regulation of the economy in general,

and the market of electronic communication services in particular, in Ukraine are regulated by the provisions of the following acts: the Constitution of Ukraine, the Law of Ukraine "On the Basics of State Regulatory Policy in the Field of Economic Activity", the Law of Ukraine "On Licensing Types of Economic Activity", and other normative legal acts.

As for the field of electronic communications, the main legislative act that regulates, including the issue of state regulation of the market of electronic communication services, is the Law of Ukraine "On Electronic Communications" [9] and by-laws that determine the direction of state policy formation and legislative provision of state management and regulation in the field of electronic communications by the body of legislative power – the Verkhovna Rada of Ukraine, and state regulation in the field of electronic communications and communications by the central executive authority in the field of communications – the National Commission for State Regulation in the Field of Electronic Communications communications, radio frequency spectrum and provision of postal services (NCEC) [4]. The powers of this body are defined in the relevant Law.

The following no less important regulatory acts regulating electronic communication services in historical terms should be considered:

- Resolution of the Cabinet of Ministers of Ukraine dated April 11, 2012 No. 295 "On approval of the Rules for providing and receiving telecommunication services";

- Order of the Administration of the State Service of Special Communications and Information Protection of Ukraine dated 01.11.2012 No. 617 "On approval of Technical requirements for telecommunication networks of Ukraine to ensure the provision of telecommunication services of subscriber number transfer and use of a personal number", registered in the Ministry of Justice of Ukraine on 21.11.2012 under No. 1947/22259;

- Decision of NKRZI No. 429 dated 25.08.2011 "On approval of the Procedure for providing national roaming service", registered in the Ministry of Justice of Ukraine on 13.09.2011 under No. 1077/19815;

- Decision of the NKRZI dated August 11, 2011 No. 393 "On approval of the Procedure

for the registration of subscribers who receive telecommunication services without concluding a contract in writing", registered in the Ministry of Justice of Ukraine on September 5, 2011 No. 1046/19784;

– Decision of the NKRZI dated 29.11.2012 No. 624 "On approval of the Basic requirements for the contract on the provision of telecommunication services and recognition as invalid, decision of the NKRZI dated 26.03.2009 No. 1420", registered in the Ministry of Justice of Ukraine on 24.12.2012 under No. 2150/ 22462;

– Rules for provision and receipt of telecommunication services, approved by Resolution of the Cabinet of Ministers of Ukraine dated April 11, 2012 No. 295 and other normative legal acts.

The specified regulatory acts defined the basic principle of using the network, however, the right to use the network depends on the component of the network, namely, in the case of ownership of equipment and communication lines, this right actually belongs to the operator or provider, but the radio frequency spectrum, subject to the allocation of radio frequency bands, is issued by the central a body of executive power that ensures the formation of state policy in the spheres of communications, electronic communications, and the use of radio frequency resources of Ukraine.

In the case of the use of an electronic communication network or its component by an individual market subject to another subject-owner (operator, provider of electronic communications) when providing electronic communication services, there is a need for contractual relations to grant the right to such use, since the owner may influence quality and price and, as a result, on the end consumer.

Therefore, the national regulator of the market of electronic communication services in Ukraine is the National Commission for State Regulation in the Fields of Electronic Communications, Radio Frequency Spectrum and the Provision of Postal Services (NCEC), which is a state collegial body.

Let's consider the main directions of state regulation of the market of electronic communication services in Ukraine [1; 2; 4; 9 – 11; 17].

1. Tariff regulation and the system of mutual settlements are aimed at harmonizing the interests of all interested parties for a transparent and effective tariff formation mechanism.

1.1. Tariff regulation of publicly available electronic communication services, in accordance with the powers of NCEC, includes the procedure for providing and receiving publicly available electronic communication services with universal consumer access to electronic communication networks for public use, within the numbering zone for providing and receiving local telephone communication, calling emergency and reference services services

1.2. Mutual settlements between electronic communications operators are carried out in accordance with the procedure established by NCEC as mandatory for the subjects of the electronic communications market.

Tariff barriers and non-competitive actions of market actors in setting tariffs for calls to other networks have led to an increase in the intra-network concentration of traffic of large electronic communications operators [4] and restrains the process of introducing number porting services. Therefore, as part of creating the prerequisites for the introduction of number porting services and due to the discrepancy between the estimated fees and the cost of traffic termination services, NKEK initiated a reduction of the estimated fees for traffic bypass services even before the war, which should contribute to stimulating competition in the market of electronic communication services.

2. Registration and licensing. Operators carry out activities in the field of electronic communications on the basis of licenses for types of activities. The use of the radio frequency resource on the basis of licenses is carried out by business entities to which NCEC (and earlier – NKRZI) issued licenses for the use of the radio frequency resource of Ukraine [4].

3. Distribution and use of the number resource as a direction of activity of NCEC involves the formation of the numbering space with its distribution, assignment, accounting, issuance and cancellation of permits for its use.

4. Optimization of the organizational structure of NCEC. Optimization of the NCEC structure took place taking into account the staff list and legal succession (the NCEC is the legal successor of the NKRZI). Currently, the structure is formed taking into account the requirements of legislation in accordance with the priority areas of activity and powers of NCEC.

5. Activities of UDCR. In accordance with the Law of Ukraine "On Electronic Communications", the UDCR is endowed with the relevant regulatory powers in the field of telecommunications, which apply to users of the radio frequency resource of Ukraine who operate in the public radio frequency bands, regarding the assignment of radio frequencies, technical control and conducting radio frequency monitoring of the use of the radio frequency resource [9].

In addition, UDCR carries out technical administration of personal numbers and transferred subscriber numbers on the territory of Ukraine, which is especially important when implementing the latest generation of radio technology.

The noted tendencies towards liberalization in the field of electronic communications are related to global processes and opportunities that regulatory bodies face as services expand, platforms and network operators converge. The International Telecommunication Union (ITU) is responsible for

these processes with the aim of leveling dissonance from the development of new goods and services and the resulting growing social and economic gap. In this regard, new types of policy and regulatory framework are needed for a clear understanding of the complex relationship between regulatory policy and the growth of the field of electronic communications, especially in the context of convergence, as well as taking into account the features of the military state.

Responding to market behavior and the growing need to protect consumer rights requires the use of appropriate regulatory tools, the choice and adoption of which is complicated for the industry regulator in today's convergent environment due to military actions. Regulation in the conditions of convergence of the field of electronic communications determines the importance of reviewing the regulatory environment in accordance with the degree of change in the level of competition, as well as the need to change regulation with the transition from preventive regulation to operational regulation (due to damage to critical infrastructure, cyber attacks, etc.).

In turn, due to convergence in the market of electronic communication services, it is becoming increasingly difficult to identify individual operators and even services that fall into one category for regulation aimed at improving market efficiency. Approaches to the organizational and legal regulation of the functioning and development of the field of electronic communications may differ depending on the directions of convergence. Considering the technological complexity of functioning let's recall the institutional environment of the field of electronic communications.

The institutional structure in the field of electronic communications is complex, it includes sectoral regulatory relations between the state and international institutions, relations between the sectoral regulator and the antimonopoly authority. During the years of independence, the regulatory system in the field of electronic communications of Ukraine has gone through many stages (electrical communications, telecommunications, electronic communications). The change in the market conditions of the functioning of subjects in the field of electronic communications determines the need to adapt state regulation to their specifics, which includes measures to regulate market openness and legislation aimed at regulating market relations within the limits of institutional theories, as well as strengthening the security direction.

In general, modern institutional concepts connect the state's ability to really influence the market environment with the promotion of the creation of effective market institutions and the institutional structure of the market of electronic communication services, which is aimed at supporting the competitive process by overcoming market power and anti-competitive behavior of both operators and providers,

as well as state authorities, leading to an increase in transaction costs. A certain duality of the need for state regulation can be observed due to the inefficient functioning of market mechanisms, which, in turn, is due to the lack of the necessary institutional structure that would fully satisfy the needs of the national economy in wartime.

The transformation of the economic functions of the state during the war is possible on the basis of changing the content of regulated processes and expanding the participation of operators and providers of electronic communications in state policy. State policy regarding the development of the market of electronic communication services should be aimed at [2; 3; 10; 14; 17]:

- promoting the expansion of broadband access services based on the encouragement of private investment and competition with the deployment of broadband networks and the provision of competitive services (provided it is possible to ensure the security of these networks);

- lowering barriers to entering the broadband access market based on promoting stability and predictability of regulation and minimizing the regulatory impact on market participants, while encouraging competition between them, using, if possible, only "ex-post" regulatory measures;

- state support of electronic communications markets with provision of interaction between state and private initiatives (including public-private partnership);

- ensuring the independence of regulatory bodies with the possibility of cooperation between the public and private sectors.

Usually, the state regulation of electronic communications is aimed at ensuring a competitive market structure in order to achieve advantages from such a structure, from the point of view of the consumer, lower tariffs, better quality and an expanded range of services, and from the point of view of the state and business entities – to achieve maximum market growth with an increase in volume, lower costs, development of new services. However, in wartime, aspects of security, preservation of infrastructure, and protection against cyberattacks come to the fore.

Therefore, one of the most important tasks for the further development of the market of electronic communication services is the creation of appropriate regulatory systems and institutional systems that correspond to national conditions and priorities during the war. The main problems of an institutional nature are: the low level of development of financing mechanisms and the insufficient level of development of defense systems in wartime.

At the current stage, integrated and joint regulation is considered appropriate, the basis of which is the regulator as a partner for the development of the



market of electronic communication services, as well as the development of mechanisms for working with regulators of other sectors to achieve sustainable and safe development of the national economy, because communication is strategically important in wartime.

The field of electronic communications is the most dynamic industry, which is characterized by a high rate of growth of innovations, namely innovations of new services and innovations of network infrastructures, which can become a guarantee of providing additional protection of the industry during war.

Achieving the goal of state regulation of electronic communications during the war takes into account technological changes in the organization of the industry and the speed of innovation (especially in the mobile communication and Internet markets), which should be reflected in the regulatory policy, which, in turn, affects the speed of technological changes due to the endogenous relationship between technological progress and industry structure. However, it is worth considering that regulation can slow down the introduction of technological innovations by taking preventive measures against an operator with a significant market advantage, reducing its incentives to innovate due to a decrease in the opportunity to benefit from them, for example, due to a delay in the time of permission to use the corresponding technology, which is in the military the timing can be fatal.

**Conclusions and prospects for further research.** So, we can say that in the field of electronic communications, in the presence of significant network effects, important directions of state regulation appear in wartime, which are related to standardization and compatibility, which shape the nature of innovation and price competition, as well as ensuring the stable functioning of networks after shelling of critical infrastructure. In the absence of compatibility of security and market aspects, the benefits for consumers and the provision of competition in the relevant market are reduced, as well as the fulfillment of social functions historically inherent in the communications industry is impossible.

State regulation acts as a substitute for competition in the market of electronic communication services due to the existence of external effects or other market failures, which forces NKEK to make regulatory decisions that must balance between the short-term task of tariff regulation or maintaining long-term efficiency in the form of improving the security and investment climate.

Since regulation can impose costs on the part of both government authorities and business entities, which, in turn, restrains investment activity and the introduction of innovations, it is therefore important during wartime that preventive government

regulation is minimal and necessary to achieve its goal, especially in the dynamic markets of electronic communication services, and operational regulation was sufficient to ensure the safety and uninterrupted functioning of the industry.

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