

# SCIENTIA FRUCTUOSA

## Scientific journal

It is published six times a year

First was published in February 1998

To October 2000 had been published under the title

"Herald of Kyiv State University of Trade and Economics"

To February 2000 had been published under the title

"Herald of Kyiv National University of Trade and Economics"

The journal is recognized by the Ministry of Education and Science of Ukraine as the professional edition in economic sciences of Category "B"

№ 6<sup>(146)</sup>2022

### EDITORIAL BOARD

**MAZARAKI A.** – Editor;

**PRYTULSKA N.** – Deputy Editor;

**MELNYCHENKO S.** – Executive Secretary

**BAY S.**, Doctor of Sciences (Economics), Professor, SUTE;

**BLAKYTA H.**, Doctor of Sciences (Economics), Professor,

SUTE;

**BONDARENKO O.**, Doctor of Sciences (Economics), Professor, SUTE;

**BOSOVSKA M.**, Doctor of Sciences (Economics), Professor,

SUTE;

**VEDMID N.**, Doctor of Sciences (Economics), Professor, SUTE;

**VOLOSOVYCH S.**, Doctor of Sciences (Economics), Professor, SUTE;

**GERASYMENKO A.**, Doctor of Sciences (Economics), Professor, SUTE;

**ILLIASH O.**, Doctor habilitated, Professor at the University

of Nicholas Copernicus in Torun (*Poland*);

**LANG F. P.**, Doctor habilitated, Professor, FOM University

for Economics and Management in Essen, Institut Supérieur

de l'Économie in Luxembourg (*Germany*);

**LACE N.**, Doctor of Sciences (Economics), Professor, Riga Technical

University (*Latvia*);

**MAKOHON V.**, Doctor of Sciences (Economics), Professor, SUTE;

**MARCHENKO V.**, Doctor of Sciences (Economics), Professor,

National Technical University "Igor Sikorsky Kyiv Polytechnic

Institute";

**MELNYK T.**, Doctor of Sciences (Economics), Professor, SUTE;

**MOROZOVA L.**, Doctor of Sciences (Economics), Professor, SUTE;

**NAZAROVA K.**, Doctor of Sciences (Economics), Professor,

SUTE;

**PIETUKHOVA O.**, Doctor of Sciences (Economics), Professor,

National University of Food Technologies of Ukraine;

**PAVLIK A.**, Doctor of Sciences (Economics), Professor, Jan

Kochanowski University (*Poland*);

**SUWAN-ACHARIYA C.**, Doctor of Sciences (Economics),

Professor, Thaksin University (*Thailand*);

**TAKAHASHI T.**, Ph.D, Professor, Takushoku

University (*Japan*);

**TKACHENKO T.**, Doctor of Sciences (Economics), Professor, SUTE;

**FILIS C.**, Doctor of Sciences (Economics), Institute

of International Relations (*Greece*);

**FOMINA O.**, Doctor of Sciences (Economics), Professor, SUTE;

**CHUGUNOV I.**, Doctor of Sciences (Economics), Professor, SUTE;

**SHNYRKOV O.**, Doctor of Sciences (Economics), Professor,

Taras Shevchenko National University of Kyiv

Founder, edition,  
publisher and manufacturer  
State University of Trade and Economics

Managing Editor – OLIUNINA S.

Editors: KYRYCHENKO E., RASSKAZOVA I.

Artistic and Technical Editor

ANDRUSHKO S.

State registration certificate  
Series KV № 25166-15106PR of 27.06.2022

Index of the magazine in Catalogue  
of publications in Ukraine in 2023 – 21910

Signed 14.12.2022.  
Conventional print. pages. 12.  
Circulation 250. Order 334.

Address of the Editorial board,  
publisher, manufacturer:  
st. Kyoto, 19, Kyiv-156, Ukraine 02156.  
Contact us at 531-31-16  
e-mail: visnik@knute.edu.ua

Printed on equipment of SUTE.  
Certificate of subject of publishing industry  
series DK № 7656 of 05.09.2022

Published on the recommendation  
of the Academic Council of SUTE  
(minutes № 4 of 24.11.2022)

Articles are revised. Reproduction and translation of the materials published in the magazine are permitted only with the consent of the author and editorial board  
*The journal is represented in international and national scientometrical databases such as Index Copernicus,  
abstract database Ukraine Naukova and in search system of Google Scholar.*

© State University of Trade and Economics, 2022

Kyiv · SUTE · 2022

---

---

## C O N T E N T

---

---

### ENTERPRISE

<b>BONDARENKO O., KNIGHTS M.</b>	Sponsorship marketing of European countries in the conditions of martial law in Ukraine	4
<b>HELLYER M., PIATNYTSKA G., PIATNYTSKYI V.</b>	Groups of products with improved market access & improved exports	19
<b>SYTNYK H., SILAKOVA H., BLAZHENKO S.</b>	Controlling of operational activity of trade enterprises	35
<b>KHARSUN L., KOVALENKO Yu.</b>	Supply chain risks of trade companies during a large-scale crisis	49
<b>KURNOSENKO A.</b>	The influence of social capital on network effects	63

---

### BANKING

<b>SHULHA N., FESIUK B.</b>	Digitalization of corporate business of Ukrainian banks	76
<b>ERKES O., KALYTA O., GORDIENKO T.</b>	Capitalization of domestic systemically important banks in the conditions of military aggression of the rf	86
<b>HERBYCH L., NETREBCHUK L.</b>	Evaluation of the bank's attractiveness for corporate clients	96

---

### ACCOUNTING AND AUDIT

<b>UMANTSIV H., KOTSUPAL O.</b>	Predictive information in integrated reporting	114
<b>NAZAROVA K., KOPOTIENKO T., NEHODENKO V.</b>	Internal audit of enterprise costs	128

---

---

## З М І С Т

---

---

### ПІДПРИЄМНИЦТВО

<b>БОНДАРЕНКО О., НАЙТ М.</b>	Спонсорський маркетинг європейських країн за воєнного стану в Україні	4
<b>ХЕЛЛАЄР М., П'ЯТНИЦЬКА Г., П'ЯТНИЦЬКИЙ В.</b>	Групи продуктів з удосконаленим ринковим доступом і покращеним експортом	19
<b>СИТНИК Г., СІЛАКОВА Г., БЛАЖЕНКО С.</b>	Контролінг операційної діяльності підприємства торгівлі	35
<b>ХАРСУН Л., КОВАЛЕНКО Ю.</b>	Ризики ланцюгів постачання підприємств торгівлі за масштабної кризи	49
<b>КУРНОСЕНКО А.</b>	Вплив соціального капіталу на мережеві ефекти	63

---

### БАНКІВСЬКА СПРАВА

<b>ШУЛЬГА Н., ФЕСЮК Б.</b>	Диджиталізація корпоративного бізнесу банків України	76
<b>ЕРКЕС О., КАЛИТА О., ГОРДІЄНКО Т.</b>	Капіталізація вітчизняних системно важливих банків в умовах військової агресії РФ	86
<b>ГЕРБИЧ Л., НЕТРЕБЧУК Л.</b>	Оцінювання привабливості банку для корпоративних клієнтів	96

---

### ОБЛІК ТА АУДИТ

<b>УМАНЦІВ Г., КОЦУПАЛ О.</b>	Прогнозна інформація в інтегрованій звітності	114
<b>НАЗАРОВА К., КОПОТІЄНКО Т., НЕГОДЕНКО В.</b>	Внутрішній аудит витрат підприємства	128

UDC 338.246.027:339.138(4):355.01

DOI: 10.31617/1.2022(146)01

**BONDARENKO Olena,**  
Doctor of Sciences (Economics), Professor,  
the Head of the Department of Marketing  
State University of Trade and Economics  
19, Kioto St., Kyiv, 02156, Ukraine

**БОНДАРЕНКО Олена,**  
д. е. н., професор, завідувач кафедри маркетингу  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0002-5990-2522  
o.bondarenko@knu.edu.ua

ORCID: 0000-0002-5990-2522  
o.bondarenko@knu.edu.ua

**KNIGHTS Mark,**  
PhD (History), Professor of Department of History  
Director of Postgraduate Research Studies  
The University of Warwick  
2, University Rd, Coventry, CV4 7AL,  
United Kingdom

**НАЙТС Марк,**  
доктор філософії (Історія),  
професор кафедри історії, директор аспірантури  
Університету Ворика  
Університетська дорога, 2, Ковентрі, CV4 7AL,  
Велика Британія

ORCID: 0000-0002-2138-3202  
M.J.Knights@warwick.ac.uk

ORCID: 0000-0002-2138-3202  
M.J.Knights@warwick.ac.uk

## SPONSORSHIP MARKETING OF EUROPEAN COUNTRIES IN THE CONDITIONS OF MARTIAL LAW IN UKRAINE

## СПОНСОРСЬКИЙ МАРКЕТИНГ ЄВРОПЕЙСЬКИХ КРАЇН ЗА ВОЄННОГО СТАНУ В УКРАЇНІ

**Introduction.** *In the conditions of war in Ukraine, the assistance of European states is invaluable. The sponsorship, being a synthetic marketing communication, becomes a key means of ensuring the image of states and positioning in the global marketing environment.*

**Problem.** *The methodology of the functioning of sponsorship marketing and sponsorship mechanisms in all spheres of social life has been studied by many scientists. However, there are no scientific researches that reveal the specifics of the implementation of sponsorship marketing by European states in wartime and justify sponsorship as a marketing communication capable of creating a positive image of states and ensuring their strategic positioning in the global marketing environment.*

**Вступ.** *В умовах війни в Україні неоціненною є допомога європейських держав. Спонсорство, як синтетична маркетингова комунікація, стає ключовим засобом забезпечення іміджу держав та позиціонування в глобальному маркетинговому середовищі.*

**Проблема.** *Наразі відсутні наукові праці, що розкривають особливості реалізації спонсорського маркетингу європейськими державами в умовах війни та обґрунтовують спонсорство як маркетингову комунікацію, що спроможна створити позитивний імідж держав та забезпечити їх стратегічне позиціонування у глобальному маркетинговому середовищі.*

---

© Bondarenko O., Knights M., 2022

The authors contribute equally.

The authors of the manuscript did not receive direct funding in the preparation of the manuscript.

Bondarenko O., Knights M. Sponsorship marketing of European countries in the conditions of martial law in Ukraine. *Scientia fructuosa*. 2022. № 6. S. 4-18. [https://doi.org/10.31617/1.2022\(146\)01](https://doi.org/10.31617/1.2022(146)01)

**The aim** of the article is to substantiate the peculiarities of the sponsorship marketing implementation by European countries in the conditions of war in Ukraine, to prove a significant role in the formation of the state's image and brand in the global marketing environment.

**Methods.** Methods of analysis and synthesis, system and structural analysis, comparison, logical generalization, hypothetical and deductive method are applied.

**Results.** Sponsorship marketing trends in the global marketing environment are identified and innovative ways of encouraging people to change their behavior under the influence of social factors are identified. It has been proven that in the conditions of war, sponsorship, being a synthetic marketing communication, becomes the main tool for meeting public needs. A hypothesis was put forward that the level of preservation of social values correlates with the toolkit of sponsorship marketing.

**Conclusions.** In the conditions of war in Ukraine, which has had a significant impact on the economy of European countries, sponsorship marketing and sponsorship are becoming the main tools for forming the image of the state, strengthening brand loyalty and positioning in the global marketing environment. European states that form a socially responsible image and brand based on the use of effective sponsorship marketing tools have significant opportunities for recognition by the world community, strengthening the loyalty of citizens of various states, which is important for effective social and economic development and preservation of public values.

**Keywords:** sponsorship marketing, sponsorship, marketing tools, state image, state brand, social values, hypothesis.

**Метою** статті є обґрунтування особливостей реалізації спонсорського маркетингу європейськими країнами в умовах війни в Україні, доведення його значущості у формуванні іміджу та бренду держави у глобальному маркетинговому середовищі.

**Методи.** Застосовано методи аналізу та синтезу, системно-структурного аналізу, порівняння, логічного узагальнення, гіпотетично-дедуктивний метод.

**Результати дослідження.** Виявлено тенденції спонсорського маркетингу в глобальному маркетинговому середовищі та визначено інноваційні способи спонукання людей до змін поведінки під впливом соціальних чинників. Доведено, що в умовах війни спонсорство стає основним інструментом задоволення суспільних потреб. Висунуто гіпотезу про те, що рівень збереження суспільних цінностей корелює з інструментарієм спонсорського маркетингу.

**Висновки.** Війна в Україні суттєво впливає на економіку європейської країн. Спонсорський маркетинг та спонсорство стають основними інструментами формування іміджу держави, посилюється лояльність до бренду та позиціонування в глобальному маркетинговому середовищі. Європейські держави, які формують соціально-відповідальний імідж і бренд на основі використання дієвого інструментарію спонсорського маркетингу, мають значні можливості визнання світовою спільнотою, посилення лояльності громадян різних держав, що є важливим для ефективного соціально-економічного розвитку та збереження суспільних цінностей.

**Ключові слова:** спонсорський маркетинг, спонсорство, маркетинговий інструментарій, імідж держави, бренд держави, суспільні цінності, гіпотеза.

**JEL Classification:** D11, D21, F01, H10

**Introduction.** In the conditions of increasing informational and interstate conflicts, the ability of states to act socially and responsibly to preserve the lives of people and society is the basis of successful image formation, brand strengthening, and the choice of positioning methods. This is confirmed by the rapid decline of Russia's brand and image after the beginning of war with Ukraine. Konrad Jagodzinski, Place Branding Director, notes that "Russia is now paying a heavy economic price for its

decision to start this war. This is demonstrated by the self-inflicted damage to Russia's nation brand, which is now worth less than that of Belgium – a country with a population 12 times smaller. The decision to go to war appears to have undermined Russia's economic standing, as evidenced by the stark nation brand value decline from USD 786 billion last year to USD 642 billion in 2022. This reflects the damage to commercial brands associated with Russia, to the country's ability to access capital, as well as to its potential to influence perceptions across the world" [1].

In the conditions of war, sponsorship, being a synthetic marketing communication, becomes a key means of ensuring the image of states and its positioning in the global marketing environment, so sponsorship marketing acquires new impulses for development.

**Problem.** The methodology of the functioning of sponsorship marketing and sponsorship mechanisms in all spheres of social life has been studied by many scientists. However, there are no scientific researches that reveal the specifics of the implementation of sponsorship marketing by European states in wartime and justify sponsorship as a marketing communication capable of creating a positive image of states and ensuring their strategic positioning in the global marketing environment.

**Analysis of recent research and publications.** The methodology of the functioning of sponsorship marketing and sponsorship mechanisms in the system of socially responsible marketing of companies has been studied by such scientists as R. Biscaia, P. Bitz, A. D'Astous, D. Yadin, G. Deitz, T. Cornwell, F. Jefkins, C. Fill, G. Spais, G. Hughes, M. Koren, Y. Kwon, M. Johnston, T. Meenaghan, S. Myers, I. Montrin, G. Trail. In researchers' studies sponsorship marketing is mostly revealed from the standpoint of ensuring the development of companies by increasing brand awareness, expanding the target audience, and generally conducting marketing intelligence. Sponsorship is analyzed as a means of marketing communications or charity, which determines the directions of the development of companies due to the financing of sports games, performances, conferences, TV programs, charity events, and other events aimed to strengthen consumer loyalty to the brand [2–5]. T. Cornwell, Y. Kwon (2020) have been investigating sponsorship marketing from 1996 to 2017. The overarching conclusion is that there is a surplus of research that examines audience responses to sponsorship marketing but a shortage of research that examines marketing management of the sponsorship process [6]. Some researchers have emphasized that "... systematic approach has not been developed to integrate both the approaches in the consumer context, in order to give a holistic knowledge of the determinants influencing sponsorship's efficacy" [7]. Only some researchers consider separate aspects of the implementation of sponsorship marketing as part of state regulation and ensuring the development of a democratic society [8]. Spais and Johnston (2014) have suggested that we know little about the

strategic practices that support organizations making the transition from sponsoring in domestic markets to sponsoring in international markets [9]. Indeed, sponsorship marketing and sponsorship are most common in sports, cultural and theatrical events, charity and education, health care, cultural heritage, ecology, scientific activities. This is due to the fact that sponsored events are directly related to a specific consumer and the way it functions, due to which the sponsor's contacts with target segments and markets are expanded and deepened. One of the most attractive aspects of sponsorship marketing is the possibility of joining the image of the sponsoring object to the image of one's own brand [10]. The issues of implementation of sponsorship marketing and sponsorship mechanisms in the global marketing environment, its impact on the satisfaction of public needs and interests, the use of public potential in the direction of preserving public values are required further theoretical justification and practical implementation.

**The aim** of the article is to substantiate the peculiarities of the sponsorship marketing implementation by European countries in the conditions of war in Ukraine, to prove a significant role in the formation of the state's image and brand in the global marketing environment, to present a hypothesis about the existence of a correlational dependence between the level of preservation of social values and the tools of sponsorship marketing.

**Methods.** Methods of analysis and synthesis, system and structural analysis, comparison, logical generalization, hypothetical and deductive method are applied.

**Results.** In the global marketing environment, the alignment of national interests with the interests of society is the ideal foundation for the successful implementation of image formation and brand development strategies by European states. Therefore, sponsorship marketing has become the main component of the state's marketing policy, it acquires the importance of a tool for effective promotion and positioning of the national brand and it is implemented through various marketing channels and means of communication on the international market. This situation has increased the interest of public authorities in scientific and practical marketing tools. Its successful implementation is able to identify the real needs of citizens, streamline the activities of public management and optimize social interactions between state and society. As a result, conditions for effective social dialogue between the subjects of service provision, consumption and effective implementation of sustainable development goals have been created [11].

Revealing different levels of functioning of marketing mechanisms, modern experts do not have a single point of view regarding the definition of the concepts of sponsorship marketing and sponsorship in general. Some researchers highlight the methods and tools of sponsorship marketing within the framework of the implementation of the social marketing sponsorship tasks [12]. Other authors define only some aspects of this concept and reveal

the content of virtuous (charitable) marketing along with sponsorship marketing [13]. Sponsorship reflects the relationship between the sponsor and the recipient in order for the sponsor to achieve certain communication goals. The sponsorship is the support used to achieve certain marketing objectives. The sponsorship is the endorsing of an uncommon occasion to help corporate goals by improving corporate image, expanding attention to brands, or straightforwardly stimulating sales of products and services that can be personal or joint; the occasion can be a one-time affair or a continuing series of activities [8]. In the research work "Complete Guide to Sponsorship" L.Ukman has underlined that "Sponsorship should not be confused with advertising. Advertising is considered a quantitative method, while sponsorship is observed as a qualitative medium" [14]. Sponsorship refers to a synthetic type of marketing communications, as it includes various components of marketing communications. F. Jefkins and D. Yadin [15] highlight such areas of sponsorship as sports, cultural events, publications, exhibitions, education, charity and local events.

The prevalence of sponsorship marketing in recent years determines achievements in medicine, engineering, nanotechnology, environmental protection, promotion of a healthy lifestyle, and opens up new opportunities for conveying valuable information to target audiences and society. In Ukraine, under the Law of Ukraine "On Advertising" [16] the following definition is provided: "Sponsorship is voluntary material, financial, organizational and other support by individuals and legal entities for any activity with the aim of promoting exclusively their name, designation, and brand for goods and services". It is worth noting that the current Law of Ukraine "On Charitable Activities and Charitable Organizations" [17] does not define the subject of sponsorship regulation. Therefore, most Ukrainian scientists believe that sponsorship cannot be charity. This approach once again proves that scientists and practitioners pay considerable attention to sponsorship, which contributes to the support of a certain activity or PR of a legal entity or individual.

Modern world trends, which have both a positive and a negative impact on the functioning of the global marketing environment, make it necessary to assert that sponsorship should play a significant role at the state level. The mechanism of its implementation should be developed and regulated by the state marketing policy through the development and support of various marketing tools. Today, the directions of sponsorship should include:

- promoting the implementation of international, national, regional and local programs;
- improvement of the material and moral situation of people who need help;
- provision of assistance to citizens affected by natural disasters, ecological, man-made and other disasters;
- providing support to people affected by social conflicts and accidents;



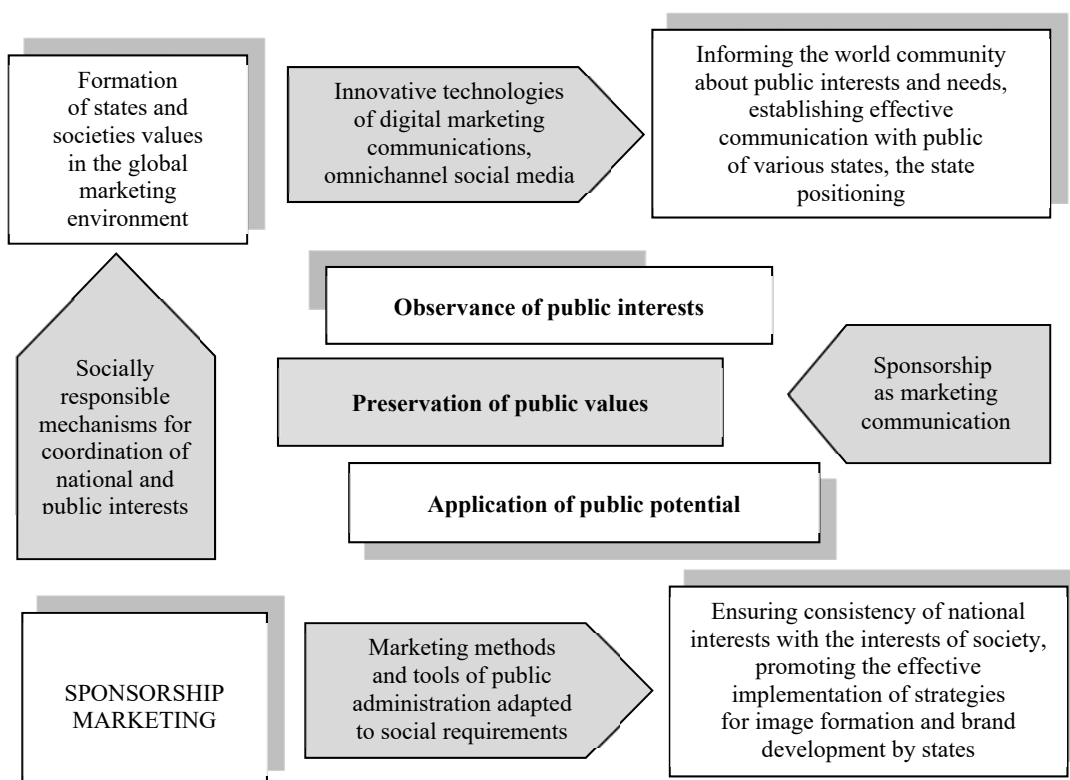
- promotion of the development of science and education, implementation of scientific and educational programs, provision of assistance to lecturers, teachers, scientists, students, students;
- implementation of social and cultural development programs;
- support of talented and creative youth;
- creation of protection, protection and preservation of cultural heritage;
- providing assistance in the development of publishing, mass media, and information infrastructure;
- promoting the development of health care, mass physical culture, sports and tourism;
- promotion of protection of motherhood and childhood;
- ensuring the formation of the image of the state and the development of the brand;
- observance of public interests, preservation of public values, formation of public potential.

The main reason and purpose of sponsorship in the global marketing environment is the communication component, which helps in understanding and strengthening the image and reputation of sponsors, both individuals and legal entities, as well as states. Sponsorship helps to strengthen positive associations and images with the brand, and also adds to the authority of the sponsor in the perception of consumers. The main values of sponsorship can be called the formation of awareness among the target audience of a specific situation and the highlighting of social responsibility. This forms and strengthens a socially responsible attitude, maintains a reputation in a defined target audience and ensures increased loyalty in a potentially new one. The communicative effect of sponsorship at the level of states aims to "break through" the inertia of perception, protective information barriers and increase the level of awareness of the image of states through association with an event, a prominent figure, expert opinion, activities related to charitable intentions and compliance social value.

Innovative sponsorship marketing tools play an important role in informing and motivating people to change their behavior in a global marketing environment under the influence of various factors. In the conditions of war, social factors become the main factors, which reveal the understanding of the consumer as a member of society with communicative features, determine new ways of forming and meeting needs with effective methods, under the condition of increasing the welfare of all members of society. That is why we can talk about the tendency to adapt the traditional marketing tools to the innovative trends of sponsorship marketing, its importance for the development of socially responsible states in the conditions of war and the acquisition of a new purpose in the global marketing environment (*Figure*).

In the conditions of war, the possibilities of meeting the public needs of consumers are realized by the tools of sponsorship marketing. In the digital

society, sponsorship marketing creates a number of tools and mechanisms that ensure the implementation of sponsorship programs. As elsewhere in business and in society at large, the advent of digital has significant implications for sponsorship. New media provide focused channels of communications to achieve traditional sponsorship objectives [18]. Other results show acceptable model fit and confirm the usefulness of understanding the effects of content marketing on sponsorship favorability [19]. At the same time, the right of each individual to decide whether to accept or reject changes is deeply respected. Ph. Kotler, H. Kartajaya, Setiawan I. rightly point out in their 'Marketing 5.0: Technology for Humanity' study that marketers should choose rational ways of symbiosis between themselves and digital technologies, focusing on ensuring important social interactions and preserving society's values [20, p. 10]. Today, marketing technologies play the role of a generator of communication flows between governments, citizens of different countries, and other parties interested in. Being a strategic resource of the state, they ensure the harmonization of communications and free entry into the external communication space. Their use in the global marketing environment should be provided by marketing strategies for the development of states and society as a whole [21].



**Innovative trends of socially responsible states in sponsorship marketing in the conditions of war**

*Source:* developed by the authors.

The purpose of sponsorship marketing should be interpreted as achieving social harmony in society by satisfying people's needs with traditional and digital marketing technologies. Within the framework of sponsorship marketing, states, companies, institutions, and individual citizens can become both a sponsor and a recipient. In this case, all participants in the communication process should take care of social responsibility, that is, the duty to strengthen positive results for society and weaken negative ones. Social responsibility sometimes puts them in front of a difficult choice that contradicts their own interests and motives. Thus, in the conditions of the war in Ukraine, citizens of various states began to perform the functions of both sponsors and recipients of public services. They began to realize the importance of coordinated, targeted and effective assistance in the application of new behavioral skills and to determine the strategic importance of sponsorship programs to meet societal needs. Their socially responsible behavior in the global marketing environment creates conditions for effective positioning of the state, formation of brand attitudes and strengthening of loyalty of citizens of different countries.

Sponsorship marketing acquires special importance in the direction of development, implementation and control of specific sponsorship programs for the provision of social services to citizens of different countries with the aim of forming new social attitudes and achieving a social effect. Within sponsorship marketing, the social effect is considered in relation to the social needs of specific potential recipients of services, and sponsorship is the most rapidly growing type of synthetic marketing communications. By implementing sponsorship programs, the government is concerned about the well-being of citizens, ensures the economic development of society, increases loyalty to the state, forms an image, and ensures the positioning of the state brand. That is, sponsorship marketing and sponsorship allow you to achieve several goals at the same time and it is an effective tool for integration in the global marketing environment.

Today, sponsorship marketing is implemented by all European countries in the process of supporting the economy of Ukraine. In accordance with the tasks of sponsorship marketing, social requirements of the state are growing, guarantees of human rights and freedoms are being strengthened, communication networks are being formed for feedback with citizens of other countries, and various social needs are forecast. As one of the promising directions, sponsorship marketing contributes to optimization, rationalization, and increasing the efficiency of the functioning of social institutions thanks to the implementation of marketing methods and procedures. Various sponsorship programs are being developed for this purpose [22].

The types of sponsorship programs for Ukrainians that have been opened by European countries since the beginning of the war are presented in the *Table*.

Table

**The main criteria of sponsorship programs of partner countries in the condition of war**

Country	Title of the program	Basic criteria	Social support and interaction	Financial support	Level of property support
Great Britain	Homes for Ukraine	Presuppose obtaining an entry permit in an online format. Allow to live and work in the country for three years	The country accepts everyone for whom there are sponsors. The recipient and the sponsor must find and understand each other. Allow to receive social assistance, medical care, and get a job. Allow free access to heritage sites managed by the National Trust	One-time benefit in amount of GBP 200. In future, the size of the universal loan through the job center is determined, taking into account family members and income. Adult may get from GBP 334.91, child may get from GBP 290. Certain types of financial assistance from Reganal counsel are provided (for food, free school meals, others). For sponsors, compensation for utility costs is GBP 350 per month	Provision of housing for 6 months, and its extension up to 12 months upon agreement of the parties. Filling out an application for social housing through regional counsel
	Ukraine Family Scheme	Presuppose obtaining an entry permit in an online format. Allow to join your family members and live in the country for three years	Provide opportunities for reunification or cohabitation with a family member. Allow to receive social assistance, medical care, and get a job	The size of the universal credit through the job center is determined, taking into account the family members and income	Living with a family member for up to 3 years
Latvia	Ukraine to Latvia	Allow to stay in the country for 9 days without a visa. Provide free accommodation and meals for 12 days to those who has received services before May 24, and 12 days of accommodation and 3 days of free meals to those who has been receiving services since May 25. A long-term visa is issued for one year, the possibility of extension depends on the situation in Ukraine	Allow to receive health care services at the expense of the state, Employment is allowed after obtaining a long-term visa. Upon employment, a citizen has the right to a one-time cash allowance in amount of EUR 500. Allow to visit all state museums in Latvia for free and use hubs with computers and Internet connection in libraries.	One-time help in a crisis situation is EUR 272 per adult and EUR 190 per child. In future, a monthly allowance is EUR 109 per family member and EUR 76 for each subsequent family member. It is possible to obtain the right to other material support or social services if there is a certificate from the city social service. Residents of Latvia, who accommodate Ukrainian citizens in their homes free of charge, receive compensation of EUR 100 per month for the first resident and EUR 50 for each subsequent person, but no more than EUR 300 per month. If there are several residential premises, compensation can be received for each dwelling	Municipalities provide housing for up to 60 days or up to 120 days. For persons who, for objective reasons, may have difficulties with providing housing after the end of the period of provision of housing by the state, a housing subsidy is provided after the end of the 120-day period, but no longer than until December 31 of the current year

*Continuation of the table*

Country	Title of the program	Basic criteria	Social support and interaction	Financial support	Level of property support
Germany	-	Allow to stay in the country for 9 days without a visa. After obtaining a temporary residence permit, you can stay in the country for 2 years	Allow to get a job, use medical services, receive monthly social benefits, housing at the expense of the state, the right to work, free school education, free training, study on integrated courses. Available social packages for transport and food, depending on the place of residence	Payments are established through the job center, taking into account family members and income. In 2022, from EUR 409 to EUR 449 for an adult, from EUR 285 to EUR 376 for a child. There is permission to exchange up to UAH 10 000 in German banks participating in the program	The state provides free housing. It is possible to live with a family, then the state compensates German families for utility costs
Canada	Canada-Ukraine authorization for emergency travel, CUAET	Provide for the free issuance of a guest visa and allow to stay in the country for 3 years	You need to contact the owners, who can provide accommodation for 90 days free of charge, but they are not responsible for additional accommodation costs. Provide permission to work, receive medical services, educate children in schools, financial assistance, volunteer support	A one-time payment of USD 3 000 (UAH 110 620) per adult and USD 1 500 (UAH 55 310) per child. There is no other financial support, only individual provinces offer additional support	You can live with families or relatives, and also get free social housing
USA	Uniting for Ukraine	Provide for the issuance of a guest visa and allow to stay in the country during the two-year period of validity of the humanitarian passport	Beneficiaries must have a supporter who agrees to provide financial support during their stay. Citizenship and Immigration Services check creditworthiness and financial status. After a beneficiary is paroled into the United States, they may apply for discretionary employment authorization and an Employment Authorization Document. Duty payment is USD 410	Supporter undertakes all financial obligations for moving to the USA, bears full legal responsibility for financial support. The sponsor's income level can be at least 125 % of the federal poverty level. Any payments are not provided for supporters	Supporter provides housing and guarantees non-application for social assistance from the state

*End of the table*

Country	Title of the program	Basic criteria	Social support and interaction	Financial support	Level of property support
Poland	–	Allow to stay in the country without a visa for 18 months. After obtaining a temporary residence permit, you can stay in the country for 3 years.	After receiving a PESEL (identifier code of a natural person) official employment, medical care, social assistance, free registration of children in kindergartens and schools, admission to higher education institutions, opening a business are allowed	One-time payment is PLN 300 per person is intended for maintenance. Additional support for upbringing is provided to PLN 500 per month per child. Assistance is provided for families that have provided housing in the amount of PLN 1 200 per month	Residence in the family can be extended by agreement of the parties. The Habitat for Humanity Poland Foundation implements a social housing rental program for families from Ukraine
Switzerland	Temporary protection status “Status S”	Allow to stay on the territory of the country for 90 days without a visa and ensure obtaining the right of residence for a period of 1 year (with the possibility continued), without having to go through the standard asylum procedure	Allow to receive health insurance, monthly social benefits, housing at the expense of the state, the right to work, free school education, free study at three levels of German language courses. Allow to get a job after obtaining the S status and register with the state employment service	Monthly social benefits are determined by the canton and city to which the state has allocated. Payments range from CHF 170 to CHF 436 per person. A tax of 7 % must be deducted from the amount of payments. From June 27, 2022, adults with protection status S can exchange up to UAH 10 000 at the appropriate bank once	Housing is provided by the state
France	France for Ukraine	Allow to stay in the country for 90 days without a visa and acquire the status of temporary protection for one year, which can be extended up to 3 years	It is necessary to contact the owners who can provide housing for 90 days free of charge. After receiving temporary protection, a permit for employment, medical services, and temporary housing is provided	The benefit is EUR 6.8 per day per person or EUR 14.2 if the state has not been able to find accommodation. It is possible to get transport solidarity, which allows you to get a discount on travel from 50 to 100 %	Temporary protection status allows to apply to the prefecture for free accommodation. Housing is provided for at least three months

*Source:* summarized and adapted by the authors based on [23–32].

Sponsorship programs strengthen the image of states, raise awareness of public regulation mechanisms, the brand of states, and they are a powerful tool for supplementing marketing activities in the global marketing environment. Emotional ties that arise between participants of sponsorship programs and public opinion are the basis for creating sufficient loyalty to governments and brands of different states. The presented sponsorship programs show that the social protection and support of every person is an absolute priority of the government of every country in the direction of public interests and preservation of public values. At the same time, the limitation of budget funds, the need to preserve the well-being of its citizens, overcome poverty, environmental safety, develop health care, education, science, and culture, determine different levels of financial support, meeting the primary needs of consumers, and providing other services. Mitigation impact of financial dependence on public interests and values in the global marketing environment can be ensured by the effectiveness of the sponsorship marketing tools. It is able to activate the attraction of additional budgetary funds, in particular private capital, funds of business entities and residents of countries based on adaptive methods of conveying information about the principles of social justice, social security, social partnership, social solidarity, methods of influencing the behavior of citizens, strengthening loyalty to the proposed programs. As a result, we can make an assumption that social values in the global marketing environment are formed by sponsorship marketing tools, that is, there is a functional dependence between the level of preservation of social values and sponsorship marketing tools.

**Conclusions.** Sponsorship marketing is an integral part of international marketing practice, and sponsorship is the main tool for realizing the goals of states according to the defined components of the marketing mix model. It is designed to ensure the preservation of social values for current and future generations. Effective sponsor marketing affects various aspects of social life, since social harmony and social activity of the population are the first priority of the functioning of states in the global marketing environment. The purpose of sponsorship marketing should be interpreted as meeting the needs of people to achieve social harmony in society. Within its limits, states, companies, institutions, and individual citizens can become both producers and consumers. In the strategic period, sponsorship marketing is an effective tool for promoting social ideas and specific sponsorship programs in the direction of ensuring the formation of the state's image and brand in the global marketing environment.

Today, sponsorship marketing of European countries is a complex and multifaceted system that requires completely new methods, tools, and strategies. Sponsorship is a powerful, rapidly developing synthetic marketing communication, which provides strengthening of the reputation and improvement of the image of states, an opportunity to express a position in society regarding current issues. Through the implementation of sponsorship

programs, the government maintains a socially responsible positioning in the global marketing environment. Sponsorship in the conditions of war ensures the emergence of innovative methods of forming interstate relations and is capable of contributing to the rapid recovery and development of the economy of Ukraine in future. The communicative effect of sponsorship is aimed at breaking through the inertia of perception and protective informational barriers of society and increasing the degree of recognition of the state's brand through association with the event or sponsorship program.

The realities of the functioning of the global marketing environment predetermine the legislative regulation of sponsor marketing and sponsorship. The effective toolkit of sponsorship marketing is able to ensure the effectiveness of the state mechanism of formation and use of financial resources to satisfy public interests, preserve public values and eliminate disproportions of sustainable development. Its tools should be original creative techniques and situational behavior of people, which are able to attract the attention of society and significantly increase awareness of the real state of affairs. In turn, the sponsoring states will be able to intensify their efforts to comply with and fulfill the global goals of sustainable development.

Today, in the theory and practice of marketing, there are many studies that reveal the behavior of consumers under the influence of sponsorship marketing tools, but there are practically no studies of the process of marketing sponsorship management at the level of European countries and under conditions of force majeure in the global marketing environment. Such situation requires investments in the research of sponsorship marketing and sponsorship by scientists from different countries. Our further research will be aimed at conducting a statistical analysis and proving, by means of mathematical modeling, the hypothesis of the existence of a correlation between the level of preservation of social values and the tools of sponsorship marketing.

**Conflict of interest.** The authors certify that they have no financial or non-financial interest in the subject matter or materials discussed in this manuscript; the authors have no association with state bodies, any organizations or commercial entities having a financial interest in or financial conflict with the subject matter or research presented in the manuscript. Given that one of the authors is affiliated with the institution that publishes this journal, which may cause potential conflict or suspicion of bias and therefore the final decision to publish this article (including the reviewers and editors) is made by the members of the Editorial Board who are not the employees of this institution.

#### REFERENCES

1. Official site "BRANDDIRECTORY". Nation Brands 2022. The annual report on the most valuable and strongest nation brands. <https://brandirectory.com/rankings/nation-brands> (accessed 29.09.2022) [in Ukrainian].
2. D'Astous, A., & Bitz, P. (1995). Consumer evaluation of sponsorship programmes. *European Journal of Marketing*, 29(12), 6-22. <https://doi.org/10.1108/03090569510102504> [in English].
3. Deitz, G., Myers, S., & Stafford, M. (2012). Understanding consumer response to sponsorship information: A resource-matching approach. *Psychology and Marketing*, 29(4), 226-239. <https://doi.org/10.1002/mar.20517> [in English].



4. Hughes, G., & Fill, C. (2008). CIM Course book: Marketing communication, 1st ed., p. 65. Oxford, UK: Elsevier Butterworth-Heinemann [in English].
5. Woisetschlager, D., & Michaelis, M. (2012). Sponsorship congruence and brand image: A pre-post event analysis. *European Journal of Marketing*, 46 (3), 509-523. <https://doi.org/10.1108/03090561211202585> [in English].
6. Cornwell, T. B., & Kwon, Y. (2020). Sponsorship-linked marketing: Research surpluses and shortages. *Journal of the Academy of Marketing Science*, 48(4), 607-629. <https://doi.org/10.1007/s11747-019-00654-w> [in English].
7. Biscaia, R., Trail, G., Ross, S. & Yoshida, M. (2017). A model bridging team brand experience and sponsorship brand experience. *International Journal of Sports Marketing and Sponsorship*, 18, 4: 380-399. <https://doi.org/10.1108/IJSMS-07-2016-0038> [in English].
8. Miklós, Koren, Silvana, Tenreyro, Volatility & Development (2007). *The Quarterly Journal of Economics*. Vol. 122. Issue 1. February, 243-287. <https://doi.org/10.1162/qjec.122.1.243> [in English].
9. Spais, G. S., & Johnston, M. A. (2014). The evolution of scholarly research on sponsorship: Expectations about the future of this research domain. *Journal of Promotion Management*, 20(3), 267-290. <http://doi.org/10.1080/10496491.2014.908800> [in English].
10. Dibrova, T. H., & Haranina, I. I. (2012). Komunikační nástroj sponzorského marketingu. *Ekonomický časopis Národného technického univerzitetu Ukrajiny "Kyivský polytechnický inštitút"*, 9, 303-308 [in Ukrainian].
11. Bondarenko, O., Kozarenko, L., Chumikhina, T., & Solomka, O. (2021). Social Interaction of the State and Society as a Reference Point of Public Marketing. *Estudios de Economía Aplicada* link is disabled, 39(6). <https://doi.org/10.25115/eea.v39i6.5121> [in English].
12. Dickson, G., O'Reilly, N., & Walker, M. (2018). Conceptualizing the dissolution of a social marketing sponsorship. *Journal of Global Sport Management*, 3(2), 146-169 [in English].
13. Firsova, S. (2011). Sotsialna vidpovidalnist biznesu v Ukraini: marketynhovi aspekt. *Visnyk Kyivskoho natsionalnoho universytetu imeni T. Shevchenka. Ekonomika*, 121-122, 73-76 [in Ukrainian].
14. Ukman, L. (1999). IEG's complete guide to sponsorship: everything you need to know about sports, arts, event, entertainment, and cause marketing. IEG. Chicago, IL: IEG, Inc. [in English].
15. Frank, Jefkins, & Daniel, Yadin (1998). Public Relations. Financial Times Pitman Publishing ed., 293 [in English].
16. Zakon Ukrainy vid 03.07.1996 № 270/96-VR. *Pro reklamu*. <https://zakon.rada.gov.ua/laws/show/270/96-vr> [in Ukrainian]
17. Zakon Ukrainy vid 05.07.2012 № 5073 stanom na 06.10.2022. *Pro blahodiinu diialnist ta blahodiini orhanizatsii*. <https://zakon.rada.gov.ua/laws/show/5073-17#Text> [in Ukrainian].
18. Meenaghan, T. (2013). Measuring Sponsorship Performance: Challenge and Direction. *Psychology and Marketing*, 30(5), 385-393 [in English].
19. Human, G., Hirschfelder, B. & Nel, J. (2018). The effect of content marketing on sponsorship favorability. *International Journal of Emerging Markets*. Vol. 13. 5, 1233-1250. <https://doi.org/10.1108/IJoEM-06-2017-0215> [in English].
20. Kotler, Ph., Kartajaya, H., & Setiawan, I. (2021). Marketing 5.0: Technology for Humanity. John Wiley & Sons, Inc., Hoboken, New Jersey [in English].
21. Chernysh, R., Pogrebnyaya, V., Montrin, I., Koval, T., & Paramonova, O. (2020). Development of Internet communication and social networking in modern conditions: institutional and legal aspects. *Revista San Gregorio*, 42. Special Ed. (pp. 79-87). <https://dx.doi.org/10.36097/rsan.v1i42.1572> [in English].

22. Emma, Jagre, John J., Watson, & John, G. Watson (2001). Sponsorship and Congruity Theory: a Theoretical Framework For Explaining Consumer Attitude and Recall of Event Sponsorship, *in NA - Advances in Consumer Research*. Vol. 28. Eds. Mary C. Gilly and Joan Meyers-Levy, Valdosta, GA: Association for Consumer Research, 439-445 [in English].
23. Official site European Statistics. *ec.europa.eu*. <https://ec.europa.eu/eurostat> (accessed 10.09.2022) [in English].
24. Official site Statista. *www.statista.com*. <https://www.statista.com/statistics/269783/total-worldwide-revenue-from-sports-sponsorship> (accessed 22.08.2022) [in English].
25. Official site UK government. <https://www.gov.uk/register-interest-homes-ukraine> (accessed 02.09.2022) [in English].
26. Official site Information for Ukrainians coming to Latvia <https://www.ukraine-latvia.com> (accessed 02.09.2022) [in English].
27. Official site Information for Ukrainians Permit S. *www.status-s-schweiz.org*. <https://www.status-s-schweiz.org/eng-info> (accessed 03.09.2022) [in English]
28. Official site France for Ukraine. *parrainage.refugies.info*. <https://parrainage.refugies.info/ukraine/informations-utiles> (accessed 03.09.2022) [in English]
29. Official site Help Poland. Help for refugees and asylum-seekers. *help.unhcr.org*. <https://help.unhcr.org/poland/uk> (accessed 02.09.2022) [in English].
30. Official site Germany. War in Ukraine. *www.integrationsbeauftragte.de*. <https://www.integrationsbeauftragte.de/ib-de/staatsministerin/war-in-ukraine-2008510> (accessed 12.09.2022) [in English].
31. Official site Government of Canada. *www.gov.uk*. <https://www.gov.uk/register-interest-homes-ukraine> (accessed 11.09.2022) [in English].
32. Official site U.S. Citizenship and immigration services. *www.uscis.gov*. <https://www.uscis.gov/ukraine> (accessed 12.09.2022) [in English].

*Received the editorial office 14.10.2022.*

*Accepted for printing 30.10.2022.*

*Publication online 23.12.2022.*

UDC 338.439.52:339.564=111

DOI: 10.31617/1.2022(146)02

**HELLYER Mark,**

Doctor of Philosophy (International Economic Relations),  
Director CTA Economic & Export Analysts  
505 Pinner Road, Harrow, HA2 6EH, United Kingdom

ORCID: 0000-0001-5665-4052  
markhellyer@me.com

**ХЕЛЛІАСР Марк,**

доктор філософії (Міжнародні економічні відносини),  
директор СТА Economic & Export Analysts  
505, Pinner Road, Harrow, HA2 6EH, Велика Британія

ORCID: 0000-0001-5665-4052  
markhellyer@me.com

**PIATNYTSKA Galyna,**

Doctor of Science (Economics), Professor,  
Professor at the Management Department  
State University of Trade & Economics  
19, Kioto St., Kyiv, 02156, Ukraine

ORCID: 0000-0003-3463-133X  
g.piatnytska@knute.edu.ua

**П'ЯТНИЦЬКА Галина,**

д. е. н., професор, професор кафедри менеджменту  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0003-3463-133X  
g.piatnytska@knute.edu.ua

**PIATNYTSKYI Valeriy,**

PhD (Economics), Associate Professor,  
Vice President Finance  
Black Sea Trade and Development Bank (BSTDB)  
1, Komnion Str., 54624, Thessaloniki, Greece

ORCID: 0000-0002-7846-0571  
piatnytskyiv@gmail.com

**ПЯТНИЦЬКИЙ Валерій,**

к. е. н., доцент, віце-президент  
з фінансових питань  
Чорноморського банку торгівлі та розвитку  
вул. Комніон, 1, 54624, м. Салоніки, Греція

ORCID: 0000-0002-7846-0571  
piatnytskyiv@gmail.com

**GROUPS OF PRODUCTS  
WITH IMPROVED MARKET  
ACCESS & IMPROVED  
EXPORTS**

**ГРУПИ ПРОДУКТІВ  
З УДОСКОНАЛЕНИМ РИНКОВИМ  
ДОСТУПОМ І ПОКРАЩЕНИМ  
ЕКСПОРТОМ**

**Introduction.** *The results of Ukraine's activities within the framework of the Association Agreement between the EU and Ukraine, including provisions on the Deep and Comprehensive Free Trade Area (DCFTA), improving market access means not only the reduction of tariffs, but also the reduction of non-tariff measures through alignment with EU rules.*

**Problem.** *Competition between rules leads to convergence of standards in practice. However, the issue of continuation of national diversities is empirical.*

**Вступ.** *Результати діяльності України в рамках Угоди про асоціацію між ЄС та Україною, включаючи положення про поглиблену та всеосяжну зону вільної торгівлі (ПВЗВТ), покращання доступу до ринку означають не тільки зниження тарифів, а й зменшення нетарифних заходів шляхом узгодження з правилами ЄС.*

**Проблема.** *Конкуренція між правилами приводить до зближення стандартів на практиці. Однак питання про те, чи можуть національні відмінності продовжуватися, є емпіричним.*

© Hellyer M., Piatnytska G., Piatnytskyi V., 2022

The authors contribute equally.

The authors of the manuscript did not receive direct funding in the preparation of the manuscript.

The article presents the results of the authors' research as a part of the study "Geospatial diversification of Ukraine's foreign trade" at the request of the Ministry of Education and Science of Ukraine (state registration number 0120U104719). There are links to the results of one of the authors obtained in the project "Support for the implementation of the EU-Ukraine Association Agreement" (Project Identification No. EuropeAid/137074/DH/SER/UA Contract №: 2015/370-128).

Hellyer M., Piatnytska G., Piatnytskyi V. Groups of products with improved market access & improved exports. *Scientia fructuosa*. 2022. № 6. S. 19-34. [https://doi.org/10.31617/1.2022\(146\)02](https://doi.org/10.31617/1.2022(146)02)

ISSN 1727-9313; eISSN 2616-5856. SCIENTIA FRUCTUOSA. 2022. № 6

19

*The aim of the study is to identify the relationship between product groups with improved access and exports within the study of European perspectives for the further development of Ukraine.*

*Methods.* The study uses general and special research methods.

*Results.* It is substantiated that Ukrainian business can increase the productivity and efficiency of its activities by adopting EU standards by 13–30%. It is established that a smaller share of imports in a particular country's total imports would imply greater trade costs in that country for the exporting country, and vice versa. All products with HS4 codes which market share in EU is less than market share in the world are identified. Ineffective products within the scope of the DCFTA have been identified. In order to identify these products a special formula is proposed. An economic-mathematical approach for evaluating export growth in conditions of conflict-free trade is proposed.

*Conclusions.* Tariffs are not the only barrier to market entry in the EU. Some of the largest trade transaction costs have been seen to be a major barrier to export development which was addressed within the DCFTA. Further investigation could be focus on assessing the competitiveness of products with improved access.

*Keywords:* export, imports, market access, trade, non-tariff measures, DCFTA, regulatory barriers, EU quality infrastructure system, products and sectors of Ukraine.

**JEL Classification:** F15; F47

*Метою* дослідження є визначення взаємозв'язку між групами товарів з покращеним доступом та експортом у контексті європейських перспектив подальшого розвитку України.

*Методи.* Використано загальні та спеціальні методи дослідження.

*Результати дослідження.* Обґрунтовано, що український бізнес може підвищити продуктивність та ефективність своєї діяльності завдяки прийняттю стандартів ЄС на 13–30%. Встановлено, що менша частка імпорту в загальному імпорті конкретної країни означала б більші торгові витрати в цій країні для країни-експортера, і навпаки. Ідентифіковано всі продукти з кодами HS4, частка ринку яких в ЄС менша, ніж на світовому ринку. Виявлено неефективну продукцію в рамках ПВЗВТ. Для ідентифікації цих продуктів запропоновано спеціальну формулу. Запропоновано економіко-математичний підхід до оцінювання зростання експорту в умовах безконфліктності торгівлі.

*Висновки.* Тарифи самі по собі не є єдиною перешкодою для входу на ринок ЄС. Деякі з найбільших витрат на торговельні операції вважаються основною перешкодою для розвитку експорту, який розглядався в рамках ПВЗВТ. Подальші дослідження можуть бути зосереджені на оцінці конкурентоспроможності продуктів із покращеним доступом.

*Ключові слова:* експорт, імпорт, доступ на ринок, торгівля, нетарифні заходи, ПВЗВТ, регуляторні бар'єри, система інфраструктури якості ЄС, продукти та сектори України.

**Introduction.** In 2022 Ukraine received the status of a candidate of the EU membership. After the signing of the Association Agreement (AA) between EU and Ukraine, including provisions for a Deep and Comprehensive Free Trade Area (DCFTA) in 2014, it became another step on the way to the integration of Ukraine into the European economic space, which requires the harmonization of national rules with the rules of trade and other activities on the EU market. It also actualizes the task of identifying the relationship between groups of products with improved access and improved exports. Such studies will allow us to better understand the benefits that Ukraine should take of, if not during wartime (when special rules may be implemented and various types of risks are constantly unpredictably manifested), then in peacetime – during the country's reconstruction and preparation for its accession to the EU.

In examining the performance of Ukraine under the DCFTA, improved market access does not only mean a reduction in tariffs but also a reduction in non-tariff measures (NTMs) through alignment to EU regulations. A fundamental difference between DCFTA and traditional FTA is regulatory alignment which allows for improved market access beyond tariffs alone and are expected to result in significant increase in exports. Therefore, sectors and/or products that improved market access through regulatory alignment should also improve exports to the EU. In general, NTMs such as Technical regulations and Sanitary and Phytosanitary (SPS) measures are imposed by governments for a variety of legitimate objectives that may have nothing to do with international trade, but still create trade frictions and restricts trade.

In order to minimize the negative impact of differences in national regulations on export development, some free trade agreements pursue a strategy of regulatory alignment. For example, since 1986, the European Union has implemented the Single Market program that aligns and harmonizes the regulation across most sectors whilst in non-harmonized sectors, a system of mutual recognition is encouraged. Mutual coordination and harmonization of regulatory activities takes place on the background of the development of international rules to reduce the protectionist influence of regulatory acts in the system of multilateral trade.

Regulatory alignment can be achieved either through mutual recognition of national rules, or, can be based on complete harmonisation of regulations and standards. Harmonization eliminates the negative effect on exports of differences in national standards due to both parties in the FTA adopting the same regulations and standards. However, in practice, such harmonization can take a very long time, as evidenced by the experience of regulations and standards harmonization within the EU. Mutual recognition of national standards and conformity assessment procedures within the framework of an FTA is a viable alternative approach to harmonisation. As noted in some studies earlier, "in both instances, states must have confidence in each other's testing and enforcement procedures, but the mutual recognition approach involves, in addition, the possibility of competition among rules leading to a 'race to the bottom'. This may occur if firms within the FTA lobby for less stringent regulation in the face of competition from firms located in more lax regulatory jurisdictions, or threaten to relocate from high - to low-standard countries" [1].

**Problem.** Unfortunately, today there is little evidence on the extent to which differences in national rules may persist. The question of determining the extent to which competition between the rules of different countries leads to convergence of standards in practice requires further investigation.

In modern realities, the creation of a single international space is no longer considered as a choice between regulatory harmonisation and mutual recognition of the rules. In fact, a scenario of following a parallel approach where mutual recognition of some rules supplements harmonisation of rules

of other sectors. At the same time, it should be emphasized that although mutual recognition can certainly become the basis for alignment of some national rules, it is only viable when the difference between national approaches is small. This, in particular, is evidenced by the experience of the EU.

**Analysis of recent research and publications.** There have been different publications [2–4] in recent years examining the impact of the AA and DCFTA. However, they mainly related to the general characteristics of the change in trade rules and the determination of the Ukraine's exports to EU countries trends. Some articles [5; 6] also mentioned the negative impact of Russia's military aggression on trade between Ukraine and the EU. Other publications [7; 8] presented assessments of the competitiveness of Ukrainian exporters, factors influencing the development of trade between Ukraine and the EU, etc. In one of our previous studies, it is substantiated that "...the increase in new exports of Ukraine to the EU post DCFTA were due to tariff liberalization" [9, p. 1].

Within the defined research issues, it is necessary to mention the scientific publications of Mattoo and Fink [10; 11], which were presented still at the beginning of the 21<sup>st</sup> century. These scientists suggested the following as majors motivations for regularly alignment [1, p. 26; 11]:

- If national standards are not optimal, then international harmonization can be a way of improving national standards.
- If national standards have been captured by protectionist interests, then international harmonization can be a liberalizing device.
- If national standards are optimal, then there is a trade-off between the gains from integrated markets and the costs of departing from nationally optimal standards. This trade-off is likely to be most severe in Regional trade agreements (RTAs) involving both developed and developing economies. The low-income country may have a low level of mandatory standards reflecting its optimal trade-off between price and quality, while the high-income country may have higher standards.

Paying tribute to the results of different researches, it is worth emphasizing that the aforementioned studies have not identified and examined the relationship between groups of products with improved access and improved exports under the context of European benchmarks in the development of Ukraine.

**The aim** of this study is to identify the relationship between groups of products with improved access and improved exports within the study of European perspectives for the further development of Ukraine.

**Methods.** The study uses general and special research methods. These are methods of systematization, comparative and statistical analysis, economic & mathematical description, graphic method. Theoretical basis are concepts of general international trade, the results of own previous research and publications of other scientists. The study also uses data from European Commission, Eurostat, World Integrated Trade Database, etc.

**Results.** In an integrated market, harmonization of standards creates greater competition. However, this comes at the expense of social costs to at least one of the partner countries. Such situation is problematic. As noted by Schiff and Winters [12], this problem can be particularly serious when it comes to social or environmental standards and where there may be significant economic reasons for the existence of differences. Because the aggregate costs of harmonization depend on the gap between the policy-related standards of the countries, scientists Mattoo and Fink [10; 11] pioneered the concept of an optimum harmonization area. According to this concept, the optimal zone of harmonization consists of a set of countries for which aggregate welfare will be maximized through regulatory harmonization.

Research by Mangelsdorf et al. [13] on the impact of trade from outside the EU on business having to adopt new EU technical regulations and harmonized standards (that differ from their respective national standards) shows a negative impact on trade (*Table 1*).

With the exception of medical devices (whose manufacturers around the world are more sophisticated in general), compliance with the EU technical requirements and standards (existing and introduction of new standards) has an adverse effect on trade from countries outside the EU.

*Table 1*

**Effects of new or changes in technical regulations/standards on Extra EU Imports**

Products	Coefficient effect on Change in Trade
Medical Devices	0.069
Toys	-1.110
Electronics	-0.079
Construction	-0.096
Machinery	-0.202

*Source:* Mangelsdorf et al. [13].

Therefore, in aligning Ukraine’s system of quality infrastructure (technical regulations, conformity assessment procedures, metrology, standards and market surveillance) with that of the EU, SMEs will face no difference in compliance with national and EU requirements and therefore, no difference in selling in Ukraine or Warsaw (given zero tariffs on majority of non-agricultural exports from Ukraine) and hence, these effects negative effects will be reversed.

Moreover, studies on the impact of the EU quality infrastructure system within the creation of the Single Market [14–16] show that European firms have enjoyed gains in productivity and growth resulting from both adoption and alignment of technical regulations and standards (*Table 2*).

*Table 2*

**Impact of Adopting EU harmonized standards in the Single Market, %**

Country	Impact on GDP Growth	Impact on productivity
Germany	+0.9	+30.1
UK	+0.3	+13.0
France	+0.8	+27.1

*Source:* Selected European Standards Bodies.

Therefore, there could be productivity and efficiency gains amongst Ukrainian business and SMEs from adoption of the EU standards of between 13 and 30 %.

The above references show that removing selected NTMs (most look at standards and technical regulations) would likely increase trade. Ronan [17] states that a particular NTM will increase trade if its demand-enhancing effect dominates its trade-cost effect, either through removing or reducing the trade cost of that NTM. Therefore, the assessment of the trade effects of NTMs among and within regions, countries or firms, is important in assessing impact of legislative alignment. However, due to data limitations, availability and availability, estimating these effects remains a significant challenge for scholars worldwide.

Most scientific authors attempt to isolate different effects by type of NTM such as Gruebler et al. [18] who shows the difference between the impact of NTMs on imported products which are used for final consumption, compared to intermediate inputs and that technical regulation measures play a more significant role for the manufacturing sector, especially for intermediate goods.

However, the EU-Ukraine Association Agreement and DCFTA has a wide range of legislative alignment, harmonisation and mutual recognition across all the EU business acquis [19, p. 30–47], so in the first instance, this separation of measures is less relevant.

There has a body of work that has investigated the extent to which actual world trade is much below expected trade, with some estimates as low as 10 % of actual trade [20]. These are largely based on gravity models that examines trade potential and compare to actual trade. The theoretical framework for examining trade potential has a useful application in our case as it creates a frictionless trade benchmark. Anderson [21] in early work began the concept of "natural frictionless benchmark" from an initial point of describing a completely smooth homogeneous world in which all frictions (and associated trade costs) disappear. A frictionless world implies that each good has the same price everywhere. In a homogeneous world, economic agents everywhere might be predicted to purchase goods in the same proportions when faced with the same prices. Therefore, in a completely frictionless and homogeneous world, the natural benchmark prediction is based on a number of assumptions:

- demand at each destination for goods from all origins;
- market clearance;
- perfect arbitrage with, no trade costs.



In the Anderson [22] framework, a completely smooth homogenized world, the exports flow from country  $i$  to  $j$ , are equal to country  $i$  world exports as a share of total world imports as a proportion of country  $j$ 's (that is all countries' demand a product equally amongst the different sources of supply). This Bilateral Exports under frictionless trade is thus expressed as follows:

$$X_{ij} = \frac{X_{iW}}{M_W} M_{jW}, \quad (1)$$

where  $X_{ij}$  – is the export of country  $i$  to country  $j$  (or  $j$ 's imports from country  $i$ );  $X_{iW}$  – is country  $i$ 's global total exports;  $M_W$  – is global imports;  $M_{jW}$  is global imports by country  $j$ . Following on from this formulation, the share of  $j$ 's imports from country  $i$  is equal to the share of world expenditure (imports) from country  $i$ .

However, trade in the real world is not frictionless and there is a big difference shown in reality between actual bilateral trade and expected frictionless trade. Therefore, in both actual bilateral trade and the global benchmark, trade costs are present which relax the frictionless concept. Anderson and van Wincoop [22; 23] quantify some of these "Trade Costs" which limit or restrict frictionless trade including:

- Tariffs;
- Information costs;
- Non-monetary barriers – regulation, licensing etc.;
- Taste differences;
- Extortion, insecure contracts;
- Transport and border costs.

Although it should be noted that within gravity model formulations (which Anderson is mainly concerned with), transport and border costs are captured through distance parameters.

Given that trade frictions exist within the benchmark (share of country  $i$  exports in global imports) as well as in bilateral trade, the inference is that any difference in market shares of country  $i$  would result from differences in trade costs. That is a smaller share of imports in a particular country's total imports would imply greater trade costs in that country for the exporting country, and vice versa. The Market Share under reduced friction is expressed as follows formula:

$$\frac{X_{ij}}{M_{jW}} \geq \frac{X_{iW}}{M_W}. \quad (2)$$

So, based on this framework, it would be expected that Ukraine's market share in EU imports should be better (or at least as good) as its market share in other countries as there have been removal of both tariff and non-tariff barriers under the DCFTA.

Anderson [22] extended this analysis to goods at a disaggregated level so in order to identify residual "frictions" and trade costs after the implementation of the DCFTA at a product level. Since we then can isolate products that have had improved tariff market access, if the share in EU markets are less than global market shares then other non-tariff trade costs exist that are greater in the EU.

Therefore, in the following analysis, the share of Ukrainian exports of any product in global markets sets the benchmark proxy for relative "friction" of Ukrainian exports. It would then be expected that under the DCFTA, with greater preferential market access than any other market that Ukraine exports to, Ukraine's exports to the EU should be proportionately greater than Ukraine's global market share, *ceteris paribus*. If this is not the case, then there must be some tariff or non-tariff barriers (persistent tariffs, TRQs, minimum pricing, SPS or TBT, RoO or marketing/information constraints) [24, p. 4–5].

So, a using Andersons framework and benchmark formulation, it is possible to identify underperforming products under the DCFTA. In order to identify these products, a simple formula was developed to estimate the relative market shares of Ukraine's product exports to EU and world. This formula is expressed the Measure of Underperformance in Exports to the EU of product  $i$  ( $I_i$ ):

$$I_i = \frac{S_{iUKREU}}{S_{iUKRWrd}}, \quad (3)$$

where  $i$  – Performance indicator of product;  $S_{iUKREU}$  – Share of EU Imports from Ukraine in total EU Imports of product  $i$ ;  $S_{iUKRWrd}$  – Share of Ukrainian global exports of product  $i$  in World Imports of product  $i$ .

If  $I_i < 1$  then Ukraine's export of product  $i$  to the EU are less than expected, that is the aforementioned export is underperforming in the EU market relative to performance in the rest of the world.

All products at HS4 which market share in EU is less than market share in the world are identified. To make the analysis manageable in terms of products, a set of criteria based on significant levels of Ukrainian exports globally, significant and growing EU market and relative large potential increase (gap between EU and global markets) was applied to identify [24, p. 5]:

- products which global exports are greater than USD 10 million;
- products which EU imports are significant relative to Ukraine's potential (EU demand more than USD 50 million; or 5 times Ukraine's global exports of that product);
- products which EU imports have been consistently growing over the last 3 years.

In 2021, Ukraine was the 17<sup>th</sup> largest partner for EU exports of goods and the 15<sup>th</sup> largest partner for EU imports of goods. Total trade between the EU and Ukraine reached almost EUR 52.4 billion in 2021, almost doubling since the entry into force of the DCFTA [25]. Our previous studies [9; 19; 24] have shown that Ukraine exports 920 products to the EU at a HS4 digit customs code level (HS 8 digit level is not possible due to lack of global demand data at this level of disaggregation). Let's emphasize that around one quarter of product lines, or 242 products have market shares in the EU lower than

global market shares. That is are underperforming in the EU market under the DCFTA. Of these, 69 have large global exports, over USD 10 million as given in. Given that in total only 298 product lines have exports greater than USD 10 million, it also means that around one quarter of Ukraine’s largest global export products are underperforming under the DCFTA [19, p. 378–381].

Table 3 summarizes the largest global exports of Ukraine that are currently underperforming under the DCFTA.

*Table 3*

**Largest Exports of Ukraine that are underperforming under the DCFTA**

Products & HS 4 digit customs code	Average EU Imports from Ukraine (EUR million)	Share of EU Imports from Ukraine in total EU Imports	Ukraine’s Global Exports (USD million)	Share of Ukrainian global exports in World Imports	Share in EU cf. Share in World Imports ( $I_i$ )
7214 Bars And Rods, Of Iron Or Non-Alloy Steel, Not Further Worked Than Forged, Hot-Rolled, Hot-Drawn Or Hot-Extruded, But Incl. Those Twisted After Rolling (Excl. in Irregularly Wound Coils)	43.072	5.039	1 076.940	6.013	0.838
8411 Turbojets, Turbopropellers And Other Gas Turbines	19.821	0.065	789.862	0.666	0.098
2818 Artificial Corundum, Whether Or Not Chemically Defined; Aluminium Oxide / Hydroxide	10.603	1.891	449.926	2.919	0.648
7204 Ferrous Waste And Scrap; Remelting Scrap Ingots Of Iron Or Steel (Excl. Slag, Scale and Other Waste From the Production of Iron Or Steel; Radioactive Waste and Scrap; Fragments of Pigs, Blocs Or Other Primary Forms of Pig Iron Or Spiegeleisen)	8.068	0.710	289.694	0.817	0.868
2402 Cigars, Cheroots, Cigarillos And Cigarettes Of Tobacco Or Substitutes	0.260	0.135	265.030	1.138	0.119
3004 Medicaments Consisting Of Mixed Or Unmixed Products For Therapeutic Or Prophylactic Uses, Put Up in Measured Doses "Incl. Those in the Form of Transdermal Administration" Or in Forms Or Packing for Retail Sale (Excl. Goods of Heading 3002, 3005 Or 3006)	8.032	0.024	187.141	0.054	0.451
2517 Pebbles, Gravel, Broken Or Crushed Stone, For Concrete Aggregates, For Road Metalling Or For Railway Ballast, ...	6.560	1.937	169.352	4.635	0.418
8413 Pumps For Liquids, Whether Or Not Fitted With A Measuring Device ...	6.735	0.174	168.261	0.265	0.658
8802 Powered Aircraft "E.G. Helicopters And Aeroplanes"; Spacecraft ...	10.822	0.051	160.915	0.109	0.468
8602 Rail Locomotives (Excl. Those Powered From An External Source of Electricity Or by Accumulators); Locomotive Tenders	2.129	4.363	159.736	9.223	0.473

Source: Authors’s Calculations from World Integrated Trade Database (USD) and EURstat (EUR).

Iron and non-alloy steel bars (HS7214) are Ukraine’s largest global export that is underperforming under the DCFTA. However, Ukrainian global exports of Iron and non-alloy steel bars amount to almost USD 1.1 billion. Ukraine’s market share of these products in the EU is around 0.8 of its global market share, despite the DCFTA and therefore, exports to the EU are only EUR 43 million (that is, approximately USD 48 million).

Taking into account the results of our study and some previous publications and research [9; 19; 24], it is clear that similarly, Ukraine exports EUR 20 million (USD 22.4 million) of gas turbines (HS 8411) to the EU, which is about one tenth (0.098) of its global market share at USD 800 million. Therefore, if Ukrainian exports to EU of gas turbines performed the same in EU as in global markets, then exports to the EU would total USD 224 million; given the DCFTA provides a market opportunity, it could be argued that we would expect exports to be much larger than global export share and therefore the expected increase would be even higher.

Table 4 presents the products that have the worst performance in the EU in terms of global market share (where  $I_i$  is the lowest).

Table 4

**Worst Performing Large Exports of Ukraine**

Products & HS 4 digit customs code	Average EU Imports from Ukraine (EUR million)	Share of EU Imports from Ukraine in total EU Imports	Growth in Average EU Imports, %	Ukraine's Global Exports (USD million)	Share of Ukrainian global exports in World Imports	Share in EU cf. Share in World Imports ( $I_i$ )
9028 Gas, Liquid Or Electricity Supply Or Production Meters, Incl. Calibrating Meters	0.029	0.005	12.15	19.545	0.319	0.016
1901 Malt Extract; Food Preparations Of Flour, Groats, Meal, Starch ....	0.105	0.041	4.83	110.402	0.644	0.064
8415 Air Conditioning Machines Comprising A Motor-Driven Fan ...	0.144	0.005	15.62	18.081	0.047	0.096
8411 Turbojets, Turbopropellers And Other Gas Turbines	19.821	0.065	13.79	789.862	0.666	0.098
8501 Electric Motors and Generators (Excl. Generating Sets)	1.100	0.021	11.73	99.550	0.195	0.110
2402 Cigars, Cheroots, Cigarillos and Cigarettes Of Tobacco Or Substitutes ...	0.260	0.135	37.76	265.030	1.138	0.119
6402 Footwear With Outer Soles And Uppers Of Rubber Or Plastics ...	0.506	0.011	2.81	23.384	0.080	0.134
3904 Polymers Of Vinyl Chloride Or Halogenated Olefins, Primary Forms	0.125	0.017	4.97	21.924	0.118	0.147
7108 Gold, Incl. Gold Plated With Platinum, Unwrought Or Not Further Worked ..	1.471	0.004	79.25	73.467	0.028	0.156
8526 Radar Apparatus, Radio Navigational Aid Apparatus and Radio Remote Control	0.852	0.038	9.35	43.676	0.239	0.160

Source: Authors's Calculations from World Integrated Trade Database (USD) and EURstat (EUR).

Ukraine has the worst indicators of exports to the EU for product groups HS 9028, HS 1901, HS 8415, HS 8411, whose relative market share in the EU does not even reach 0.1 share of the global market (see Table 4).

As mentioned earlier, the benefits of the DCFTA are derived principally from two elements [24, p. 8]:

- improved market access (preferential tariffs and duty free tariff rate quotas) that provide Ukraine with a margin of preference over other third country suppliers;

- alignment of national regulations (SPS and technical regulations) to those of the EU so that producers in Ukraine, de facto, already comply with EU regulations and can export more easily without product adaptation.

Where there are remaining tariff obstacles, including tariff rate quotas, amongst the largest underperforming sectors, these tariffs could explain all or most of the residual frictions and therefore, explain the underperformance of Ukraine in EU markets under the DCFTA compared with Ukraine's global exports.

Therefore, in order to identify products where non-tariff frictions exist, the largest exports from Ukraine globally that perform worse in the EU, whereby these products face no tariffs or tariff preferences over major suppliers. For underperforming sectors where Ukraine has a tariff advantage, underperformance must be due to the existence of other trade costs especially where a margin of preference. However, it should be noted that the persistence of trade costs in these under performing products does not necessarily mean that these result from non-alignment of technical and SPS regulations, but rather "could be" one of the reasons for underperforming (other internal and external factors could also play a role).

From the 69 large (with global exports from Ukraine greater than USD 10 million) underperforming sectors of Ukraine in the EU under the DCFTA, there are a total of 39 sectors that are underperforming and have tariff free or margin of preference in the EU. However, given that Ukraine actually exports 920 sectors (at 4-digit level), only 5 % of sectors totalling EUR 95.2 million (or 6.9 %) of average exports to the EU (2017–2019) are underperforming with tariff free or margin of preference as shown in *Table 5* below.

On average, these products are underperforming in the EU versus the rest of the world by 0.49 (simple average) which means that, assuming that these are globally competitive products (as Ukraine has significant exports of these in global markets), there is potential for increasing exports to the EU of these by more than two times under frictionless trade.

To get a more accurate figure, the export potential (if Ukrainian exports to the EU were to match its global market share), of these products was estimated for the specific under performance. Assuming that Ukraine could potentially trade with the EU at global levels in all products with no tariff barriers at global market share levels, then using the underperformance index, the increase in potential exports under frictionless trade would be (at least):

$$\Delta X = \left(\frac{1}{I_i}\right) X, \quad (4)$$

where  $\Delta X$  – is the increase in exports under frictionless trade in product  $i$ ;  $\left(\frac{1}{I_i}\right)$  – is the multiple of trade potential in product  $i$ ;  $X$  – is the existing exports to the EU of product  $i$ .

*Table 5* calculates the total level of under performance of Ukrainian exports in the EU market for products enjoying tariff free access to the EU.

*Table 5*

**Underperforming Ukrainian Exports with Duty Free Access to EU**

Products & HS4 digit customs code	Average EU Imports from Ukraine, <i>EUR million</i>	Share in EU of Share in World Imports ( <i>li</i> )	Under Sales, <i>EUR million</i>
1803 COCOA PASTE, WHETHER OR NOT DEFATTED	1.239	0.16	6.5
1901 MALT EXTRACT; FOOD PREPARATIONS OF FLOUR, GROATS, MEAL, STARCH OR MALT ...	0.105	0.06	1.5
2001 VEGETABLES, FRUIT, NUTS AND OTHER EDIBLE PARTS OF PLANTS, PREPARED OR PRESERVED ...	1.487	0.98	0.0
2005 OTHER VEGETABLES PREPARED OR PRESERVED OTHERWISE THAN BY VINEGAR OR ACETIC ACID, NOT FROZEN ....	1.301	0.53	1.1
2008 FRUITS, NUTS AND OTHER EDIBLE PARTS OF PLANTS, PREPARED OR PRESERVED, ....	2.108	0.58	1.6
2106 FOOD PREPARATIONS, N.E.S.	1.895	0.57	1.4
2505 NATURAL SANDS OF ALL KINDS, WHETHER OR NOT COLOURED (EXCL. GOLD-, PLATINUM-BEARING SANDS, ...	0.120	0.20	0.5
2517 PEBBLES, GRAVEL, BROKEN OR CRUSHED STONE, FOR CONCRETE AGGREGATES, FOR ROAD ...	6.560	0.42	9.1
3004 MEDICAMENTS CONSISTING OF MIXED OR UNMIXED PRODUCTS FOR THERAPEUTIC PROPHYLACTIC USES,...	8.032	0.45	9.8
3303 PERFUMES AND TOILET WATERS (EXCL. AFTERSHAVE LOTIONS, DEODORANTS AND HAIR LOTIONS)	0.622	0.35	1.1
3304 BEAUTY OR MAKE-UP PREPARATIONS AND PREPARATIONS FOR THE CARE OF THE SKIN, ...	1.468	0.59	1.0
3901 POLYMERS OF ETHYLENE, IN PRIMARY FORMS	0.520	0.93	0.0
3904 POLYMERS OF VINYL CHLORIDE OR OF OTHER HALOGENATED OLEFINS, IN PRIMARY FORMS	0.125	0.15	0.7
4804 UNCOATED KRAFT PAPER AND PAPERBOARD, IN ROLLS OF A WIDTH > 36 CM ...	0.517	0.74	0.2
4821 PAPER OR PAPERBOARD LABELS OF ALL KINDS, WHETHER OR NOT PRINTED	0.268	0.36	0.5
4911 PRINTED MATTER, INCL. PRINTED PICTURES AND PHOTOGRAPHS, N.E.S.	0.963	0.56	0.8
6115 PANTYHOSE, TIGHTS, STOCKINGS, SOCKS AND OTHER HOSIERY, INCL. GRADUATED COMPRESSION HOSIERY	1.018	0.39	1.6
6212 BRASSIERES, GIRDLES, CORSETS, BRACES, SUSPENDERS, GARTERS AND SIMILAR ARTICLES AND PARTS ....	3.435	0.86	0.5
7108 GOLD, INCL. GOLD PLATED WITH PLATINUM, UNWROUGHT OR NOT FURTHER WORKED ...	1.471	0.16	8.0
7210 FLAT-ROLLED PRODUCTS OF IRON OR NON-ALLOY STEEL, OF A WIDTH >= 600 MM, ...	2.351	0.50	2.3
7225 FLAT-ROLLED PRODUCTS OF ALLOY STEEL OTHER THAN STAINLESS, OF A WIDTH OF >= 600 MM, ..	3.733	0.97	0.1
7312 STRANDED WIRE, ROPES, CABLES, PLAITED BANDS, SLINGS AND THE LIKE, OF IRON OR STEEL ...	0.593	0.51	0.6
7321 STOVES, RANGES, GRATES, COOKERS, INCL. THOSE WITH SUBSIDIARY BOILERS ...	1.339	0.57	1.0
7612 CASKS, DRUMS, CANS, BOXES AND SIMILAR CONTAINERS, INCL. RIGID OR COLLAPSIBLE TUBULAR CONTAINERS. .	0.466	0.66	0.2
8108 TITANIUM AND ARTICLES THEREOF, N.E.S.; TITANIUM WASTE AND SCRAP ...	17.056	0.73	6.3
8413 PUMPS FOR LIQUIDS, WHETHER OR NOT FITTED WITH A MEASURING DEVICE ..	6.735	0.66	3.5
8415 AIR CONDITIONING MACHINES COMPRISING A MOTOR-DRIVEN FAN AND ELEMENTS ...	0.144	0.10	1.4
8419 MACHINERY, PLANT OR LABORATORY EQUIPMENT WHETHER OR NOT ELECTRICALLY HEATED ...	2.953	0.65	1.6
8421 CENTRIFUGES, INCL. CENTRIFUGAL DRYERS (EXCL. THOSE FOR ISOTOPE SEPARATION); ....	3.266	0.85	0.6
8426 SHIPS' DERRICKS; CRANES, INCL. CABLE CRANES (EXCL. WHEEL-MOUNTED CRANES ...	0.270	0.72	0.1
8481 TAPS, COCKS, VALVES AND SIMILAR APPLIANCES FOR PIPES, BOILER SHELLS, TANKS, VATS ...	5.417	0.74	1.9
8501 ELECTRIC MOTORS AND GENERATORS (EXCL. GENERATING SETS)	1.100	0.11	8.9

*End of the Table 5*

Products & HS4 digit customs code	Average EU Imports from Ukraine, EUR million	Share in EU of Share in World Imports (li)	Under Sales, EUR million
8523 DISCS, TAPES, SOLID-STATE NON-VOLATILE STORAGE DEVICES, "SMART CARDS" AND OTHER MEDIA ....	0.349	0.47	0.4
8526 RADAR APPARATUS, RADIO NAVIGATIONAL AID APPARATUS AND RADIO REMOTE CONTROL APPARATUS	0.852	0.16	4.5
8701 TRACTORS (OTHER THAN TRACTORS OF HEADING 8709)	0.869	0.65	0.5
8704 MOTOR VEHICLES FOR THE TRANSPORT OF GOODS, INCL. CHASSIS WITH ENGINE AND CAB	0.405	0.19	1.8
8802 POWERED AIRCRAFT "E.G. HELICOPTERS AND AEROPLANES"; SPACECRAFT, ...	10.822	0.47	12.3
8803 PARTS OF AIRCRAFT AND SPACECRAFT OF HEADING 8801 OR 8802, N.E.S.	3.231	0.31	7.2
9028 GAS, LIQUID OR ELECTRICITY SUPPLY OR PRODUCTION METERS, INCL. CALIBRATING METERS THEREFOR	0.029	0.02	1.8

*Source:* Authors’s Calculations based on World Integrated Trade Database and EURstat.

This means that if Ukraine/EU could remove the costs to trade on all underperforming exports (become frictionless or at least trade costs equal to global average trade costs faced by Ukraine), there would be an increase in exports of EUR103 million (or an increase in total exports of Ukraine to EU of 0.75 %). This suggests that costs to trade (arising from differences in regulatory structures) are significant as it is unlikely that transport and other trade costs in the EU are higher than other global markets that Ukraine export to.

The Association Agreement foresees alignment with EU regulations (technical regulations, sanitary and phyto sanitary measures, amongst others) over a 10 year period so that for exporters, there will be no difference in exporting to the EU or selling nationally, thus eliminating these barriers. Therefore, for sections of the tariff that are underperforming in the EU market, these barriers should be gradually removed. In the data, which looks at the first 3 "effective" years of regulatory alignment, it is not surprising that there have been no effects yet and in the future, a more significant increase in exports to the EU could be seen from removing barriers to trade.

Moreover, this under performing also identifies products where Ukrainian exports to the EU are less than the "benchmark" global market share. However, these global markets also have frictions, and under the AA/DCFTA, these regulatory trade costs would mean that market shares of Ukraine in EU for many products should not be equal but actually much higher than the EU. Since the level of increased relative market share expected from regulatory alignment would differ by product, the underperformance index relative to global benchmark would likely be a gross under-estimate of the future potential from regulatory alignment. Moreover, since the benchmark is incorrect measure of frictionless trade, many more exports to the EU would be expected to be included in the group of underperforming products and as result, the calibration estimates are much smaller in scope and value and the "multipliers" to frictionless trade of those increased value of products also much higher. Finally, this is a static analysis, focusing on under performing products in existing trade and does not include the dynamic effects.

Studies on the impact of European Integration on trade growth and the disaggregated effects such as the Chen and Novy [23] found that in areas with high levels of technical regulations, up to 85 % of trade growth (internally and

externally) by the EU member states is due to removal of TBT and 45 % for sectors with lower technical requirements. This shows that Ukraine’s alignment with the EU quality infrastructure has even greater trade potential growth with the EU than in simple underperformance. A European Commission Staff Working Paper [26] details how regulatory obstacles are prevented and removed through relevant EU legislation on specific products (i.e. through EU harmonised legislation) such as in the case of toys, cosmetic products or pyrotechnical articles. The Commission demonstrates the benefits of harmonisation within the EU by examining the share of trade within the EU of harmonised and non-harmonised goods in total consumption (*Table 6*).

*Table 6*

**Intra EU Exports as a share of Domestic Consumption: Harmonised vs Non-Harmonised Or Partially Harmonised Products, 2008–2015, %**

Year	Harmonised	Partial/Non-harmonised
2008	50.6	32.9
2009	51.8	32.5
2010	52.9	34.5
2011	54.2	35.6
2012	54.8	35.8
2013	56.5	37.1
2014	57.9	37.7
2015	59.2	37.4

*Source:* European Commission [26].

For harmonised products, the average value of intra EU exports is 54.7 % of domestic consumption, while for the non-harmonised and partially harmonized goods intra EU exports represent only 35.4 %.

The effects of harmonisation of the EU technical regulations means there are no (or few) barriers to trade within the EU compared to non-harmonised. Therefore, the Commission concludes [26] that EU enterprises on average trade 54.4 % more in harmonised areas than non-harmonised areas.

Based on this, and assuming Ukrainian enterprises are able to take advantage of opportunities at the same rate as EU companies in other EU markets, and no other barriers exist (frictionless trade assumption), then trade in each sector which Ukraine harmonises with the EU should rise by 54.4 % (*ceteris paribus*).

**Conclusions.** The results of identification of the relationship between groups of products with improved access and improved exports showed that tariffs alone are not the only barrier to market entry in the EU and some of the largest trade transaction costs have been seen to be a major barrier to export development which was addressed within the DCFTA. To determine the extent to which residual barriers to trade exist, the "frictionless" trade benchmarking theory was adapted to measure the expected market share in the EU of Ukraine (the benchmark) and actual market share for all products. Given that transport costs are another major friction which does not apply to Ukraine’s exports to the EU compared to global exports, given Ukraine’s proximity to the EU, any underperformance in trade (market share in EU less than global market shares) would indicate a residual constraint exists in the EU that is limiting market penetration. The measure shows a small, but significant level of Ukrainian export sectors that are underperforming in the EU.



It should be noted that this is probably an underestimate as the benchmark level of trade (Ukraine's world market share) has significant barriers (transport, tariff and regulatory costs) so the actual underperformance is much higher. This is to be expected as the regulatory alignment under the DCFTA is a 10-year process of legal adoption followed by implementation so that, the effects of regulatory alignment are likely only to be observed in the longer term. Anderson's frictionless trade benchmark is only ever used for identifying barriers before negotiation of an agreement. The use of this technique linked to a specific agreement, will be a useful tool for policy makers to identify residual barriers post implementation, especially if other frictions (tariffs and transport costs) can be isolated to provide a measure of residual barriers. This analysis can then be used to focus government dialogue and negotiation to eradicate any non-tariff barriers and address informational frictions on those specific sectors. This could be used as a very powerful policy analysis tool for governments.

Based on the results of this study, further investigation could be focus on assessing the competitiveness of products with improved market access.

**Conflict of interest.** The authors certify that they have no financial or non-financial interest in the subject matter or materials discussed in this manuscript; the authors have no association with state bodies, any organizations or commercial entities having a financial interest in or financial conflict with the subject matter or research presented in the manuscript. Given that one of the authors is affiliated with the institution that publishes this journal, which may cause potential conflict or suspicion of bias and therefore the final decision to publish this article (including the reviewers and editors) is made by the members of the Editorial Board who are not the employees of this institution.

#### REFERENCES

1. Matthews, A. (2003). Regional Integration and Food Security in Developing Countries. Rome, Food and Agriculture Organization of the United Nations. <https://www.fao.org/3/y4793e/y4793e05.htm#fn7> [in English].
2. Duginets, G., Diachenko, O., Mazaraki, N., & Golovachova, O. (2019). *Deep and comprehensive free trade agreement with the EU: advantages and downsides for the Ukrainian society*. Ed. Ganna Duginets. Kyiv: Kyiv National University of Trade and Economics [in English].
3. VOŠTA, ILAN & U IYENK, ITLANA & ABR Á, J EF (2016). Ukraine-EU Deep and Comprehensive Free Trade Area as Part of Eastern Partnership initiative. *Journal of International Studies* [in English].
4. Petrov, R. (2018). The impact of the EU-Ukraine association agreement on constitutional reform and judicial activism in Ukraine. *Review of Central and Central East European Law*, 43 (2), 99-115 [in English].
5. Rabinovych, M. (2022). EU-Ukraine "deep" trade agenda: the effectiveness and impact perspectives. *Int Polit*. <https://doi.org/10.1057/s41311-022-00384-x> [in English].
6. Baležentis, O., & Yatsenko (2018). Trade Integration As etries of Ukraine and the EU. *The Journal of International Economic Policy*, 1(28), 33-63. [http://iejjournal.com/journals\\_eng/28/2018\\_2\\_Basentius\\_Yatsenko.pdf](http://iejjournal.com/journals_eng/28/2018_2_Basentius_Yatsenko.pdf) [in English].
7. Hlibko, S., Matyushenko, I., & Petrova, M. (2020). Assessment of the development of foreign trade in high-tech production of Ukraine under the association with the EU. *Business Management and Education*. Vol. 18. Issue 1, (pp. 157-182). 10.3846/bme.2020.11578 [in English].
8. Shnyrkov, O., Rogach O., Reznikova N., & Nanavov A. (2020). Ukraine's export diversification: the impact of economic integration and disintegration. *Journal Global Policy and Governance*. Vol. 9. Issue 1, (pp. 3-18). <https://transitionacademiapress.org/jpgg/article/view/297> [in English].

9. Hellyer, M., Piatnytskyi, V., & Piatnytska, G. (2021). Effect of Tariff Liberalization under the DCFTA with the EU on Ukraine's Extensive Margin of Trade. *International Journal of Entrepreneurship*. Vol. 25. Issue 3, (pp. 1-13). <https://www.abacademies.org/articles/effect-of-tariff-liberalization-under-the-dcfta-with-the-eu-on-ukraines-extensive-margin-of-trade.pdf> [in English].
10. MATTOO, A., & FINK, C. (2002). Regional Agreements and Trade in Services: Policy Issues, World Bank Policy Research Working Paper 2852. June. <https://doi.org/10.1596/1813-9450-2852>
11. Mattoo, A., & Fink, C. (2004). Regional Agreements and Trade in Services: Policy Issues. *Journal of Economic Integration*, 19(4), 742-779. <http://www.jstor.org/stable/23000721> [in English].
12. Schiff, M., & Winters, A. (2003). Regional Integration and Development. Washington, D.C., World Bank and Oxford, Oxford University Press [in English].
13. Mangelsdorf, A., Ferro, E., & Wilson, J. S. (2014). The Trade Impact of European Regulatory Standards for Developing Countries. European Trade Study Group Conference [in English].
14. AFNOR (2009). The Economic Impact of Standardization – Technological Change, Standards and Long-Term Growth in France. Paris [in English].
15. DIN (2000). Economic Benefits of Standardization. Vol. 3. Berlin: Beuth [in English].
16. DTI (2005). The Empirical Economics of Standards. *DTI ECONOMICS PAPERS*, 12. London [in English].
17. RONEN, Eyal (2017). Quantifying the trade effects of NTMs: A review of the empirical literature. *Journal of Economics and Political Economy*. Vol. 4. Issue 3. September [in English].
18. GRUEBLER, J., GHODSI, M., & STEHRER, R. (2016). Assessing the impact of non-tariff measures on imports. *The Vienna Institute for International Economic Studies* [in English].
19. Hellyer, M. (2021). *Effectiveness of European integration provisions for Ukraine's Exports. Dissertation of obtaining a scientific degree of PhD in specialty 292 – International Economic Relations*. Kyiv [in Ukrainian].
20. ANDERSON, JAMES E. (2019). Trade, Size, and Frictions: the Gravity Model. *NBER Working Papers*, January [in English].
21. ANDERSON, James E. (2011). The Gravity Model. *Annual Review of Economics*. Vol. 3 [in English].
22. ANDERSON, JAMES, E., & ERIC VAN WINCOOP (2004). Trade Costs. *Journal of Economic Literature*, 42 (3). 691-751 [in English].
23. Chen, Natalie & Novy, Dennis (2009). International Trade Integration: A Disaggregated Approach. *CEP Discussion Paper*, 908, January [in English].
24. Hellyer, M. (2017). Support for the implementation of the EU-Ukraine Association Agreement: A4U Project (Project Identification No. EuropeAid/137074/DH/SER/UA. Contract N°: 2015/370-128). GFA Consulting Group GmbH. <https://eu-ua.kmu.gov.ua/sites/default/files/inline/files/identification-of-underperforming-sectors-under-the-dcfta.pdf> [in English].
25. European Commission (2022). EU trade relationships by country/region: Ukraine. [https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/ukraine\\_en#:~:text=Ukraine's%20main%20exports%20to%20the,%E2%82%AC28.3%20billion%20in%202021](https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/ukraine_en#:~:text=Ukraine's%20main%20exports%20to%20the,%E2%82%AC28.3%20billion%20in%202021) [in English].
26. EUROPEAN COMMISSION (2017). Impact Assessment accompanying Proposal for a Regulation of the European Parliament and of the Council on the mutual recognition on goods lawfully marketed in another Member State. *Commission Staff Working Document*, December [in English].

*Received the editorial office 26.08.2022.*

*Accepted for printing 31.08.2022.*

*Publication online 23.12.2022.*

UDC 658.562:339.17

DOI: 10.31617/1.2022(146)03

**SYTNYK Hanna,**  
Doctor of Science (Economics), Associate Professor,  
Professor at the Department of Economics  
and Business Finance  
State University of Trade and Economics  
19, Kyoto St., Kyiv, 02156, Ukraine

ORCID: 0000-0003-4189-180X  
h.sytnyk@knu.edu.ua

**SILAKOVA Hanna,**  
PhD (Economics), Associate Professor,  
Associate Professor at the Department  
of Economics and Business Finance  
State University of Trade and Economics  
19, Kyoto St., Kyiv, 02156, Ukraine

ORCID: 0000-0002-8083-5600  
h.silakova@knu.edu.ua

**BLAZHENKO Serhii,**  
Senior Lecturer  
at the Department of Economics  
and Business Finance  
State University of Trade and Economics  
19, Kyoto St., Kyiv, 02156, Ukraine

ORCID: 0000-0003-3911-9482  
s.blazhenko@knu.edu.ua

**СИТНИК Ганна,**  
д. е. н., доцент, професор кафедри економіки  
та фінансів підприємства  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0003-4189-180X  
h.sytnyk@knu.edu.ua

**СІЛАКОВА Ганна,**  
к. е. н., доцент, доцент кафедри економіки  
та фінансів підприємства  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0002-8083-5600  
h.silakova@knu.edu.ua

**БЛАЖЕНКО Сергій,**  
старший викладач кафедри економіки  
та фінансів підприємства  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0003-3911-9482  
s.blazhenko@knu.edu.ua

## CONTROLLING OF OPERATIONAL ACTIVITY OF TRADE ENTERPRISES

**Introduction.** The efficiency of operational activity is a necessary condition for ensuring the sustainable economic development of trade enterprises. Therefore, the search for and implementation of innovative technologies for managing this activity is a priority task for the enterprise management.

**Problem.** The consequences of COVID-19 and Russian military aggression have made traditional systems for managing the operational activities of trade enterprises ineffective. The problem of adapting enterprise management to new economic conditions is crucial today.

**The aim** of the article is to substantiate the theoretical foundations of process-oriented controlling of the operational activities.

## КОНТРОЛІНГ ОПЕРАЦІЙНОЇ ДІЯЛЬНОСТІ ПІДПРИЄМСТВА ТОРГІВЛІ

**Вступ.** Ефективність операційної діяльності є необхідною умовою забезпечення сталого економічного розвитку підприємств торгівлі. Тому пошук та впровадження інноваційних технологій управління цією діяльністю є першочерговим завданням менеджменту підприємства.

**Проблема.** Наслідки COVID-19 та російської військової агресії зробили малоєфективними традиційні системи управління операційною діяльністю підприємств торгівлі. Проблема адаптації менеджменту підприємств до нових умов господарювання є на сьогодні надзвичайно актуальною.

**Метою** статті є обґрунтування теоретичних засад процесноорієнтованого контролю операційної діяльності.

© Sytnyk H., Silakova H., Blazhenko S., 2022

Author contributions: Sytnyk - 40%, Silakova - 40%, Blazhenko - 20%.

The authors of the manuscript did not receive direct funding in the preparation of the manuscript.

Sytnyk H., Silakova H., Blazhenko S. Controlling of operational activity of trade enterprises. *Scientia fructuosa*. 2022. № 6. S. 35-48.  
[https://doi.org/10.31617/1.2022\(146\)03](https://doi.org/10.31617/1.2022(146)03)

ISSN 1727-9313; eISSN 2616-5856. SCIENTIA FRUCTUOSA. 2022. № 6

35

**Methods.** The following methods of scientific knowledge are used: analysis and synthesis, deduction and induction, generalization.

**Results.** The content and main tasks of process-oriented controlling of the operational activity of a trade enterprise are formulated.

The model of operational business processes of the upper level of the trade enterprise is presented, the principles of formation of target indicators of management of operational business processes are defined, and approaches to the formation of a system of centers of financial responsibility for trade enterprises of different sizes and different basic organizational management structures are formulated.

**Conclusions.** The implementation of the technology of controlling operational activities based on a process-oriented approach allows to quickly adapt the management system of the enterprise to new business conditions.

**Keywords:** controlling, operational activity, main business processes, business model, budgeting, financial responsibility center.

**JEL Classification:** M19, M21, M41, M49

**Методи.** Використано такі методи наукового пізнання: аналіз і синтез, дедукція та індукція, узагальнення.

**Результати дослідження.** Сформульовано зміст та основні завдання процесно орієнтованого контролінгу операційної діяльності підприємства торгівлі.

Представлено модель операційних бізнес-процесів верхнього рівня підприємства торгівлі, визначено принципи формування цільових показників управління операційними бізнес-процесами та сформульовано підходи до формування системи центрів фінансової відповідальності для підприємств торгівлі різного розміру та з різними базовими організаційними структурами управління.

**Висновки.** Впровадження технології контролінгу операційної діяльності на основі процесно орієнтованого підходу дає змогу швидко адаптувати систему управління підприємства до нових умов господарювання.

**Ключові слова:** контролінг, операційна діяльність, основні бізнес-процеси, бізнес-модель, бюджетування, центр фінансової відповідальності.

**Introduction.** The ability of the enterprise for sustainable development in the long term largely depends on the efficiency of operational activities. Particularly the financial results of operational activities are an internal source of financing investments and fulfilling financial obligations. They determine the enterprise's solvency level, financial stability, investment activity and possible growth rates.

In the conditions of intense competition, maintaining the appropriate level of efficiency of the enterprise's functioning becomes a rather difficult task and sometimes requires innovative and non-standard solutions both in the organization of the operational activity itself and in its management.

**Problem.** The problem of ensuring the efficiency of operational activity becomes especially acute in crisis periods when the enterprise operates under conditions of strict resource limitations and opportunities. This situation is especially distinctive for Ukraine, which, having not recovered from the consequences of the COVID-19 pandemic, has fallen into even more difficult and, in fact, catastrophic in terms of consequences for the economy and society in general, martial law conditions.

According to the State Statistics Service of Ukraine, in 2020 (during the period of total quarantine measures), the number of trade enterprises (TE) decreased by 3.01 %, and financial results before taxation by 64.94 % compared to 2019. The share of profitable enterprises was 74.4 % of the total number of trading entities, respectively, unprofitable – 25.6 % [1]. These are the worst indicators for 2016-2020.

During the war, the efficiency of the TE, as all branches of the economy, deteriorated catastrophically. Even in the absence of accurate statistical data, it is informed about large economic losses. Thus, according to preliminary estimates of the Ministry of Economy of Ukraine, at the beginning of April 2022, "direct one-time losses for the economy amounted to USD 565 billion. In addition, war losses have long-term effects. Thus, according to the calculations of the Ministry of Economy, this year the losses of Ukraine's GDP will reach at least USD 112 billion, by 2030 – approximately USD 1.2 trillion" [2].

According to the Retailers Association of Ukraine (RAU), at the beginning of June, the losses of Ukrainian retail exceeded UAH 50 billion [3]. This is even though the study covered only large retail chains, so potentially these losses are significantly higher and their volume can still grow.

In crisis and post-crisis (future recovery of the economy) conditions, the role of innovative management methods is growing, which will contribute to the optimal use of limited resources, ensuring their maximum effective use. Therefore, controlling and, in particular, controlling operational activities can become a relevant management tool under such conditions. Specifically concept of controlling involves clear coordination of information, analytical, planning and control functions, which is extremely important for ensuring the effectiveness of operational activities.

At the same time, the practice of the functioning of enterprises in periods of the crisis showed that those TEs that focused attention on their business processes, were able to transform and promptly optimize them, providing an effective business model for the enterprise, adapted to external conditions, were able to preserve, adjust and restore their activities.

Thus, the actual direction of both scientific research and management practice is the improvement of methodological principles, practical tools and the introduction of process-oriented controlling of the operational activities of the trade enterprise.

**Analysis of recent research and publications.** A powerful layer of scientific and business literature is devoted to the problem of controlling. Its analysis makes it possible to state the absence of a unified approach to the interpretation of the essence and content of controlling, as well as its transformation in the development process.

In the work of Gerald J. Preißler, Peter R. Preißler [4], the features of controlling in modern economic conditions are considered, systematization of controlling tools and the features of their application are proposed.

Z. Poberezhna disclosed the tasks and criteria of controlling the results of the development of the business model of an airline company at various stages of its life cycle [5], that is, a process-oriented approach to controlling operational activity is updated.

Scientists T. Losytka, N. Belyaeva, V. Lahutin, and T. Melnyk revealed the possibility of applying modern controlling tools to PT [6]. V. Rudnytskyi and O. Rudnytska investigate the issue of management reporting for TE, focusing attention on reports on the implementation of expenditure budgets for the main business processes of trade: procurement, transportation, storage and sale [7]. In the study of V. Kostyuchenko, the role of controlling in the implementation of the accounting function at the enterprise and the peculiarities of the formation of accounting support for controlling at TE were revealed [8].

N. Babyak, based on the study of the peculiarities of the functioning and organization of business enterprise processes in various segments of trade, reveals the main problems and peculiarities of the formation of information support for controlling trade, defines the main list of the most fundamental analytical reports required by TE to ensure an effective controlling system [9].

Despite the presence of significant improvements by scientists regarding the implementation of process-oriented controlling in the activities of TE, the issues of organizational and analytical support for controlling the processes of operational activity remain unresolved, which significantly complicates its practical implementation.

**The aim** of the article is to determine the essence and main tasks of process-oriented controlling of the operational activity of a trading enterprise and to justify its organizational and analytical support.

**Methods.** The research is based on the principles of the system approach, and fundamental works on the issues of controlling and was carried out using the methods of analysis and synthesis, deduction and induction and generalization.

**Results.** Transformational processes in the understanding of controlling are primarily manifested in their focus on control and optimization of operational processes. Thus, Horvart & Partners point out that in the modern sense, unlike the traditional one, controlling is not considered as a "watchdog", but as an innovative consulting system that is tied to the value chain [10]. This orientation of controlling the enterprise's main, i.e., operational business processes is followed in the writings of other researchers [11].

The relevance and demand of process-oriented controlling are evidenced by the focus on developing cost management techniques within controlling to ensure the enterprise's competitiveness based on M. Porter's theory of creating a value chain. The result of this was the emergence of the ABC costing technique [12] and the technology of process-oriented budgeting (ABB-budgeting), developed by Brimson [13].

The analysis and generalization of modern approaches to the interpretation of control, and the study of the theory of process management made it possible to determine the process-oriented controlling (POC) of the operational activity of the enterprise (OAE) as an integrated system of information formation, analysis, planning and control of operational business

processes to optimize the chain of value creation and business models of the enterprise. That is, the POC of operational activity is aimed at solving the following main tasks:

- assessment of the cost of operational business processes;
- identification of "weak places" in the chain of value formation;
- increasing the flexibility and adaptability of the enterprise's business model through transformation and reengineering of business processes of operational activity;
- assessment of the effectiveness of operational business processes.

The implementation of these tasks should contribute to the overall optimization of the enterprise's business model and the growth of its value. The effective implementation of the POC of operational activity of TE requires the creation of appropriate support systems: organizational, informational and analytical, planning and control. The starting point for their development is the identification of the operational business processes of TE according to the segment in which the company operates and specific features of its activity (sales channels, supply channels, etc.).

Currently, there is no unified approach to modelling the main top-level business processes. The list of the most famous and popular reference models of business processes is given in *Table 1*. The specified models are considered a reference and are used as a basis for building a model of business processes of a specific enterprise, the process of its formation is individual.

*Table 1*

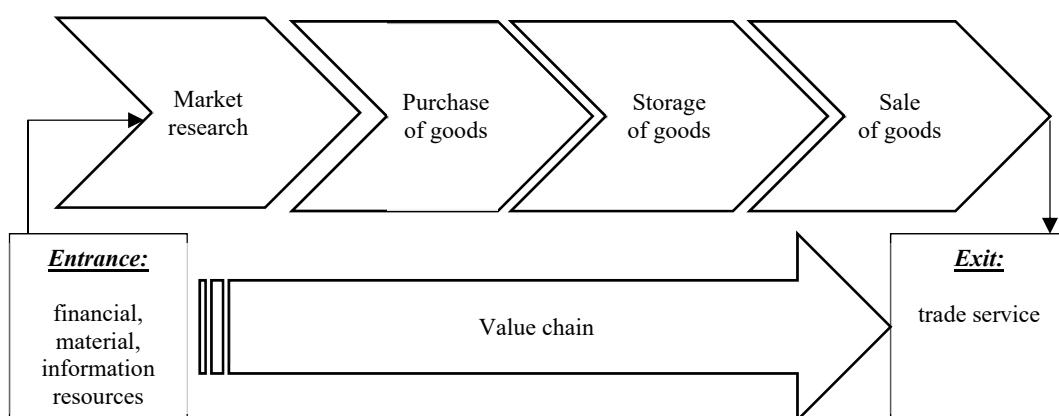
**Approaches to modelling the main business processes of the enterprise**

Approach	Types of the main top-level business processes
M. Porter's model	Internal logistics, production, external logistics, marketing and sales, after-sales service, logistics
The IBL model (The International Business Language) of PriceWaterhouseCoopers company	Marketing, product (service) development, product (service) production, supply and distribution, sales and customer service
13-process model of the International Benchmarking Chamber of the American Center for Productivity and Quality ( <i>American Productivity &amp; Quality Center – APOC</i> )	Market research and consumer needs; development of vision and strategy; products and services; marketing and sales; production and supply of products and services (production enterprise); production and supply of products and services (enterprises in the service sector); billing and service

*Source:* compiled by the authors for [14–18].

A feature of the presented approaches is the inclusion of a marketing component in the main business processes of the enterprise. On the other hand, in many studies highlighting the problems of information support for controlling operational trade processes [8; 9], marketing is not included in the main processes and, accordingly, this process is not taken into account when substantiating information support. However, the marketing component occupies an important place in the formation of the value chain, which makes it necessary to include it in the operational business processes.

Summarizing and developing the existing approaches to the selection of operational business processes of the enterprise, taking into account the peculiarities of TE activity, its main upper-level business processes are presented in *Figure 1*.



**Figure 1. Model of operational business processes of the upper level of a trading enterprise**

*Source:* developed by the authors.

By the identified business model of the main processes, all subsystems providing the POC of operational activity are formed. First of all, its organizational support is created. The implementation of control involves the formation of the financial structure of the enterprise, which becomes an important component of its organizational support.

*The financial structure* is understood as a hierarchical system of responsibility centres, which determines the order of formation of financial results and the distribution of responsibility for achieving the overall result of the enterprise [19–23].

In modern scientific literature [19–23] and practical recommendations on the formation of a financial structure, the following types of centres of financial responsibility are distinguished (*Table 2*).

*Table 2*

**A brief description of centres of financial responsibility**

Centre for financial responsibility	Brief description	Structural subdivisions that form centers of responsibility
Profit centre	Units whose personnel are authorized to make decisions affecting the company’s profit; control the income and expense parts	Enterprise trade in general; Separate division (business unit): a store unit
Cost centre	Units responsible for the performance of certain functions and the formation of certain types of expenses	Accounting; financial department; planning and economic department; general services department; legal department; security service; transportation department
Revenue centre	Units responsible for the formation of the company’s income	Trading hall (in retail trade); sales department (in wholesale trade); own production
Marginal profit centre	Structural units responsible for the amount of marginal profit (income)	Own production; a separate business area (can be separated by product groups) – trade sections
Investment centre	The unit responsible for investment performance	The enterprise in general; the main office of the holding company
Venture centres	Units characterized by a high level of risk	Separated structural units that should ensure efficient functioning, but have not reached the break-even point

*Source:* compiled by the authors according to [19–24].



The first four types of centres of financial responsibility from *Table 2* directly relate to the operational activities of TE.

In the modern theory and practice of designing management structures, three basic approaches to the formation of a financial structure are distinguished: simple, integrated and disintegrated.

Applying a *simple* approach, the financial structure completely duplicates the organizational structure of the enterprise, that is, individual organizational units are determined by centres of responsibility and interact in the order determined by the organizational structure. Thus, N. Shulga notes that such an approach is accompanied by lower implementation costs, as management accounting is simplified, there is no need to prepare special methodological support, etc. However, it is characterized by some shortcomings, in particular: it makes it impossible to identify financial results for various products, to determine irrational costs [19, p. 261]. The specified approach to the separation of centres of financial responsibility can be used in small TEs, where the number of management personnel is limited, and financial support for the implementation of complex management projects is insufficient.

The *integrated* approach involves the independent construction of a financial structure but is maximally coordinated with the organizational structure of the enterprise due to their mutual adjustment. Usually, the financial structure is formed at an operating enterprise with a certain organizational structure. With a responsible approach to its creation, it is difficult to ensure the complete identity of the structures (unless a simple approach is taken as a basis), given the different criteria for distinguishing units: the financial structure is built based on financial relations between centres of responsibility, and the organizational structure is built based on functional specialization.

Thus, most management experts believe that financial and organizational structures should not be fundamentally different, because this can lead to the loss or deterioration of the level of enterprise management.

In light of the development, popularization and implementation of process management, more and more specialists indicate the need to harmonize the organizational and financial structure of the enterprise with the model of its business processes. The need to establish a relationship between responsibility centres and key processes that add value to the enterprise is especially emphasized [19–21].

The *disintegrated* approach consists of the separate construction of a financial structure, which has significant differences from the organizational structure of the enterprise and is not tied to business processes. Such an approach is undesirable, given the complexity of vertical and horizontal connections between individual structural units, which can lead to unjustified costs and deterioration of the level of coordination of management.

Thus, the integrated approach is the most appropriate for the formation of organizational support for process-oriented controlling of operational processes at medium and large enterprises. For small businesses, the simple approach is acceptable, but coordination of financial responsibility with responsibility for the execution of individual business processes is desirable.

Summarizing and developing the work of scientists, it is possible to determine the following basic requirements for the formation of organizational support of the POC of operational processes at the TE: flexibility and adaptability, which provide for its ability to quickly respond to changes in the external environment; relevance – compliance of the organizational support with the size of the trade enterprise, its business model, the scale of operational activity; cost-effectiveness – reasonableness of costs for its creation and operation.

The organizational support of controlling is differentiated depending on the size, organizational structure of the enterprise, and the chosen approach to the formation of the financial structure (*Table 3*).

*Table 3*

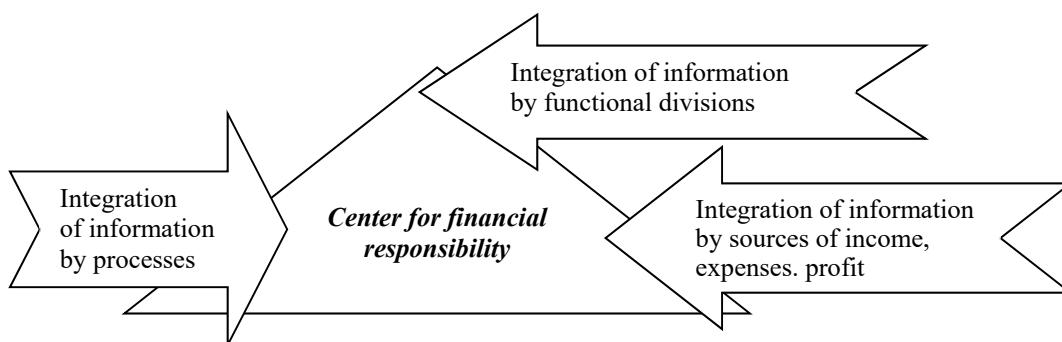
**Recommended principle types of organizational support for process-oriented controlling of operational activities at trade enterprises**

Type of organizational structure/Enterprise size	Small	Medium	Large
Linear arrangement	Type A		
Linear and functional arrangement		Types B	Type B
Divisional structure		Type V	Type V
Departmentation matrix		Type C	Type C
Project structure		Type C	Type C

Source: [24].

Type "A" is characteristic of small trade enterprises, which mostly have a linear organizational structure of management. Since at small trade enterprises the staff is limited to a few people, the owner (or director) is responsible for all business processes, and one centre of responsibility "Profit Center" is singled out – the enterprise as a whole. In retail trade, it is possible to separate the "Revenue Center" – a trading hall. At such enterprises, general financial management is carried out by the owner or director. The controlling function, as a rule, is entrusted to the accountant (if he is on staff).

For medium-sized and large trade enterprises with a linear functional organizational structure, the organizational support of type "B" controlling is recommended, which involves the design of financial responsibility centres (FRCs) for key processes and functional units, within which the person responsible for the process works (*Figure 2*).



**Figure 2. Conceptual representation of the centre of financial responsibility at the trade enterprise**

Source: [24].

Recommended FRC for type B organizational support is presented in Table 4.

Table 4

**Recommended centres of financial responsibility in type "B" organizational support**

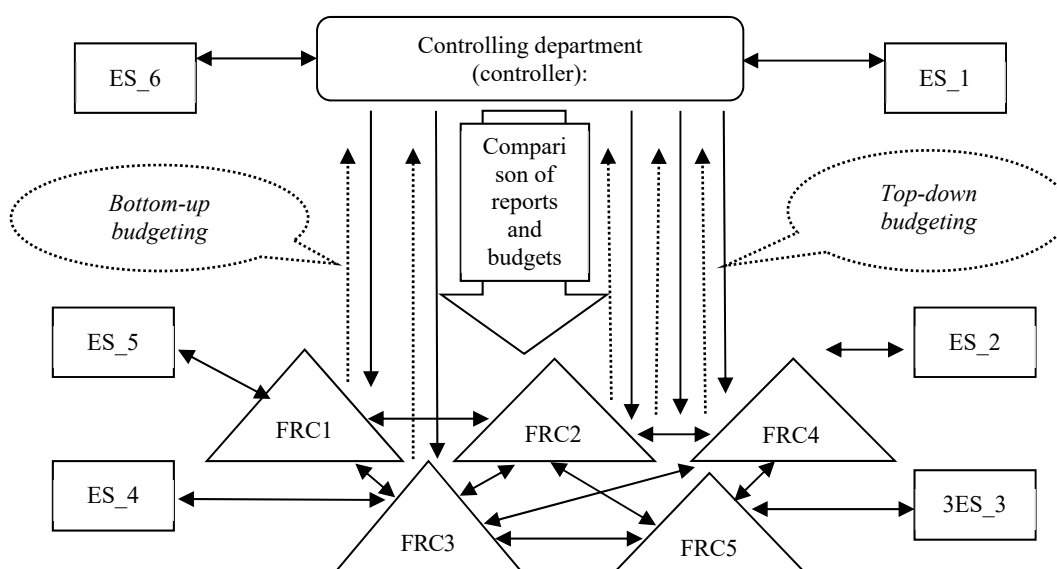
Business processes / Structural units	Purchasing department	Sales department (trading hall)	Marketing department	Storage
Market research and consumer needs			RC	
Purchase of goods	RC			
Transportation of goods*	RC			
Storage of goods				RC
Sale of goods		CP		

\* Can be projected onto the transport department if it exists at the enterprise.

Source: [24].

Some FRCs interact with each other in the process of exchanging and accumulating information, planning, and agreeing on individual plan indicators. Coordination, summarization of analytical information and formation of synthetic budgets is carried out by the controlling department/controller.

In Figure 3 it is presented the system of interrelationships of the FRC. Thus, the controlling service, in cooperation with the planning and economic/financial services, forms the target indicators of the enterprise's activity. Synchronously, each FRC justifies the budget indicators within its responsibility for processes, functional departments, sources of income, and expenses, i.e., the process of synchronous budgeting takes place, within which there is a constant exchange of information and communications between individual FRCs and external stakeholders. The system of such connections functions at all stages and phases of controlling operational activity.



**Figure 3. Interconnections of financial planning centres**

FRC – Financial Responsibility Center; ES is an external stakeholder.p.

Source: [24].

Large trade enterprises, characterized by regional or product diversification, can use a divisional organizational structure that is significantly more complex than a linear-functional approach and, accordingly, has a more complex set of financial statements, which, in turn, is projected on the person responsible for a certain business process and the structural unit to which it belongs. However, the presence of divisions automatically increases the number of such centres and the system of their interrelationships, which collectively determines the type B organizational support.

Divisions, having a high level of autonomy, can duplicate structural subdivisions created at the enterprise level. Thus, the FRCs are projected onto the organizational structure of each division, and the integrative function of controlling is performed by the corporate-wide controlling department.

Enterprises with project and matrix organizational structures are characterized by partial duplication of individual management functions at the enterprise level and within the project, which complicates the organizational support of control.

*The matrix organizational structure* combines the functional structure with the project structure, which determines the existence of two types of FRCs: the first type is similar to the centres that are distinguished in the functional structure, and the other is project centres, given that operational activity is controlled within each project. The controlling service coordinates the work of these centres.

The order of interaction between individual FRCs is regulated by special documents that determine the regulation of operation and control procedures of individual FRCs.

Making balanced management decisions by centres of financial responsibility regarding the improvement of business processes of operational activity is based on timely and relevant information. The formation of information support should be based on the target indicators of operational activity that the FRC seeks to monitor. It is for this system of indicators that the information collection subsystem and the nomenclature of budgets should be adjusted.

The unification of such indicators is impossible for all TEs. It is formed individually for each enterprise, taking into account the scale, types and characteristics of its operational activity. However, it is worth highlighting the main principles of forming a system of such indicators, which include: the principle of rationality (the system of indicators should not be too cumbersome); the principle of combining financial and non-financial indicators; the principle of conditionality of financial and non-financial indicators (the financial indicator is considered as a result and the non-financial indicator as a potential influencing factor that can improve or worsen the financial indicator); the principle of relevance (indicators are differentiated by centres of responsibility and provide for the possibility of influence of the centre of responsibility on the selected indicators).

A variant of the system of such indicators for a retail enterprise is presented in *Table 5*.

Table 5

**The system of target indicators of operational activity according to the main business processes of the trade enterprise**

Upper-level operational business processes/financial responsibility centre/ functional department	Main financial indicators	Main non-financial indicators
Market research/cost centre/marketing department	The amount of marketing research costs. The total cost of the "market research process". The ratio of the increase in NSR* to the costs of marketing research and the cost of the process	Growth of new regular customers (with loyalty cards). Frequency of transactions with one loyalty card
Purchase of goods/cost center/purchasing department	The amount of expenses for the purchase of goods by product groups and suppliers. The total cost of the "purchase of goods process". The ratio of the rates of increase in costs for the purchase of goods and NSR	The average date of performance by product group. Frequency of violation of terms and conditions of order fulfilment. The number of procurement transactions that were not completed on time
Transportation of goods/ cost center/ transport department	The amount of transport expenses. The level of transport expenses to the cost of transported goods	The average term of transportation of goods by product groups/transport companies (if the goods are not transported by the supplier). Frequency of violation of terms of transportation of goods
Storage of goods/cost centre/warehouse	The amount of costs for storing goods. Average costs for storing goods by product group. Average inventory turnover period by product group	The average time of unloading and warehousing goods by product group. Percentage of spoilage of goods during storage. Average time for internal logistics (movement from warehouse and merchandising))
Sale of goods/ revenue centre/ sales hall (commercial department)	The amount of NSR. The rate of growth of NSR by product groups/sales channels. Average amount of one check. The average amount of one order by other sales channels. Average level of trade allowance by product group/product portfolio	The average time of service of one customer by a cashier. Share of turnover by sales channels (offline, online). Share of turnover by self-service terminals. The average time to complete one order for online sales

\*NSR – net sales revenue.

Source: compiled by the authors.

The profit centre, which is the enterprise in general, can be created within the planning and economic department, and financial service, depending on the organizational structure of the enterprise. Accordingly, these services form generalized target indicators of the efficiency of operational activity, among which it is advisable to single out the amount and levels of marginal income, EBITDA, EBIT and indicators of profitability of NSR, operating assets according to these profit indicators.

According to the target indicators, a system of reports and budgets is being developed. Their formation must comply with four *principles*:

- the identity of the reporting forms and budgets, that is, the nomenclature of the report indicators, their list and number must be coordinated with the relevant parameters of the budgets;

- the combination of financial and non-financial indicators in the system of reports and budgets, where the latter is presented as an appendix to micro- or synthetic reports/budgets. For example, the report/budget of online sales by product groups will contain the indicator of the average order fulfilment time, the number of orders, and the average cost of the order in the last line for reference;

- continuity and flexibility. Continuity involves the constant process of accumulating information about the business processes of operational activity, the possibility of tracking it in real-time, which is possible when using modern ERP systems, and constant adjustment of the budget system by the conditions of the external and internal environment. Flexibility involves the possibility of modifying the settings for deepening, changing the analytical sections of information collection and the formation of budgets;

- counter-process and communication activities, which involve the development of budgets simultaneously "from below and from above", their coordination in the process of communication action between individual FRCs and the controlling service, which corresponds to the most modern concept of communication planning.

The implementation of these principles during the development of reports and budgets will allow ensuring the assessment of deviations in the operational, tactical and strategic contours of management, to quickly respond to changes in the external environment, to make corrections in the nomenclature of reports/budgets, to form effective personnel motivation systems aimed at constant upgrade and improvement of processes operational activity.

**Conclusions.** The high level of competition and the instability of the external environment imposes new requirements on the management of the company's operational activities. This requires the introduction of management technologies capable of constantly monitoring the perfection of the business model, initiating measures for its continuous improvement to maintain competitiveness, optimize the use of resources, and increase the value of the enterprise. It becomes especially relevant in crisis conditions when the survival of the enterprise depends on the adaptability of the business model.

The introduction of the POC of operational activity requires the creation of the necessary organizational and analytical support, which should be based on the target indicators of business processes that the trading company seeks to monitor. Their formation is an individual process and is determined by the specifics of the operational activity of the TE, however, it must follow the outlined principles of formation. An approximate list of such indicators for a retail trade enterprise is presented. An important element of such provision is the FRC system, which should be projected onto the person responsible for the main business processes. Differentiated approaches to such projection are proposed depending on the basic organizational structure of the PT, the mechanisms of interaction between the FRC and the controlling service are revealed, the principles of forming reports and budgets of the TE

and within the process-oriented controlling of operational activities are defined, which creates a methodical basis for its introduction into the practice of enterprise management trade.

Further research will be aimed at revealing modern tools that can be used to implement process-oriented controlling of operational activities at trade enterprises, given that most of such recommendations are rather general.

**Conflict of interest.** The authors declare that they have no financial or non-financial conflicts of interest concerning this publication; have no relationship with any government agency or commercial or non-commercial organization that might have an interest in presenting this point of view. Given that the authors are employed by an institution that is the publisher of the journal, which may lead to a potential conflict or suspicion of bias, the final decision to publish this article (including the selection of reviewers and editors) was made by those members of the editorial board who are not affiliated with this institution.

#### REFERENCES

1. Dijal'nist' sub'jektiv gospodarjuvannja 2020: statystychnyj zbirnyk. Kyiv: Derzhavna sluzhba statystyky Ukrai'ny, 2021 [Activities of business entities 2020: statistical collection. Kyiv: State Statistics Service of Ukraine, 2021]. *ukrstat.gov.ua*. [https://ukrstat.gov.ua/druk/publicat/kat\\_u/2021/zb/11/zb\\_DSG\\_20.pdf](https://ukrstat.gov.ua/druk/publicat/kat_u/2021/zb/11/zb_DSG_20.pdf) [in Ukrainian].
2. Prjami vtraty Ukrai'ny vid vijny [Ukraine's direct losses from the war]. *www.ukrinform.ua*. <https://www.ukrinform.ua/rubric-economy/3447567-prami-vtrati-ukraini-vid-vijni-stanovlat-565-milardiv-minekonomiki.html> [in Ukrainian].
3. Elektronnyj portal asociacii' ritejleriv Ukrai'ny [Electronic portal of the Association of Retailers of Ukraine]. *rau.ua*. <https://rau.ua/novyni/zbitki-ritejleriv> [in Ukrainian].
4. Preißler, Gerald J., & Preißler, Peter R. (2019). Controlling Basiswissen. C.H.BECK [in English].
5. Poberezhna, Z. M. (2020). Kontroling jak instrument formuvannja ta realizacii' konkurentospromozhnosti biznes-modeli aviapidpryjemstv na konkurentnyh rynkah [Controlling as a tool for forming and implementing the competitiveness of the airline business model in competitive markets]. *Vcheni zapysky TNU im. V. I. Vernads'kogo – Scientific notes of TNU named after V. I. Vernadskyi*. Vol. 31 (70), 4. (pp.146-151). <https://doi.org/10.32838/2523-4803/70-4-26> [in Ukrainian].
6. Rudnyc'kyj, V., & Rudnyc'ka, O. (2019). Formy zvitnosti upravlins'kogo obliku za osnovnymy biznes-procesamy pidpryjemstv torgivli [Management accounting reporting forms for the main business processes of trade enterprises]. *Visnyk Ternopil's'kogo nacional'nogo ekonomichnogo universytetu – Bulletin of the Ternopil National Economic University*. Issue 2, (pp. 134-144). [http://nbuv.gov.ua/UJRN/Vtneu\\_2019\\_2\\_14](http://nbuv.gov.ua/UJRN/Vtneu_2019_2_14) [in Ukrainian].
7. Losic'ka, T. I., Bjeljajeva N. S., Lagutin V. D., & Mel'nyk T. M. (2021). Kontroling torgovel'nyh pidpryjemstv u konteksti mizhnarodnogo vymiru. Finansovo-kredytna dijal'nist': problemy teorii i praktyky [Controlling trade enterprises in the context of the international dimension. Financial and credit activity: problems of theory and practice], *1(36)*, 92-98. <https://doi.org/10.18371/fcaptp.v1i36.227628> [in Ukrainian].
8. Kostjuchenko, V. M., & Kamil (Kuprijenko), A. V. (2020). Ekonomichni peredumovy ta osoblyvosti vprovadzhennja oblikovogo zabezpechennja kontrolingu na pidpryjemstvah torgivli [Economic prerequisites and features of the introduction of accounting support for controlling at trade enterprises]. *Pryazovs'kyj ekonomichnyj visnyk – Pryazovsky Economic Bulletin*. Issue 1(18), (pp. 290-294) [in Ukrainian].
9. Babjak, N. D. (2021). Informacijne zabezpechennja kontrolingu operacijnoi' dijal'nosti pidpryjemstv torgivli [Information support for controlling the operational activities of trade enterprises]. *Efektivna ekonomika – Efficient economy*, 4. [http://nbuv.gov.ua/UJRN/efek\\_2021\\_4\\_58](http://nbuv.gov.ua/UJRN/efek_2021_4_58) [in Ukrainian].

10. Horvart & Partners (2003). Das Controllingkonzept. Der Weg zu einem wirkungsvollen Controllingssystem. 5 Auflage. München: Deutscher Taschenbuch Verlag [in Douche].
11. Weber, J., Schäffer, U. (2014). Einführung in das Controlling. 14 Aufl., überarb. und aktualis. Stuttgart: SchäfferPoeschel [in Douche].
12. Cooper, R. & Kaplan, R. S. (1991). Profit priorities from activity-based costing. *Harvard Business Review*. May-June [in English].
13. Brimson, J. A. & Antos, J. (1999). Driving Value Using Activity-Based Budgeting. New York: John Wiley & sons [in English].
14. Kobzaeva A. I., & Matorin S. I. (2012). O razrobotke universal'noj tehnologii modelirovanija biznes-processov [About the development of a universal technology for modeling business processes]. *Biznes-inform – Business-inform*, 4, 19-21 [in Ukrainian].
15. CIVITTA. Stati. Informacijni materialy shhodo pobudovy system upravlinnja [Articles. Information materials according to systems management construction]. <https://civitta.com.ua/articles> [in Ukrainian].
16. Hlebnikov, D., Jacina, A., & Savushkin L. Matrichnaja model' predprijatija [Matrix enterprise model]. *Management.com.ua*. [www.Management.com.ua/ct/ct043.html](http://www.Management.com.ua/ct/ct043.html) [in Ukrainian].
17. Netepchuk, N. N. (2014). Upravlinnja biznes-procesamy [Management of business processes]. Rivne: NUVGP. <http://ep3.nuwm.edu.ua/8812> [in Ukrainian].
18. Porter, M. (2019). Konkurentna perevaga. Jak dosjagaty stabil'no vysokyh rezul'tativ [Competitive advantage. How to achieve consistently high results]; [Trans. I. Jemel'-janova, I. Gnatkovs'ka]. Kyiv: Nash format [in Ukrainian].
19. Shul'ga, N. P. (2011). Bankivs'kyj kontroling [Bank controlling]. Kyiv: Kyiv. nac. torg.-ekon. un-t [in Ukrainian].
20. Tarasjuk, M. V. (2010). *Kontroling v upravlinni torgovel'nymy merezhamy: teorija, metodologija, praktyka* [Controlling in the management of trade networks: theory, methodology, practice]. Kyiv: Kyiv. nac. torg.-ekon. un-t [in Ukrainian].
21. Ligonenko, L. O. & Verzhbyc'kyj O. A. (2013). *Kontroling u torgivli* [Controlling in trade]. Kyiv: Kyiv. nac. torg.-ekon. un-t [in Ukrainian].
22. Harakterystyka struktur upravlinnja [Characteristics of management structures]. <https://library.if.ua/book/3/346.html> [in Ukrainian].
23. Korop, I. I. (2017). Formuvannja finansovoi' struktury pidpryjemstva torgivli na zasadah kategorijno-orijentovnogo pidhodu [Formation of the financial structure of a trade enterprise on the basis of a categorical approach]. *Molodyj vchenyj – Young scientist*, 5, 621-624. [http://nbuv.gov.ua/UJRN/molv\\_2017\\_5\\_139](http://nbuv.gov.ua/UJRN/molv_2017_5_139) [in Ukrainian].
24. Sytnyk, G. V. (2015). Finansove planuvannja na pidpryjemstvah torgivli [Financial planning at trade enterprises]. *Doctor's thesis*. Kyiv: Kyiv. nac. torg.-ekon. un-t [in Ukrainian].

*Received the editorial office 25.07.2022.*

*Accepted for printing 17.08.2022.*

*Published online 23.12.2022.*



**KHARSUN Liudmyla,**  
PhD (Economics), Associate Professor,  
Associate Professor of the Department  
of Trade Entrepreneurship and Logistics  
of State University of Trade and Economics  
19, Kyoto St., Kyiv, 02156, Ukraine

ORCID: 0000-0002-7569-943X  
l.kharsun@knu.edu.ua

**KOVALENKO Yuliya,**  
PhD (Economics), Associate Professor,  
Associate Professor of the Management of Foreign  
Economic Activity of Enterprises Department  
National Aviation University  
1, Liubomyra Huzara ave., Kyiv, 03058, Ukraine

ORCID: 0000-0003-1257-3845  
yuliya.kovalenko@npp.nau.edu.ua

**ХАРСУН Людмила,**  
к. е. н., доцент, доцент кафедри  
торговельного підприємництва та логістики  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0002-7569-943X  
l.kharsun@knu.edu.ua

**КОВАЛЕНКО Юлія,**  
к. е. н., доцент, доцент кафедри  
менеджменту зовнішньоекономічної  
діяльності підприємств  
Національного авіаційного університету  
пр. Любомира Гузара, 1, м. Київ, 03058, Україна

ORCID: 0000-0003-1257-3845  
yuliya.kovalenko@npp.nau.edu.ua

## SUPPLY CHAIN RISKS OF TRADE COMPANIES DURING A LARGE-SCALE CRISIS

## РИЗИКИ ЛАНЦЮГІВ ПОСТАЧАННЯ ПІДПРИЄМСТВ ТОРГІВЛІ ЗА МАСШТАБНОЇ КРИЗИ

**Introduction.** The effectiveness of modern management of business structures directly depends on the analysis of potential risks and assessment of the probability of their occurrence. Risk management tools are of particular importance in optimizing the functioning of supply chains of trade enterprises.

**Problem.** Russia's full-scale military invasion of Ukraine significantly changes approaches to supply chains organization, requires their promptly reformatting. This necessitates an analysis of the key risks associated with the operation of martial law and the consequences of their impact on supply chains in trade.

**The aim** of the article is to determine the nature of the risks of functioning of trading companies' supply chains under martial law and to substantiate the practical tools of logistics management aimed at minimizing losses as a result of their occurrence.

**Methods.** The methodological apparatus of the research consists of general scientific methods (system analysis, determination of direct

**Вступ.** Ефективність сучасного менеджменту підприємницьких структур напряму залежить від аналізу можливих ризиків та оцінки ймовірності їх настання. Особливого значення інструменти управління ризиками набувають при оптимізації функціонування ланцюгів постачання підприємств торгівлі.

**Проблема.** Російське повномасштабне військове вторгнення в Україну значною мірою змінює підходи до організації ланцюгів постачання, вимагає оперативного їх переформатування. Це потребує аналізу ключових ризиків, пов'язаних з дією воєнного стану, та наслідків їх впливу на ланцюги постачання в торгівлі.

**Метою** статті є визначення характеру ризиків функціонування ланцюгів постачання торговельних компаній в умовах воєнного стану та обґрунтування практичних інструментів логістичного менеджменту, спрямованих на мінімізацію втрат у результаті їх настання.

**Методи.** Методологічний апарат дослідження становлять загальнонаукові методи (системного аналізу, визначення прямих та

and reverse relations between economic phenomena and processes, comparative analysis) and special economic methods (statistical-analytical, qualitative and quantitative analysis, situational analysis).

**Results.** It was determined that the logistics industry was one of the first to feel the consequences of military actions and the urgent need to rebuild the established mechanisms of logistics services of trade flows. The main groups of risks that affect the operation of trade companies supply chains in war conditions have been studied, the main forms of their manifestation and consequences have been assessed.

**Conclusions.** Considering the acute impact of the military invasion of Ukraine on the functioning of trading companies' supply chains, the necessity of flexible and diversified transformation of their logistics strategies has been determined. The importance of risk monitoring and the development of alternative action plans for various scenarios has been proven.

**Keywords:** supply chain of trade company, martial law risks, logistics route change, logistics management, supply chain risks.

**JEL Classification:** D81; L81

зворотних зв'язків між економічними явищами та процесами, порівняльного аналізу) та спеціальні економічні методи (статистично-аналітичний, якісного та кількісного аналізу, ситуаційного аналізу).

**Результати дослідження.** Логістична галузь однією з перших відчула наслідки військових дій і нагальну потребу в перебудові ustalених механізмів логістичного обслуговування торговельних потоків. Досліджено основні групи ризиків, які в умовах війни впливають на функціонування ланцюгів постачання підприємств торгівлі, обґрунтовано основні форми їх прояву та наслідки.

**Висновки.** Зважаючи на гострий вплив військового вторгнення в Україну на функціонування ланцюгів постачання підприємств торгівлі, визначено необхідність гнучкої та диверсифікованої трансформації їх логістичних стратегій. Доведено важливість моніторингу ризиків та розроблення альтернативних планів дій для різних сценаріїв розвитку подій.

**Ключові слова:** ланцюг постачання торговельного підприємства, ризики воєнного стану, зміна логістичного маршруту, логістичний менеджмент, ризики ланцюгів постачання.

**Introduction.** The analysis of risks and assessment of the probability of their occurrence is the traditional, familiar function of the management of business structures. The scientific achievements that offer the whole arsenal of approaches, methods and models for practical use in the risk management strengthen this direction of managerial activity constantly.

The functioning of supply chains has also demonstrated the need to introduce the factors of unpredictability, instability and uncertainty in time into their management model for a long time, which are dictated by the changing and risky environment of the global economic system.

Therefore, the course chosen by logistics management to optimize supply chains and their processes with an emphasis on timely delivery, minimizing stocks and costs requires the more detailed study of external risks, variable modeling of situations when they occur.

**Problem.** As the Russian full-scale military invasion of Ukraine demonstrated, the vast majority of management systems did not go beyond their knowledge and demonstrated either the absence of a plan of action in the conditions of martial law as such, or an unpreparedness for its immediate implementation. Since trading companies are at the forefront of meeting the needs of the population in finished products, it is their supply chains that needed the most rapid reformatting in view of the huge number of risks of uninterrupted, reliable, efficient functioning.

**Analysis of recent research and publications.** The study of the risks of supply chains of trading companies is the direction of scientific interests

of a number of domestic and foreign scientists, including N. Trushkina, K. Kitrish, D. Lambert, V. Vitlinsky, V. Skitsko, I. Palamarchuk, O. Sushkova [1-5] and others.

In particular, these authors explore epy current trends in supply chain management of trade enterprises in the view of digitalization and globalization of economic relations; approaches to the formation of risk management systems in supply chains, etc.

However, they mostly reveal the general principles of risk management in trade, among which much more attention is paid to the factors of the economic, social and technological environment. The practical experience of risk management in this area is studied by such figures of the managerial link of business structures as: A. Alekseev, S. Mukoid, L. Komarova, Y. Poenko, M. Bugayev, A. Golimbovsky, S. Yeremeyev, A. Zhuk, P. Savchuk [6-10]. But such materials do not reflect the complex nature of risk management systems in the supply chains of trade enterprises in an unstable political environment. There are practically no works devoted to the impact of military conflict risks on the functioning of supply chains in trade. Approaches to the formation and functioning of risk management systems for military operations of trade enterprises are scientifically unfounded.

**The aim** of the article is to determine the nature of the risks of supply chain functioning of trade enterprises under martial law and to substantiate practical tools of logistics management aimed at minimizing losses as the result of their occurrence.

**Methods.** The theoretical and methodological basis for writing the article was formed by the modern scientific concepts and theoretical developments on the effective organization of supply chains under the influence of various risks, analytical studies of the Oxford Economics Global Forecasting Center, the United Nations, GMK consulting organization, the Association of Retailers of Ukraine, statistical data of the World Bank, the State Statistics Service of Ukraine. The methodological apparatus of the study consists of: general scientific methods (system analysis, determination of direct and reverse links between economic phenomena and processes (in particular, when analyzing the impact of risks on changes in supply chains), comparative analysis (to study risk groups, forms of their manifestation and consequences for supply chains).

To achieve this goal, special economic methods were also used, which made it possible to conduct the comprehensive analysis of the problem of supply chain risks in war conditions: statistical and analytical, qualitative and quantitative analysis, situational analysis for determining the main guidelines for optimizing supply chains, taking into consideration the complex impact of risks caused by war.

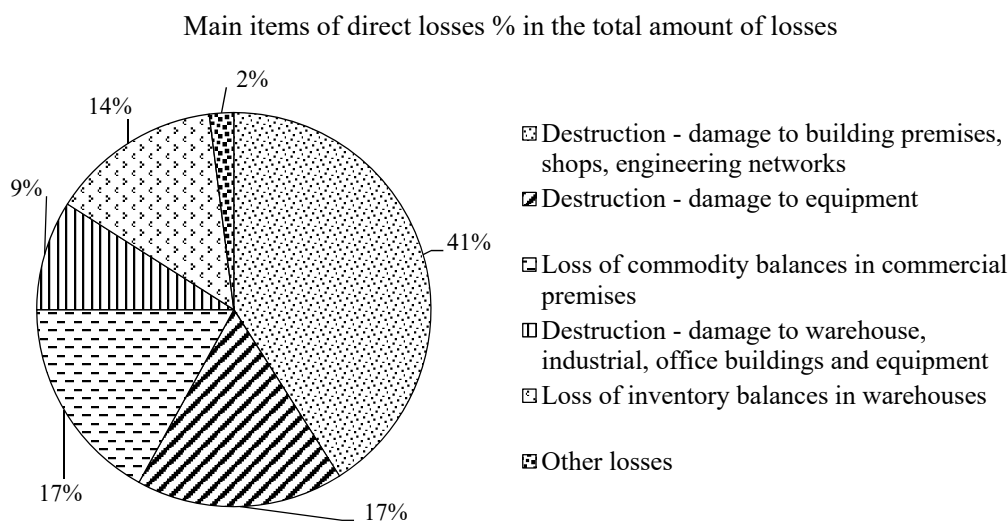
**Results.** The war in Ukraine canceled most of the usual, optimized mechanisms of management in all sectors of the economy. The logistics industry as the separate sector of the business environment, aimed at ensuring the functioning of other spheres of society, was one of the first to feel the

consequences of hostilities and the urgent need to restructure the established processes, methods and mechanisms of logistics services for material flows. Disruptions in the functioning of logistics supply chains were felt by every consumer, whose demand for goods and services is not fully satisfied, with the significant delay and without the guarantees.

*The set of martial law risks* that directly affect the parameters of the functioning of supply chains of trade enterprises is quite wide.

*Infrastructure risks* – destruction, damage or inaccessibility as the result of hostilities or occupation of territories of logistics and trade infrastructure facilities – transport, warehouse, trade, communication. Thus, only in the Kyiv region, according to the CEO of *Ekol Logistics Ukraine* and the director of *Logistics Plus*, about 400,000 m<sup>2</sup> of warehouses were destroyed or damaged. This is 20 % of all warehouse area in Kyiv and the region [8].

Logistics providers and trading companies suffer huge losses of investments in these infrastructure facilities. For example, the destruction of a warehouse complex with an area of 100 thousand m<sup>2</sup>, which belongs to one of the *Dragon Capital* companies, caused losses of EUR 45.8 million, and for the *Good Wine* company, whose goods were stored in this warehouse, the losses have already been estimated at EUR 15 million [8]. In generalized form, the structure of the main losses of retail chains during the first two months of the Russian full-scale military invasion of Ukraine is presented in *Figure 1*.



**Figure 1. Structure of direct losses of trade networks as a result of hostilities as of 23.04.2022**

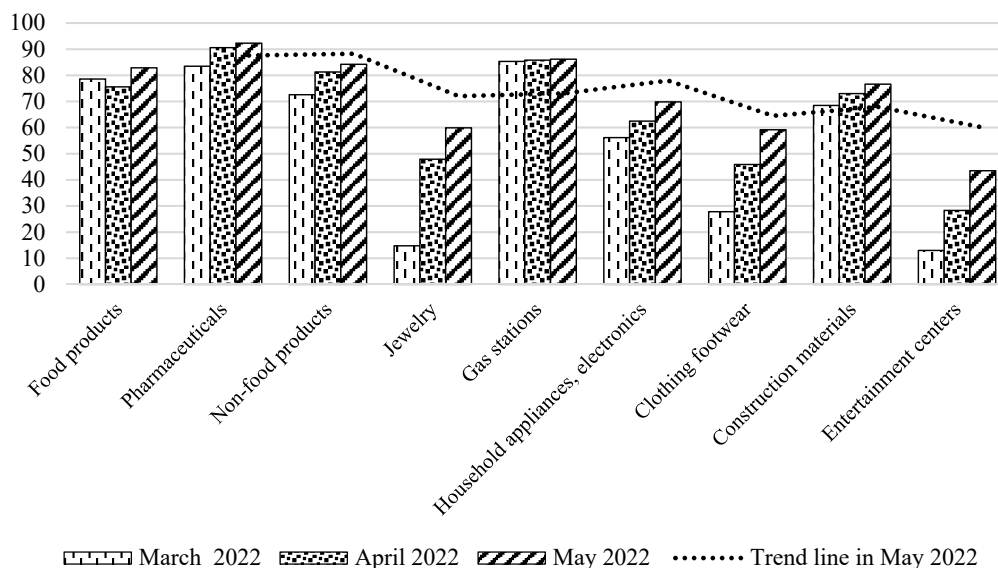
*Source:* compiled by the authors based on [11].

Thus, the largest share in the structure of losses falls on losses caused by damage to retail areas, equipment, as well as loss of inventory in stores and warehouses [11]. By product groups, food chains suffered the most – 60 % of losses in the industry, fashion retailers (clothing and footwear) – 11 %, sellers of electronics and household appliances – 7 % [9].

Trade participants will continue to experience the increase of costs associated with infrastructure risks: due to the forced change of routes and delivery methods, loss of sales due to the inability to deliver products to points of sale, incomplete product range due to supply disruptions. These circumstances require the rapid change in the configuration of supply chains and processes in them, which usually means higher logistics costs.

The destruction or blocking of access to warehouses and retail facilities requires additional logistics operations to evacuate and relocate inventory. Trade companies also experienced negative consequences due to disruptions and uneven supply, shortages of goods and reduction of the range of products offered to consumers due to the destruction or blocking of warehouses and production facilities of suppliers.

In order to reduce the level of concentration of inventory in the warehouse areas of distribution centers or in cases of their destruction or inaccessibility, trade enterprises began to make wider use of the practice of direct deliveries from manufacturers to stores, as well as to create the system of hub stores where suppliers delivered their products. During March–May 2022, there was a fairly positive dynamics of the retail sector recovery in the country (Figure 2).



**Figure 2. Dynamics of retail sector recovery in Ukraine in March-May 2022 (% of operating facilities)**

Source: compiled by the authors based on [7; 12].

Thus, the largest percentage of operating facilities currently characterizes the sectors of food and non-food products, pharmaceuticals and gas stations. The trend line presented in Pic. 2 trend line in May 2022 allows us to highlight those sectors that managed to significantly resume their work within 3 months. Among them are jewelry, clothing and footwear, and entertainment centers [7]. At the same time, 5 % of the total number of retail facilities of Ukrainian food chains remained in the occupied territories [12].

Due to the damage or inaccessibility of certain transport infrastructure facilities, the emergence of roadblocks, the transport component of supply chains has also undergone significant changes: the length of product delivery routes and delivery time have increased, that is why the speed of travel has decreased. Thus, the logistics director of the Volyn poultry farm (TM "Epikur" and "Cheboturochka") noted that the route to Kyiv increased by 43 %, and to Kharkiv and Dnipro – by 24 % and 9 % respectively [6].

*Contractual risks* associated with the inability to fulfill contractual obligations between supply chain participants. For trading companies, these are most often suppliers and logistics service providers. Therefore, in the conditions of war, the flexibility of the supply chain is manifested in the ability to quickly change the composition of participants and partners.

Trade enterprises were forced to revise the contractual terms of relations with their suppliers. First of all, it concerned the leveling of strict requirements to comply with the established delivery schedules and establishing priority under the Pick by Line (PBL) delivery schemes, shortening the terms of procurement plans often to a weekly or even daily level, moving away from fixed volumes and assortment of purchases, introducing flexible terms of settlements with suppliers of goods and services. Since the beginning of the war in Ukraine, most suppliers of trade enterprises have switched to advance payments and pickup.

*Economic and financial risks* are external factors affecting the level of costs and added value, as well as the ability to manage financial flows in the supply chains of trade enterprises – financial, settlement and foreign exchange transactions. General economic risks are manifested in the supply chains of trade enterprises through:

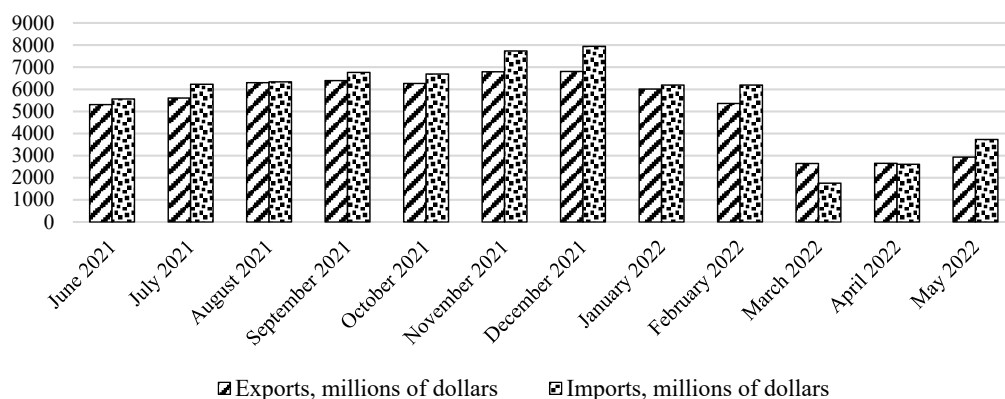
- reduction in demand due to a decrease in the purchasing power of the population; reduction in the supply of goods due to a reduction in GDP;
- restricted access to credit resources for supply chain financing;
- rising energy prices and restricted access to them;
- depreciation of the national currency and a number of others.

Thus, the sharp rise in fuel prices immediately affected the cost of commercial freight transportation, which almost doubled by the end of March 2022, which also affected food prices, which increased by an average of 4 % [13]. In particular, the increase in tariffs for rail transportation is significant. Thus, railway tariffs for the transportation of mineral fertilizers and chemical cargoes increased by 41.7 %, grain cargoes – by 15 % compared to the first quarter of 2021. In general, tariffs for freight transportation by rail increased by 25.4 % in the first three months of 2022 [14].

Significant consequences for trade operations are caused by financial risks, which are manifested primarily through restrictions on currency conversion, which makes it impossible to pay for imports, setting limits on cash and non-cash payments, the transition to prepayment in working with suppliers of products and logistics services. It is also worth noting significant

difficulties in the work of collection logistics. Risks of this group also cause changes in the composition of supply chain participants, especially suppliers, reduce the volume of trade flows and reduce the level of profitability of trade in general.

The impact of this group of risks can also be traced in the analysis of the dynamics of foreign trade operations, which has undergone significant changes under martial law (*Figure 3*).



**Figure 3. Dynamics of export-import of goods of Ukraine in June 2021 – May 2022, million US dollars**

Source: compiled by the authors based on [15].

The results of the analysis of trends presented in *Figure 3*, indicate the significant reduction in the volume of export-import operations in March–May 2022 compared to the same period of the previous year [15]. In particular, the reduction in imports leads to changes in the structure of the range of supply and sales, the need to replace certain components and finished goods with domestic analogues. Also, the main obstacle to making payments for imports were, firstly, restrictions on the nomenclature of imports (establishing a list of critical imports) and, secondly, currency conversion. In particular, during the war, imports of clothing and footwear that do not belong to critical imports decreased by almost 60 % [10]. Moreover, foreign suppliers, given the high level of risks, also began to work mainly on the prepayment basis. Therefore, the reduction of imports due to the termination of trade relations with Russia and Belarus, blocking of a number of transport routes from other countries became the main prerequisites for replacing a significant part of foreign suppliers with local ones.

Failures in the collection logistics also forced trade enterprises to give preference to non-cash payments with consumers. Moreover, stores of some retail chains, such as Fozzy Group, Eva, provided consumers with the opportunity to withdraw cash at the cash desk, which turned out to be a very convenient service for the population, given the problems with cash withdrawals from ATMs, and also allowed companies to reduce the amount of cash and be less dependent on its cash collection.

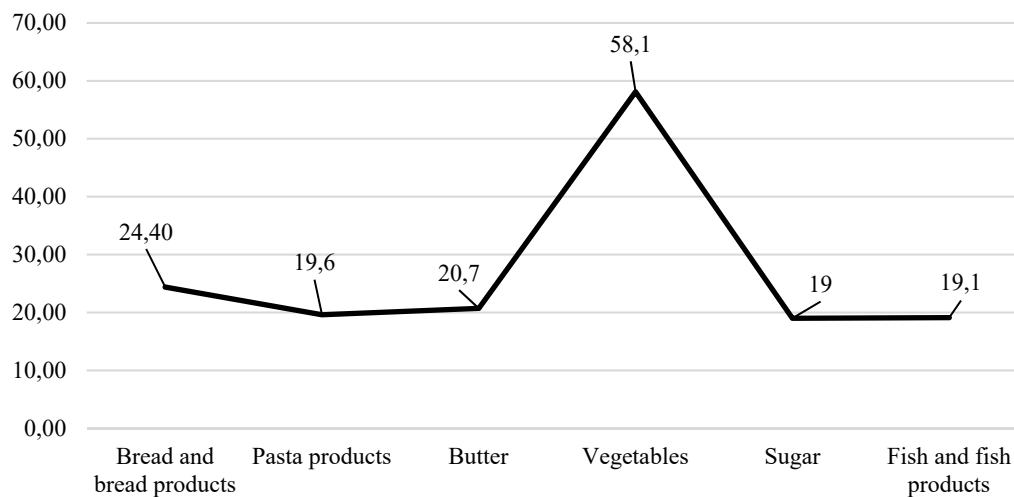
*Social risks* that involve changes in the characteristics of demand in the country during the war. First of all, we are talking about the rapid change of priorities in the structure of consumption, which are absolutely shifting towards essential goods. Accordingly, trade enterprises should revise the structure of the trade range of products, as well as approaches to the formation of stocks. Social risks are also associated with meeting demand with goods of proper quality, which often poses the threat due to the inability to ensure proper storage conditions. The conditions of martial law also make the participants of the supply chains of trading companies socially vulnerable in the context of their inability to maintain a socially oriented level of prices for goods and services.

In addition to the significant decline in consumer demand in Ukraine since the beginning of the Russian-Ukrainian war, which resulted from the mass migration of Ukrainians and the loss of income, trade enterprises note significant changes in the structure of demand. They are typical for all sectors, but have their own characteristics, taking into consideration the specifics of each of them. Thus, as noted by the Director of Logistics of the Milk Alliance Holding, baby food and long-term storage products have become popular, while niche products. In general, market participants indicate a tendency to simplify the trade assortment. Suppliers and manufacturers have also largely revised their product mix matrices in favor of goods with shorter production cycles. Moreover, especially at the beginning of Russia's military invasion of Ukraine, the assortment of trade enterprises was often determined more by the available commodity resources of producers rather than the needs of the end consumers and products with a short shelf life have experienced a decrease in demand [6]. In general, market participants indicate the tendency to simplify the trade assortment. Suppliers and manufacturers have also largely revised their product mix matrices in favor of goods with shorter production cycles. Moreover, especially at the beginning of Russia's military invasion of Ukraine, the assortment of trade enterprises was often determined more by the available commodity resources of producers rather than the needs of the end consumer.

Most trade enterprises, seeking to meet consumer demand for certain products, with the supply of which there were difficulties, began to pay special attention to the search for analogues of these products from alternative sources of supply. Thus, in the retail network "Varus", according to the director of logistics, the launch of an automatic ordering system with certain restrictions and changes was announced, algorithms are being developed and implemented: search for analogues and substitution of goods to meet the needs of customers in certain groups of goods; formation of orders for the movement of goods between the DC according to the format of the vehicle [6].

The hostilities also affected the retailer's logistics – transportation prices almost doubled, which, together with other factors, affected the cost of products for the end consumer, which, in turn, also significantly affects changes in demand for various categories of products (*Figure 4*).





**Figure 4. Changes in consumer prices for selected products in Ukraine in January–June 2022 compared to January–June 2021, %**

Source: compiled by the authors based on [16].

Figure 4 shows only those groups of goods, the percentage of change in consumer prices for which exceeds 19–20 %, as, in our opinion, this makes it possible to analyze the main reasons for their rise in price. Among them, it is worth highlighting the reduction in imports (mainly related to fish and vegetables), the lack of supply from the occupied southern territories (vegetables), and supply chain disruptions due to infrastructure risks. Instead, changes in consumer prices in the analyzed period in the clothing and footwear segment amounted to 5.5 % [16].

*Operational risks* are the probable occurrence of events and situations that will lead to the destruction of the established processes in the supply chains of the trade enterprise, will make it impossible to effectively perform logistics operations for transportation, warehousing, procurement and distribution.

During the military operations, operational risks had the greatest impact on the organization of cargo transportation. In particular, due to the emergence of roadblocks, blocking of certain sections of transport routes, the introduction of curfews and limited access to the Internet in certain places, there was a need for constant reconstruction of routes, the use of maps, the search for hitchhiking and smaller vehicles, the organization of sites for consolidation of cargo and the implementation of cross-docking delivery schemes.

The hostilities also affected the retailer’s operational warehouse logistics. Thus, the priority of shipments has changed (in particular, in relation to goods for humanitarian headquarters and the needs of the Armed Forces of Ukraine and terrorist defense); PBL technologies have become more widely used, while the level of long-term storage in warehouses has decreased; evacuation operations of warehouses from the combat areas have become relevant. Significant changes in the organization, schedules and duration of operational processes in warehouses occurred due to difficulties with their provision with personnel, the significant part of which had migrated.

Operational activities in the supply chains of trade enterprises related to procurement and inventory have also changed significantly. First of all, procurement planning cycles have been significantly shortened in accordance with the almost daily adjustment of sales ratios and tracking of warehouse balances. Procurement procedures and technologies, ordering algorithms are being reviewed and simplified.

One of the bottlenecks for the supply chains of trade enterprises became stocks, which, according to the latest trends in logistics management, are "optimized", that is, focused on short-term income generation by liquidating them. Therefore, many companies, having no safety stock, were not ready to meet the existing demand.

In distribution channels, trade enterprises focus on the diversification of participants, resorting to the mediation of dealers and 3PL providers use various forms of trade (including "from the wheels"), and, in an effort to quickly replenish working capital, intensively sell off the remaining of products.

*Reputational risks* associate with the formation of the impression of consumers and supply chain partners about the trading company as an insufficiently reliable partner or seller in the event of supply failures, lack of the necessary goods or non-compliance with its quality indicators. The consequence of reputational risks may be a change in the structure of material flow, assortment, composition of suppliers, etc.

The reputational risks may also be incurred by trade enterprises as the result of their mistakes in the context of compliance with the patriotic sentiments of consumers. For example, if the company has not tracked and continues to sell products of the aggressor country or manufacturers that have not left the Russian market. Thus, in order to prevent the sale of such goods in the process of planning the assortment and order formation, the algorithm of temporary blocking of certain goods is being revised in the company "Varus". Appropriate adaptation and trend decisions to change the range of products are also made by manufacturing companies. Thus, with the beginning of the war, Kyivkhib renamed the Belarusian bread to Ataman bread, and added new products – Palianytsia bread and Myrny loaf.

In general, the impact of different groups of martial law risks on supply chains is presented in the *Table* below.

*Table*

**Risks of martial law for supply chains of trade enterprises**

Group of risks	Form of manifestation	Implications for supply chains
Infrastructural	Destruction, destruction, restriction of access to warehouse and commercial facilities; destruction and blocking of transport infrastructure; damage or blocking of suppliers' production infrastructure.	Loss of investments in warehouse and trade infrastructure; loss of product stocks; violation of delivery terms; incomplete assortment; increase in the range and time of delivery; Changes in the configuration and composition of supply chain participants

*End of the Table*

Group of risks	Form of manifestation	Implications for supply chains
Contractual	Failure to comply with contractual obligations between supply chain participants	Failure to comply with delivery schedules; reduction of procurement planning time; shortage of supplies; change of terms of settlements with suppliers of goods and services
Economic and financial	Decrease in the level of demand and supply, including due to the fall in GDP; restricted access to credit resources; unstable functioning of the banking system; restrictions on currency conversion; restrictions on cash and non-cash transactions	Increasing the transport component in supply chains; Reducing the level of profitability of supply chains; shortage of working capital to finance supply chains; reduction of the share of imports in the structure of the assortment; inability to make settlements with suppliers of goods and services, as well as consumers
Social	Changes in the structure of consumption; difficulties in meeting demand with goods of proper quality; inflationary processes	Shifting the emphasis in the sales structure towards essential goods, long shelf life and the emergence of excess stocks of other categories of goods; the need to find analogues of products for which there is a deficit from alternative sources of supply; increased need to minimize costs in order to maintain a socially oriented level of prices for goods
Operational	Obstacles to the timely execution of logistics operations; inability to perform certain logistics operations; difficulties with staffing of processes in supply chains	Operational reconfiguration of TMS (Transport Management Systems); reformatting of logistics processes in warehouses in terms of execution time and list of operations; simplification of procurement algorithms and technologies; diversification of distribution channels
Reputational	Increasing patriotic sentiments of consumers and their demands regarding the country of origin of goods and their names	Exclusion from the range of goods originating from the aggressor country and manufacturers that continued their activities in its territory; replacement of products with names associated with the aggressor country; introduction of new products in the assortment that meet the patriotic sentiments of consumers; increasing the share of goods of Ukrainian origin

*Source:* developed by the authors.

Trade enterprises in Ukraine during the martial law period have generally demonstrated the ability to respond quickly to challenges, draw conclusions and make reasoned, often innovative, decisions. In general, companies have become more vertically integrated, with a reduced product range and wider cooperation with suppliers and other counterparties.

Before outlining the most urgent and relevant areas of supply chain management in the field of trade during martial law, we will give a few theses on the results of a series of round table discussions "Restoration of supply chains of the food industry in the conditions of martial law and post-war situation in Ukraine" of the main players of domestic retail on their vision of promising management approaches in the organization of logistics support for their activities [6]:

- "Communication is the main tool in unpredictable times for business" – Marketing Director of "Kyivklib";

- "In my opinion, the optimal solution is a combination of centralization and decentralization" – Logistics Director of Milk Alliance Holding;
- "Under any circumstances: should build clear communication, have a backup plan "B", think and work flexibly, and hold on to people – team, partners and customers" – project manager of the warehouse logistics department of Fozzy Group.

Thus, in the realities of wartime *the reformatting of supply chains* for trade enterprises should take place primarily in the plane of relations with suppliers: firstly, by diversifying the composition of suppliers with the allocation of a larger share of local (domestic) suppliers, and different for different places of sale; secondly, by making adjustments to contractual relations and the format of communications with suppliers: shifting the emphasis on warehouse storage at suppliers (responsible storage); optimization of transportation systems; prompt changes in the schedules, volumes and range of supplies; coordination of the parties' responsibilities in case of emergency, joint development of the action plan. The next segment of the perspective plan for the development of supply chains for trade enterprises is the identification and implementation of appropriate operational tools and measures: tools for automatic ordering; accounting and adjustment of stock levels; transportation technologies related to cross-docking schemes, drawing up plans and routes of transportation; creation and functioning of operational distribution points, etc. The given is that in the conditions of war the trade enterprises are faced with the urgent need to promptly make adjustments to the mechanism of functioning of their supply chains, they must necessarily implement and improve the practice of risk management. Moreover, in addition to assessing the risks of military operations, developing scenarios and drawing up an action plan for each of them, the vision of the role and practice of risk management should radically change, which should become a kind of "nerve" center in the company, the center of development strategies and crisis response strategies.

The challenges of military operations will provide for further changes in the organizational structure of risk management systems of trade enterprises with the allocation and strengthening of the role of specialists in political and military risks. The question of studying the behavior of consumers in the conditions of martial law in order to find adequate response measures in the supply chains of trade enterprises is of particular importance.

**Conclusions.** The military invasion in Ukraine showed, especially in the first month, that the most acute problems with the functioning of supply chains were felt by large trade enterprises and retail chains. This is primarily due to the high level of concentration in the supply chains; in particular, in terms of available logistics capacities (warehouses, distribution centers), stock levels, number of suppliers, freight volumes, etc. This situation is due to the course of economy of scale, optimization of processes, costs and stocks chosen by many trade enterprises before the war. As a result, such trade enterprises lose flexibility.

The main way out of the crisis for trade enterprises should be the transformation of the supply chain management system towards flexibility and diversification of logistics strategies, assets, participants, processes. The particular emphasis should be placed on establishing the new format of communication with suppliers and partners. And, most importantly, the practice of monitoring risks and developing alternative action plans for different scenarios must be implemented.

The further research of supply chains of trade enterprises should be aimed at systematizing approaches to the organization of risk management systems under the risks of military conflicts. The promising direction for further research is to determine the decision-making algorithm, as well as the set of the measures aimed at managing supply chains in trade under martial law.

**Conflict of interest.** The authors declare that they have no financial or non-financial conflicts of interest in relation to this publication; they have no relationships with government agencies, commercial or non-commercial organizations that could be interested in presenting this viewpoint. Given that one of the authors works for the institution that is the publisher of the journal, which may lead to a potential conflict or suspicion of bias, the final decision to publish this article (including the selection of reviewers and editors) was made by those members of the editorial board who are not affiliated with this institution.

#### REFERENCES

1. Trushkina, N. V., & Kitriush, K. Ju. (2020). Upravlinnja lancjugamy postachan' u konteksti koncepcii' industrija 4.0 [Supply chain management in the context of the Industry 4.0]. *Efektivna ekonomika – Effective economy*, 12. <http://www.economy.nayka.com.ua/?op=1&z=8399> [in Ukrainian].
2. Vitlins'kyj, V. V., & Skic'ko, V. I. (2018). Ryzik-menedzhment lancjugiv postachannja v umovah cyfrovoi' ekonomiky [Supply chain risk management in the digital economy]. *Biznes Inform – Business Inform*, 4 (483), 384-392 [in Ukrainian].
3. Douglas, M., Lambert (2008). *Supply Chain Management: Processes, Partnerships, Performance*. Third ed. Sarasota: Supply Chain Management Institute [in English].
4. Palamarchuk, I. V., & Artjuh, N. A. (2017). Upravlinnja lancjugamy postachan' ta vykorystannja zasobiv logistychnoi' infrastruktury [ Supply chain management and use of logistics infrastructure facilities]. *Visnyk ekonomiky transportu i promyslovosti – Bulletin of transport and industry economics*, 60, 101-107 [in Ukrainian].
5. Sushkova, O. Je. (2019). Suchasni instrumenty upravlinnja ryzykamy v lancjugah postachannja tovariv [Modern risk management tools in commodity supply chains]. *Podil's'kyj naukovyj visnyk – Scientific bulletin of Podilsk*, 4(12), 77-83 [in Ukrainian].
6. Serija kruglyh stoliv "Vidnovlennja lancjugiv postachannja harchovoi' promyslovosti v umovah vojenного ta pisljavojennogo stanu v Ukrai'ni" [Series of round tables discussins "Restoration of food industry supply chains in wartime and post-war conditions in Ukraine"]. *logist.fm*. <https://logist.fm/news/seriya-kruglih-stoliv-vidnovlennya-lancyugiv-postachannya-harchovoyi-promislovosti-v-umovah> [in Ukrainian].
7. Jak ogovtujet'sja rytejl pislja 100 dniv vtorgnennja rf: vtraty galuzi ta novi rishennja [How retail is recovering after 100 days of Russian invasion: industry losses and new solutions]. *rau.ua*. <https://rau.ua/novyni/ritejl-pislja-100-dniv-vtorgnennja> [in Ukrainian].
8. Unaslidok bojovyh dij pid Kyjevom znyshheno sklady najbil'shyh ukrai'ns'kyh kompanij [As a result of hostilities near Kyiv, warehouses of the largest Ukrainian companies were destroyed]. *mykyivregion.com.ua*. <https://mykyivregion.com.ua/news/unaslidok-boiovix-dii-pid-kijevom-znishheno-skladi-naibilsix-ukrayinskix-kompanii> [in Ukrainian].

9. Zbytky rytejleriv Ukrai'ny vnaslidok vojnyh dij sklaly shhonajmenshe 50 mlrd grn [Losses of Ukrainian retailers as a result of hospitality amounted to at least UAH 50 billion]. *rau.ua*. <https://rau.ua/novyni/zbitki-ritejleriv-ukraini> [in Ukrainian].
10. Import odjagu do Ukrai'ny vpav na 60% [Clothing imports to Ukraine fell by 60%]. *pro-consulting.ua*. <https://pro-consulting.ua/ua/pressroom/import-odezhdy-v-ukrainu-upal-na-60-kommentarii-gendirektora-pro-consulting-aleksandra-sokolova-forbes> [in Ukrainian].
11. Specproekt: jaki galuzi rytejlju ta jaki kompanii' najbil'she vtratyly z pochatku vtorgennja rf [Special project: which retail industries and which companies have lost the most since the beginning of the invasion of Russia]. *rau.ua*. <https://rau.ua/novyni/zbitki-ritejleriv> [in Ukrainian].
12. Rytejl za linijeju frontu: shho stalosja z produktovymy merezhamy, jaki opynylsja v zoni aktyvnyh bojovyh dij [Retail behind the front line: what has happened to grocery chains that were in the zone of active hostilities]. *rau.ua*. <https://rau.ua/novyni/ritejl-zoni-aktivnih-bojovih-dij> [in Ukrainian].
13. Jak vijna vdaryla po torgivli ta shho zmozhut' kupyty ukrai'nci v magazynah [How the war affected trade and what Ukrainians will be able to buy in stores]. *www.bbc.com*. <https://www.bbc.com/ukrainian/features-61829345> [in Ukrainian].
14. Na chvert' zdorozhchala vartist' vantazhnyh perevezen' zaliznyceju u I kvartali 2022 roku [The cost of freight transportation by rail increased by a quarter in the 1st quarter of 2022]. *railexpoua.com*. <https://railexpoua.com/novyni/na-chvert-zdorozhchala-vartist-vantazhnykh-perevezen-zaliznytseiu-u-pershomu-kvartali-2022-roku> [in Ukrainian].
15. Zovnishnja torgivlja Ukrai'ny tovaramy u sichni-travni 2022 roku [Ukraine's foreign trade in goods in January-May 2022]. *ukrstat.gov.ua*. <https://ukrstat.gov.ua> [in Ukrainian].
16. Ciny tysnut': jak vijna vplynula na cinnyky v magazynah ta chogo chekaty do kincja roku [Prices are under pressure: how the war affected the price tags in stores and what to expect by the end of the year]. *rau.ua*. <https://rau.ua/novyni/cini-vijna-magazinah-kincja-roku> [in Ukrainian].

*Received the editorial office 26.07.2022.*

*Accepted for printing 27.09.2022.*

*Publication online 23.12.2022.*

**KURNOSENKO Anastasiia**,  
Postgraduate student  
at the Department of Economics  
and Business Finance  
State University of Trade and Economics  
19, Kyoto St., Kyiv, 02156, Ukraine

ORCID: 0000-0002-3189-1489  
a.kurnosenko@knute.edu.ua

**КУРНОСЕНКО Анастасія**,  
аспірант кафедри економіки  
та фінансів підприємства  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0002-3189-1489  
a.kurnosenko@knute.edu.ua

## THE INFLUENCE OF SOCIAL CAPITAL ON NETWORK EFFECTS

## ВПЛИВ СОЦІАЛЬНОГО КАПІТАЛУ НА МЕРЕЖЕВІ ЕФЕКТИ

**Introduction.** The current social and economic changes caused by networking relations in the economic system are a significant element of contemporary scientific research aimed to identify the essential characteristics of such new concepts as "network economy" and "social capital". This situation has resulted from the development of Internet technologies, the increasing role of intangible assets in value creation, and the need to study the state involvement in these processes, which identifies the level of their development.

**Problem.** The impact of social capital on the economic system has been observed in various patterns of economic system relationships, and it is amid the network economy that this impact is clearly revealed through the changes in the manifestation of network effects. It is necessary to specify such changes for the effective organization of economic relations under the conditions of the network economy as well as for the determination of the role of social capital in them.

**The aim** of the article is to identify the relationship between social capital and the network economy and determine in which interaction patterns of the economic system social capital changes (or levels) the manifestation of network effects.

**Methods.** In the course of the research, the following methods were used: analysis, generalization, comparison, analogy, scenario construction, graphic, and microeconomic analysis (marginal utility curve).

**Results.** In the course of the research, there has been revealed the relationship between the levels of social capital and network readiness, as well as theoretical and practical aspects of the

**Вступ.** Соціально-економічні зміни сьогодення, які зумовлені мережевізацією відносин в економічній системі, є значущим елементом сучасних наукових розвідок щодо виявлення сутнісних характеристик таких концепцій, як "мережева економіка" та "соціальний капітал". Така ситуація обумовлена розвитком інтернет-технологій, посиленням ролі нематеріальних чинників у створенні вартості та необхідністю дослідження включення держав у ці процеси, що ідентифікує рівень їх розвитку.

**Проблема.** Вплив на економічну систему соціального капіталу помічений у різних моделях взаємовідносин економічної системи і саме в умовах мережевої економіки він яскраво виявляється у зміні прояву мережевих ефектів. Конкретизація таких змін необхідна для ефективно організації економічних взаємовідносин в умовах мережевої економіки та визначення ролі соціального капіталу в них.

**Мета** статті – виявити взаємозв'язок соціального капіталу та мережевої економіки, визначити, в яких моделях взаємодії економічної системи соціальний капітал змінює (або нівелює) прояв мережевих ефектів.

**Методи.** Використано такі методи: аналізу, узагальнення, порівняння, аналогії, побудови сценарію, графічний, мікроекономічного аналізу (крива граничної корисності).

**Результати дослідження.** У ході дослідження виявлено взаємозв'язок між рівнями соціального капіталу та мережевої готовності, а також розглянуто теоретичні та практичні моменти в окресленій проблематиці. Результати аналізу природи формування різних моделей взаємовідносин економічної

outlined issues. The findings obtained while analyzing the nature of the formation of various relationship patterns of the economic system and the role of social capital in those patterns show that social capital determines the manifestation character of network effects (positive and negative) in such patterns.

**Conclusions.** The components of social capital are identical to the elements of network viability. Thus, social capital becomes a key management object in the network economy. The obtained results of the research will form the basis for further scientific research on the social capital management system of an enterprise in the network economy.

*Keywords:* network economy, social capital, network good, network effect.

**JEL Classification:** O1; D85; L14; M21

**Introduction.** The term "network" is important in the social and economic environment. Observing the global trends in socio-economic development, it is possible to note that the key moments of public and economic activity are concentrated around networks. Involvement in the network is an opportunity of access to new knowledge, important information, and limited resources, which, in the modern world, is necessary for gaining competitive advantages at the level of both an individual and an organization, an enterprise, the state. According to UNCTAD experts, the share of the network economy in the world's GDP is approximately 15.5% [1].

Awareness of the economic significance of networks and the need to develop network relations has resulted in shaping a new social order – *the network economy*. This economic phenomenon is formed through digital technology, contacts (connections), interaction rules and trust. Technological development (digitalization) and public openness (development of social capital) are the drivers of integration of the network economy of a particular country. And it is the level of development of these two components that determines the prospects and pace of this process for the country.

**Problem.** Due to the long-term and effective performance of the network economy, it has become possible to identify its common action regularities and impact on the economic system. Scientists have determined that the network economy produces the network good and creates network effects. In scientific discourse, there is a thesis that the evolution of the modern economic system owes to the influence and development of intangible factors, particularly through social capital, which the World Bank recommends to include when assessing national wealth.

The nature of networking is closely related to the performance of social capital, which broadly affects the network in various ways. In this context, two questions arise: how to organize economic relations in the

системи та ролі соціального капіталу в них свідчать, що соціальний капітал визначає характер прояву мережових ефектів (позитивний та негативний) у таких моделях.

**Висновки.** Складові соціального капіталу є ідентичними до елементів життєздатності мережі. Так, соціальний капітал стає ключовим об'єктом менеджменту в умовах мережової економіки. Отримані результати дослідження будуть базою для майбутніх наукових розвідок з питань системи управління соціальним капіталом підприємства в умовах мережової економіки.

*Ключові слова:* мережева економіка, соціальний капітал, мережеве благо, мережовий ефект.



network economy and what is the role of social capital in the given relations? To answer these questions it is necessary to determine the impact of social capital on the manifestation of network effects in the interaction patterns of an economic system.

**Analysis of recent research and publications.** The role of social capital under the formation of the network economy is currently quite a relevant issue among domestic scientists. Thus, N. Kovshun, N. Koba and M. Koba [2], while studying the impact of social capital on the performance of network structures in the context of digitalization, note that it is social capital that ensures high economic efficiency of network structures through a synergistic effect achieved as a result of interaction of their individual participants.

L. Vaganova and A. Humenyuk [3] study the issues related to the organization of economic activity in the network economy and highlight particular shortcomings of a network company and a network management structure existing specifically in personnel management and interaction with counterparties (i.e. difficulties associated with social capital management in these interaction patterns).

In 2020, L. Yelisseyeva reaches a conclusion that under the conditions of information and network transformation of the economy, the role of social capital increases.

Among foreign scholars, the research on the following aspects of the outlined issues is notably demanded: value chains in network structures; monopolization of markets through the action of network effects; level of countries' network readiness; social changes that take place in countries due to digitalization (change of social capital), etc. Such studies were conducted by: M. Kenney, B. Olalla, M. Jablonski, A. J. Wood, T. Koch [5–9] and others who studied the way the network economy affects the mentioned above aspects, and vice versa, how it manifests itself and under what principles it functions in these environments.

The analysis of scientific papers showed that they focus mainly on the theoretical substantiation of the relationship between the development of social capital and the network economy. At the same time, the impact of social capital on the performance of the network economy in various interaction models within an economic system is not specified.

**The aim** of the article is to identify the relationship between social capital and the network economy and determine in which interaction patterns of the economic system social capital changes (or levels) the manifestation of network effects.

The results of the study form the basis for further scientific research in the field of development of the social capital management system of an enterprise under the network economy.

**Methods.** The following methods were used: analysis, generalization, comparison, analogy, scenario construction, graphic, microeconomic analysis (marginal utility curve).

**Results.** Networking is referred to a change in worldview, an increasing role of social capital, digitalization of social and economic processes, penetration of Internet technologies into everyday life and business environment, etc. Such social and economic transformations became an area of academic interests among foreign scholars back in the 1990s when there were outlined some basic features of the development of the network economy [10–14]. Ukrainian scientists also studied these issues [15–23].

The conceptual foundations of the network society were substantiated by M. Castells, who refers to the network economy as a synthesis of the information and global economy which is characterized by the development of information and communication networks where the paramount importance belongs to information flows [10]. In his work "New Rules for the New Economy", K. Kelly formulated 12 rules for the network economy performance [11]. J. Bradford De Long, and M. Froomkin articulated the differences between network management and market and hierarchical forms [12]. C. Shapiro and H. Varian, M. Katz describe network effects [13; 14].

Reflecting on the works of scientists seeking the grounds or starting point for the formation of a network economy, it should be noted that all of them focused on defining the major characteristics of the post-industrial economy, which were determined by D. Bell [24]. In other words, the main prerequisites for the formation of a network economy were as follows: awareness of human capital and its importance in value creation; transition from tangible to intangible production (the predominant role of the service sector); informatization of society, possession of information as one of the competitive advantages of both an individual and a private or public institution; technological progress, advent of the Internet and other technological innovations that have proven their effectiveness.

The advent and spread of the Internet is a transition point to a new social system: this fact changes not only the form of cooperation itself (serving as a new business tool), but also the philosophy of doing business, when the ability to be flexible and adaptive to rapid changes becomes important. It is this characteristic that is best manifested in the economic players (countries) with a high level of social capital, which implies a high level of trust, communication, an effective institutional environment (having clear norms, rules and sanctions) and established business traditions. From *Table 1*, it follows that there is a relationship between the level of social capital and the network readiness of countries. The highest social capital index during the years 2019-2021 ranges from 60 to 64, whereas the network readiness – from 80 to 82.

Table 1

**Ranking of countries on the Social Capital Sub-index in the Global Sustainable Competitiveness Index (GSCI) and Networked Readiness Index (WEF) in 2019-2021**

Country	Index/rank					
	WEF			GSCI		
	2019	2020	2021	2019	2020	2021
Ukraine	48.91/67	49.43 ↑/64	55.70 ↑/53	41.3/87	44.4 ↑/82	43.9/85
Poland	61.46/37	61.80 ↑/33	64.33 ↑/33	50.2/32	53.1 ↑/34	53.7 ↑/33
Sweden	82.65/1	82.75 ↑/1	81.57/2	58.4/4	61.6/3	62.4 ↑/3
Finland	80.34/7	80.16/6	80.47 ↑/5	58.8/1	61.6 ↑/4	62.3 ↑/4
Denmark	81.08/6	82.19 ↑/2	81.24/3	55.3/11	57.8 ↑/14	60.4 ↑/9

Source: generated on the basis [25; 26].

The countries with the highest level of social capital – Scandinavian countries – also have the highest level of network readiness (see *Table 1*). Poland is ranked quite high in both indices and, at the same time, there is observed interdependence in growth. The situation in Ukraine is similar, but the indices are lower than those of the neighbouring country.

The formation of the network economy is directly related to the advent of the Internet as a tool allowing to reduce the impact of time, territorial, and other restrictions on the physical exchange of information, as well as to the social capital level in the country as an indicator of society’s readiness to accept new innovative realities of the time.

The *fundamental characteristic of the network economy* which differs it from the previous economic systems is the development, transfer, and creation of added value of goods and services in networks, particularly on the Internet at a large scale, as well as through integrated partner and client networks [20; 27].

Thus, the network economy, which has some essential differences from the previous system, changes the hierarchical forms of economic relations. N. Mazina points out that the main mechanism used by business entities to coordinate their activities in the network is formal and informal collective agreements (relationships) which are supported by operational information exchange online, unlike the hierarchy where this function is performed by the plan. In addition, information is a management resource in the network where informal relations play a decisive role, and horizontal operational relationships are also available [19]. This *management pattern* makes the organization flexible for positive changes and responsive to possible crisis phenomena. Therefore, it is social capital that becomes the key object of management since it is the components of social capital that ensure the network performance. R. Putnam [28] singled out the following components of social capital: moral principles and norms, social values (trust) and network of social infrastructure (ways of communication and information exchange).

The main feature of the network economy is that it produces a *network good* (NG), which differs from the ordinary one in the fact that the former neglects the law of diminishing marginal utility. Identification of differences

between ordinary and network goods is described by A. Hrytsenko and Ye. Pesotska [15] who highlighted the following essential characteristics of the network good:

- the value depends on its prevalence;
- the marginal utility of each additional NG item increases (the law of increasing marginal utility). Consequently, the price that the consumer agrees to pay for NG increases;
- the production of only the first item of good requires greater costs. The marginal production costs of all subsequent ones are significantly reduced, approaching zero (reducing marginal costs);
- increased profits due to network expansion and network traps;
- the subjects' attitude towards goods directly depends on the availability of the same goods from other entities (economic interdependence of NG owners) [15].

The specific feature of determining the NG value is that it depends on its prevalence. The greater the number of users of such a good is, the more benefit it brings to each individual user as well as to the owner of this good. In other words, the increase in social capital among customers is an important element in building the competitiveness of a business. This is *a key feature of the network economy*, which is influenced by social capital.

Looking at the emergence, development and further existence of NG in economic life led to identifying the features of its performance. A key feature of the NG performance, as well as the network economy in general, is *the network effect*. With this in mind, there have also been identified several other features that provide a network effect. Their list and characteristics are presented in *Table 2*.

*Table 2*

**Specific features of NG performance**

Specific features	Characteristics
External network effects	When engaging each new subject into a network, its value increases significantly for other participants
Complementarity	As a rule, NG is interconnected with another good, and only in their relationship does it provide a network effect. For example, a mobile phone without a SIM card will not be NG even with an increase in the number of users
Commonality	For a network economy, the standard is the "language" through which network members understand each other. Common NG characteristics make it possible to interact and communicate with other network participants, as well as significantly expand the possibilities of using the good
Lock-in effect	The pre-described NG properties make consumers dependent on the environment of the network to which they are affiliated. This takes place due to the high costs (or inability) of terminating contracts; monopolization of markets; spending time and money on training new standards in case of abandoned previous ones, etc. For example, this situation is present when placing goods on well-known marketplaces
Economies of production scale	This effect also applies to the production of ordinary goods, but in the case of NG, it turns out to be much more effective: the cost of producing the first unit of such a good is much higher than the subsequent ones. Electronic and network technologies reduce the cost of copying digital information to almost zero

*Source:* generated on the basis [15].

On the one hand, the features mentioned in *Table 2*, are a logical result of the development of the economic system. However, on the other, they enforce new rules of efficient business conduct for modern enterprises and organizations. It is due to the change of importance or added criteria of business efficiency in the conditions of the network economy (for example, speed of decision making, access to information, digitalization of business processes, etc.) that there are set up new business entities – *network structures*. They are the companies that, based on Internet technologies, integrate in order to use their peculiarities, resources, specific advantages over others for implementation of certain joint projects [17].

While analyzing scientific sources on the given issue, there has not been defined any specified manifestations of network effects in various relationship patterns in the economic system. It may seem that they are the same in all patterns and give a positive result. However, there are intangible adjusting factors, in particular social capital, which changes the nature of network effects in different models of communication of the economic system subjects. Levelling its impact can lead to biased assessments of economic processes under the formation of a network economy and to false future forecasts as well.

Interaction patterns in an economic system can be arranged as follows: "business to business" (wholesale trade, electronic exchanges, network structures, etc.); "business to consumer" (retail, online stores, services, etc.); "business to government" (public procurement market, legislative regulation, etc.); "citizen to government" (e-government); "consumer to consumer" [18]. It is necessary to separate the concept of *network entrepreneurial structures* where the participants are enterprises (business), and that of *organizational network structures* which can be formed at different levels of interaction, where, apart from business, there are other participants of an economic system (organizations, the state, consumers, etc.) or business is not involved at all.

The penetration of the network economy into these interaction patterns changes their form and content. The change in form occurs due to the entry of Internet technologies, i.e., digitization of business processes, government and banking services, interpersonal communication, etc. takes place. Regarding the content, digitization occurs due to an increase in the level of social capital at the macro level (largely due to trust, institutional environment, enhance of informal forms of communication, etc.) and the desire to increase the network of useful contacts.

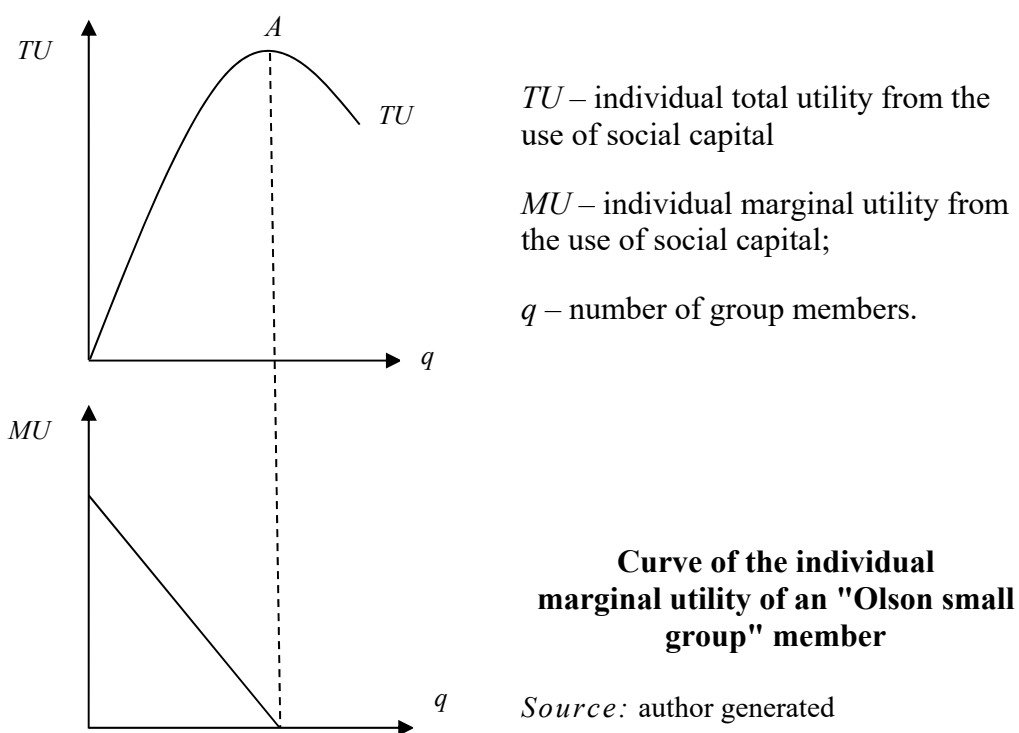
With the basic features of the performance of the network economy and social capital, it becomes possible to find some exceptions in the manifestation of the network economy. This applies mainly to the activities of enterprises and organizations as a periphery of circulation of intangible factors of development (including social capital).

While studying the integration of the network economy into the social and economic environment, the main focus is on the "business to business"

model which involves the formation of entrepreneurial network structures. It is the results of their activities that are a source of information for statistics and indicate the contribution of the network economy to GDP.

However, a company interacts with a number of other counterparties that indirectly influence this macroeconomic indicator and have peculiarities of their own. Considering the interaction patterns of an individual company, we can distinguish five interrelated levels of relations among the following: consumers; work team; state; suppliers (business that provide raw materials and do not have the purpose of creating a joint product); other companies (in order to build a network structure where companies unite to create a common product). The structure is similar to the common patterns of interaction in the economic system but it includes a level of interaction within the business entity itself (that is within the work team, due to which added value is formed) as well as interaction with suppliers (detailing the "business to business" model, which can be of two types: relations with suppliers or other companies).

To consider the process of forming labour resources of an enterprise, where social capital is constantly present and the network effect may be manifested, we will use the microeconomic analysis tool – the marginal utility curve (*Figure*).



The social capital of an enterprise is characterized as a "small group" whose goal is to maximize the well-being of its members. In the example in *Figure* there is considered a separate division of an enterprise, or its branch,

where its working team is formed as a centre for the social capital performance creating a collective good (a bonus for achieving the stated goals of the enterprise). Thus, we have the following characteristics of this group:

- a limited number of members;
- a collective good is formed (suppose that the company sets itself certain goals for a specified period, provided that they are achieved, this division will be awarded a fixed total bonus which will be distributed among the team members);
- to achieve the set goals and obtain a collective good, each member's individual contribution (their knowledge, skills, connections, time, etc.) is necessary.

In small groups, the result of effective work of social capital (generating a collective good) is distributed among a small number of participants, while bringing greater benefits to an individual participant. In such a situation, the incentives to invest in the social capital of the group by an individual participant are quite strong [4].

The total utility from the results of social capital action increases to a certain saturation point (i.e.  $A$  – the maximum satisfaction of a participant's needs with the optimal number of participants) (see *Figure*). Once this point is reached, the total utility will decrease since there will be fewer benefits provided for an individual participant by social capital. In addition, with an increase in the number of participants, the problem of "the ticketless" increases – there are those who enjoy the collective good, but do not contribute to obtain it.

The situation in *Figure* is described with a fixed level of social capital in the "Putnam group" (state), that is, there exists historically established social capital and a certain state of the institutional environment.

As for the other interaction patterns of the economic system, the actions of the network economy laws are fully revealed and give a positive effect in the "business to consumer" model when it comes to increasing the client base. A striking example is the *Google* search engine, which is a free resource for consumers, which draws their attention, and which is why the number of users is growing. Understanding this, the company compensates for its costs through advertising, the placement of which is beneficial to the business since there is a confidence that the advertised product will be noticed by a significant audience. Thus, a *network trap* is created for customers using Google services [29].

Similar features are inherent to the "citizen to government" model where e-government technologies are being actively introduced. The more citizens trust and use electronic public services, the faster the digitalization of society as one of the elements of the development of the network economy will take place. In addition, it will help reduce the effects of such negative developments in the economy as corruption, shadow economy, etc. In Ukraine, there has been introduced "Diya" (Action) state instrument, one of the purposes of which is to fight against corruption: according to the

Ministry of Digital Policy. Its implementation has an anti-corruption effect of UAH 2.05 billion per year, and significant savings in 15 fields of the economy as well as procurement [30].

If looking at the situation of enterprises uniting for common goals (creating entrepreneurial network structures, for example, chambers of commerce and industry, chains of value creation), certain conditions must be fulfilled for a network effect to occur. In such structures, the real situation is that with an uncontrolled growth of the number of participants, the effectiveness of this group decreases or the original goal of creating such a structure is lost. It happens so because with an increase in a group members (structure), it becomes more difficult to achieve coordinated actions since the values and motives for joining of each participant may vary. Under such conditions, it is more difficult to determine common values, monitor compliance with these guidelines and, in case of a critical situation, quickly make effective decisions. Therefore, for the effective operation of such network relationships (structures), a limited (necessary) number of participants should be determined taking into account the rational needs of such a structure, goals and capabilities of individual participants.

Thus, understanding the essence of network effects along with their manifestation in various models of interaction of economic entities is an important stage for developing a management system in enterprises, organizations and the country. At the same time, social capital is a regulation factor in building and accumulating contacts as well as an object that requires the development of management, regulation and control methods.

The constant presence of social capital in the process of networking interaction patterns of an economic system determines the nature of network effects. *A positive demonstration of the network effect* for the company that creates it is possible with the growth of its client base or the number of users (if it concerns the digitization of administrative services). In this case, a networked good is created and the peculiarities of its functioning are identified (see *Table 2*). Also, with the right choice of channels of interaction with the key consumer, there takes place a growth of social capital, which is manifested through increased confidence in the product, rapid dissemination of information about it, creating a positive image, etc.

*A negative demonstration of the network effect* is present in cases of forming a pool of participants whose aim is to solve certain problems, which requires the concentration of their personal resources. Such a pool of participants includes the following: a working team, entrepreneurial network structures, public organizations, etc. The nature of such structures lies in the fact that their activities provide benefits to a large number of people, including non-participants, through the performance of important social and economic functions. For example, the effective work of one employee is important for the profitability of the enterprise, and this, in its turn, will ensure its development and contribute to the economic growth of the country. At the same time, such structures offer access to limited or poorly available



resources for their participants. These can be both tangible benefits (bonuses, distribution of profits, material goods, discounts, benefits, etc.) and intangible ones (access to information, useful contacts, etc.). Because of this, the majority has a desire to be included in such a structure. Thus, there is a risk of losing the values laid down in the purpose of its creation. Under such circumstances, an increase in the number of participants leads to the problem of "the ticketless", conflict of interests, stratification of the group, loss of coordination in actions, decrease in the efficiency of activities, increase in decision-making time, decrease in social and economic utility, etc.

**Conclusions.** The importance of the network economy development at the national level (namely in the context of digitalization and predominance of informal and horizontal forms of relations) is confirmed by the studies carried out by leading international organizations. The postulates of the network economy are a valuable guideline for the development of business, state institutions, public organizations, etc. While studying the basic characteristics of the network economy and social capital, it was found that the components of social capital are identical to the elements of a network viability. That is why there is a link between the level of social capital in the country and the entry speed of the network economy, which is confirmed by international ratings.

Due to the constant action of social capital in the patterns of interaction between economic entities, there takes place a change in the manifestation of the network effect that lies in the fact that the growth of a network's participants contributes to an increase in its value. While developing this idea, it is determined that social capital divides the nature of the network effect manifestation into positive and negative. The positive result is present when a client base is built. The negative result is present in the case of creating a network structure (entrepreneurial or organizational). It is in such network structures that social capital is a key object of management, so the results of the study will become a significant basis for further scientific research on the social capital management system of an enterprise in a network economy.

**Conflict of interest.** The author declares that they have no financial or non-financial conflicts of interest regarding this publication; have no relationship with government agencies, commercial or non-profit organizations that might be interested in presenting this view. Given that the author works in an institution that is the publisher of the journal, which may lead to potential conflict or suspicion of bias, the final decision on the publication of this article (including the choice of reviewers and editors) was made by those members of the editorial board who are not associated with this institution.

#### REFERENCES

1. The official site of UNCTAD (2019). Digital Economy Report 2019. [https://unctad.org/system/files/official-document/der2019\\_en.pdf](https://unctad.org/system/files/official-document/der2019_en.pdf) (data zvernennja 01.09.2022) [in English].
2. Kovshun, N. E., Koba, N. V., & Koba, M. O. (2021). Vplyv social'nogo kapitalu na funkcionuvannja merezhevyyh struktur v umovah cyfrovizacii' [Influence of Social Capital on the Functioning of Network Structures in the Conditions of the Knowledge Economy]. *Visnyk NUVGP – Bulletin of National University of Water and Environmental Engineering*, 2(94), 87-99 [in Ukrainian].

3. Vaganova, L. V., & Gumenjuk A. F. (2020). Organizacija gospodars'koi' dijaj'nosti v umovah merezhevoi' ekonomiky [Organization of Economic Activities in the Conditions of Network Economy]. *Molodij vchenyj – Young Scientist*, 3(79), 10-13 [in Ukrainian].
4. Jelisjejeva, L. V. (2020). Social'nyj kapital jak instytut ekonomichnogo rozvytku. Doctor's thesis. Kyi'v. [in Ukrainian].
5. Kenney, M., & Zysman J. (2016). The Rise of the Platform Economy. *Issues in Science and Technology*. Spring. Vol. 32. 3, (pp. 61-69) [in English].
6. Olalla, B., & Mata, M. (2016). Value creation in a network economy. *Advances in Finance, Accounting and Economics*. January, 93-110. [https://www.researchgate.net/publication/344278086\\_Value\\_Creation\\_in\\_a\\_Network\\_Economy](https://www.researchgate.net/publication/344278086_Value_Creation_in_a_Network_Economy) (data zvernennja 01.09.2022) [in English].
7. Jablonski, M., Timmers, P., & Sarkis, J. (2020). Sustainability in business models in the network economy. *Electronic Markets*. October, <https://link.springer.com/article/10.1007/s12525-020-00444-1> (data zvernennja 01.09.2022) [in English].
8. Wood, J. A., Graham, M., Lehdonvirta, V., & Hjorth, I. (2019). Networker but commodified: the (dis) embeddedness of digital labour in the gig economy. *SAGE Journals*. February. <https://journals.sagepub.com/doi/10.1177/0038038519828906> (data zvernennja 01.09.2022) [in English].
9. Koch, T., & Windsperger, J. (2017). Seeing through the network: competitive advantage in the digital economy. *Journal of Organization Design*. <https://www.researchgate.net/publication/318134682> (data zvernennja 01.09.2022) [in English].
10. Castells, M. (1996). Rise of the network society. *The information age: economy, society and culture*. September. <https://www.semanticscholar.org/paper/Rise-of-the-Network-Society%3A-The-Information-Age%3A-Castells/2b40d6484a9067d87fe8c05822009860fdf32ac1> (data zvernennja 27.08.2022) [in English].
11. Kelly, K. (1999). New rules for the new economy: 10 radical strategies for a connected world. *Penguin Books; First Soft-Cover Edition*. October, (pp.192) [in English].
12. Bradford J., De Long, & Froomkin, A. M. (2000). Speculative microeconomics for tomorrow's economy. February. <https://journals.uic.edu/ojs/index.php/fm/article/view/726> (data zvernennja 27.08.2022) [in English].
13. Shapiro, C., & Katz, M. L. (1994). Systems competition and network effects. *The Journal of Economic Perspectives*. Spring. Vol. 8, 2, (pp. 93-115) [in English].
14. Shapiro, C., & Varian, H. (1998). Information rules – a strategic guide to the network economy. <https://www.semanticscholar.org/paper/Information-rules-a-strategic-guide-to-the-network-Shapiro-Varian/58e1d98ec5eaf49a3fd3bddcec3298dcd1897e71> (data zvernennja 27.08.2022) [in English].
15. Grycenko, A. A., & Pesoc'ka, Je. I. (2013). Formuvannja informacijno-merezhevoi' ekonomiky [Formation of the Informational-Network Economy]. *Ekonomichna teorija – Economic Theory*, 1, 5-19 [in Ukrainian].
16. Dzjaduk, T. V. (2010). Osnovni koncepcii' ta evoljucijni teorii' merezhevoi' ekonomiky [Basic Concepts and Evolutionary Theories of the Network Economy]. *Ekonomika APK – Ekonomika APK "The Economy of Agro-Industrial Complex"*, 13, 38-41 [in Ukrainian].
17. Dzjaduk, T. V. (2008). Merezheva ekonomika jak element formuvannja suchasnoi' svitovoi' gospodars'koi' systemy [Network Economy as Element of Forming World Economic System]. *Ekonomika ta derzhava – Ekonomika ta Derzhava*, 7, 25-27 [in Ukrainian].
18. Topishko, N. P., Topishko, I. I., & Galec'ka, T. I. (2018). Merezheva ekonomika jak forma social'no-ekonomichnoi' organizacii' v global'nyh koordynatah [Network Economy as a Form of Socio-Economic Organization in Global Coordinates]. *Naukovi zapysky Nacional'nogo universytetu "Ostroz'ka akademija" – Scientific Notes of the National University of Ostroh Academy*, 8 (36), 33-38 [in Ukrainian].

19. Mazina, N. Je. (2009). Merezhevi vidnosyny u gospodarchij dijal'nosti pidpryjemstv: instyucional'nyj aspekt [Network Relations in Economic Activity of Enterprises: Institutional Aspect]. *Metodologija, teorija ta praktyka sociologichnogo analizu suspil'stva – Methodology, Theory and Practice of Sociological Analysis of Society*, 15, 250-253 [in Ukrainian].
20. Samojlenko, A. O., & Bogdan, Ju. D. (2019). Rozvytok merezhevoi' ekonomiky u konteksti globalizacij nyh procesiv [Network Economy Development in the Context of Globalization Processes]. *Ekonomika ta derzhava – Ekonomika ta Derzhava*, 10, 93-97 [in Ukrainian].
21. Kereja, O. S. (2016). Merezha jak bazova struktura informacijnoi' ekonomiky [Network as the Basic Structure of the Information Economy]. *Visnyk Harkivs'kogo nacional'nogo universytetu imeni V.N. Karazina – Visnyk of V.N. Karazin Kharkiv National University*, 91, 26-32 [in Ukrainian].
22. Babij, L. V. (2012). Teoretychni pidhody do vyznachennja parametriv rozvytku merezhevoi' ekonomiky [Theoretical Approaches to Defining Network Economy Development Parameters]. *Mizhnarodna ekonomichna polityka – The International Economic Policy*, (pp. 29-37) [in Ukrainian].
23. Chekalovs'ka, G. Z. (2018). "Nova ekonomika": definicija ponjattja v istorychnomu konteksti ["New Economy": Definition of Concept in Historical Context]. *Infrastruktura rynku – Market Infrastructure*, 19, 3-10 [in Ukrainian].
24. Bell, D. (1971). The Post-Industrial Society: The Evolution of an Idea. *Survey*. Vol. 16, 1, (pp. 167) [in English].
25. The global sustainable competitiveness index. *solability.com*. <https://solability.com/the-global-sustainable-competitiveness-index/the-index/social-capital> (data zvernennja 24.09.2022) [in English].
26. Networked Readiness Index. *portulansinstitute.org*. <https://portulansinstitute.org/our-publications> (data zvernennja 24.09.2022)
27. Van Baalen, P. J., & Moratis L. T. (2001). Management Education in the Network Economy. Springer Science and Business Media, Kluwer Academic Publisher, Boston [in English].
28. Putnam, R. D. (1993). Making Democracy Work. Civic Tradition in Modern Italy. Princeton: Princeton University Press [in English].
29. Gerasymenko, A. G. (2013). Proporcii' rozpodilu social'nogo kapitalu v suspil'stvi – kljuch do vstanovlennja vektora jogo vplyvu na suspil'nyj dobrobut [Proportions of Social Capital Allocation in the Society as a Key to Defining the Vector of Its Effect on Social Welfare]. *Ukrai'ns'kyj socium – Ukrainian Society*, 2 (45), 153-162 [in Ukrainian].
30. Ministerstvo ta komitet cyfrovoi' transformacii' [Ministry and Committee for Digital Transformation]. <https://thedigital.gov.ua/savingv> (data zvernennja 27.08.2022) [in Ukrainian].

*Received the editorial office 28.07.2022.*

*Accepted for printing 07.10.2022.*

*Publication online 23.12.2022.*

UDC 004:334.78]:336.71(477)

DOI: 10.31617/1.2022(146)06

**SHULHA Natalia,**  
Doctor of Science (Economics), Professor,  
Head of the Department of Banking  
State University of Trade and Economics  
19, Kioto St., Kyiv, 02002, Ukraine

ORCID: 0000-0002-2010-5884  
2bank2@ukr.net

**FESIUK Bohdan,**  
Bachelor's degree in Finance,  
Banking and Insurance  
State University of Trade and Economics  
19, Kioto St., Kyiv, 02002, Ukraine

ORCID: 0000-0002-4829-3872  
mega-mobile@ukr.net

**ШУЛЬГА Наталія,**  
д. е. н., професор,  
завідувач кафедри банківської справи  
Державного торговельно-економічного університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0002-2010-5884  
2bank2@ukr.net

**ФЕСЮК Богдан,**  
бакалавр зі спеціальності  
"Фінанси, банківська справа та страхування"  
Державного торговельно-економічного університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0002-4829-3872  
mega-mobile@ukr.net

## DIGITALIZATION OF CORPORATE BUSINESS OF UKRAINIAN BANKS

**Introduction.** Increasing competition between banks requires the introduction of banking products with a new service and economic design, based on modern software, technology and information platforms.

**Problem.** Digitalization is becoming a key trend in conducting business for banks and their corporate clients.

**The aim** of the study is to cluster banks by the level of digitalization and determine the relationship between it and indicators of market power, financial performance and credit risk.

**Methods.** Input normalized indicators for 32 banks of Ukraine, determined using the MINIMAX methodology, were used. The study was based on correlation-regression and cluster analysis.

## ДИДЖИТАЛІЗАЦІЯ КОРПОРАТИВНОГО БІЗНЕСУ БАНКІВ УКРАЇНИ

**Вступ.** Посилення конкуренції між банками потребує запровадження банківських продуктів із новим сервісним та економічним дизайном, які базуються на сучасних програмно-технологічних та інформаційних платформах.

**Проблема.** Диджиталізація стає ключовим трендом ведення бізнесу банків та їх корпоративних клієнтів.

**Метою** дослідження є здійснення класифікації банків за рівнем диджиталізації та визначення взаємозв'язку між ним і показниками ринкової потужності, фінансової результативності та кредитного ризику.

**Методи.** Використано вхідні нормалізовані показники по 32 банках України, які визначено за допомогою методики МІНІМАКС. Дослідження базувалося на кореляційно-регресивному та кластерному аналізі.

© Shulha N., Fesiuk B., 2022

The authors contribute equally.

The authors of the manuscript did not receive direct funding in the preparation of the manuscript.

Shulha N., Fesiuk B. Digitalization of corporate business of Ukrainian banks. *Scientia fructuosa*. 2022. № 6. S. 76-85. [https://doi.org/10.31617/1.2022\(146\)06](https://doi.org/10.31617/1.2022(146)06)

**Results.** The information base for calculating the digitalization index for banks in the focus group was chosen based on the number of: the number of visitors to banks' websites, registered users of banks' mobile applications (including for legal entities and individuals), branded online inquiries, banking self-service devices, subscribers of banks in social media networks. When determining the level of digitalization in corporate business, only two indicators were used: the number of registered legal entities that use mobile bank applications and the number of branded online searches for each of them.

Three hypotheses were put forward and their empirical verification was carried out, according to the results of which it was established that there is a moderate correlation between the digitalization index and the credit risk indicator and a low correlation between the digitalization index and indicators of financial performance and market power. Among the financial indicators a noticeable correlation was found only between the level of the interest margin and the level of digitalization.

**Conclusions.** For most of the banks in the focus group, a low level of digitalization is inherent in the corporate business. It is proposed to develop a strategy for the development of the corporate business of banks on a new technological platform, which will make it possible to extend digitalization processes not only to typical, but also to exclusive financial services provided to corporate clients, taking into account their individual service.

**Keywords:** banking business, corporate segment, ranking method, indicator rank, market power index, financial indicators, non-performing bank loans.

JEL Classification G21

**Introduction.** The corona crisis and the war in Ukraine necessitated the widespread introduction of electronic sales channels for banking products, which led to a change in the forms of interaction between banks and clients. Digitalization is of particular importance, which opens up new business opportunities for banks and their corporate clients, helps reduce transaction costs and generate additional income, improves customer service, and improves business processes; provides a number of other significant preferences for both parties.

**Problem.** The strengthening of competition between banks requires the introduction of banking products with a new service and economic design, which are based on modern software, technology and information platforms, which will contribute to the growth of the added value chain for

**Результати дослідження.** Інформаційною базою для розрахунків індексу диджиталізації по банкам фокус-групи обрано показники кількості: відвідувачів сайтів банків, зареєстрованих користувачів мобільних додатків банків (у тому числі для юридичних та фізичних осіб), брендів онлайн-запитів, банківських пристроїв самообслуговування, підписників банків у соціальних мережах. При визначенні рівня диджиталізації в корпоративному бізнесі використано лише два індикатори – кількість зареєстрованих юридичних осіб, що користуються мобільними додатками банків, і кількість пошукових брендів онлайн-запитів по кожному з них.

Висунуто три гіпотези та проведено їх емпіричну перевірку, за результатами якої встановлено наявність помірного кореляційного зв'язку між індексом диджиталізації та показником кредитного ризику і низького зв'язку між індексом диджиталізації та показниками фінансової результативності й ринкової потужності. Серед фінансових показників встановлено помітний кореляційний зв'язок тільки між рівнем процентної маржі та рівнем диджиталізації.

**Висновки.** Для більшості банків фокус-групи в корпоративному бізнесі притаманним є низький рівень диджиталізації. Запропоновано розробляти стратегію розвитку корпоративного бізнесу банків на новій технологічній платформі, яка дасть змогу їм поширити процеси диджиталізації не тільки на типові, але й ексклюзивні фінансові послуги, що надаються корпоративним клієнтам з урахуванням індивідуального їх обслуговування.

**Ключові слова:** банківський бізнес, корпоративний сегмент, метод ранжування, ранг показника, індекс ринкової потужності, фінансові показники, непрацюючі кредити банку.

providers and consumers of electronic banking services. In view of the above digitalization is becoming a key trend in conducting business for banks and their corporate clients.

**Analysis of recent research and publications.** Over the past decade, many publications have appeared on digitalization in various spheres of social life. This problem is especially actively discussed among scientists who study it in the banking business. Foreign scientists made significant progress in the field of digitalization of banks: F. Diner, M. Spachek, Z. Lihua, J. Strauss, F. Zabala, B. Sliusarchyk, F. Forcadel, E. Arakil; and domestic ones O. Lysiak, Yu. Lazarenko, O. Krukhmal, S. Reverchuk, V. Kovalenko.

In the scientific works of foreign scientists, a wide range of issues related to digitalization is considered, in particular:

- assessment of the impact of digital transformation on the performance of banks in Vietnam; based on the results of the research, the author made a conclusion – the larger the banks are, the stronger the impact of digital transformation on their indicators [1];

- identification of barriers and reasons for the discrepancy between the expected and actual consequences of digitalization in the banking sector [2];

- identification of the prerequisites for the digital transformation of banks and various ways of its implementation, based on the results of the analysis of which it was established that the digital transformation should be based on mature technologies, focus on the client experience and be supported by fintech talents [3];

- establishing the dependence between the bank's reputation and its digitalization, which gave the authors a reason to conclude on the need for a combination of technological (that is, digital) and reputational resources in order to obtain the expected results [4];

- conducting an analysis of Chinese banks with a higher efficiency of investments in science and technology, evaluating their digital maturity and digital transformation experience, as well as substantiating the conclusion that investments in digitalization contributed to a significant increase in the efficiency of banks, among which there is heterogeneity, as well as providing them with recommendations on the need to develop medium- and long-term strategic plans in the field of digitalization, which will focus not only on improving existing banking products and market opportunities, but also include the formation of its infrastructure [5];

- identification of threats related to operational risk management in the process of digitalization of banking services [6];

- evaluating the impact of reliability, security and speed of remote banking services in the Republic of North Macedonia on customer satisfaction [7], as well as the effectiveness of electronic banking services on the profitability and stability of Islamic banks in Indonesia [8]. The issue of digitalization in banks is also discussed among domestic scientists in various aspects:

- management of banks' competitiveness in conditions of digitalization of the economy [9];

- determining the prospects of Internet banking as a direction of digitalization [10; 11];
- outline of directions for the development of banking business in the conditions of the digital economy [12; 13; 16];
- determination of the impact of digitalization of the economy on the revenues of the banking sector of Ukraine and the competitiveness of banks [14; 15];
- assessment of the impact of digitalization of the economy on the financial stability of banks [17].

The results of the analysis of the works of domestic scientists proved the existence of only isolated publications in which the current state of banking services for corporate business was investigated and a comparative analysis of digital banking services was provided [18].

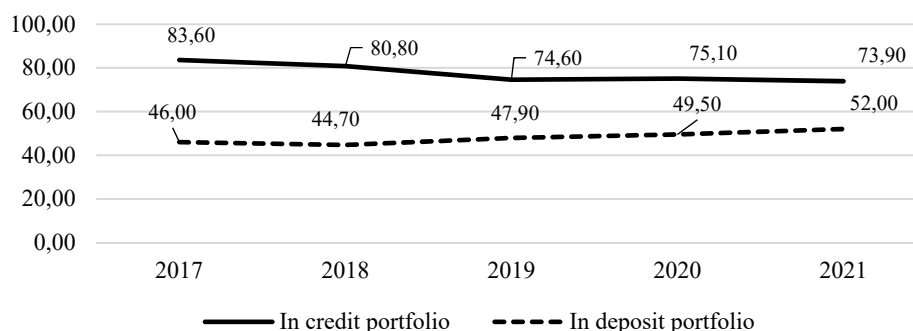
Instead, the impact of digitalization on the key indicators of the corporate segment of Ukrainian banks remains unexplored, which has not only theoretical, but also practical significance for developing a strategy for its further development based on a digital platform.

**The aim** of the study is to cluster banks by the level of digitalization and determine the relationship between it and indicators of market power, financial performance and credit risk.

**Methods.** The factual basis for the study was the notes to the financial statements of "Business Segments" of banks of Ukraine, which are actively engaged in servicing corporate clients.

Input normalized indicators for 32 banks of Ukraine were used, the share of which in lending to legal entities is 88.6 %, attraction of deposits is 94.07 % of their total volume in the banking system of Ukraine. The study was also based on correlation-regression analysis when establishing the closeness of the relationship between the level of digitalization and indicators of financial performance, market power and credit risk; cluster analysis – when grouping banks by levels of digitalization, financial performance, market power and credit risk.

**Results.** The corporate segment plays a key role in the activity of banks, which is evidenced by the high share of attracted deposits from legal entities and loans granted to them (*Figure*).



#### Dynamics of the share of loans and deposits of legal entities in their total volume by banks of Ukraine in 2017–2021, %

*Source:* developed by the authors according to [19].

The share of deposits of legal entities in the deposit portfolio of Ukrainian banks in 2021 compared to 2017 increased by 6 %, which is explained by the higher interest of banks in attracting less expensive resources from legal entities compared to individuals. Instead, the share of loans to legal entities in the loan portfolio of Ukrainian banks is gradually decreasing. This is due to the coronavirus crisis, which led to a drop in business activity and a decrease in the income of enterprises, which negatively affected their creditworthiness. As a result of military events, this negative trend continues. A decrease in the share of loans granted to legal entities led to a decrease in interest income and expenses of banks. Moreover, if the interest income of Ukrainian banks decreased by 44.2 % during the studied period, then the interest expenses decreased by only 23.1 %.

The mentioned reasons forced banks to look for opportunities to increase the effectiveness of corporate business through a set of measures, among which digitalization plays an important role.

Diagnostics of the level of digitalization in the banks of the focus group was carried out according to the following indicators and information sources:

- number of visitors to bank websites (*Similarweb* website) [20];
- number of registered users of bank mobile applications, including for legal entities and individuals (bank website data);
- number of branded online inquiries (*Semrush* website data) [21];
- number of self-service banking devices (the NBU website);
- number of followers of banks in social networks, including: on Instagram and Facebook (social network data).

The level of digitalization in the corporate segment, based on the available public information, can be estimated based on two indicators: the number of registered legal entities that use mobile bank applications and the number of branded online searches for each of them.

Depending on the values of these indicators, banks are assigned a number of points from 1 to 3 according to the gradation given in the *Table 1*, which presents the results of the distribution of focus group banks by the level of digitalization of the corporate segment, carried out using the Python software product.

*Table 1*

**Clustering of focus group banks by the level of digitalization in the corporate segment**

Digitalization level	Digitalization index	Number of banks in the cluster
1 – high (3 or more points)	3.0	2
2 – average (from 2 to 2.99 points)	2.0	3
3 – low (from 1 to 1.99 points)	1.0	27

*Source:* developed by the authors using Python.

The first cluster (*Table 1*) includes JSC CB "PrivatBank" and JSC "Oshchadbank", the second – Ukrsibbank, PUMB, Alfa-Bank, the third – 27 banks, which is 84 % of their total sample. This means that most banks in



the focus group have a low level of digitalization in the corporate segment. JSC CB "PrivatBank" and JSC "Oschadbank" are leaders in the banking system of Ukraine in terms of the level of digitalization both in general and in the corporate segment in particular, as they provide a wide range of remote banking services and have mobile applications that are used by a large number of customers.

Digitalization of services in Ukrainian banks, similar to global trends, received the greatest development not in the corporate, but in the retail segment. This situation arose due to several reasons:

*firstly*, natural persons use typical banking services, for which it is not difficult to formalize business processes in an electronic format;

*secondly*, the number of clients of natural persons is much larger than that of legal entities, in relation to whom banks most often apply an individual approach;

*thirdly*, the costs of customer service in the retail segment, as a rule, are higher per unit of assets than in the corporate segment, which determined the need for the priority implementation of digital technologies in the retail business.

In view of the above, it is important to find out in which direction it is appropriate to develop digitalization in the corporate business of banks and its connection with market power, credit risk and basic financial indicators. For this purpose, three hypotheses were put forward and their empirical verification was carried out with the help of correlation-regression analysis and the MINIMAX method, according to which all indicators for banks in the focus group were normalized according to the formula:

$$X'_{ij} = \frac{X_{ij} - X_{j \min}}{X_{j \max} - X_{j \min}},$$

where  $X'_{ij}$  – is the normalized value of indicator  $j$  of bank  $i$ ;

$X_{ij}$  – is the actual value of indicator  $j$  of bank  $i$ ;

$X_{j \min}$  – is the minimum value of indicator  $j$  for the minimum value of indicator  $j$  in the group of surveyed banks;

$X_{j \max}$  – is the maximum value of indicator  $j$  for the maximum value of indicator  $j$  in the group of surveyed banks.

Normalized indicators are integrated into a complex indicator reflecting the position of each bank using the arithmetic mean method.

When interpreting the tightness of the correlation dependence, the Chaddock correlation level scale was used [22].

*The first hypothesis* assumes the existence of a relationship between the level of digitalization and indicators of market power in the corporate segment. When calculating the market power index, the methodology of the analytical department of *YouControl* was used, which is based on indicators that comprehensively reflect the bank's market share, its place in the sector and growth dynamics compared to competitors [23].

The conducted correlation analysis made it possible to establish a moderate correlation between the market power index and the digitalization index, as the correlation coefficient is within 36%. This means that the level of digitalization in the corporate segment does not significantly affect the bank's market share in the deposit and credit market, as well as the pace of its change. Obviously, in this case, other factors play a significant role, in particular, the rating and trust in banks, the closeness of their ties with corporate clients, consideration of their business interests, the level of banking service, tariff policy, as well as the form of ownership of banks.

Further analysis showed that in terms of market power, only two state-owned banks Ukreximbank and Ukgazbank are the leaders in the market power index. At the same time, these banks have a low level of digitalization. Among the state banks, JSC CB "PrivatBank" stands out, which has the highest level of digitalization, but an average level of market power (*Table 2*).

*Table 2*

**Results of clustering of focus group banks in the corporate segment by the level of market power**

Level	Index of market power	Number of banks in the cluster
High (3 or more points)	3.085	2
Medium (from 2 to 2.99)	2.36	18
Low (up to 2 points)	1.40	12

*Source:* developed by the authors using Python.

The second cluster includes 56 %, the third – 37.5 % of the total sample of focus group banks. Among the banks of the second cluster, there are 2 banks with a high level of digitalization, 3 with an average level, and 13 with a low level of digitalization. Among the banks of the third class, those with a low level of digitalization prevail, that is, almost 45 % of their total.

*The content of the second hypothesis* boils down to the existence of a correlation between the levels of digitalization and financial performance in the corporate segment. Financial indicators for the corporate segment, which are calculated on the basis of the note to the financial statements "Business segments", have been reduced to a single index of financial performance.

The correlation coefficient between the financial performance index and the digitalization index is 0.19, which indicates a weak correlation dependence. The correlation between individual financial indicators and the digitalization index is illustrated in the *Table 3*.

*Table 3*

**Correlations between individual financial indicatorsbanks of the focus group in the corporate segment and the level of their digitalization**

Indicators	Net income/ Assets	Income/ Expenses	Expenses/ Commitments	Interest margin	Digitalization Index
Net income/Assets	1.000000	0.538230	0.472915	0.403072	0.024337
Income/Expenses	0.538230	1.000000	0.178214	0.409392	0.096264
Expenses/Commitments	0.472915	0.178214	1.000000	0.189525	0.127509
Interest margin of corporate semgent	0.403072	0.409392	0.189525	1.000000	0.505666
Digitalization Index	0.024337	0.096264	0.127509	0.505666	1.000000

*Source:* developed by the authors using Python.

*Table 3* show that there is only a moderate correlation between the indicator of the bank's interest margin and the level of digitalization (correlation coefficient – 0.51). There is a weak correlation between the level of digitalization and other financial indicators. The cluster distribution of banks according to the level of financial performance is given in the *Table 4*.

*Table 4*

**Results of clustering of focus group banks in the corporate segment by the level of financial performance**

Level	Index of financial performance	Number of banks in the cluster
High (2 points)	2	1
Medium (from 1.5 to 1.99)	1.69	4
Low (from 1 to 1.49)	1.09	27

*Source:* developed by the authors using Python.

A high level of financial performance is characteristic of IBOX BANK JSC, which at the same time is characterized by a low level of digitalization. The second cluster included 1 bank with a high level of digitalization (JSC KB PrivatBank) and 3 banks with a low level, and the third included 1 bank with a high level (JSC "Oschadbank"), 3 with a medium level (JSC "PUMB", JSC "Ukrsibbank", JSC "Alfa-Bank"), and 23 with a low level of digitalization, that is, almost 85 % of their total number.

Interpretation of *the third hypothesis* – there is a relationship between the level of digitalization and the share of non-performing loans in the loan portfolio of the corporate segment, which characterizes the level of credit risk of banks.

The data of the conducted correlation analysis indicate that there is a moderate correlation between the level of credit risk and the level of digitalization, as the correlation coefficient is equal to 0.48. The clustering of the banks of the focus group by the level of credit risk is shown in the *Table 5*.

*Table 5*

**Results of clustering of focus group banks in the corporate segment by the level of credit risk**

Cluster	Average level of credit risk	Number of banks
High level (more than 0.66)	0.79	4
Average level (from 0.33 to 0.66)	0.48	5
Low level (from 0 to 0.32)	0.11	23

*Source:* developed by the authors using Python.

The first cluster includes 2 banks with a high level of digitalization (JSC PrivatBank, JSC Oschadbank) and 2 banks with a low level of digitalization. The second includes 1 bank with an average level (JSC "Alfa-Bank") and 4 – with a low level of digitalization; the third cluster included 2 banks with an average level (JSC "PUMB", JSC "Ukrsibbank"), as well as 21 banks with a low level of digitalization, which is almost 78 % of their total number.

So, currently digitalization in the corporate segment for the majority of Ukrainian banks has little effect on both their market power and financial performance, which determines the need for active development of electronic services for corporate clients.

The effect of digitalization should be manifested in an increase in the level of loyalty of corporate clients to the bank, which will contribute to the growth of the profitability of the corporate segment at an acceptable level of risks. For this purpose, banks need to expand the list of services to legal entities on new technological platforms, introduce a flexible pricing mechanism, and create attractive cross-selling packages of electronic services.

In the corporate business strategy, banks should focus on reducing the share of non-performing loans in the loan portfolio, increasing the interest margin due, first of all, to reducing interest costs; increasing the efficiency of operational risk management, as well as typifying the types of electronic services most used by legal entities and providing exclusive financial services based on new technological solutions.

**Conclusions.** Increasing competition in the market of electronic financial services, increasing risks from the external environment, and reducing margins require consideration of how digitalization affects market power, financial performance, and risks of the corporate segment of banks. For this purpose, three hypotheses were proposed and empirically tested using the Python software product. A moderate correlation between the digitalization index and the credit risk indicator and a low correlation between the digitalization index and indicators of financial performance and market power were revealed. Among the financial indicators, a noticeable correlation was established only between the level of interest margin and the level of digitalization.

It was determined that a low level of digitalization is inherent in most banks of the focus group in corporate business. In view of this, it is proposed to develop a strategy for the development of corporate business of banks on a new technological platform, which will allow them to extend digitalization processes not only to typical, but also to exclusive financial services provided to corporate clients, taking into account their individual service. Reducing the level of credit risk, increasing the efficiency of operational risk management, reducing the level of operating costs and increasing the quality of customer service should be important vectors of the strategic development of the corporate business of Ukrainian banks.

**Conflict of interest.** The authors declare that they have no financial or non-financial conflicts of interest with respect to this publication; have no relationship with any government agency, commercial or non-commercial organization that might have an interest in presenting this point of view. Given that one of the authors works at an institution that is the publisher of the journal, which may lead to a potential conflict or suspicion of bias, the final decision to publish this article (including the selection of reviewers and editors) was made by those members of the editorial board who did not associated with this institution.

#### REFERENCES

1. Trang, D. D., Pham, H.A.T., Eleftherios, I. & Le, H. A. (2022). The Impact of Digital Transformation on Performance: Evidence from Vietnamese Commercial Banks. *Risk and financial management*, 15, 1-15 [in English].
2. Diener, F., Špaček, M. (2021). Digital Transformation in Banking: A Managerial Perspective on Barriers to Change. *Sustainability*, 13, 1-27 [in English].
3. X. Zhou, L. Tu. (2020). Study on Digital Transformation Mode of Commercial Banks. *Atlantis Press*, 364-369 [in English].
4. Forcadell, F. J., Aracil, E., & Úbeda, F. (2020). Using Reputation for Corporate Sustainability to Tackle Banks Digitalization Challenges. *Business Strategy and the Environment*, 1-46 [in English].

5. Lihua, Z., Strauss, J., & Lijuan, Z. (2021). The Digitalization Transformation of Commercial Banks and Its Impact on Sustainable Efficiency Improvements through Investment in Science and Technology. *Sustainability*, 13, 28-44 [in English].
6. Zabala, F., Slusarczyk, B. (2020). Risks of Banking Services' Digitalization: The Practice of Diversification and Sustainable Development Goals. *Sustainability*, 12, 1-10 [in English].
7. Veseli-Kurtishi, T., Hadzimustafa, S., & Veseli, (E. 2020). Digitalization of Banking Services and Its Impact on Customer Satisfaction: Case, Republic of North Macedonia. *Management International Conference*, 63-72 [in English].
8. Bella, F. I., & Himmawan M. F. (2021). Digitalization and Efficiency: Technologybased Service of Indonesia Sharia Commercial Banks. *IQTISHADIA*, 14, 280-300 [in English].
9. Lazarenko, Y. A. (2021). Strategic aspects of management of competitiveness of commercial bank in the conditions of digitalization of economy. Collection of materials. *IV All-Ukrainian scientific-practical Internet conference dedicated to the memory of Professor, Honored Worker of Higher School Dmitriy Museevich Fesenko*. Poltava: Poltava State Agrarian Academy [in Ukrainian].
10. Lysyak, O. M., & Sagaidak, O. M. (2021). The reality and prospects of Internet banking as a direction of digitalization in Ukraine. *Finance, monetary circulation and credit*, 76-81 [in Ukrainian].
11. Krukmal, O. V., & Sukhonos, V. V. (2020). Development of banking business in the digital economy. *Effective economy*, 11,1-5 [in Ukrainian].
12. Serednyak, T. K. (2021). Modern money, banking services and financial innovations in the digital economy. *Collection of materials of scientific and practical intern. conf. of graduate students and young scientists*. Dnieper: KNEU [in Ukrainian].
13. Kleba, L. G. (2018). Digitalization – an innovative direction of development of banks. *Effective economy*, 1-8 [in Ukrainian].
14. Reverchuk, S. K. Tvorydlo, O. I. (2022). Bank income in the conditions of formation of digital economy. *Scientific theory and practice: Key aspects*, 122-145 [in Ukrainian].
15. Vovchak, O. D. (2020). The impact of financial technology on ensuring the competitiveness of the bank. *Bulletin of the University of Banking*, 1, 86-91 [in Ukrainian].
16. Borisova, L. E., Kolesnik, O. A., & Shramko, A. A. (2021). Financial ecosystem as an innovative business model of modern banking. *Money, Money and Credit*, 68, 77-82 [in Ukrainian].
17. Kovalenko, V. V., & Radova, N. V. (2021). Digitalization of the economy and its impact on the financial stability of banks. *Eastern Europe: economy, business and management. Electronic scientific professional edition*, 1, 61-68 [in Ukrainian].
18. Kovalenko, V. V. & Kutyshenko, R. S. (2021). Management of corporate business in banks in conditions of digitalization. *Scientific Bulletin of the Odessa National Economic University*, 54-61 [in Ukrainian].
19. NBU Banking Sector Review. *bank.gov.ua*. [https://bank.gov.ua/admin\\_uploads/article/Banking\\_Sector\\_Review](https://bank.gov.ua/admin_uploads/article/Banking_Sector_Review) (accessed 15.08.2022) [in Ukrainian].
20. Semrush Internet Portal. *www.semrush.com*. <https://www.semrush.com/projects> (accessed 15.08.2022) [in English].
21. Internet portal SimilarWeb. *www.similarweb.com*. <https://www.similarweb.com> (accessed 15.08.2022) [in English].
22. Semrush Internet Portal. *www.semrush.com*. <https://www.semrush.com/projects> (accessed 15.08.2022) [in English].
23. Linenko, A. V., & Zavalnyuk, A. A. (2016). Analysis of expediency of integration of machine-building enterprises of the Black Sea region in the holding company. *Economy and enterprise management*, 10, 109-112 [in Ukrainian].
24. YouControl Market Scoring Methodology. *youcontrol.com.ua*. <https://youcontrol.com.ua/contractor/market-scoring/method> (accessed 1.09.2022) [in English].

*Received the editorial office 12.09.2022*

*Accepted for printing 03.10.2022*

*Publication online 23.12.2022*

**ERKES Olena,**

PhD (Economics), Associate Professor,  
Associate Professor at the Banking Department  
State University of Trade and Economics  
19, Kioto St., Kyiv, 02156, Ukraine

ORCID: 0000-0002-1746-590X  
o.erkesh@knu.edu.ua

**KALYTA Oksana,**

PhD (Economics), Associate Professor  
at the Banking Department  
State University of Trade and Economics  
19, Kioto St., Kyiv, 02156, Ukraine

ORCID: 0000-0003-2020-5751  
o.kalyta@knu.edu.ua

**GORDIENKO Tetiana,**

PhD (Economics), Associate Professor,  
Associate Professor at the Department  
of International Economic Relations,  
Management and Business  
Ukrainian-American Concordia University  
8/14, Turhenevska St., 01054, Kyiv, Ukraine

ORCID: 0000-0001-7812-3877  
tetiana.gordienko@uacu.edu.ua

**CAPITALIZATION OF UKRAINIAN  
SYSTEMICALLY IMPORTANT BANKS  
IN THE CONDITIONS OF MILITARY  
AGGRESSION OF THE RF**

**Introduction.** Systemically important banks (SIB) play an important role in stability of the domestic banking and financial system since their activities significantly affect the country's financial system and the economy as a whole.

**Problem.** Domestic banking system constantly functions in a mode of stress and uncertainty in conditions of war, therefore the National Bank of Ukraine pays special attention to the activities of systemically important institutions. Ensuring the proper functioning of SIB depends on the level of their capitalization, which is why the capitalization of systemically important banks is an extremely urgent issue today.

**The aim** of the article is to determine the ability of SIB to meet capital adequacy requirements as a factor of ensuring the stability and reliability of the domestic banking system and its macroeconomic stress resistance under martial law.

**ЕРКЕС Олена,**

к. е. н., доцент, доцент кафедри банківської справи  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0002-1746-590X  
o.erkesh@knu.edu.ua

**КАЛИТА Оксана,**

к. е. н., доцент кафедри банківської справи  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0003-0313-6942  
o.kalyta@knu.edu.ua

**ГОРДИЄНКО Тетяна,**

к. е. н., доцент, доцент кафедри  
міжнародних економічних відносин,  
менеджменту та бізнесу  
Українсько-американського університету  
Конкордія  
вул. Тургенівська, 8/14, м. Київ, 01054, Україна

ORCID: 0000-0001-7812-3877  
tetiana.gordienko@uacu.edu.ua

**КАПІТАЛІЗАЦІЯ  
ВІТЧИЗНЯНИХ СИСТЕМНО  
ВАЖЛИВИХ БАНКІВ В УМОВАХ  
ВІЙСЬКОВОЇ АГРЕСІЇ РФ**

**Вступ.** Вагому роль у стабільності та стійкості вітчизняної банківської та фінансової систем відіграють системно важливі банки (СВБ), діяльність яких суттєво впливає на фінансову систему країни й на економіку загалом.

**Проблема.** В умовах війни вітчизняна банківська система постійно функціонує в режимі стресу та невизначеності. Відтак, Національний банк України приділяє особливу увагу діяльності системно важливих установ. Забезпечення належного функціонування СВБ залежить від рівня їх капіталізації, що є вкрай актуальним питанням сьогодення.

**Мета** статті – встановлення здатності СВБ виконувати вимоги до достатності капіталу як фактору забезпечення стабільності та надійності вітчизняної банківської

**Methods.** *Methods of theoretical generalization, analysis and synthesis, grouping, system approach were used in the paper.*

**Results.** *The value of the capital standards of domestic SIB during the period of martial law was investigated, a comparative analysis of capitalization indicators of SIB of Ukraine with their normative and forecast values under basic and adverse macroeconomic scenarios was carried out according to the results of the NBU stress testing. Banks that show signs of an unfavorable macroeconomic scenario have been identified, and recommendations have been developed regarding the need to take additional measures to increase the stress resistance of banks.*

**Conclusions.** *In conditions of war, the SIB of Ukraine fulfills the requirements regarding the target values of the capital standards and has a sufficient margin of safety due to the appropriate level of capitalization, although the implementation of the basic macroeconomic scenario turned out to be impossible, which caused lower than forecast capital indicators. Therefore, the regulator should pay additional attention to those banks that demonstrate negative trends for the implementation of an unfavorable macroeconomic scenario at this stage and prepare a set of measures for their recapitalization in advance.*

**Keywords:** capital, capitalization, capital requirements, risks, systemically important banks, stress testing.

JEL Classification: E52, G21, H56

**Introduction.** With the beginning of hostilities on the territory of Ukraine, the domestic banking system functions in a mode of stress and uncertainty. Banks quickly adapt to functioning in the conditions of martial law, continuing their activities, trying to fulfill their obligations to customers and comply with regulations. The National Bank of Ukraine actively supports banking system stability. Systemically important banking institutions play a significant role in the country's banking and financial system stability.

**Problem.** The activity of systemically important banks (SIB) has a significant impact on the financial system, it can cause damage to it under the condition of their improper functioning and negatively affect country's economy as a whole. Therefore, the NBU pays special attention to the activities of systemically important institutions, especially under martial law, and this is primarily due to the need to preserve the financial stability of the country.

**Analysis of recent research and publications.** Domestic scientists study the impact of the SIB activities on the banking system stability and the country's economy as a whole in their works. Y. Vladyka, L. Bezugla, L. Turova revealed issues regarding the functioning of SIB and their importance for ensuring the stability of national banking systems and the global financial system with the aim of maintaining the economy in the conditions

системи та її макроекономічної стресостійкості в умовах воєнного стану.

**Методи.** Використано методи теоретичного узагальнення, аналізу та синтезу, групування, системного підходу.

**Результати дослідження.** Досліджено значення нормативів капіталу вітчизняних СІВ у період дії воєнного стану, проаналізовано індикатори капіталізації СІВ України з їх нормативними та прогнозними значеннями за базовим і несприятливим макроекономічними сценаріями відповідно до результатів стрес-тестування НБУ. Визначено банки, які мають ознаки реалізації несприятливого макроекономічного сценарію, розроблено рекомендації щодо необхідності вжиття додаткових заходів для підвищення стресостійкості СІВ.

**Висновки.** В умовах війни СІВ України виконують вимоги щодо цільових значень нормативів капіталу та мають достатній запас міцності завдяки належному рівню капіталізації, хоча реалізація базового макроекономічного сценарію виявилася неможливою, що обумовило нижчі за прогнозні показники капіталу. Відтак, регулятор повинен приділяти додаткову увагу тим банкам, які вже на цьому етапі демонструють негативні тенденції для реалізації несприятливого макроекономічного сценарію та завчасно підготувати комплекс заходів щодо їх докапіталізації.

**Ключові слова:** капітал, капіталізація, нормативи капіталу, ризики, системно важливі банки, стрес-тестування.

of a financial and economic crisis and ensuring economic and social development [1]. L. Bondarenko, I. Ukhova investigated the state of SIB and their concentration in the banking system of Ukraine in the aspect of monopolization of the banking market by state SIB and accumulation of a significant share of problem loans in them. According to the research results, the close connection of SIB with the macro system was proven, and the total consequences of the influence of SIB on lending to small and medium enterprises were revealed, which, in turn, are closely related to the growth of GDP and exports [2].

**The aim** of the article is to determine the ability of SIB to meet capital adequacy requirements as a factor of ensuring the stability and reliability of the domestic banking system and its macroeconomic stress resistance under martial law.

**Methods.** Methods of theoretical generalization, analysis and synthesis, grouping, system approach were used in the paper. The information and analytical base of the research includes materials of the National Bank of Ukraine, scientific articles, etc.

**Results.** A *systemically important bank* (SIB) is a bank that meets the criteria established by the National Bank of Ukraine and whose activities affect the stability of the banking system [3]. The National Bank of Ukraine determines the list of systemically important institutions every year and carries out enhanced supervision over them. The failure of SIB can damage the financial system and negatively affect the economy as a whole. Increased attention and enhanced supervision of the regulator over the activities of systemically important institutions under martial law is due to the need to preserve the financial stability of the country.

The methodology for determining SIB is based on the recommendations of the European Banking Authority (EBA) – Guidelines on criteria to assess other systemically important institutions (O-SIIs) [4]. The National Bank of Ukraine determines SIB every year based on data as of January 1 from among banks operating in Ukraine (except banks classified by the National Bank as insolvent).

The regulator determines SIB based on the value of the bank's systemic importance indicator, which is calculated according to the following criteria: size of the bank; degree of financial relationships; directions of activity [5].

It should be noted that the bank's system importance indicator was determined until the middle of 2021, but due to restrictions related to the COVID-19 pandemic, it was temporarily suspended.

For SIB, the NBU establishes additional requirements in order to reduce the probability of their bankruptcy. Such requirements include establishment of a buffer of systemic importance and compliance with the increased standard value of the maximum amount of credit risk per counterparty H7 (no more than 20 %, the general requirement is 25 %).

As of June 1, 2022, the list of the systemically important banks of Ukraine includes: JSC "A – BANK", JSC "ALFABANK", JSC "KredoBank", JSC "OTP Bank", JSC "State Savings Bank of Ukraine", JSB "Pivdenny Bank",



JSC CB "PrivatBank", JSC "First Ukrainian International Bank", JSC "Raiffeisen Bank", JSC "TascomBank", JSB "UKRGASBANK", JSC "The State Export-Import Bank of Ukraine", JSC "UKRSIBBANK", JSC "Universal Bank" [6].

Since 2018, the National Bank of Ukraine has been assessing the stability of banks, which involves conducting stress testing for a list of banks determined by the National Bank. Based on the results of stress testing, the estimated indicators of the banks' financial statements are identified and the required level of capital for three years after the reporting date is determined under the basic and adverse macroeconomic scenarios.

In 2021, 30 banks, whose assets make up more than 93 % of the assets of the banking system of Ukraine, underwent stress testing. Stress testing made it possible to analyze in detail the state of the banking sector after the crisis of 2020 and predict the resilience of banks to possible adverse events in the future. Stress testing was carried out according to the basic and unfavorable scenarios. Banks went through crisis phenomena in 2020, so the NBU's assumption of an adverse scenario for stress testing was moderately negative, but sufficient to assess the resilience of the banking sector to deep and long-term crises. The adverse scenario was developed by the NBU in such way that it was comparable to the scenarios of leading central banks:

- decreasing on one standard deviation of real GDP in 2021 compared to the basic scenario. Consequently, GDP decreases by 2.2 % in the first year, by 1.7 % in the second year, and then gradually recovers;
- devaluation of the UAH against the USD – 29 % during the three-year forecast period, the most in the first year – by 16 %;
- inflation will grow moderately due to a decrease in economic activity and a decrease in aggregate demand;
- an important stress factor in an adverse scenario is the growth of fiscal risks and, accordingly, the yield of government securities [7].

In addition, the stress test traditionally assumes the implementation of credit and market (interest rate and currency) risks (*Table 1*).

*Table 1*

**Assumed risks for stress testing of Ukrainian banks in 2021**

Risk	Mechanism of realization	Consideration in the stress test
Credit risk	This risk is implemented through the migration of part of the loans to the category of non-performing	It is assessed individually for large loans to big corporate borrowers, and on a group basis for other loans. Under the adverse scenario, about 10–15 % of hryvnia loans will become nonperforming
Interest rate risk	This risk is realized due to the increase in the value of liabilities under the adverse scenario at unchanged rates of return on assets	The interest rate risk in the adverse scenario materializes through increase in deposit rates and market yields on government and municipal securities. Factoring in the negative impact of the macroeconomic conditions on the yields and respectively the value of debt securities is a novelty of the stress testing methodology
Currency risk	Currency risk arises from banks' unbalanced foreign exchange positions, as well as indirectly through credit and interest rate risks	It is estimated through the revaluation of the open foreign exchange position and the assumption that hryvnia will depreciate

*Source:* compiled by the authors on the basis of sources [7; 8].

The impact on banks from regulatory changes scheduled for the next three years is assessed separately as part of stress testing for timely evaluation of potential implications of novelties for banks and avoiding the double-counting of this effect.

According to the results of the 2021 stress test, nine banks successfully passed it. Among them are such systemically important banks as JSC "ALFABANK", JSC "OTP Bank", JSC "Raiffeisen Bank", JSC "UKRSIBBANK", JSC CB "PrivatBank", JSC "First Ukrainian International Bank" (FUIB) and JSC "A-BANK". According to the crisis scenario, the number of banks that could potentially face a lack of capital increased to 20. Among them are such SIB as JSC "State Savings Bank of Ukraine" (Oschadbank), JSC "The State Export-Import Bank of Ukraine" (Ukreximbank), JSB "UKRGASBANK", JSB "Pivdenny Bank", JSC "TascomBank", JSC "KredoBank", JSC "Universal Bank" [9].

Russia's full-scale war against Ukraine demonstrates crisis consequences for Ukraine's economy and the banking sector in particular. Therefore, it is predicted that as a result of the war, the country's GDP will fall by more than a third, so the NBU has introduced a number of strict restrictions on currency transactions and cross-border capital flows. Access to the international private capital market for the Ukrainian government and issuers is currently closed. At the same time, for banks, the closure of external debt markets is not yet critical, because they are funded mainly within the country and do not depend on external borrowing.

Risks caused by war events were not taken into account during stress testing, and therefore it is important to analyze the current level of capitalization of banks, compare it with forecasts based on the baseline and adverse macroeconomic scenarios, and determine the need to take additional measures to increase the stress resistance of SIB using capital management tools.

In order to assess the adequacy of the bank's capital, the National Bank, in particular, the Instruction on the Procedure for Regulating Banks' Activities in Ukraine, approved the relevant norms of the bank's capital, including: Regulatory capital (R1); Regulatory capital adequacy (sufficiency) ratio (R2); Core capital adequacy ratio (R3) [10].

Regulatory capital is one of the most important indicators of banks' activity, the main purpose of which is to cover the negative consequences of various risks that banks take on in the course of their activities, and to ensure the protection of deposits, financial stability and stable operations of banks [10].

The key component of regulatory capital is core capital. *Table 2* shows the core capital values of systemically important banks for 2021–2022.

As we can see from the data in the *Table 2*, the value of the core capital of majority of systemically important banks as of June 1, 2022 is close to the forecast value under the baseline macroeconomic scenario defined in the

NBU stress testing report, and exceeds the forecast value under the adverse macroeconomic scenario. The exception is JSC CB "Privatbank", whose capital volume as of June 1, 2022 is significantly lower than the value under the baseline and adverse scenarios. JSC "Raiffeisen Bank", JSC "FUIB" and "OTP Bank" also have lower values of core capital than the values under the baseline scenario, but exceed the values of the adverse macroeconomic scenario. At the same time, JSC "Ukreximbank", JSC "KredoBank" and JSC "Universal Bank" demonstrate positive dynamics regarding the increase of capital, which exceeds the forecast values according to the baseline and adverse scenarios.

Table 2

**Core capital of SIB and its forecast value under the baseline and adverse macroeconomic scenarios, UAH million**

Bank	Bank data		Absolute deviation 2022/2021	Forecast value under the macroeconomic scenarios:			
	01.06.22	01.01.21		baseline		adverse	
				1st year	Absolute deviation	1st year	Absolute deviation
JSC CB "PrivatBank"	20 890.5	17643	3 247	34 680	-13 790	30 731	-9 840
JSC "State Savings Bank of Ukraine" (Oschadbank)	13 358.7	12535	824	14 967	-1 608	8 092	5 266
JSC "The State Export-Import Bank of Ukraine" (Ukreximbank)	8 606.8	8 969	-363	8 004	603	966	7 640
JSB "UKRGASBANK"	8 679.5	8 456	223	9 298	-618	1 786	6 894
JSC "ALFABANK"	8 430.7	7 055	1 376	9 421	-990	4 970	3 461
JSC "Raiffeisen Bank"	8 300.8	6 904	1 397	11 385	-3 084	8 212	89
JSC "UKRSIBBANK"	7 579.9	6 245	1 335	8 016	-437	6 803	777
JSC "OTP Bank"	7 122.2	7 067	55	9 371	-2 249	7 385	-263
JSC "KredoBank"	3 494.2	2 045	1 449	2 509	986	970	2 524
JSC "First Ukrainian International Bank" (FUIB)	7 505.6	6 224	1 282	9 561	-2 055	6 098	1 408
JSB "Pivdenny Bank"	2 482.7	2 263	220	3 061	-579	1 642	840
JSC "TascomBank"	2 106.3	1 798	308	2 305	-199	945	1 161
JSC "Universal Bank"	6 639.3	1 944	4 695	3 726	2 914	1 549	5 090
JSC "A-BANK"	1 282.7	790	492	1 620	-337	1 328	-46

*Source:* compiled by the authors on the basis of sources [9; 11].

We will analyze the volume of regulatory capital of systemically important banks. The minimum amount of the bank's regulatory capital (R1) must be at least UAH 200 million [10].

Table 3 shows the values of regulatory capital of systemically important banks for 2021–2022.

So, as we can see from the data in Table 3, all systemically important banks fulfill the requirements regarding the size of the regulatory capital, significantly exceeding its regulatory value.

As of June 1, 2022, the regulatory capital of all systemically important banks, except JSC CB "PrivatBank", exceeds the forecast value under an adverse scenario. In addition, JSC CB "PrivatBank" and two more state banks – JSC "Oschadbank", JSC "UKRGASBANK", as well as the bank with foreign

capital JSC "OTP Bank" demonstrate the amount of regulatory capital lower than its forecast value under the baseline scenario, which indicates the presence of the influence of destructive factors on the capitalization processes of these banks.

*Table 3*

**Regulatory capital (R1) of SIB and its forecast values under the baseline and adverse macroeconomic scenarios, UAH million**

Bank	Bank data		Absolute deviation 2022/2021	Deviation from the norm*	Forecast value under the macroeconomic scenarios:			
	01.06.22	01.01.21			baseline		adverse	
					1st year	Absolute deviation	1st year	Absolute deviation
JSC CB "PrivatBank"	41 750.8	35 256	6 495	41 551	46 245	-4 494	42 295	-545
JSC "State Savings Bank of Ukraine" (Oschadbank)	15876.8	17 168	-1 291	15 677	16 322	-445	9 539	6 338
JSC "The State Export-Import Bank of Ukraine" (Ukreximbank)	13154.8	13 506	-351	12 955	11 518	1 636	1 910	11 245
JSB "UKRGASBANK"	9 355.0	8 695	660	9 155	9 357	-2	1 845	7 510
JSC "ALFABANK"	12 153.2	8 391	3 762	11 953	10 486	1 668	6 231	5 922
JSC "Raiffeisen Bank"	14 357.8	10 652	3 706	14 158	11 685	2 673	8 512	5 846
JSC "UKRSIBBANK"	9 703.8	6 851	2 853	9 504	8 021	1 683	6 808	2 896
JSC "OTP Bank"	9 058.1	8 621	437	8 858	9 232	-174	7 246	1 812
JSC "KredoBank"	3 736.9	2 151	1 586	3 537	2 615	1 122	1 076	2 661
JSC "First Ukrainian International Bank" (FUIB)	12 853.9	8 347	4 507	12 654	9 866	2 988	6 403	6 451
JSB "Pivdenny Bank"	4 087.0	2 857	1 230	3 887	3 117	970	1 702	2 385
JSC "TascomBank"	2 818.7	2 619	199	2 619	2 317	501	958	1 861
JSC "Universal Bank"	7 674.4	2 633	5 041	7 474	3 726	3 949	1 549	6 125
JSC "A-BANK"	2 129.8	1 061	1 069	1 930	1 622	508	1 330	800

\* No less than UAH 200 million.

*Source:* compiled by the authors on the basis of sources [9; 11].

Regulatory capital adequacy (sufficiency) ratio (R2) is established to prevent excessive transfer by the bank of credit risk and the risk of non-return of bank assets to the bank's creditors/depositors [10]. The normative value of R2 is set at the level of 10 %. *Table 4* shows the values of regulatory capital adequacy (sufficiency) ratio (R2) of systemically important banks for 2021–2022.

As can be seen from the *Table 4*, all systemically important banks fulfill the requirements regarding the size of the regulatory capital adequacy (sufficiency) ratio (R2). However, the majority of systemically important banks demonstrate its negative dynamics during the last six months. Thus, during this period, the regulatory capital adequacy (sufficiency) ratio of JSC CB "PrivatBank" was reduced by almost half, JSC "Oschadbank", JSC "Ukreximbank", JSC "OTP BANK", JSC "TascomBank" by one third. Only JSC "ALFABANK", JSC "KredoBank", JSC "Pivdenny Bank" and JSC "Universal Bank" demonstrated the positive dynamics of this ratio.

Table 4

**Regulatory capital adequacy (sufficiency) ratio (R2) of SIB and its forecast values under the baseline and adverse macroeconomic scenarios, %**

Bank	Bank data		Absolute deviation 2022–2021	Deviation from the norm*	Forecast value under the macroeconomic scenarios:			
	01.06.22	01.01.21			baseline		adverse	
					1st year	Absolute deviation	1st year	Absolute deviation
JSC CB "PrivatBank"	17.08	28.5	–11.42	7.08	25.6	–8.52	23.0	–5.92
JSC "State Savings Bank of Ukraine" (Oschadbank)	13.18	18.4	–5.22	3.18	15.2	–2.02	8.5	4.68
JSC "The State Export-Import Bank of Ukraine" (Ukreximbank)	14.91	21.2	–6.29	4.91	17.1	–2.19	2.6	12.31
JSB "UKRGASBANK"	14.13	15.0	–0.87	4.13	15.0	–0.87	2.8	11.33
JSC "ALFABANK"	13.98	13.4	0.58	3.98	13.9	0.08	8.2	5.78
JSC "Raiffeisen Bank"	15.18	16.9	–1.72	5.18	15.5	–0.32	10.9	4.28
JSC "UKRSIBBANK"	23.21	23.5	–0.29	13.21	22.3	0.91	18.4	4.81
JSC "OTP Bank"	17.73	25.4	–7.67	7.73	22.6	–4.87	17.6	0.13
JSC "KredoBank"	17.08	15.4	1.68	7.08	15.9	1.18	6.5	10.58
JSC "First Ukrainian International Bank" (FUIB)	16.35	17.9	–1.55	6.35	16.7	–0.35	10.6	5.75
JSB "Pivdenny Bank"	17.54	14.3	3.24	7.54	14.4	3.14	7.3	10.24
JSC "TascomBank"	13.70	18.3	–4.60	3.70	14.2	–0.50	5.8	7.90
JSC "Universal Bank"	17.46	14.3	3.16	7.46	13.3	4.16	5.6	11.86
JSC "A–BANK"	13.15	13.2	–0.05	3.15	13.0	0.15	10.9	2.25

\*No less 10 %.

Source: compiled by the authors on the basis of sources [9; 11].

This was also reflected in the compliance of the forecast with the baseline macroeconomic scenario, thus the majority of banks have lower the regulatory capital adequacy (sufficiency) ratio (R2) than planned under ordinary operating conditions. This is connected with the growth of risks in the conditions of military actions. At the same time, all systemically important banks except JSC CB "PrivatBank" have the regulatory capital adequacy (sufficiency) ratio higher than forecast value under an adverse scenario. This indicates that these banks have the ability to timely and in full pay off their obligations arising from trade, credit or other monetary transactions.

The core capital adequacy ratio (R3) reflects the level of protection of the bank's assets in terms of the adequacy of the first level capital size, the main part of the regulatory capital [10]. The normative value of R3 is set at a level of not less than 7%. Table 5 shows the value of the core capital adequacy ratio (R3) of systemically important banks for 2021–2022.

As we can see from the data in the Table 5, all systemically important banks fulfill the regulator's requirement regarding the minimum value of the core capital adequacy ratio (R3). However, the majority of systemically important banks show a negative trend in the value of this indicator during the last six months. In this regard, almost all systemically important banks, except for JSC "KredoBank" and JSC "Universal Bank" could not achieve the value of the norms that were forecasted under the baseline macroeconomic scenario.

**Core capital adequacy ratio (R3) of SIB and its forecast values  
under the baseline and adverse macroeconomic scenarios, %**

Bank	Bank data		Absolute deviation 2022–2021	Deviation from the norm*	Forecast value under the macroeconomic scenarios:			
	01.06.22	01.01.21			baseline		adverse	
					1st year	Absolute deviation	1st year	Absolute deviation
JSC CB "PrivatBank"	8.55	14.3	-5.75	1.55	19.2	-10.65	16.7	-8.15
JSC "State Savings Bank of Ukraine" (Oschadbank)	11.09	13.4	-2.31	4.09	13.9	-2.81	7.2	3.89
JSC "The State Export-Import Bank of Ukraine" (Ukreximbank)	9.76	14.1	-4.34	2.76	11.9	-2.14	1.3	8.46
JSB "UKRGASBANK"	13.11	14.6	-1.49	6.11	14.9	-1.79	2.7	10.41
JSC "ALFABANK"	9.70	11.3	-1.60	2.70	12.5	-2.80	6.6	3.10
JSC "Raiffeisen Bank"	8.77	11.0	-2.23	1.77	15.1	-6.33	10.5	-1.73
JSC "UKRSIBBANK"	18.13	21.5	-3.37	11.13	22.3	-4.17	18.4	-0.27
JSC "OTP Bank"	13.94	20.8	-6.86	6.94	22.9	-8.96	18.0	-4.06
JSC "KredoBank"	15.97	14.6	1.37	8.97	15.3	0.67	5.9	10.07
JSC "First Ukrainian International Bank" (FUIB)	9.55	13.3	-3.75	2.55	16.2	-6.65	10.1	-0.55
JSB "Pivdenny Bank"	10.66	11.3	-0.64	3.66	14.1	-3.44	7.0	3.66
JSC "TascomBank"	10.24	12.6	-2.36	3.24	14.1	-3.86	5.7	4.54
JSC "Universal Bank"	15.11	10.5	4.61	8.11	13.3	1.81	5.6	9.51
JSC "A-BANK"	7.92	9.8	-1.88	0.92	13.0	-5.08	10.9	-2.98

\*No less than 7 %.

Source: compiled by the authors on the basis of sources [9; 11].

The value of R3 of some systemically important banks, in particular JSC CB "PrivatBank", JSC "Raiffeisen Bank", JSC "FUIB", JSC "OTP Bank", JSC "A-BANK" are even lower than the forecast values of the ratio under an adverse macroeconomic scenario. This indicates that the dynamics of the increase of the core capital of banks is lower than the growth of banking risks, primarily credit risks, which may lead to negative consequences in the future.

**Conclusions.** We found that all domestic systemically important banks fulfill the requirements regarding the target values of capital ratios. However, full-scale military actions led to the impossibility of realization of the baseline macroeconomic scenario, which led to lower capital figures than were predicted by this scenario. A general unfavorable trend is observed for banks with a state-owned form of ownership, and especially for JSC CB "PrivatBank", which, according to the results of five months of 2022, demonstrated lower values of capital standards not only under the baseline, but also under the adverse scenario.

The worst results are observed for the core capital adequacy ratio (R3) – almost all banks showed values of the ratio lower than those predicted according to the baseline scenario.

Thus, it can be stated that systemically important banks of Ukraine, despite the influence of destructive factors during the last four months, have had a sufficient margin of safety due to the appropriate level of capitalization. However, the regulator should pay additional attention to banks that already

at this stage demonstrate tendencies to adverse scenario realize and prepare in advance a set of measures for their recapitalization in order to avoid a negative impact on the entire domestic banking system.

**Conflict of interest.** The authors certify that they have no financial or non-financial interest in the subject matter or materials discussed in this manuscript; the authors have no association with state bodies, any organizations or commercial entities having a financial interest in or financial conflict with the subject matter or research presented in the manuscript. The authors are working for the institution that publishes this journal, which may cause potential conflict or suspicion of bias and therefore the final decision to publish this article (including the reviewers and editors) is made by the members of the Editorial Board who are not the employees of this institution.

#### REFERENCES

1. Vladyka, Y., Bezugla, L., Turova, L. (2020). Achievements and new challenges in the activity of systemically important banks in Ukraine. *Market infrastructure*, 42, 285-291. [http://market-infr.od.ua/journals/2020/42\\_2020\\_ukr/50.pdf](http://market-infr.od.ua/journals/2020/42_2020_ukr/50.pdf) [in Ukrainian].
2. Bondarenko, L., Ukhova, I. (2019). The importance and influence of systemically important banks on the state of the banking and economic system. *Modern Economics*, 15. <https://modecon.mnau.edu.ua/the-significance-and-influence-of> [in Ukrainian].
3. Law of Ukraine from 07.12.2000 No 2121-III. About banks and banking. <https://zakon.rada.gov.ua/laws/show/en/2121-14?lang=en#Text> [in Ukrainian].
4. Guidelines on criteria to assess other systemically important institutions (O-SIIs). <https://www.eba.europa.eu/regulation-and-policy/own-funds/guidelines-on-criteria-to-to-assess-other-systemically-important-institutions-o-siis-#pane-291> [in Ukrainian].
5. Regulations of the NBU from 25.12.2014 No 863. On the procedure for determining systemically important banks. <https://zakon.rada.gov.ua/laws/show/v0863500-14#Text> [in Ukrainian].
6. Decision of the Board of the National Bank of Ukraine from 09.03.2022 No 120-rsh. On the definition of systemically important banks. National Bank of Ukraine. [https://bank.gov.ua/ua/legislation/Decision\\_09032022\\_120\\_rsh](https://bank.gov.ua/ua/legislation/Decision_09032022_120_rsh) [in Ukrainian].
7. Approaches to stress testing of banks in 2021. National Bank of Ukraine. [https://bank.gov.ua/admin\\_uploads/article/ST\\_model\\_2021\\_public\\_2021-05-06.pdf?v=4](https://bank.gov.ua/admin_uploads/article/ST_model_2021_public_2021-05-06.pdf?v=4) [in Ukrainian].
8. The NBU approved approaches to stress testing of banks in 2021. National Bank of Ukraine. News. <https://bank.gov.ua/ua/news/all/natsionalniy-bank-zatverdiv-pidhid-do-stres-testuvannya-bankiv-u-2021-rotsi> [in Ukrainian].
9. Stress testing of banks in 2021. National Bank of Ukraine. Publications. [https://bank.gov.ua/admin\\_uploads/article/Stress\\_Test\\_Results\\_2021.pdf?v=4](https://bank.gov.ua/admin_uploads/article/Stress_Test_Results_2021.pdf?v=4) [in Ukrainian].
10. Resolution of the NBU from 28.08.2001 No 368. Instructions on the procedure for regulating the activities of banks in Ukraine. <https://zakon.rada.gov.ua/laws/show/z0841-01#Tex> [in Ukrainian].
11. Statistics. Supervisory statistics. Economic regulations. Capital norms and their components (by banks) as of June 1, 2022. National Bank of Ukraine. <https://bank.gov.ua/ua/statistic/supervision-statist> [in Ukrainian].

*Received the editorial office 13.07.2022.*

*Accepted for printing 13.08.2022.*

*Publication online 23.12.2022.*

**HERBYCH Liudmyla,**  
PhD (Economics), Associate Professor  
of the Department of Banking  
State University of Trade and Economics  
19, Kyoto St., Kyiv, 02156, Ukraine

ORCID: 0000-0002-3560-5777  
l.gerbych@knu.edu.ua

**NETREBCHUK Larysa,**  
Senior Lecturer  
of the Department of Banking  
State University of Trade and Economics  
19, Kyoto St., Kyiv, 02156, Ukraine

ORCID: 0000-0003-4942-5299  
l.netrebchuk@knu.edu.ua

**ГЕРБИЧ Людмила,**  
к. е. н., доцент кафедри банківської справи  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0002-3560-5777  
l.gerbych@knu.edu.ua

**НЕТРЕБЧУК Лариса,**  
ст. викладач кафедри банківської справи  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0003-4942-5299  
l.netrebchuk@knu.edu.ua

## **EVALUATION OF THE BANK'S ATTRACTIVENESS FOR CORPORATE CLIENTS**

**Introduction.** In conditions of high volatility of the market environment, there is a constant competition between banks for customers, especially corporate ones, which generate a significant part of their income

**Problem.** Customers are faced with the question of choosing a bank with the best conditions for their service. And since there is no single list of criteria or methods that would make it possible to unambiguously compare the attractiveness of banks from the customers' side, the research proposed a method for choosing a bank.

**The aim** of the article – is to develop an integrated approach to assessing the bank's attractiveness for corporate clients

**Methods.** The methods of system-structural, comparative analysis, logical generalization, scoring, rating are applied.

**Results.** Banking service for corporate clients is an integral part of the activities of both sides. Due to the large number of banks and the wide variety of their services, clients constantly face the problem of choosing a bank for service. The key criteria that influence the choice of banks by clients and generate opportunities for their cooperation were determined. A model for calculating the integral coefficient of attractiveness of the bank for corporate clients was

## **ОЦІНЮВАННЯ ПРИВАБЛИВОСТІ БАНКУ ДЛЯ КОРПОРАТИВНИХ КЛІЄНТІВ**

**Вступ.** В умовах високої волатильності ринкового середовища відбувається постійна конкурентна боротьба між банками за клієнтів, особливо корпоративних, які генерують значну частину їх доходів.

**Проблема.** Перед клієнтами постає питання вибору банку з найкращими умовами для свого обслуговування. А оскільки не існує єдиного переліку критеріїв чи методик, які б дозволяли однозначно порівняти привабливість банків з боку клієнтів, в дослідженні здійснена спроба обґрунтувати методіку вибору банку.

**Мета** статті – розробка інтегрованого підходу до оцінювання привабливості банку для корпоративних клієнтів.

**Методи.** Застосовано методи системно-структурного, порівняльного аналізу, логічного узагальнення, бальної оцінки, рейтингування.

**Результати дослідження.** Банківське обслуговування корпоративних клієнтів є невід'ємною складовою діяльності як одних, так і інших. Через значну кількість банків та велику різноманітність їхніх послуг перед клієнтами постійно постає проблема вибору банку для обслуговування. Визначено ключові критерії, які впливають на вибір клієнтами банківських установ та генерують можливості їх співпраці. Розроблено модель розрахунку інтегрального коефіцієнта привабливості банку для корпоративних клієнтів, проведено його розрахунок,



developed, its calculation was carried out. Based on the results of this calculation the rating of Ukrainian banks was compiled.

**Conclusions.** The availability of objective information while choosing a bank for service is a key point in the process of strategic planning of the activities of any legal entity. It is important to find simple tools for evaluating the bank. The proposed methodological recommendations regarding the application of the integral coefficient are intended for use by corporate clients when choosing a bank for service.

*Keywords:* corporate client, bank, attractiveness, criteria, factors, integral coefficient.

за результатами якого складено рейтинг банків України.

**Висновки.** Наявність об'єктивної інформації при виборі банку для обслуговування є ключовим моментом в процесі стратегічного планування діяльності будь-якої юридичної особи. Важливим є знаходження простих інструментів оцінювання банку. Запропоновані методичні рекомендації щодо застосування інтегрального коефіцієнта призначені для використання їх у роботі з корпоративними клієнтами при здійсненні вибору банку для обслуговування.

*Ключові слова:* корпоративний клієнт, банк, привабливість, критерії, фактори, інтегральний коефіцієнт.

JEL Classification: G21, G30, G39

**Introduction.** In the conditions of high volatility of the market environment, there is a constant competition between banks for clients, primarily corporate ones, which generate a significant part of their income. Banks are trying to analyze the current needs of corporate clients and choose methods and tools that allow them to be fully satisfied, and increase accordingly the efficiency of the corporate banking department. Therefore, they constantly review and supplement the product range of services, offer package services, try to increase their attractiveness through tariff policy, provision of additional services, improvement of service quality, etc.

**Problem.** The availability of a wide range of services, conditions and tariffs of banks for corporate services poses the question of choosing a bank with the best conditions for clients. And since there is no single list of criteria or methods that would make it possible to unambiguously compare the attractiveness of banks from the customers' side, the research substantiates the method of choosing a bank.

**Analysis of recent research and publications.** In the economic literature, the assessment of the attractiveness of a bank or its services for corporate clients is considered in quite different ways. Thus, in domestic scientific sources, attention is mostly focused on deposit and credit services for corporate clients, certain aspects are devoted to organizational provision of services to such clients and marketing research. The main trends of foreign research are the focus on the types of banking services and the quality of service to corporate clients. Thus, C. Majaski reveals the essence of corporate clients and corporate banking, taking into account the requirements of the law, lists the main services for corporate clients and compares them with services for retail clients [1]. M. Abbasi, G. Ahsani, H. Mohammad investigate the role of corporate banking in the bank's activity and profitability [2]. B. Singh-Jarrold defines the main principles of banks' work with corporate clients and focuses attention on the creation of ecosystems, innovations and maximum satisfaction of client needs [3]. G. Gotteberg, M. Strauß identified the main needs of corporate clients and emphasize the individualization

of services and the introduction of innovations [4]. C. Gupta [5] cites key trends in working with clients in general, which can be applied to corporate clients as well.

Among the domestic scientists who thoroughly research the issue of banking services for corporate clients, it should be noted D. Balanchuk [6–8], whose writings formulated the essence of banking services and banking products, the features of banking services in general and for corporate clients in particular, defined the term "segment of corporate clients", distinguished the types of services for corporate clients by banks, revealed the role of corporate business in the activities of banks. N. Maslova, A. Didyk characterize the problems of servicing corporate clients in domestic banks, give approaches to defining corporate clients, principles of corporate service, principles of segmentation of corporate clients [9].

D. Kretov [10] focuses attention only on a separate segment of servicing corporate clients – credit, analyzes the development of lending to corporate clients by domestic banks and cites the main factors affecting it, the stages of the development of lending processes to corporate clients in Ukraine. This segment is also emphasized by Ya. Tchaikovsky, analyzing the development and current state of bank lending to corporate clients in Ukraine and the problems in this area. The scientist provided practical and methodological recommendations for improving the work of banking institutions in the field of lending to corporate clients in conditions of cyclical economy [11].

Part of the work is devoted to general approaches to the study of the bank's client base and the quality of their services. Thus, O. Rats [12] focuses his attention on ensuring customer loyalty and the mechanism of managing the bank's customer base. O. Martsenyuk-Rozaryonova, V. Shmigelska [13], O. Bodnar [14] analyze the market of banking services in Ukraine under different conditions. The question of determining the quality of services is disclosed in the works of V. Volokhatoi [15] and Y. Vergelyuk [16], the latter focused on quality due to innovations.

Despite the presence of separate fragmentary studies, the assessment of the bank's attractiveness for corporate clients is practically not disclosed in domestic sources.

**The aim** of the study is to develop an integrated approach to assessing the bank's attractiveness for corporate clients.

To achieve the goal, the following tasks were set: to investigate the range of services offered by banks to corporate clients; determine the criteria that should be taken into account by corporate clients to determine the attractiveness of the bank for the purpose of further selection as a service provider; to develop a method of integrated assessment of the bank's attractiveness for corporate clients.

To achieve the goal, the following tasks have been set: research the range of services offered by banks to corporate clients; determine the criteria that should be taken into account by corporate clients to determine the

attractiveness of the bank for the purpose of further selection as a service provider; to develop a method of integrated assessment of the bank's attractiveness for corporate clients.

**Methods.** To realize the set goal, a set of methods was used for researching economic processes. When studying the range of services offered to corporate clients and determining the criteria that corporate clients should take into account to determine the attractiveness of the bank for the purpose of further selection as a service provider, the methods of system-structural, comparative analysis and logical generalization were applied. When developing the method of integrated assessment of the bank's attractiveness for corporate clients, the point assessment and rating method was used. The research information base is analytical materials of the National Bank of Ukraine, published works of domestic and foreign scientists, results of own research and observations. The study is based on a wide factual base. Public data of all banks operating in Ukraine as of 01.11.2021 and 01.06.2022 were used for calculations, which indicates the representativeness of the research results.

**Results.** Banking service for corporate clients is an integral part of banks' activities. When servicing corporate clients, banks focus on providing both traditional and specific services focused on a specific business segment. And taking into account the significant scale and various directions of activity of corporate clients, they have a need to use, as a rule, not one, but a whole range of services. At the same time, needs for new banking services arise constantly, taking into account the expansion of activities or changes in legislation. Therefore, in order to meet the needs of corporate clients as much as possible, banks pay particular attention to the expansion and renewal of the range of corporate services.

According to the results of the research of open sources (sites of domestic banks) on the subject of diversification of banking services for corporate clients, a number of features have been identified.

*Focus on traditional banking services.* Banks demonstrate a focus on prompt and high-quality performance of standardized operations, primarily in relation to settlement, cash, and credit services. According to the study of the Independent Association of Banks of Ukraine (IABU) regarding the needs of Ukrainian businesses in banking services, it was determined that corporate clients are primarily interested in a standard package of services: opening and maintaining a current account in national and foreign currency, salary project, corporate cards, acquiring, loans, deposits, documentary transactions (guarantees, letters of credit, collection), collection [17]. This is confirmed by our research of information from the official websites of banks.

*Customer segmentation.* In order to increase the efficiency of service, most banks of Ukraine, when forming a package of services, necessarily take into account the specifics of the activities of corporate clients. Therefore, in the information of many banks, there is a segmentation of customers by

the scope of activity for SMEs and corporate customers. Some banks, within the framework of their specialization, also divide corporate clients by industry affiliation (for example, agribusiness, "green" energy, etc.).

*Customer-centricity of banks.* Service to corporate clients, unlike individuals, is often associated with taking into account the specifics of their activities and therefore has an individual character. Banks take into account the specifics of the client's industry, the seasonality of its operation, sales volumes, characteristics of the production cycle and much more and offer each client service conditions that will satisfy his needs as much as possible. Taking into account the individual characteristics of the client is mutually beneficial for both the bank and the client, as it allows the former to avoid overdue payments for credit transactions as much as possible, to attract the client's free resources for deposits, etc., and for the latter to optimize cash flows with the best benefits.

An important factor in a personal approach to each client is the bank's CRM system, which includes data collection and the formation of a single client profile with complete contact information and all types of its operations. This makes it possible to form a targeted marketing campaign, improve sales of banking products and increase customer loyalty to the bank.

It is the individual approach and insufficient transparency of bank websites do not allow to fully assess the degree of diversification of banking services of domestic banks.

*Complexity of services.* The volume and diversity of activities of corporate clients lead to the need for them to use not just one bank service, but a set of services. Therefore, banks offer them so-called cross-selling, i.e. sales of additional banking services, adjacent / auxiliary to the main service. According to D. Balanchuk (with which we agree), it is additional cross-sellings enables banks not only to increase profits, but also to keep corporate clients from switching to another bank [6, p. 23].

*Interest in the development of the corporate client.* A financially capable corporate client, who constantly expands the range of banking services used, is a source of increased income for the bank itself, therefore most banks help corporate clients manage their own finances and use their resources profitably. For this purpose, each segment group of clients is accompanied by professional managers who know well the relevant market, the primary needs of their clients or the specifics of their functioning. The business management service became especially relevant during the global pandemic of COVID-19, when a significant number of corporate clients found themselves in a difficult financial situation.

*Online service.* The global coronavirus pandemic has made adjustments to the everyday financial habits of bank customers, and more precisely to the way they pay for goods and services. Quarantine restrictions forced business entities to more actively use non-cash payments and e-commerce. The war further strengthened the need for remote service.

Currently, Internet banking is one of the most progressive services in the banking sector. Therefore, in Ukraine there is a transition from the classic branch model to the model of innovative remote banking services, and more and more operations are carried out without the client visiting a bank branch.

Banks provide a wide variety of services to corporate clients, which requires them to develop a certain algorithm for choosing a bank. Several important criteria have been identified that corporate clients should pay attention to.

*Image/reputation of the bank.* It is compiled on the basis of reviews of existing customers, which are published on relevant sites, blogs, etc. In addition, the bank's image can be formed as a reaction to previous cooperation with a client who is considering the possibility of cooperation in the future regarding another service. The bank's image is also formed under the influence of personal impressions after communication with its representative. Therefore, banks make significant efforts to maintain their image at a high level by forming customer service standards, regulations, codes of ethics and corporate culture

*Client values.* Recently, there has been a tendency in the world to conduct business consciously, when profitability is not a fundamental factor, but the following come first: compliance with environmental protection standards, emission reduction, introduction of the "carbon footprint", social guarantees. If the specified values are important for corporate clients, they choose a bank that implements the appropriate standards for service. In addition, it should be remembered that, unlike Ukraine, in European countries there are many restrictions on the service of certain types of business. In particular, if a corporate client chooses a servicing bank with foreign capital, he should be prepared to refuse to carry out some operations that go beyond local limits and require a decision by the parent bank.

*The recognition/fame of a bank* is often the primary factor in choosing it. The more often the name of the bank appears among advertising campaigns in the mass media, the Internet, polls, articles in magazines or on billboards, the sooner a corporate client will "remember" this bank when the need for services arises. Therefore, banks spend significant resources on promotion in the media and ensuring the transparency of their activities. For this purpose, banks also conduct their own research on the perceptions of potential customers about the bank and their level of awareness. However, the corporate client should remember that publications in magazines, interviews with bank representatives are often ordered for the purpose of advertising its services and promotion in the market and usually do not testify to the reliability of the bank as a business partner.

Sometimes the recognition of a bank is directly dependent on the term of its operation, that is, the longer it operates on the market, the more famous it is. However, this criterion is not always worth taking into account, since in history there are numerous cases of bankruptcy of banks with a long period of operation.

In practice, the period of operation of a bank does not always affect its reputation. Any survey among potential customers about the banks they know will result in an approximately identical list. There are also cases when newly created banks, with an aggressive policy of promoting their brand on the market, can become well-known, but dangerous for cooperation. Usually, it will be extremely difficult for a corporate client to withdraw funds from such banks.

*The range of bank services.* The corporate client should study the opportunities that he will get from cooperation with the bank, and should pay attention to the usefulness of services, and not to the breadth of their range. Within the framework of the functioning of a corporate client on the domestic market, services related to currency exchange operations, international bank guarantees or cross-border funds transfer systems which are not important for him. At the same time, when intending to carry out activities outside of Ukraine, a corporate client should pay attention to this segment of services, which will help him save time and money thanks to the availability of comprehensive banking services. In addition, a wide range of bank services can reduce their cost for a corporate client, as the cross-selling effect works. In addition, it should be remembered that there are banks specialize in one client segment or type of firm, and therefore they do not serve domestic corporate clients. This applies, first of all, to foreign subsidiaries of foreign banks operating in Ukraine.

*The cost of bank services.* It is appropriate for the client to study in detail the list of bank services and the rates for them in dynamics over the last one or two years. Almost all of the bank's services are paid (except for the advertising period), so a corporate client needs to determine which operations he performs most often for conducting his business and based on this, choose the terms of service. For example, if a small business needs cash payment from its own customers and non-cash settlement with a counterparty, it needs to carefully consider a tariff plan that provides for loyal conditions for regular replenishment of the account with cash.

Special attention should be paid to service packages offered by different banks. This information can be requested directly from the bank manager or obtained from his website. In addition, it is advisable to compare the bank's tariffs for several years, which is important for determining its pricing policy. After all, the bank can offer a temporary minimization of costs only at the beginning of cooperation, and in the future will increase tariffs and rates, which will lead to significant losses for the company.

Special attention should be paid to service packages offered by different banks. This information can be requested directly from the bank manager or obtained from his website. In addition, it is advisable to compare the bank's tariffs for several years, which is important for determining its pricing policy. After all, the bank can offer a temporary minimization of costs only at the beginning of cooperation, and in the future will increase tariffs and rates, which will lead to significant losses for the company.

When choosing a package of services, corporate clients should consider the following factors:

- cost of registration and maintenance per month;
- service package opening time (ideally – 1 day);
- the cost of issuing one payment document (order);
- transaction speed and the amount of extra payment for urgency;
- interest for transferring funds into cash;
- restrictions on the number of transactions and amounts;
- cost of internet banking connection and maintenance;
- the possibility of mobile money management from a smartphone, tablet, etc.;
- a list of payment security systems used by the bank.

If the corporate client uses a package of banking services, it is necessary to compare their total cost for different banks during a certain time period (month, year, etc.). However, to get a real amount of potential costs, the data from the site is not enough, since it is of an advertising nature and does not provide information about discounts or surcharges that banks apply to different types of corporate customers. You should use the tariff plans in pdf or xls format and study the tariffs in detail.

*Business support.* Banks develop both their own programs and join state-wide ones to stimulate the development of small and medium-sized businesses or support certain industries (for example, the "5-7-9" program existing in Ukraine, preferential lending to farms, etc.). The availability of such forms of business support for a corporate client can help him in business development. Even despite the sometimes uncomfortable conditions of banking services, this bank may turn out to be more profitable for the company than others. The prevailing opinion among experts is that corporate clients tend to pay attention not so much to the size of credit rates as to the possibility of long-term cooperation. Also important are the bank's methods in collateral evaluation (first of all, their adequacy and the level of discount in the liquidation value), an individual approach to the client and the adaptability of credit programs to the needs of the corporate client, taking into account the operating cycles and seasonality of its activity.

In addition, the bank's line of credit products for business can be an important criterion for a corporate client in choosing a bank. Since companies often need credit/financing for their business, it is easier for a bank to finance a company whose financial status it can easily check in its own accounting database. So, if the company is already a client of the bank at the time of the request, it is easier for it to get this financing.

*Reliability and rating of the bank.* It is determined by key financial indicators – the size of the bank's capital, profitability, liquidity and solvency, etc. At the same time, there are no established criteria for bank reliability,

there are only recommended indicators and each corporate client can choose his own set of them. You can also use the existing methods of assessing the bank's reliability. It is worth paying attention to the rating evaluation methods of banks developed in Ukraine, for example, the Mind method, etc.

Bank ratings are determined by the bank's place in various domestic and international ratings. This information is available on the websites of both rating agencies and banks. Before determining the expediency of cooperation with the bank, the client should analyze the ratings received by the bank. It should be emphasized that each rating system has its own scale, which can be used to assess the probability of bank default. However, quite often there is a certain dependence: in the range of banks with high ratings, as a rule, large banks with rather expensive service fall. Therefore, it is appropriate to find an optimal solution when the bank has a good rating, but the cost of servicing key services is not too high.

The reliability of the bank is also indirectly indicated by the presence among its clients of well-known companies with an impeccable reputation. As a rule, such information (with the client's permission) is placed in the annual financial report, the issuer's report or on the official website

*Bank rankings.* If the bank is in the first places in the ranking, this indicates that these services are quite popular among the clients of this bank, therefore, the terms of their provision are favorable. However, this approach does not always work, especially in relation to state-owned banks, when, as a result of the application of administrative influence, they artificially increase the volume of individual transactions. During the analysis, it is worth reviewing the TOP-30 (or 20; 10) from various sources for the last 3–5 years, compare them and only then make a decision on choosing a bank.

*Availability of bank services and level of service.* For a corporate client, an extremely important factor is the ability to receive a service when the need for it arises. In addition, the speed of bank transactions and the duration of the relevant negotiations are also important. However, it should be remembered that there are also objective reasons for the delay in service, related, for example, to the need to conduct financial monitoring procedures, anti-fraud checks, etc.

The availability of services is also characterized by the bank's availability of internet and mobile banking software services. Moreover, in some banks, these applications are general and have a standard set of services, while in others, separate remote banking programs have been developed, adjusted to the needs of a specific segment of customers. They are more understandable and comfortable to use. For example, a small business entity should not choose a fully functional bank software module, but its version adapted to its activity. Recently, banks have been transferring those services, which until recently were considered to require the presence of an employee, to a remote format. An example is the online checkout from Raiffeisen Bank.



The level of a bank's service is one of the key parameters for choosing it for servicing a corporate client. However, the concept of "service level" is quite vague and is based on the company representative's own preferences. For example, some clients consider the bank's reminders of payment deadlines or introductions to new services as a client-oriented approach, while others, on the contrary, have a negative attitude to such calls from the bank.

Corporate clients should not focus on the reviews of individuals, because, firstly, they are served by different departments, and the level of service may differ significantly; secondly, the needs of individuals and legal entities are quite different. Therefore, it is necessary to pay attention to the complaints of legal entities, and first of all, to the speed of the bank's response to failures in the system and "freezing" of payments, the deadline for resolving the conflict situation.

*Reasonableness of expenses.* This criterion is determined by the cost of operations, tariffs for opening and maintaining accounts, transferring funds, currency exchange, etc. Therefore, a corporate client should analyze the number and volume of operations in his own business and compare the costs of conducting them in banks, taking into account various offers.

*Location of the bank.* It should immediately be taken into account which method of organization of interaction the corporate client chooses. Location is not important when using internet banking. However, for now, some operations for individual corporate clients involve periodic visits to the bank, so the corresponding financial and time costs should be taken into account. This may be most relevant for companies that attract significant amounts of loans or often carry out cash transactions. It is also relevant for companies that have a "salary" card project (primarily, if there is a need to place ATMs on the territory of the enterprise). And, although in the future these criteria will not be important, for now the presence of banking institutions in a certain location can minimize the likelihood of technical problems (for example, when a single representative office closes).

*Bank size.* According to experts, there is a certain dependence between the scope and size of the activities of the corporate client and the bank, primarily in relation to the ratio of its balance currency and the balance currency of the servicing bank. For example, for retail trade enterprises, the ratio is 1:80, for all other enterprises – 1:70. After determining the required bank size, the client receives a list of 15–20 potential options. At the same time, a deviation of  $\pm 15\text{--}20\%$  is allowed. Such information is easy to obtain on the website of the National Bank of Ukraine in the "Supervisory Statistics" section which presents data on all functioning banks, as well as from the public reporting of the corresponding bank. It is quite difficult to say whether this principle always works, but it can be unequivocally stated that the bank's capabilities, for example, in financing a corporate client's project will be

quite dependent on the size of its assets, capital, and resources. And the needs of customers also globally depend on the scope of their activities.

*Sources of bank financing.* This criterion is most important for corporate clients who want to keep a significant amount of funds in their accounts or open a term deposit. For example, if a bank's balance sheet shows that a significant part of the funds are in current accounts, there is a significant concentration of client funds belonging to certain industries, or in its assets a significant amount of funds issued in unsecured loans, then such a bank is in potential danger, as it may lose liquidity at an unfavorable moment.

*Organizational structure and owners of the bank.* This criterion is important for understanding exactly how decisions are made in the bank, who is responsible for resolving conflict situations, etc. Therefore, for a clear understanding of the bank's decision-making system and the development of an algorithm for building communication with it, corporate clients should pay attention to its organizational structure. Information about who is a part of the bank's top management can be obtained on its website. One of the signs that everything is going well with the bank's decision-making system is the membership of the head of the business department in the bank's board, and the credit risk manager – in the risk management division. The bank is also trustworthy if it implements the "principle of a single window", when the client is assigned a personal manager who solves various issues.

Regarding the owners of the bank – the corporate client should also check the information from the website of the bank itself or the National Bank of Ukraine. At the same time, it is worth paying attention to the share of the owners, since the majority owners (those with a significant share – 10% of the authorized capital) have an influence on decision-making in the bank, appointment of officials. In addition, bank owners influence the choice of the bank's business model, market segments, etc. Even market behavior often depends on the leadership style of its key owners. Sometimes the choice of a servicing bank is influenced by political motives related to the bank's owners.

*Illegal banking operations.* Choosing a bank, you need to understand whether it is engaged in servicing fictitious enterprises, transferring funds to cash, illegal withdrawal of currency, etc. Such services increase the bank's risks, and as a result, the risk of loss of funds increases for the company served by it. In Ukraine, the work on financial monitoring is quite serious, but there are still banks that do not comply with the legislation. A fairly simple way to check the bank's willingness to participate in such operations is to offer a "gray scheme" to a bank employee, and if he agrees, it will be a signal that it is not appropriate to associate his cooperation with this bank. In addition, fines and lawsuits against the bank by the supervisory authorities may also indicate non-compliance with the legislation by the bank. Such information can be easily found upon request on the website of the National Bank of Ukraine or in the Register of Court Decisions.

*Duration of the bank's operating day.* This criterion is important for companies working with foreign partners. And although the operating day depends primarily on the work of the SEP (and Ukraine is moving to a 24/7 work standard), the length of the operating day is still important when working with counterparties working in other time zones, as it affects the timing of transactions.

*Compatibility of operating systems.* Taking into account the needs for the development of information technologies in business and banks, it is currently not enough to perform simple functions of online interaction and payments through Internet banking. Due to the presence of ERP company management systems among bank clients, there was a need to work in several remote environments at once and considering that corporate clients work with several banks at the same time, there is a need to integrate banking platforms with non-banking company management systems. That is, corporate clients seek the so-called seamless integration, when there is a full banking functionality integrated into the enterprise management system. However, the issues of compatibility of these systems are important here.

We have provided a fairly large list of criteria for choosing a bank, which cannot always be "digitized", so we will try to apply *the rating of the main criteria of banks' work* using the integral rating method.

In order to form an integral rating of banks of Ukraine regarding the service of corporate clients, an author's model for calculating the integral factor of attractiveness of the bank was built. Five factors have been identified for this model, which, according to the authors, are evidence of the bank's attractiveness to corporate clients (*Table*). We understand that there are many more factors that influence a customer's choice of bank, but not all of them are quantifiable or widely publicized. Therefore, the factors that any corporate client can obtain from public reporting have been chosen.

To construct the *rating*, a scoring method was used, where the values of the evaluated factor are first ranked (that is, they are placed in order of decreasing importance), and then a specific weight coefficient is determined for each factor, which reflects the relative importance of this factor. In the future, points are summed up for all factors, taking into account their significance.

Within each factor, four ranges of values are selected. Each of these ranges is assigned points from 1 to 4. At the same time, it is assumed that each factor equally affects the attractiveness of bank services for corporate clients. With this in mind, each factor is assigned a weight of 0.2, which in the end gives 1. Factors and their calculation formulas for determining the integral coefficient of attractiveness of bank services for corporate clients are given in the *Table*.

**A Methodical approach to determining  
the bank's integral attractiveness factor for corporate clients**

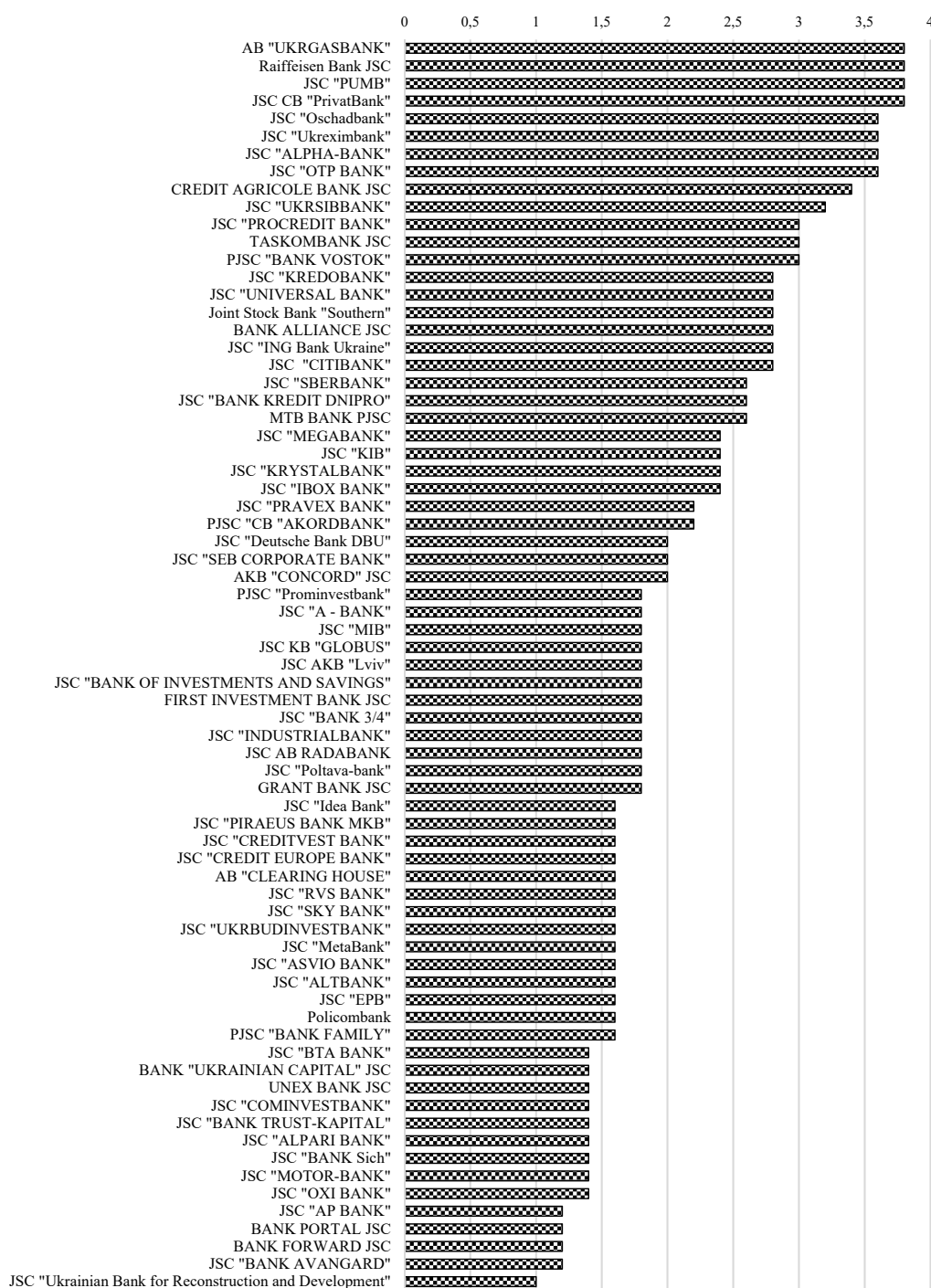
Factor	Indicator	Formula	Scoring ranges	Factor weight
The assortment of the bank's range of services for corporate clients (As)	A variety of types of bank services for corporate clients	Net Profit / Risk-weighted assets	17 and over – 4 from 13 to 16 – 3 from 9 to 12 – 2 8 and less – 1	0.2
Profitability of bank activity taking into account the risks of assets (Pa)	The bank's place among the banks of Ukraine in terms of the volume of corporate clients' deposits	NP/Ra	>10 % – 4 5–10 % – 3 1–5 % – 2 <1 % – 1	0.2
The size of the deposit portfolio of corporate clients (Dp)	The bank's place among the banks of Ukraine in terms of the volume of loans for corporate clients		10–1 place – 4 20–11 place – 3 30–21 place – 2 31 place and below – 1	0.2
The size of the loan portfolio of corporate clients (Lp)	The bank's place among the banks of Ukraine in terms of the volume of loans for corporate clients	–	10–1 place – 4 20–11 place – 3 30–21 place – 2 31 place and below – 1	0.2
Costs at the request of corporate clients (Cr)	The bank's place among the banks of Ukraine in terms of the volume of loans for corporate clients	–	10–1 place – 4 20–11 place – 3 30–21 place – 2 31 place and below – 1	0.2

Source: developed by the authors.

Thus, it is appropriate to calculate the integral coefficient of attractiveness of the bank for corporate clients (CA ) according to the formula:

$$CA = 0.2 \cdot As + 0.2 \cdot Pa + 0.2 \cdot Dp + 0.2 \cdot Lp + 0.2 \cdot Cr.$$

According to the developed methodology, the integral coefficient of attractiveness of Ukrainian banks for corporate clients was calculated. Data from the supervisory statistics of all operating banks of Ukraine as of November 1, 2021, published on the official website of the National Bank of Ukraine, as well as information on services for corporate clients published on the official websites of Ukrainian banks, were used for the calculation. According to the results of the calculation, a rating of banks was constructed (Figure 1), in which banks with the largest value of the integral coefficient have the highest degree of attractiveness of services and banks with the lowest value of the coefficient have the lowest value.



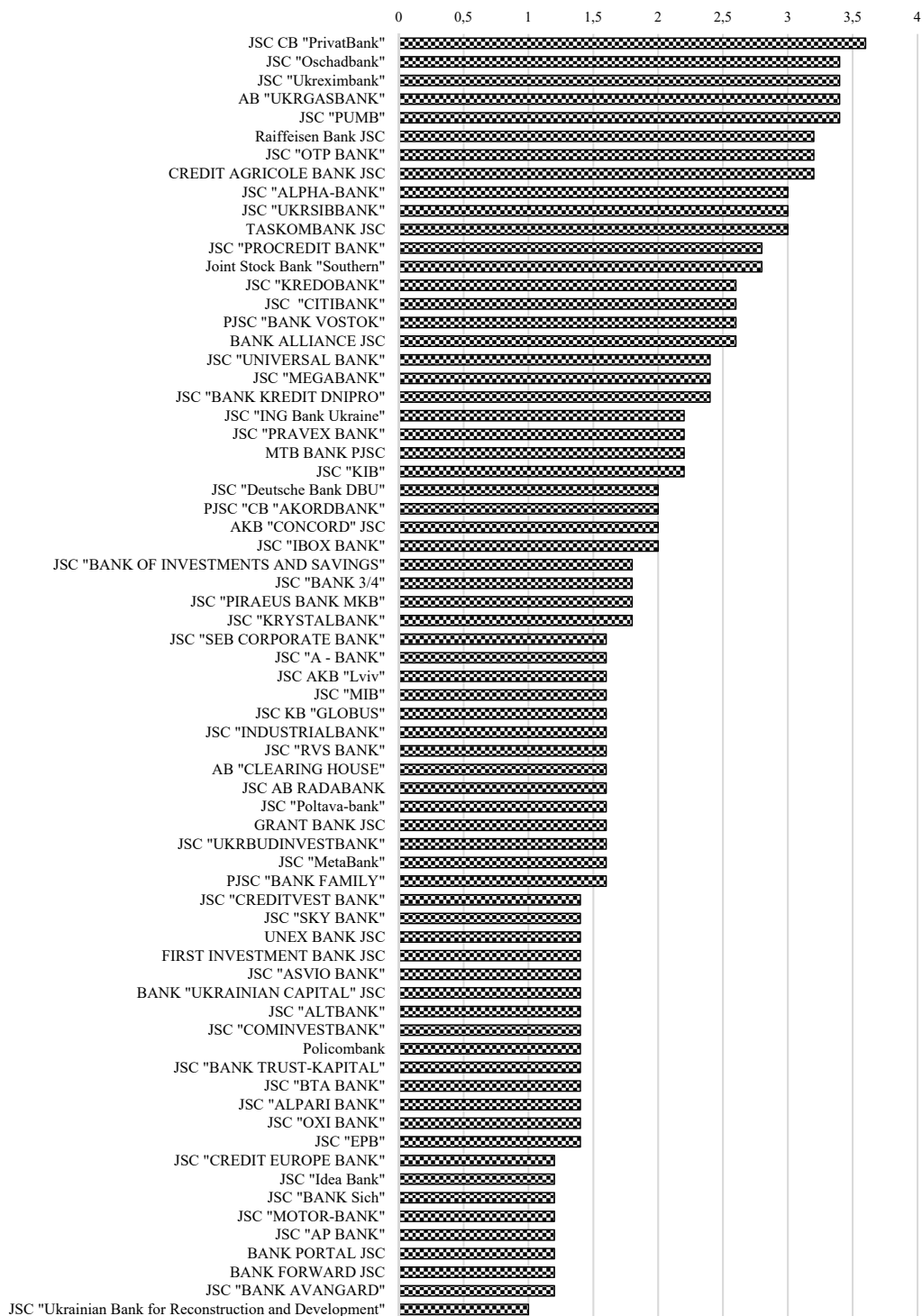
**Figure 1. Rating of Ukrainian banks by the value of the integral coefficient of attractiveness of bank services for corporate clients as of November 1, 2021**

Source: compiled by the authors.

The conducted calculations showed that as of November 1, 2021, the following banks had the highest level of attractiveness for corporate clients: JSC "Ukrgasbank", JSC "Raiffeisen Bank", JSC "PUMB", JSC CB "PrivatBank", the value of the integral coefficient for which was the largest and was 3.8 (Figure 2). A rather high level of attractiveness had: JSC "Oschadbank",

## BANKING

JSC "Ukreximbank", JSC "Alfa-Bank", JSC "OTP Bank", JSC "Credit Agricol Bank", JSC "Ukrsibbank", JSC "Procredit Bank", JSC "Taskombank", PJSC "Bank Vostok", for which the value of the integral coefficient was in the range from 3.0 to 3.6.



**Figure 2. Rating of Ukrainian banks by the value of the integral coefficient of attractiveness for corporate clients as of June 1, 2022**

Source: compiled by the authors.

As of June 1, 2022, there have been significant changes in the activities of all Ukrainian banks, which were caused by stressful events caused by full-scale military operations and a long state of war. Despite this, all banks, with the exception of JSC "Megabank", which was declared insolvent as of June 2, 2022, continued their activities, but their results significantly worsened. Thus, due to the realization of credit and other risks, losses of banks in the occupied territories, the activities of many banks became unprofitable. If on November 1, 2021 there were five unprofitable banks in Ukraine, then on June 1, 2022 there were 23 out of 69. But this did not significantly affect the attractiveness of banks for corporate clients, for whom the stability of the bank's activities, the availability of its services, timeliness of payments, etc. In unfavorable conditions of development during the analyzed period, general growth is observed general growth of the loan portfolio and funds of clients of Ukrainian banks.

Although among the latter there was an increase in the amount of funds on demand and a reduction in term funds. An important role in this was played by the uninterrupted operation of banks during the war, their sufficient liquidity and the continuation of the provision of most services, including credit and deposit.

The calculation of the proposed integral coefficient as of June 1, 2022 confirmed the preservation of the attractiveness of the services of Ukrainian banks for corporate clients. The results of the analysis show that there was an overall slight decrease in the value of the integral coefficient: if on 11/01/2021 its value varied from 1.0 to 3.8, then on 06/01/2022 – from 1.0 to 3.6. There were also insignificant changes in the location of banks in the rating. In particular, the top twenty banks in the rating remained unchanged with insignificant movement among themselves. Thus, Privatbank, which was on the second rung as of November 1, 2021, moved to the first as of June 1, 2022, losing 0.2 points compared to the previous rating. Among the other banks in the top twenty, the value of the integral coefficient of JSC "Raiffeisen Bank" and JSC "Alfa Bank" underwent the most significant changes, which lost 0.6 points each and moved down two steps in the rating compared to the previous result. Such a deterioration in results is due to the fact that the parent companies of these banks did not stop their activities in the aggressor country, and as a result, both banks experienced a significant reduction in their market share in terms of customer funds, in particular, time deposits. As for other banks, with an overall slight reduction (0.2–0.4) in the value of the integral coefficient of attractiveness of Ukrainian banks for corporate clients, their position in the rating practically did not change. The value of the integral coefficient and the place in the rating of the last ten banks remained absolutely unchanged.

Such results show that the significant deterioration of the macroeconomic situation caused by the war in the country did not significantly affect the attractiveness of banks for corporate clients, and due to the smooth operation of the banking system, clients did not lose trust in it.

**Conclusions.** The availability of objective information when choosing a bank for service is a key point in the process of strategic planning of the activities of any legal entity. With significant amounts of such information, it is important to find simple bank evaluation tools. The proposed methodological recommendations on the application of the integral coefficient are intended for use in working with corporate clients when choosing a bank (banks) for service. Their presentation was based on a scientific study of the work of domestic banks. A specific list of criteria characterizing bank offers, as well as the relative importance of these criteria and the bank selection algorithm, can be selected by the corporate client according to their own needs. The proposed method has a recommendatory character.

**Conflict of interest.** The authors declare that they have no financial or non-financial conflicts of interest with respect to this publication; have no relationship with any government agency, commercial or non-commercial organization that might have an interest in presenting this point of view. Given that the authors are employed by an institution that is the publisher of the journal, which may lead to a potential conflict or suspicion of bias, the final decision to publish this article (including the selection of reviewers and editors) was made by those members of the editorial board who are not affiliated with this institution.

#### REFERENCES

1. Majaski, C. (2021). Retail Banking vs. Corporate Banking: What's the Difference? Investopedia. <https://www.investopedia.com/articles/general/071213/retail-banking-vs-commercial-banking.asp> [in English].
2. Abbasi, M., Ahsani, G., & Mohammad, H. (2017). The Role of corporate banking profitability in the portfolio of banking services. *INTERNATIONAL JOURNAL OF HUMANITIES AND CULTURAL STUDIES*. [https://www.researchgate.net/publication/312032971\\_The\\_Role\\_of\\_corporate\\_banking\\_profitability\\_in\\_the\\_portfolio\\_of\\_banking\\_services](https://www.researchgate.net/publication/312032971_The_Role_of_corporate_banking_profitability_in_the_portfolio_of_banking_services) [in English].
3. Singh-Jarrold, B. (2018). CONNECTED CORPORATE BANKING. FINASTRA. [https://www.finastra.com/sites/default/files/documents/2018/03/market-insight\\_connected-corporate-banking-breaking-down-the-silos.pdf](https://www.finastra.com/sites/default/files/documents/2018/03/market-insight_connected-corporate-banking-breaking-down-the-silos.pdf) [in English].
4. Gotteberg, G., Strauß, M. (2018). What Do Corporate Banking Customers Really Want? *BCG*. <https://www.bcg.com/publications/2018/what-do-corporate-banking-customers-really-want> [in English].
5. Gupta, C. (2021). What is customer service? Definition, importance & tips. Zendesk. <https://www.zendesk.com/blog/customer-support-vs-customer-service> [in English].
6. Balanchuk, D. V. (2017). Osoblyvosti poslug banku dlja korporatyvnyh klijentiv [Features of bank services for corporate clients]. *Naukovyj visnyk Uzhgorods'kogo nacional'nogo universytetu – Scientific Bulletin of Uzhorod National University*. Issue 15. Part 1, (pp. 21-24). <https://dspace.uzhnu.edu.ua/jspui/handle/lib/21809> [in Ukrainian].
7. Balanchuk, D. V. (2017). Udoskonalennja roboty menedzheriv banku v korporatyvnomu segmenti [Improving the work of bank managers in the corporate segment]. *Infrastruktura rynku – Market infrastructure*, 7, 280-283. [http://www.market-infr.od.ua/journals/2017/7\\_2017\\_ukr/49.pdf](http://www.market-infr.od.ua/journals/2017/7_2017_ukr/49.pdf) [in Ukrainian].
8. Balanchuk, D. V. (2017). Korporatyvnyj segment ta jogo rol' v dijali'nosti bankiv [The corporate segment and its role in the activity of banks]. *Ekonomika. Finansy. Pravo – Economics. Finance. Law*, 4, 44-49 [in Ukrainian].
9. Maslova, N. O., & Didyk, A. V. (2015). Teoretychni aspekty obslugovuvannja korporatyvnyh klijentiv banku [Theoretical aspects of servicing corporate clients of the bank]. *Molodyj vchenyj – Young scientist*, 7(1), 87-91 [in Ukrainian].



10. Kretov, D. Ju. (2017). Osoblyvosti rozvytku kredytuvannja bankamy Ukrai'ny korporatyvnyh klijentiv [Peculiarities of the development of lending by Ukrainian banks to corporate clients]. *Elektronne naukowe vydannja "Global'ni ta nacional'ni problemy ekonomiky" – Electronic scientific publication "Global and national economic problems"*, 17, 665-671. <http://global-national.in.ua/archive/17-2017/137.pdf> [in Ukrainian].
11. Chajkovs'kyj, Ja. (2017). Rozvytok bankivs'kogo kredytuvannja korporatyvnyh klijentiv v Ukrai'ni v umovah cyklichnosti ekonomiky [Development of bank lending to corporate clients in Ukraine in conditions of cyclical economy]. *Visnyk Ternopil's'kogo nacional'nogo ekonomichnogo universytetu – Bulletin of Ternopil National Economic University*, 4, 72-87. [http://nbuv.gov.ua/UJRN/Vtneu\\_2017\\_4\\_9](http://nbuv.gov.ua/UJRN/Vtneu_2017_4_9) [in Ukrainian].
12. Rac, O. M. (2018). Zabezpechennja lojal'nosti klijentiv jak skladnyk mehanizmu upravlinnja klijents'koju bazozu banku [Ensuring customer loyalty as a component of the bank's customer base management mechanism]. *Naukovyj visnyk Hersons'kogo derzhavnogo universytetu – Scientific Bulletin of Kherson State University*, 29. Part 2, 113-116. <http://ejournal.kspu.edu/index.php/ej/article/view/216> [in Ukrainian].
13. Marcenjuk-Rozar'onova, O. V., & Shmigel's'ka, V. V. (2018). Analiz suchasnogo stanu rynku bankivs'kyh poslug v Ukrai'ni ta naprjamy jogo rozvytku [Analysis of the current state of the banking services market in Ukraine and directions of its development]. *Elektronnyj zhurnal "Efektyvna ekonomika" – Electronic magazine "Efficient Economy"*, 10. [http://www.economy.nayka.com.ua/pdf/10\\_2018/45.pdf](http://www.economy.nayka.com.ua/pdf/10_2018/45.pdf) [in Ukrainian].
14. Bodnar, O. A., & Palamarchuk, V. S. (2020). Analiz stanu rynku bankivs'kyh poslug Ukrai'ny v umovah pandemii' [Analysis of the state of the market of banking services of Ukraine in the conditions of the pandemic]. *Elektronne naukowe fahove vydannja z ekonomichnyh nauk "Modern Economics" – Electronic scientific publication on economic sciences "Modern Economics"*, 23, 13-19. [https://doi.org/10.31521/modecon.V23\(2020\)-02](https://doi.org/10.31521/modecon.V23(2020)-02) [in Ukrainian].
15. Volohata, V. Je. (2021). Suchasnyj stan i perspektyvy rozvytku bankivs'kyh innovacij u konteksti pidvyshhennja jakosti obslugovuvannja klijentiv [The current state and prospects for the development of banking innovations in the context of improving the quality of customer service]. *Biznes Inform – Business Inform*, 4, 204-209. [https://www.business-inform.net/article/?year=2021&abstract=2021\\_4\\_0\\_204\\_209](https://www.business-inform.net/article/?year=2021&abstract=2021_4_0_204_209) [in Ukrainian].
16. Vergeljuk, Ju. Ju. (2016). Teoretychni zasady vyznachennja jakosti finansovyh poslug bankivs'kyh ustanov Ukrai'ny [Theoretical principles of determining the quality of financial services of banking institutions of Ukraine]. *Ekonomichnyj analiz – Economic analysis*. Vol. 25, 2, (pp. 21-26). <http://dspace.wunu.edu.ua/jspui/bitstream/316497/8330/1/4.pdf> [in Ukrainian].
17. Doslidzhennja potreb u kredytuvanni naselennja ta biznesu Ukrai'ny [Study of needs in crediting of population and business of Ukraine] (2020). *Analitichnyj zvit – Analytical report*. Nezalezna asociacija bankiv Ukrai'ny. [https://nabu.ua/images/uploaded/sys\\_media\\_doc/doc\\_1737a9619d169a68b89fec445f336505.pdf](https://nabu.ua/images/uploaded/sys_media_doc/doc_1737a9619d169a68b89fec445f336505.pdf) [in Ukrainian].

*Received the editorial office 14.09.2022.*

*Accepted for printing 05.10.2022.*

*Publication online 23.12.2022.*

# ACCOUNTING AND AUDIT

---

---

UDC 004:657.37

DOI: 10.31617/1.2022(146)09

**UMANTSIV Halyna,**  
Candidate of Economic Sciences,  
Associate Professor, Associate Professor  
at the Department of Accounting and Taxation  
State University of Trade and Economics  
Kyoto St.,19, Kyiv, 02156, Ukraine

ORCID: 0000-0002-5410-1363  
h.umantsiv@knu.edu.ua

**KOTSUPAL Oleksandr,**  
Postgraduate student at the Department  
of Accounting and Taxation  
State University of Trade and Economics  
Kyoto St.,19, Kyiv, 02156, Ukraine

ORCID: 0000-0002-8634-2954  
o.kotsupal@knu.edu.ua

**УМАНЦІВ Галина,**  
к. е. н., доцент, доцент кафедри  
обліку та оподаткування  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0002-5410-1363  
h.umantsiv@knu.edu.ua

**КОЦУПАЛ Олександр,**  
аспірант кафедри обліку та оподаткування  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0002-8634-2954  
o.kotsupal@knu.edu.ua

## PREDICTIVE INFORMATION IN INTEGRATED REPORTING

**Introduction.** Recent trends in business management involve the use of methods that rely on value creation as a result of managing production, financial, human, and natural resources, as well as intellectual and social capital in a short-, medium- and long-term perspective. This approach applied to corporate reports is supported by integrated reporting.

**Problem.** The use of prospective information in integrated reporting promotes effective strategic decision-making and increases the significance of the study of forward-looking information disclosure in financial statements.

**The aim** of the article is to study new directions of forward-looking information disclosure in the framework of integrated reporting and identify current trends in non-financial reporting.

## ПРОГНОЗНА ІНФОРМАЦІЯ В ІНТЕГРОВАНІЙ ЗВІТНОСТІ

**Вступ.** Сучасними трендами управлінських практик є застосування компаніями підходів, які враховують створення цінності внаслідок управління виробничими, фінансовими, людськими, природними ресурсами, а також інтелектуальним та соціальним капіталами протягом коротко-, середньо- та довгострокового періодів. Утіленням цього підходу у практиці корпоративного звітування є інтегроване звітування.

**Проблема.** Використання прогностичної інформації в інтегрованому звітуванні створює необхідні передумови для підвищення ефективності ухвалення стратегічних рішень та актуалізує дослідження перспективно орієнтованого розкриття інформації у фінансовій звітності.

**Метою** статті є дослідження новітніх напрямів перспективно орієнтованого розкриття інформації у системі інтегрованого звітування та ідентифікація сучасних трендів надання нефінансової звітності.

---

© Umantsiv H, Kotsupal O., 2022

The authors contribute equally.

The authors of the manuscript did not receive direct funding in the preparation of the manuscript.

Umantsiv H., Kotsupal O. Predictive information in integrated reporting. *Scientia fructuosa*. 2022. № 6. S. 114-127. [https://doi.org/10.31617/1.2022\(146\)09](https://doi.org/10.31617/1.2022(146)09)

**Methods.** A combination of methods and approaches is applied, namely: dialectic, synthesis and comparative methods; system and institutional approaches, method of generalization, unity of historical and logical methods.

**Results.** The prospective data, specified in most sections of integrated reports, contains both financial and non-financial information, qualitatively and quantitatively illustrates the direction of the company's development in a short-, medium- and long-term perspective. The forward-looking information serves as one of the sources of assessing the entity's potential to maintain continuous operation. Under martial law and in terms of the COVID-19 pandemic in Ukraine, continuous operation as the basis for financial reporting is gaining critical importance. The article highlights the requirements to adjust business forecasts and plans when preparing corporate reports.

**Conclusions.** The research on retrospective information disclosure focuses on the concept of integrated reporting, which allows for forecast indicators to support the correlation between current and prospective outcomes of the enterprise's activity and to determine the factors that change and retain the value of a business in a short, medium and long-term perspective.

**Keywords:** prospective information, integrated reporting, non-financial reporting, continuous operation.

**JEL Classification:** G39, M41

**Методи.** Застосовано сукупність методів та підходів, а саме: діалектичний, синтезу та порівняльний; системний та інституційний підходи, узагальнень, єдності історичного та логічного підходів.

**Результати дослідження.** Прогнозна інформація, що висвітлюється в більшості розділів інтегрованих звітів, містить як фінансову, так і нефінансову інформацію, якісно та кількісно описує напрями розвитку компанії у коротко-, середньо- та довгостроковій перспективі. Перспективно орієнтована інформація слугує одним із джерел оцінювання здатності суб'єкта господарювання продовжувати свою діяльність на безперервній основі. В умовах воєнного стану та пандемії COVID-19 в Україні безперервність діяльності як основа складання фінансової звітності набуває критичного значення. Узагальнено рекомендації щодо необхідності коригування бізнес-прогнозів та планів в умовах економічної невизначеності у контексті формування корпоративної звітності.

**Висновки.** Дослідження питань ретроспективного розкриття інформації пов'язане з розвитком концепції інтегрованого звітування, яке на основі прогнозних показників передбачає обґрунтування зв'язку між поточними і майбутніми результатами діяльності підприємства та ідентифікацію впливу на зміну вартості підприємства, а також її збереження у коротко-, середньо- та довгостроковій перспективі.

**Ключові слова:** прогнозна інформація, інтегроване звітування, нефінансова звітність, принцип безперервної діяльності.

*Any serious predictive statement is based, implicitly or explicitly, on historical procedures. If not, then it belongs to the same category as the horoscope in this morning's newspaper.*

*Niall Ferguson*

*" Civilization: The West and the Rest "*

**Introduction.** In current economic realities, when financial and production assets represent a smaller part of the market value of a business, financial analysts use new approaches to figure out how value is created and how to sustain long-term success. Some companies are establishing new management practices that consider the value creation as a result of managing production, financial, human, and natural resources, as well as intellectual and social capital in a short-, medium- and long-term perspective.

Integrated reporting stems from the globalization processes of the economy and information space in terms of Sustainable Development goals (SDGs), comprising three components: economy, environment and social

sphere. To assess the achievement of sustainable development goals, certain indicators (financial and non-financial) have been determined to be subject to disclosure in reporting [1].

The primary objective of non-financial reporting is to illustrate socially significant aspects of the enterprises' activity in a comprehensive manner for the concerned party. The most common methodology is the Global Reporting Initiative (GRI). This document provides the list of indicators for the reporting information disclosure in terms of social, environmental and economic activities of enterprises. GRI-reporting helps identify challenges and risks of the company, as well as opportunities for its development. The first reports of this type were generated in the early 2000s. Today in developed countries, non-financial reports based on GRI standards are submitted by more than 4 000 large and small companies [2].

The research outcomes show that since 2008, 88 non-financial reports complying with certain criteria of integrated reporting have been prepared by leading Ukrainian companies [3]. In 2019, 31 companies among the highest tax-paying businesses of Ukraine published their Management Reports, 7 companies specified the goals of sustainable development on the corporate sites, whereas 26 businesses reported on their own development strategies on the websites (the vast majority of the companies are state-owned). Moreover, 4 companies developed non-financial reports featuring some aspects of GRI standards, 6 businesses published non-financial reports according to GRI standards for 2019, in particular, JSC "FUIB", LLC "Nova Poshta", JSC "Karlsberg Ukraine", JSC "Farmak", JSC "Ukrgezbank", NJSC "Naftogaz of Ukraine" [4]. In 2020 the prevalence of non-financial reporting remained insignificant, only 12 companies published the designated reports [5]. Therefore, the issue of implementing integrated financial reporting in Ukraine is relevant, as is the adoption of innovative world experience into domestic non-financial reporting practices.

**Problem.** One of the key differences of the current model of corporate integrated reporting is the requirement to submit not only retrospective but also prospective and strategic information, as well as the statements about potential risks and current goals. The use of prospective information in integrated reporting contributes to high efficiency of short-, medium- and long-term decisions.

The challenge to target the accounting system to generate data on the directions of the enterprise's development, its sustainability in the future, factors affecting its prospective value is supported by promoting international accounting community and companies to facilitate implementation of integrated reporting system, management accounting, etc., in other terms, there is a shift to vision of the future.

**Analysis of recent research and publications.** The issue of integrated reporting in the terms of sustainable development is studied by such scholars as T. Yefymenko, L. Lovinska, Ya. Olynyk [1], S. Lehenchuk [3],

S.Holov, V. Kostyuchenko, R. Kuzina, V. Zhuk, L. Hutsalenko, U. Marchuk, V. Tsaruk, N. Svichkar, Ye. Kobets [6–10] and others.

Considering theoretical background of corporate business development, Yu. Umantsev states that "corporations with business strategies based on principles of openness, transparency and social value, will solely be competitive in the current market"[11, p.45]. Certain aspects of non-financial reporting system in Ukraine were highlighted by K. Bezverhiy [12], S. Korol [13]. An important area of research is the issue of developing and using prospective information in the system of integrated reporting of the enterprise to outline business prospects and factors affecting the value. Issues focused on prospective information in reporting are examined by the following Ukrainian scholars: M. Koryagin, P. Kutsyk [14], A. Ozeran [15]. Yet, more profound studies on disclosure of forward-looking information in corporate reports are carried out by foreign researchers: P. Dey, R. Mahboub), M. Kunc, M. Giorgino, F. Barabè), E. Menicucci) [16–19].

**The aim** of the article is to overview up-to-date patterns of disclosure of forward-looking information in integrated reporting and to assess current tendencies in non-financial reporting.

**Methods.** An array of methods and approaches is applied: dialectic, synthesis and comparative methods; system and institutional approaches, method of generalization, unity of historical and logical methods. The research background consists of works by Ukrainian and foreign scholars regarding theoretical and methodological issues on integrated reporting, as well as hand-on practices of domestic companies upon preparation and disclosure of non-financial reporting, particularly consistent with GRI standards.

**Results.** As defined by the *Value Reporting Foundation*, integrated reporting covers all essential information about management, operational performance, business strategy and prospects, considering economic, social and environmental aspects of the framework in which it operates [20]. Such reporting should provide a clear and accurate conception of how the company is currently creating value and how it is going to generate it in the future. Consequently, integrated reporting is developing as one of the tools of transparent corporate management. The goals of integrated reporting are:

- improving the quality of data available to investors to mitigate the information gap between managers and external stakeholders, and ensure more efficient capital allocation;
- promoting a more comprehensive approach to corporate reporting, regulated by different standards and involving a range of factors that significantly affect the potential to create value over time;
- developing integrated thinking, decision-making and actions, aimed at creating value in a short-, medium- and long-term perspective [21].

In Ukraine sustainable development is under way with regard to enforcing the European Union legislation, in particular, the regulation 2013/34/EU "On annual financial reports, consolidated financial reports and affiliated

reports of certain types of enterprises" dated June 26, 2013 (Regulation 2013/34/EU, section 5 "Management Report") and International Financial Reporting standards (IFRS) into the national regulatory framework. Non-financial reporting is a tool to achieve a balance of economic, social and ecological imperatives [22]. One of the mechanisms of non-financial reporting in Ukraine is the preparation of the management report provided by the Law of Ukraine "On Accounting and Financial Reporting in Ukraine" [23]. Such a report is intended to provide financial and non-financial information, specifying current situation and development prospects of the enterprise, and determine major performance risks.

Financial disclosure and transparency for Ukrainian companies is still a new and quite complex process. Associated regulatory documents are at the stage of development (primarily for financial institutions). These processes are managed by the NBU and the National Securities and Stock Market Commission. Since March 2020, the new Code of Corporate Governance has required Ukrainian companies to disclose information about elaboration of ESG projects. The National Bank of Ukraine is scheduled to implement environmental, social and management approaches to the system of corporate management of banks starting from 2022, and non-bank institutions from the end of 2024. Meanwhile, the information about the company's mission, vision and values is published on websites (or in non-financial reports) by 35 companies (62.5%), Codes of Ethics are displayed by 33 companies (59%), Strategies of Development are posted by 19 companies (34%). Only 17.8% of companies integrated sustainable development goals into their business strategy. 9 companies (in particular, JSC "Ukrgezvydobuvannya", LLC "Nova Post", JSC "Karlsberg Ukraine", JSC "Kyivstar", FE "Coca-Cola Beverages Ukraine Limited", DTEK) have disclosed appropriate information on their websites [5].

The use of *Forward-looking Information (FLI)* in integrated reporting is determined by the first principle of the International standards of Integrated Reporting (ISIR): strategic focus and future orientation [21]. According to this concept, the forward-looking information is intended to illustrate key performance indicators of the business strategy, disclose the prospects for the value creation over time, and to show how this value affects development of capital. Forward-looking perspective is a distinctive feature of integrated reporting compared to financial reporting (*Figure 1*).

ISIR requires to disclose information in the following areas:

*management*: assessing the entity's potential to create value in a short-, medium- and long-term perspective;

*a company's business model*;

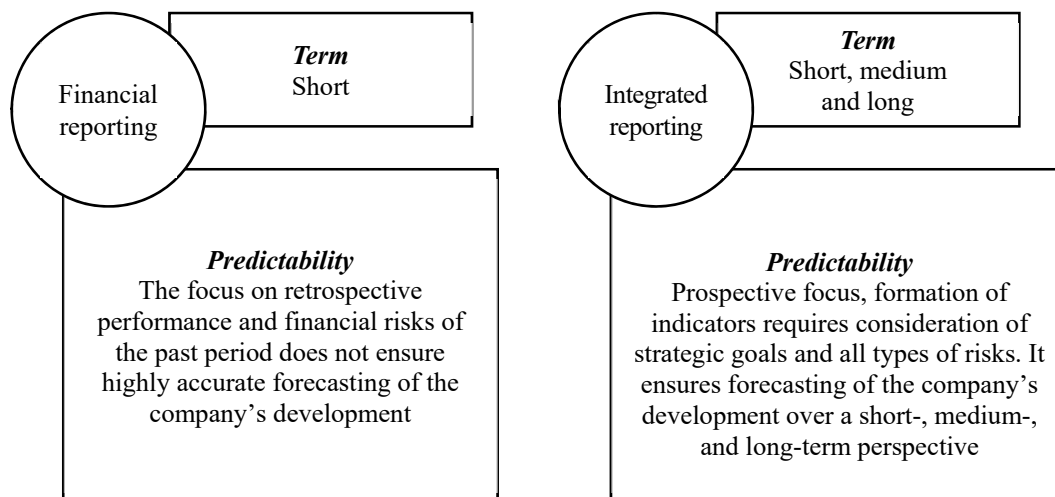
*risks and opportunities*, in other terms, how the company manages specific risks and opportunities;

*strategy and allocation of resources*: vision of the future and what steps should be taken to implement it;

*operating activities*: how successful the company is in achieving its strategic goals over the reporting period and the impacts on capital;

*forecasts*: potential challenges of a company to execute its strategy and prospective operational performance;

*basis of preparation*: approach to determine the list of issues to include into the integrated report [21].



**Figure 1. Forward-looking focus in integrated reporting**

Source: [10].

*Forward-looking orientation* is also one of the key principles to promote the value of the Report on Management (Management Report), intended to disclose information on past events, management decisions, certain circumstances and performance outcomes, taking into account how they can influence future activities. This principle considers management strategy and goals, future events, circumstances, opportunities and risks based on assumptions and potentially can have significant impact on the company's development, financial position and performance [15]. However, according to this principle, the management report does not provide for forecasting, since the forward-looking information can affect such crucial qualitative characteristic as reliable representation. Therefore, the Management Report includes the management goals for the company's development and ways to pursue them. Since the procedure of forecasting is based on several scenarios, while methodological approaches to calculate prospective data for reporting entities and reporting users may differ, this may mislead the latter. The high degree of information relevance in financial statements is a key to the developing of new forecasts and provides an opportunity to confirm or adjust preliminary forecasts, etc. This, as the author notes, is the essence of the forward-looking information, and the Management Report strengthens the prognostic context of financial reporting and, and, therefore, its relevance [15]. The conceptual basis of IFRS stipulates that the relevant financial information is able to influence the decisions made by users, i.e. it has a prospective value or supports it, or possess both characteristics. The accuracy and validity of information are fundamental qualitative characteristics of financial statements [24].

However, some foreign scholars believe that since economic environment is too dynamic and unpredictable to depend only on past information, public companies disclose *FLI* about their prospects, which may bring competitive advantages. *The FLI* contains economic and non-economic forecasts related to information that affects future business operations, specifically, expected sales or revenues for the next year, forecast cash flows, potential net profit, etc. Non-economic forecasting involves non-financial information related to risks, business plans, uncertainty and estimates that significantly impact actual and anticipated outcomes. Therefore, according to P. Day, FLI is defined by the terms "assessment", "expectations", "estimate", "forecasting" or other terms that require explication in the commentaries provided by the management [16; 17].

Based on the International Standard on Assurance Engagements 3400 "Examination of prospective financial information", the term prospective financial information means financial information based on assumptions about events that may occur in the future and possible actions by an entity [25]. The prospective financial information can be provided in the form of a forecast, a projection or a combination of both, for example, a one year forecast plus a five year projection. Forecasts are prepared to meet various needs of users, in particular:

- to assess the feasibility of investment projects;
- as a guide for potential investors;
- financial report for owners, regulatory institutions and other concerned parties;
- as a forecast of cash flow for creditors, etc.

A projection means prospective financial information prepared on the basis of hypothetical assumptions about future events and management actions which are not necessarily expected to take place; or a mixture of best-estimate and hypothetical assumptions. The prospective financial information should cover financial reports and may be prepared as an internal management tool or to be submitted to third parties" [25].

Previously, the issue of prospective information disclosure in corporate statements posed concern for businesses. Such concerns are related to the risk of disclosing competitively sensitive information, in particular regarding the forecast of key performance indicators. The management documents of *PricewaterhouseCoopers (PwC)* specify that companies should deal with the disclosure of forward-looking information with a proper understanding of the significance and information needs to report on prospective performance. Instead of addressing a respective question "What are we going to report?", the company is required to focus on: "What should we leave undisclosed?" [26]. Typically, non-financial information explicitly indicates future trends in financial performance. PwC in *Global-forward-looking-guide* identifies 7 key points (pillars) of disclosure:

- information about the company's primary assets (tangible and non-tangible) involved to accomplish strategic goals;



- risks and insecurities that may predetermine the long-term perspective, the company's policy on liquidity risk management, market and credit risks, their impact on business activity, and tools to optimize such exposure;
- relationships with stakeholders specifying the concerned parties that are particularly important to the company. The explanations should contain information on the nature of relations, current profile of important stakeholders and relationship management;
- quantitative data on trends and factors influencing the future development of the company. For example, demographic data for insurance companies, buying habits for consumer goods or services companies, etc.;
- assuming that prospective information cannot be 100 % reliable, it is appropriate to refer to the sources of information and any uncertainties, taken into consideration when developing forecasts, for investors could estimate the degree of reliability of such information;
- setting goals for key performance indicators used by business management;
- identifying correlation between the reporting data on long-term goals and the strategies for their achievement. That is, the assessment of the potential for achieving strategic goals according to the reporting data [26].

Based on the survey of a number of integrated reports generated by international companies (*Mitsubishi heavy industries Group, Hitachi, Nedbank Group, Sasria* [27–30]), specified by the *value Reporting Foundation* [20], common practices of using prospective information in integrated reporting are as follows:

- in mid-term business planning: setting target financial indicators (revenues, operating profit, free cash flows, post-tax profit, self-capital profitability) and key impact factors;
- focusing on the company's strategy: the assessment of revenues, investments and patterns of certain areas of activity in a 3–6 year perspective, highlighting key assumptions, challenges and decisions that will impact business and are considered in the forecast;
- determining target quantitative measures of strategy execution: For example, the ratio between proceeds, assets and market value of the company (*Mitsubishi heavy industries Group*);
- concerning operational activities: identification of key medium-term priorities for particular entities, description of steps to be taken to achieve them, and assessment of the prospective performance (forecasting financial performance for a 2-year-perspective);
- regarding environmental and resource-saving initiatives: long-term forecast for reducing carbon emissions into the atmosphere, as well as the use of water and other resources;
- qualitative assessment of potential risks and opportunities beyond business sector and time horizons, description of corresponding strategic steps.

The methodological guidelines for the preparation of the Management Report specified by the regulation "On Prospects of Development" require to provide information on "the prospects of the company's further development

in view of the potential risks and challenges" [31]. The practice of disclosing prospective information in the reports of the leading companies of Ukraine is illustrated in the *Table* below.

The review of the best integrated reporting practices enables us to figure out that the prospective information used in most sections of the integrated report contains both financial and non-financial information, qualitatively and quantitatively indicates the direction of the company's development in the medium- and long-term perspective. The integrated reporting mainly discloses the enterprise's prospective cash flows, which is of key importance for investors and creditors for more effective assessment of investment and loan decisions and, optimization of the capital redistribution, accordingly.

*Table*

**Disclosure of prospective information in the companies' Management reports**

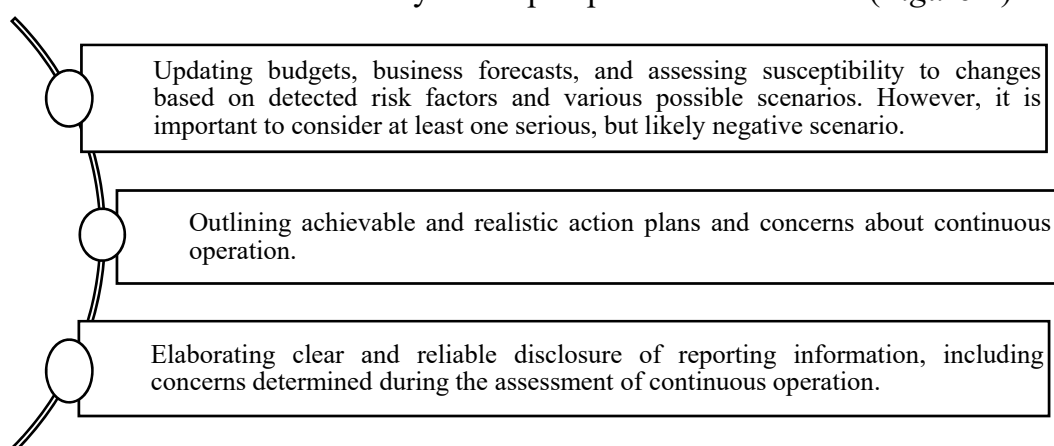
Company	Report title/ section	Disclosure of perspective information	Type of information
PJSC "Ukrtelecom"	Management report/ strategic directions of development	Projects on extension and modernization of telecommunication networks Prospects for development of related and supplementary business areas Further increase in operational efficiency (upgrading of service portfolio, alternative telephony, management and automation of business processes)	Non-financial
JSC "Farmak"	Sustainability Report/Future perspective	Scientific and educational objects of the company. Environmental objects	Non-financial and financial
JSC "Ukrposhta"	Annual Report/Company Development: Plans and Goals until 2025 Key projects	Investment directions Funds Internet access in 100% of built-up areas Competitive infrastructure for development of electronic commerce, etc. Modernization of logistics network Mobile offices, etc.	
JSC "UkrZaliznytsia"	Integrated report JSC "UkrZaliznytsia"	Medium-term plans/activities in the following areas: risk management; locomotive management; procurement; credit policy; international cooperation; environmental protection and environmental safety; investment activity; investment projects	
LLC "Silpo-Food"	Management report / Projections	Estimate of network growth until 2024. Prospects of the growth of the grocery trade market in Ukraine	Financial

*Source:* compiled by the authors according to the companies' reports [32–36].

The importance of generating forward-looking information is supported by the fact that, when preparing financial reports, the managers are supposed to assess the potential of the company to continuously maintain its operation. Such potential is assessed by both retrospective and prospective

information [37]. When determining the validity of the assumption for continuous activity, the management staff should consider all available future-related information – at least over twelve months since the end of the reporting period. At the same time, the thoroughness of the inspection is determined in each case by specific facts. If the company consistently gained profits from its activity in the past, if it has open access to financial resources, it can be appropriately assumed without a detailed analysis that it will preserve continuous operation in the future. Under other conditions, the management is recommended to examine a number of factors affecting the profitability status and growth, payment terms of debt obligations and potential extended fund facilities [37].

The COVID-19 pandemic and military situation in Ukraine have added emphasis to assessing the potential to continuously maintain business operations and the reliability of estimates upon assumptions regarding continuous performance. Continuous operation as a core to financial reporting acquires critical importance. Unpredictable scenario of upcoming events makes it extremely difficult to forecast the future. In this regard, to certify the potential for maintaining continuous operation, the company KPMG has provided guidelines to reinforce the reliability of the prospective information (*Figure 2*).



**Figure 2. List of measures to reinforce the reliability of forward-looking information when assessing the validity of continuous operation**

*Source:* [38].

When making projections and conducting assessment, the management staff are recommended to take into account a number of factors, including:

- the company's ownership structure and possible impact of sanctions on the company;
- geographical location of the company and areas of its operations, in particular, the signs of significant transactions and investments in the Russian and Belarusian markets, combat zones in Ukraine; destructive influence of military actions on the major business processes of the company;
- the impact of the war on the company's business counteragents and troubles in supply chains;

- access to funding by the parent company; projected values of covenants stipulated by loan agreements;
- the structure of assets and liabilities in terms of the company's vulnerability to currency and liquidity risks;
- availability of stocks, fixed assets and other assets on the territory of the Russian federation and Belarus, in combat zones, the possibility to manage them [38].

In view of the listed factors and reinforcement measures adopted by the companies regarding the reliability of the prospective data is the key to relevant information, which is subject to disclosure in corporate reports.

**Conclusions.** The entity's disclosure of social and economic aspects of its performance allows for determination of a number of risks threatening their sustainability, consequently, it is important for managing changes while achieving specified strategic goals. Non-financial reporting is a tool to ensure the balance of economic, social and environmental business imperatives.

The study of systemic aspects of retrospective information disclosure is related to the concept of integrated reporting, which uses forward-looking indicators to support correlation between the enterprise's current and prospective performance, determination of influence on the change of the growth of its value, as well as its further retaining in a short-, medium- and long-term perspective.

Under conditions of gradual changes in the management paradigm, which imposes new requirements to financial accounting as a core informational facility supporting decision making, the issue of reliability and relevance of accounting information as input data for financial forecasting is gaining significance, which will positively contribute to appropriate strategic management decisions. Furthermore, prospective data plays a critical role in the assessment and disclosure of reporting information concerning the accountability objects with uncertainties in prospective financial events.

The survey of theoretical and methodological background and practices of corporate reporting justifies the importance of further research in the accounting system to determine advance approaches to foster elaboration of prospecting information necessary for decision-making under conditions of increasing insecurity, growth in external economic uncertainty exposed to enterprises.

**Conflict of interests.** The researchers declare the absence of financial or non-financial conflict of interests associated with this publication; they certify not having relations with state bodies, commercial or non-profit organizations interested in the formulated ideas. Since the study authors are employed by the institution, which is the publisher of the journal, thus, potentially entailing a possible conflict or suspicion of bias, the final decision to publish the article (exclusively with the selection of reviewers and editors) was approved by the Board of Editors not connected with this institution.

## REFERENCES

1. Jefymenko, T. I., Lovins'ka, L. G., Olijnyk, Ja. V., & Kucherjava, M. V. (2021). Zvitnist' pidprijemstv pro stalij rozvytok v umovah pandemii' COVID-19 [Enterprise reporting on sustainable development in the context of the COVID-19 pandemic]. Kyiv [in Ukrainian].

2. Dynamika zastosuvannya standartiv GRI pry skladanni nefinansovoi' zvitnosti v Ukrai'ni ta sviti [The dynamics of the application of GRI standards in the preparation of non-financial reporting in Ukraine and the world]. *bakertilly.ua*. <https://bakertilly.ua/news/id47026> [in Ukrainian].
3. *Buhgalters'ki naukovy doslidzhennja v Zhytomyrs'kij politehnici. (2019). T. 6. Rozvytok integrovanoi' zvitnosti pidpryjemstv [Accounting research at Zhytomyr Polytechnic. Vol. 6. Development of integrated enterprise reporting]*; S. F. Legenchuka (Ed.). Zhytomyr: Zhytomyrs'ka politehnika. <http://eztuir.ztu.edu.ua/jspui/bitstream/123456789/7603/1/%D0%9C%D0%BE%D0%BD%D0%BE%D0%B3%D1%80%D0%B0%D1%84%D1%96%D1%8F.pdf> [in Ukrainian].
4. Indeks prozorosti kompanij [Index of transparency of companies] (2019). [https://cgpa.com.ua/wp-content/uploads/2020/10/Transp\\_index\\_2019\\_ua\\_full\\_web.pdf](https://cgpa.com.ua/wp-content/uploads/2020/10/Transp_index_2019_ua_full_web.pdf) [in Ukrainian].
5. Indeks prozorosti kompanij [Index of transparency of companies] (2020). <https://index.cgpa.com.ua> [in Ukrainian].
6. Golov, S. F., Kostjuchenko, V. M., & Kuzina, R. V. (2018). *Integrovane zvituvannja: koncepcija, metodologija ta organizacija [Integrated reporting: concept, methodology and organization]*. Herson: Gel'vetyka [in Ukrainian].
7. Zhuk, V. M. (2019). Integrovana zvitnist': retrospektyva i perspektyva v Ukrai'ni [Integrated reporting: retrospective and perspective in Ukraine]. *Oblik i finansy – Accounting and Finance, 1*, 20-27. [https://doi.org/10.33146/2307-9878-2019-1\(83\)-20-27](https://doi.org/10.33146/2307-9878-2019-1(83)-20-27) [in Ukrainian].
8. Gucalenko, L. V., & Marchuk, U. O. (2021). Integrovana zvitnist' – koncepcii' ta paradymy obliku v dosjagnenni cilej stalogo rozvytku [Integrated reporting – accounting concepts and paradigms in achieving the goals of sustainable development]. *Efektivna ekonomika – Efektivna ekonomika, 7*. [http://www.economy.nayka.com.ua/pdf/7\\_2021/11.pdf](http://www.economy.nayka.com.ua/pdf/7_2021/11.pdf) [in Ukrainian].
9. Caruk, V. Ju. (2020). Konceptual'ni zasady integrovanoi' zvitnosti v korporatyvnyh strukturah [Conceptual principles of integrated reporting in corporate structures]. *Efektivna ekonomika – Efektivna ekonomika, 4*. <http://www.economy.nayka.com.ua/?op=1&z=7790> [in Ukrainian].
10. Svichkar, N.M., & Kobec', Je.M. (2021). Vprovadzhennja integrovanoi' zvitnosti jak novoi' modeli upravlinnja biznesom [Implementation of integrated reporting as a new business management model]. *Ekonomika ta suspil'stvo – Economy and Society*. Issue 33. <https://doi.org/10.32782/2524-0072/2021-33-57> <https://economyandsociety.in.ua/index.php/journal/article/view/919/881> [in Ukrainian].
11. Umanciv, Ju. (2021). Teoretychnyj dyskurs rozvytku korporacij u XXI st. [Theoretical discourse on the development of corporations in the 21st century]. *Visnyk Kyivs'kogo nacional'nogo torgovel'no-ekonomichnogo universytetu – Herald of Kyiv National University of Trade and Economics, 3*, 33-51. [https://doi.org/10.31617/visnik.knute.2021\(137\)03](https://doi.org/10.31617/visnik.knute.2021(137)03) [in Ukrainian].
12. Bezverhyj, K. V., & Pantelejev, V. P. (2018). Konsolidovanyj zvit pro upravlinnja. Innovacii' v praktykah upravlins'koi' zvitnosti [Consolidated management report. Innovations in management reporting practices]. *Naukovyj visnyk Nacional'noi' akademii' statystyky, obliku ta audytu – Scientific Bulletin of the National Academy of Statistics, Accounting and Auditing, 1-2*, 37-46. <https://doi.org/10.31767/nasoa.1-2.2018.04> [in Ukrainian].
13. Korol', S. Ja. (2017). Oblikove zabezpechennja nefinansovoi' zvitnosti [Accounting for non-financial reporting]. *Biznes Inform – Business Inform, 3*, 346-352. [http://nbuv.gov.ua/UJRN/binf\\_2017\\_3\\_57](http://nbuv.gov.ua/UJRN/binf_2017_3_57) [in Ukrainian].
14. Korjagin, M.V., & Kucyk, P.O. (2016). *Problemy ta perspektyvy rozvytku buhgalters'koi' zvitnosti [Problems and prospects of the development of accounting reporting]*. Kyiv: Interservis [in Ukrainian].

15. Ozeran, A. (2017). Zvit kerivnyctva vs zvit pro upravlinnja: problemy vidpovidnosti zakonu pro buhgalters'kyj oblik ta svitovoi' praktyky [Management's report vs. management's report: compliance issues with accounting law and global practice]. *Buhgalters'kyj oblik i audyt – Accounting and Auditing*, 10-11, 2-12 [in Ukrainian].
16. Pappu Kumar Dey. (2020). What determines forward-looking information disclosure in Bangladesh? *Asian Journal of Accounting Research*. Vol. 5,2, 225-239. <https://www.emerald.com/insight/content/doi/10.1108/AJAR-03-2020-0014/full/html#ref004>. <https://doi.org/10.1108/AJAR-03-2020-0014> [in English].
17. Mahboub, R.M. (2020). The determinants of forward-looking information disclosure in annual reports of lebanese commercial banks. *Academy of Accounting and Financial Studies Journal*. Vol. 23, 4, 1-18 [in English].
18. Kunc, M. H., Giorgino, M. C. & Barnabè, F. (2021). Developing forward-looking orientation in integrated reporting. *Meditari Accountancy Research*. Vol. 29, 4, 823-850. <https://doi.org/10.1108/MEDAR-12-2019-0664> [in English].
19. Menicucci, E. (2018). Exploring forward-looking information in integrated reporting: A multi-dimensional analysis. *Journal of Applied Accounting Research*. Vol. 19, 1, 102-121. <https://doi.org/10.1108/JAAR-01-2016-0007> [in English].
20. ValueReportingFoundation. <https://www.integratedreporting.org> [in English].
21. Міжнародні стандарти інтегрованої звітності [International standards of integrated reporting]. <https://www.integratedreporting.org/wp-content/uploads/2021/01/InternationalIntegratedReportingFramework.pdf> [in Ukrainian].
22. Directive on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings of the European parliament and of the council of 26 June 2013. № 2013/34/EU. <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:182:0019:0076:EN:PDF> [in English].
23. Zakon Ukrai'ny "Pro buhgalters'kyj oblik ta finansovu zvitnist' v Ukrai'ni" vid 16.07.1999 r. № 996-XIV [Law of Ukraine "On Accounting and Financial Reporting in Ukraine" dated July 16, 1999 No. 996-XIV]. <http://zakon3.rada.gov.ua/laws/show/996-14/page> [in Ukrainian].
24. Konceptual'na osnova finansovoi' zvitnosti [Conceptual basis of financial reporting]. *mof.gov.ua*. [https://mof.gov.ua/storage/files/2019\\_RB\\_ConceptualFramework\\_ukr\\_AH.pdf](https://mof.gov.ua/storage/files/2019_RB_ConceptualFramework_ukr_AH.pdf) [in Ukrainian].
25. Mizhnarodnyj standart zavdan' z nadannjavpevnenosti 3400.Perevirka prognoznoi' finansovoi' informacii' [International standard for assurance engagements 3400. Verification of forecast financial information]. *mof.gov.ua*. [https://mof.gov.ua/storage/files/%D0%9C%D0%A1%D0%90%202016-2017\\_%D1%87%D0%B0%D1%81%D1%82%D0%B8%D0%BD%D0%B0%202\(1\).pdf](https://mof.gov.ua/storage/files/%D0%9C%D0%A1%D0%90%202016-2017_%D1%87%D0%B0%D1%81%D1%82%D0%B8%D0%BD%D0%B0%202(1).pdf) [in Ukrainian].
26. Guide to forward-looking information. *www.pwc.com*. <https://www.pwc.com/gx/en/audit-services/corporate-reporting/assets/pdfs/860-global-forward-looking-guide.pdf> [in English].
27. Mitsubishi heavy industries Group integrated report for the Year End ed March 31 (2019). [https://www.mhi.com/finance/library/annual/pdf/report\\_2019.pdf](https://www.mhi.com/finance/library/annual/pdf/report_2019.pdf) [in English].
28. Hitachi integrated report for the Year Ended March 31. 2020. <https://www.hitachi.com/IR-e/library/integrated/2020/index.html> [in English].
29. Nedbank Group integrated report for the Year Ended December 31. 2019. [https://www.nedbank.co.za/content/dam/nedbank/site-assets/AboutUs/Information%20Hub/Integrated%20Report/2019/2019%20Nedbank%20Group%20Integrated%20Report%20\(Low%20Res\) \(Single\).pdf](https://www.nedbank.co.za/content/dam/nedbank/site-assets/AboutUs/Information%20Hub/Integrated%20Report/2019/2019%20Nedbank%20Group%20Integrated%20Report%20(Low%20Res) (Single).pdf) [in English].
30. Sasria integrated report for the Year Ended March 31. 2019. <https://www.sasria.co.za/wp-content/uploads/2020/02/Sasria-Integrated-Report-2019.pdf> [in English].

31. Metodychni rekomendacii' zi skladannja zvituu pro upravlinnja: zatverdzeni Nakazom MinfinuUkrai'ny vid 07.12.2018 № 982 [Methodological recommendations for drawing up a management report: approved by the Order of the Ministry of Finance of Ukraine dated December 07, 2018 No. 982]. <https://zakon.rada.gov.ua/rada/show/v0982201-18#Text> [in Ukrainian].
32. Richnyj zvit Ukrtelekom 2020 (Annual report of Ukrtelecom 2020). <https://ukrtelecom.ua/about/accounting> [in Ukrainian].
33. Zvit zi stalogo rozvytku 2020. Farmak (Report on sustainable development 2020. Farmak). <https://farmak.ua/wp-content/uploads/2021/12/zvit-zi-stalogo-rozvytku.-farmak-2020.pdf> [in Ukrainian].
34. Richnyj zvit 2020. Golovna poshta krai'ny [Annual report 2020. Main post office of the country]. [www.uz.gov.ua](http://www.uz.gov.ua). [https://www.ukrposhta.ua/doc/issuer-reporting/UP\\_Report\\_2020.pdf](https://www.ukrposhta.ua/doc/issuer-reporting/UP_Report_2020.pdf) [in Ukrainian].
35. Integrovanyj zvit AT "Ukrzaliznycja" [Integrated report of JSC "Ukrzaliznytsia"]. [www.uz.gov.ua](http://www.uz.gov.ua). <https://www.uz.gov.ua/files/file/about/investors/UZ%20Integrated%20Report%202020%20Ukr.pdf> [in Ukrainian].
36. Zvit pro upravlinnja za 2020 rik. TOV "Sil'po-Fud" [Management report for 2020. "Silpo-Food" LLC]. [content.silpo.ua](http://content.silpo.ua). <https://content.silpo.ua/uploads/2021/04/30/608bebf3bc36.pdf> [in Ukrainian].
37. Mizhnarodnyj standart buhgalters'kogo obliku 1 [International accounting standard 1]. [zakon.rada.gov.ua](http://zakon.rada.gov.ua). [https://zakon.rada.gov.ua/laws/show/929\\_013#Text](https://zakon.rada.gov.ua/laws/show/929_013#Text) [in Ukrainian].
38. Oblik ta finansova zvitnist' pidprijemstv pid chas vijny [Accounting and financial reporting of enterprises during the war]. [home.kpmg](http://home.kpmg). <https://home.kpmg/ua/uk/home/media/press-releases/2022/05/oblik-ta-finansova-zvitnist-pidprijemstv-pid-chas-viyny.html> [in Ukrainian].

*Received the editorial office 11.08.2022.*

*Accepted for printing 18.08.2022.*

*Publication online 23.12.2022.*

**NAZAROVA Karina,**  
Doctor of Science (Economics), Professor,  
the Head of the Department  
of Financial Analysis and Audit  
State University of Trade and Economics  
19, Kyoto St., Kyiv, 02156, Ukraine

ORCID: 0000-0002-5019-9244  
k.nazarova@knu.edu.ua

**КОПОТІЄНКО Tetiana,**  
PhD (Economics), Associate Professor,  
Associate Professor of the Department  
of Financial Analysis and Audit  
State University of Trade and Economics  
19, Kyoto St., Kyiv, 02156, Ukraine

ORCID: 0000-0001-6107-9937  
t.kopotiienko@knu.edu.ua

**NEHODENKO Viktoriya,**  
PhD (Economics), Associate Professor,  
Associate Professor of the Department  
of Financial Analysis and Audit  
State University of Trade and Economics  
19, Kyoto St., Kyiv, 02156, Ukraine

ORCID: 0000-0001-6873-2011  
v.nehodenko@knu.edu.ua

## **INTERNAL AUDIT OF ENTERPRISE COSTS**

**Introduction.** Restaurant enterprises are an important sector in the formation of the national economy, which ensures the safety of the population's consumption in food and contributes to the gross domestic product and tax revenues to the state budget. At the same time, the economic activity of restaurant enterprises is accompanied by the commission of a significant number of offenses related to the manipulation of costs. An effective tool for ensuring proper oversight of costs and counteracting economic violations and abuses is internal audit.

**Problem.** Effective internal audit of costs of restaurant enterprises requires the development of an audit process model that reflects the most significant tasks and the sequence of their implementation by an internal auditor.

**The aim** of the article is development and substantiation of the internal audit model of enterprise costs on the process approach basis.

**НАЗАРОВА Каріна,**  
д. е. н., професор, завідувач кафедри  
фінансового аналізу та аудиту  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0002-5019-9244  
k.nazarova@knu.edu.ua

**КОПОТІЄНКО Тетяна,**  
к. е. н., доцент, доцент кафедри  
фінансового аналізу та аудиту  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0001-6107-9937  
t.kopotiienko@knu.edu.ua

**НЕГОДЕНКО Вікторія,**  
к. е. н., доцент, доцент кафедри  
фінансового аналізу та аудиту  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0001-6873-2011  
v.nehodenko@knu.edu.ua

## **ВНУТРІШНІЙ АУДИТ ВИТРАТ ПІДПРИЄМСТВА**

**Вступ.** Підприємства ресторанного господарства є важливим сектором національної економіки, що забезпечує потребу населення у харчуванні та робить внесок у формування валового внутрішнього продукту і податкових надходжень до державного бюджету. Водночас, господарська діяльність підприємств ресторанного господарства супроводжується значною кількістю правопорушень, пов'язаних з маніпулюванням витратами. Дієвим інструментом забезпечення належного контролю за витратами та протидії господарським порушенням і зловживанням є внутрішній аудит.

**Проблема.** Ефективне проведення внутрішнього аудиту витрат підприємств ресторанного господарства потребує розроблення моделі аудиторського процесу, що відображатиме найбільш суттєві завдання та послідовність їх виконання внутрішнім аудитором.

**Мета** статті – розроблення та обґрунтування моделі внутрішнього аудиту ви-



**Methods.** Such methods of theoretical and empirical research as dialectical, induction, deduction, analysis, synthesis, abstraction, and extrapolation were applied. Methods of building analog models, and system and structural were used for building a model of the internal audit process of enterprise costs.

**Results.** Based on the study results, the theoretical foundations for structuring the internal audit process of the restaurant business costs have been improved by developing a model that, as part of the organizational and preparatory stage, provides for the implementation of hypotheses and versions of violations with costs, the risk of which arises in the business processes implementation of enterprises: the supply and posting of raw materials and purchased goods, cooking, drinks and their sale. A list of versions of violations that cause information distortion about the restaurant business costs is proposed.

**Conclusions.** The developed model of the internal audit process of restaurant enterprise costs will contribute to the internal audit improvement of costs in terms of time, labor intensity and increase the probability of detecting illegal actions in case of their presence.

**Keywords:** internal audit, costs, model of the internal audit process.

Jel Classification: M42

трам підприємства ресторанного господарства на засадах процесного підходу.

**Методи.** Застосовано методи теоретичного та емпіричного дослідження: діалектичний, індукції, дедукції, аналізу, синтезу, абстракції, екстраполяції – для аналізу наукової літератури; побудови аналогових моделей, системно-структурний – для побудови моделі внутрішнього аудиту витрат підприємства.

**Результати дослідження.** За результатами проведеного дослідження вдосконалено теоретичні основи структуризації внутрішнього аудиту витрат підприємства ресторанного господарства шляхом розроблення моделі, яка у межах організаційно-підготовчої стадії передбачає імплементацію гіпотез та версій порушень з витратами, ризик вчинення яких виникає під час здійснення господарських процесів підприємств: постачання та оприбуткування сировини і покупних товарів, виготовлення страв, напоїв та їх реалізації. Запропоновано перелік версій вчинення порушень, які зумовлюють викривлення інформації про витрати підприємства ресторанного господарства.

**Висновки.** Розроблена модель внутрішнього аудиту витрат підприємства ресторанного господарства сприятиме вдосконаленню внутрішнього аудиту витрат за часовим параметром, трудомісткістю та підвищенню ймовірності виявлення неправомірних дій у разі їх наявності.

**Ключові слова:** внутрішній аудит, витрати, модель внутрішнього аудиту.

**Introduction.** Restaurant enterprises are an important sector of the national economy, which, on the one hand, provides the population with food needs, and on the other hand, contributes to the formation of gross domestic product and the tax revenues to the state budget. In the current economic conditions, significantly complicated by the consequences of the COVID-19 pandemic and the war in the country, the efficiency of any restaurant business is determined by the achieved level of profitability. Expenses are a factor that directly affects the profitability level of any enterprise, determines the financial result of economic activity and the same possibility of functioning in the market of a business entity. At the same time, the manipulation of expenses is a tool for committing a significant number of economic offenses: theft of property, fraud with financial statements, understatement of the taxable base with income tax, etc. Internal audit is an effective tool for ensuring proper control over costs and counteracting economic violations and abuses.

**Problem.** Conducting an internal audit of activity costs is especially important for business companies, associations of business companies, network enterprises, where there is a significant probability of information

distortion due to large financial flows and the risk of abuse by hired management. The effective conduct of an internal audit of PRG costs requires the development of the audit process model, which will reflect the most significant tasks and the sequence of their execution by the internal auditor.

**Analysis of recent research and publications** The theory and practice of internal audit were studied by both domestic and foreign scientists, in particular T. Kamenska, A. Korkushko, L. Kushnir, N. Spitsyna, S. Kravtsova, A. Shot, A. Yanchev, D. Shekhovtsova [1–5]. Scientists, who are studying internal audit based on the process approach mainly focus on the development of methodological procedures for its implementation in relation to various objects, which are most often corporate governance, risks, internal control, fraud. [1–4]. Such scientists as A. Yanchev and D. Shekhovtsova, considering the organization of internal audit of the enterprise's expenses, allocate resources, processes, economic results (expenses, cost), as well as management accounting and cost management systems as part of its objects [5, c. 122]. T. Kamenska, A. Korkushko, L. Kushnir, A. Shot pay considerable attention to the study of the features of planning and organizing internal audit in enterprises. [1; 2; 4]. N. Spitsyna and S. Kravtsova substantiate the main theoretical aspects of internal audit and its differences from external audit [3]. Recognizing the importance of scientific achievements of scientists, we note the lack of comprehensive developments in modeling the internal audit process of PWG costs and, at the same time, their need for applied application of the obtained theoretical generalizations, which indicates the relevance of the study of this topic.

**The aim** of the article is to develop and justify the internal audit model of the restaurant business costs on the basis of the process approach.

**Methods.** Methods of theoretical and empirical research were applied: individual, applied, deduction, analysis, synthesis, abstraction, extrapolation – for the scientific literature analysis; building production models, system-structural – for building models of internal audit processes of enterprise costs.

The information base of the study is the legal acts of Ukraine on economic activity, accounting, audit; documents of international professional organizations on audit and internal audit of enterprises; scientific works of leading foreign and domestic scientists, periodicals.

**Results.** Internal audit is one of the main forms of financial control, mandatory for the state and banking sector and proactive for other economic entities, in particular PRG. As defined in International Standard on Auditing 610 "Using the Work of Internal Auditors", an internal audit is an evaluation activity organized by or provided as a service to a division of an entity. Its functions cover, among other things, checking, evaluating, monitoring the adequacy and effectiveness of internal controls. [6]. This regulation also defines the functional purpose of the internal audit unit as a unit of the enterprise "which performs assurance and consulting activities designed to assess and improve the effectiveness of the entity's management, risk management and internal control processes" [6, c. 673].

The content characteristics and purpose of internal audit are also presented in the MSPPVA: "internal audit contributes to the achievement of the organization's defined goals with the help of a systematic, consistent approach to evaluating and improving the effectiveness of the processes of corporate management, risk management and control [7]. That is, internal audit, first of all, is a process organized and integrated into the economic activity of the enterprise. The internal audit process of costs is an element of the enterprise's internal audit system, which reflects the implementation of control procedures in accordance with the accepted methodology.

Achieving the goal of internal audit of the company's costs largely depends on the correct determination of the sequence of tasks provided for in the control process. Considering this, we will consider the scientists' views regarding the content characteristics of the internal audit process by structuring it into stages (stages, phases).

Exploring the content of the internal audit process, T. Kamenska suggests highlighting such stages as "defining the subject area", "planning", "checking the internal control system", "gathering and documenting evidence", "completing the check", "monitoring the implementation of recommendations" [8, c. 326].

As part of modeling the internal audit process of expenses, A. Yanchev and D. Shekhovtsov proposed the following phases: planning, collecting audit evidence, documenting the internal audit and its results [5, c. 122]. Similar in terms of content are the stages of internal audit identified by M. Shukhman: organization and planning, conducting, summarizing and implementing the internal audit results [9, c. 107]. We mainly share this position, since it allows us to distinguish successfully between the internal audit tasks by the nature of the actions performed. However, in relation to the last stage, we note that the internal audit prerogative is not the implementation of the results, but monitoring the implementation of the recommendations formed based on the control event results.

Internal audit should be considered a process of sequential execution of tasks within the organizational, preparatory, methodological and final stages (*Figure 1*).

Presented in *Figure 1* model of the internal audit of PRG costs reflects the sequential implementation of tasks, the actual results of which will change the control process content and accordingly modify the composition of the methodical procedures to be applied. The expediency of distinguishing individual stages of internal audit is determined by the significant difference in the content and work nature of the entity performing the internal audit at certain intervals of the control process

The result of the work at each stage is summing up and compiling effective information used in the next stage of the internal audit process, and so on until completion. After analyzing the work results, the internal auditor, after completing each stage, must decide whether he is moving in the right direction or some aspects (for example, the work plan) should be revised.

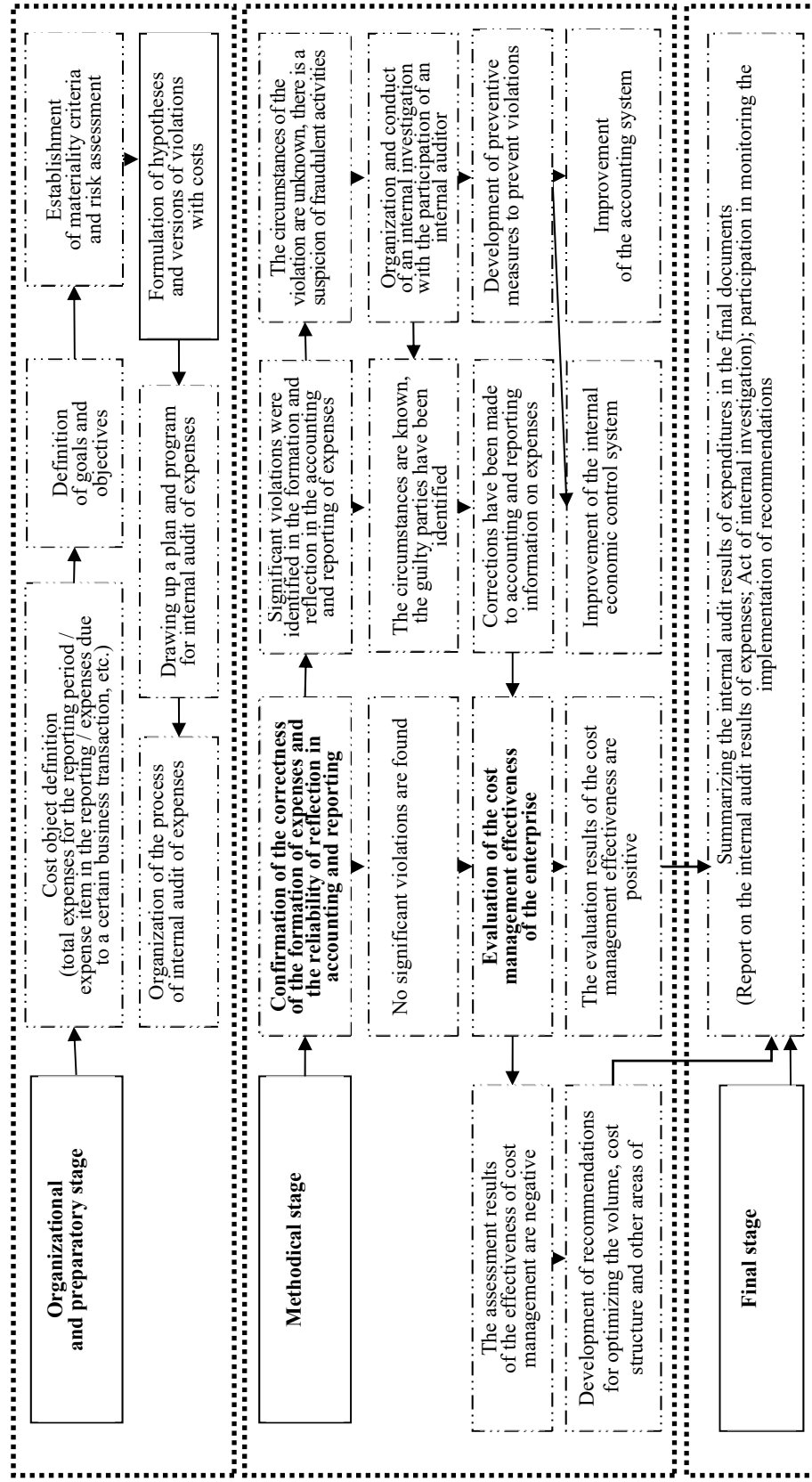
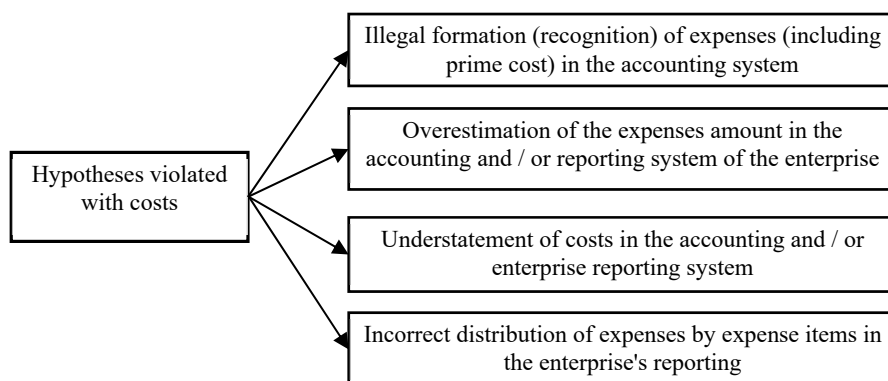


Figure 1. Model of the internal audit process of the restaurant business costs [author's development]

The organizational stage of the internal audit of the company's expenses, in accordance with its name, involves the performance of a set of tasks related to the definition of the object, purpose, tasks, establishment of materiality criteria and audit risk assessment, plan and program preparation of the internal audit, organization of the control measure process. In particular, within the organizational and preparatory stage, the list of tasks is supplemented by the formulation of hypotheses of typical violations regarding the display of expenses in the accounting and reporting of the business entity (*Figure 2*).



**Figure 2. Hypotheses of violations that lead to information distortion on the business entity expenses [author's development]**

Formulation of hypotheses regarding possible violations at the stage of preparation for conducting a control measure allows the internal auditor to plan an internal audit of expenses in the most risky areas that require increased attention, and accordingly reduce the time for conducting a control measure and increase the probability of detecting illegal actions in the event of their presence.

On the basis of the mentioned hypotheses, the versions of committing violations with the operational activity costs according to the economic processes of PRG have been developed (*Table*).

According to P(S)BO 16, expenses are recognized either together with the disposal of assets or with an increase in liabilities [10]. Since expenses are an economic indicator that is directly related to a decrease in assets and/or an increase in liabilities, after detecting signs of violations in the part of expenses, we form versions that will one way or another relate to these objects. Accordingly, the distortion of information about expenses in accounting or reporting may be caused by illegal actions regarding the manipulation of the assets/liabilities of the business entity. Versions of violations regarding economic transactions that affect the formation of the costs of operational activities of the PRG reflect the method, subject and circumstances of committing the violation.

The importance of formulating hypotheses and versions of violations during a control event lies in the fact that foreseeing the circumstances, opportunities, methods and subjects of committing illegal actions allows not only to identify already committed violations, but also to develop measures to prevent them, thereby shifting the focus on retrospective control to preventive.

**Versions of the commission of violations that cause the distortion of information on the restaurant business costs**

Economic process	Responsibility Center	Subject of violation	Contents of the infringement version
Acquisition and storage of food raw materials and purchased goods	Accounting	Chief accountant/ accountant	Non-compliance with the distribution method of transport and procurement costs, defined in the restaurant business accounting policy, which may lead to an overestimation of the initial cost (cost price) of stocks (as a result, the cost of selling ready meals and purchased goods) and an underestimation of the reporting period costs, and vice versa
	Warehouse (pantry); accounting; administration	Chief accountant + supply manager / manager + accountant	Inclusion of transportation and procurement costs not directly related to the purchase of stocks (transportation costs for delivery from the central structure of the network to enterprises and network branches, costs for the return of containers according to the contract) in the initial cost of food raw materials and purchased goods of the PWG
	Accounting; warehouse (pantry); administration	Manager / manager + chief accountant / warehouse manager (storekeeper) /	Inclusion in the initial cost (cost price) of food raw materials and goods of the cost of maintaining the supply service and the cost of maintaining the warehouse
	Accounting; warehouse (pantry), production workshop (kitchen)	Manager + staff of the institution	Forgery of amounts and / or volumes of food raw materials and goods in waybills, followed by the appropriation of part of the cash used to pay for the products, and writing off the actual shortage of products for company events, where it is more difficult to control its consumption (banquets, buffet breakfast)
	Accounting; warehouse	Chief accountant / accountant / warehouse manager (storekeeper)	Illegal use of orders from a restaurant business for personal acquisitions of personnel, primarily administrative
			Write-off of food raw materials within the limits of natural wastage before / without establishing and fixing the fact of shortage by the inventory commission. Assignment of food raw materials due to re-sorting during the inventory
			Posting and write-off of a part of products or raw materials of ordinary properties as of poor quality. Purchase of inventories in excess, resulting in deterioration and write-off

*Continuation of the Table*

Economic process	Responsibility Center	Subject of violation	Contents of the infringement version
Preparation of meals, culinary products, portioned drinks	Accounting; warehouse	Chief accountant/ warehouse manager (storekeeper)	Theft of food raw materials, purchased goods and other inventory items of a restaurant business by unlawfully writing them off as a loss from depreciation of stocks and shortages and losses from damage to valuables.
	Accounting	Chief accountant/ accountant	Attribution to the reporting period expenses and not including in the cost of food raw materials and purchased goods the costs of transporting stocks on their own (own vehicle, staff) of a restaurant business
	Production workshop (kitchen)	Chef/ chef + kitchen staff	The applicable method for assessing the disposal of food raw materials when leaving for the kitchen (in the production workshop) does not correspond to the one determined by the accounting policy of the restaurant business
	Accounting	Chief accountant/ accountant	Making a decision on changing the output of ready-made dishes portions, side dishes, without recalculating the norms of setting raw materials in technological and costing maps
		Chief accountant/ chef + accountant	Application of attrition rates to portioned dishes and culinary products
		Production manager (chef)	Display of "inflated" expenses for food for the company's personnel with the appropriation of food raw materials or ready meals
Production workshop (kitchen)	Chef/ chef + kitchen practitioners	Overestimation of the raw materials waste during its mechanical and culinary processing, which leads to the use of a larger volume of raw materials and a formal increase in the cost of production in the restaurant business accounting	
		Reflection in the accounting of the cost of food raw materials in accordance with the current technological documentation with the actual violation of the norms for laying raw materials (not adding dishes provided for by the ingredients in the technological maps)	
		Reflection in the accounting of the food raw materials consumption in accordance with the current technological documentation with the actual violation of the norms for the output of finished dishes or culinary products	

*End of the Table*

Economic process	Responsibility Center	Subject of violation	Contents of the infringement version
Realization of own production products and purchased goods	Trading hall	Waiter/ waiter-cashier/ hall administrator + waiter + cashier	In order to pay for the services (products) provided, the consumer is provided with an invoice (pre-check) instead of a cash receipt, which is an internal management document, and not a fiscal document. After cashing out, a cash receipt is not created, or it is created for an amount less than the actual one. The consequence of this is an underestimation of the real amount of income from sales and the cost of sales, which are reflected in the reporting of the restaurant business.
	Trading hall; administration	Waiter/waiter + cashier/ waiter + middle manager	Multiple usage of the same receipt (on an order such as "coffee", "business lunch"), cancellation of a paid order, deletion or transfer of dishes from a receipt, unreasonable provision of discounts on receipts (for the same discount card) with the assignment of a trading revenue. The consequence of this is an underestimation of the real amount of income from the sale of products and the cost of sales of the company's products.
	Trading hall;	Waiter/ waiter + middle manager	Inappropriate write-off of the cost of ready-made meals and drinks for meals of the owner of the restaurant business with actual appropriation of the products
	Administration; accounting	Manager + chief accountant/accountant	Unauthorized "compensation" of the shortage of the company's purchased goods with leftovers after banquets
	Bar	Bartender	Inclusion in the settlement and payroll of expenses for wages for waiters or other personnel who do not actually work at the enterprise with the subsequent appropriation of funds. Unreasonable bonus payments and allowances to managers
			Creation of underfilling portioned drinks and unauthorized sale of artificially created residues with misappropriation of proceeds
	Accounting	Chief accountant/ accountant	Underestimating the expenses volume by reflecting part of the reporting period expenses as part of the expenses of future periods (as a result, the net profit of the enterprise is overstated, which gives a false impression of the business profitability) If it is necessary to present a high level of profitability of the enterprise – under-statement of the reporting period expenses.
			Failure to comply with the rules for classifying expenses by items and elements of expenses in the restaurant business reporting

*Source:* author's development.



Given the risk of violations in cost accounting, it is advisable to evaluate the cost management effectiveness on the basis of accounting and reporting information only after the internal auditor receives evidence of its reliability. Establishing the reliability of information about the company's expenses may involve checking both the object of a separate business transaction and establishing the reliability of financial or management reporting. At the same time, the test will be more effective if you start by testing weaknesses in reporting and analytical procedures in order to identify unusual fluctuations in interrelated indicators. Identified weaknesses are checked more thoroughly (with a larger sample size or continuous method). This position should be followed during the preparation of procedures for the evidence formation of the reliability of the costs display (including the cost price formation) in the accounting and reporting of enterprises. Note that the procedure is a broader concept than methodological techniques, as it includes the latter. Regarding the results of the assignment to assess the reliability of information on costs, it should be noted that in the event of a significant violation, regarding which the circumstances of its commission are unknown and it is difficult to identify the guilty person, and there is also a suspicion that it was committed intentionally, the internal auditor may initiate an internal investigation.

At the regulatory level, conducting an official investigation by privately owned enterprises is not regulated. However, if the conflict could not be resolved locally, the materials of the official investigation, issued by the administrative document on the investigation and the act on its completion, are transferred to law enforcement agencies. In the materials submitted to law enforcement agencies, the internal auditor can provide descriptive and causal characteristics of the violation, but he should not provide a legal assessment of the violation, for example, in relation to the commission of fraud: firstly, this prerogative belongs only to judicial investigators authorities, and secondly, the definition of fraud in the International Standards for Quality Control, Audit, Review, Other Assurance and Related Services and the International Standards for the Professional Practice of Internal Auditing are significantly different from the conditions for recognition of fraud by the current Criminal Code of Ukraine.

Thus, according to the ISA, deliberate manipulations with expenses can be regarded as fraudulent actions, and according to the norms of the Criminal Code of Ukraine on crimes against property, expenses cannot be recognized as an object of fraud. The evidence obtained by the internal auditor of the reliability of the information about costs reflected in the accounting and reporting provides a basis for evaluating the level of cost management effectiveness on the part of PRG management, which also provides for a certain method of implementation, which will be disclosed and substantiated in further research.

**Conclusions.** Based on the study results, the theoretical foundations for structuring the costs internal audit of a restaurant business have been improved by developing a model that, within the organizational and preparatory stage, provides for the implementation of hypotheses and versions

of violations with costs, the risk of which arises in the implementation of business processes of enterprises: supply and posting of raw materials and purchased goods, cooking, drinks and their sale. A list of versions of violations that lead to the information distortion about the expenses of a restaurant business enterprise is proposed. This will contribute to the internal audit improvement of expenses in terms of time, labor intensity, and increase the detection probability of illegal actions in case of their presence.

**Conflict of interests.** The authors declare that they have no financial or non-financial conflicts of interest regarding this publication; do not have relationships with government agencies, commercial or non-profit organizations that might be interested in representing this point of view. Given that the authors work for an institution that publishes the journal, which may give rise to potential conflict or suspicion of bias, the final decision on the publication of this article (including the choice of reviewers and editors) was made by those members of the editorial board who are not associated with this institution.

### REFERENCES

1. Kamens'ka, T. O. (2017). Planuvannja dij'al'nosti sluzhby vnutrishn'ogo audytu [Planning the activity of the internal audit service]. *Visnyk Nacional'nogo universytetu "L'vivs'ka politehnika". Menedzhment ta pidpryjemnyctvo v Ukrai'ni: etapy stanovlennja i problemy rozvytku – Bulletin of the Lviv Polytechnic National University. Management and entrepreneurship in Ukraine: stages of formation and problems of development*, 862, 108-112 [in Ukrainian].
2. Korkushko, O. N., & Kushnir, L. A. (2020). Vnutrishnij audyt na pidpryjemstvi: sut' ta osoblyvosti organizacii' [Internal audit at the enterprise: the essence and peculiarities of the organization]. *Infrastruktura rynku – Market Infrastructure*. Issue 42, (pp. 363-366) [in Ukrainian].
3. Spicyna, N. V., & Kravcova, S. V. (2020). Vnutrishnij audyt: pidhody do vyznachennja, vidminnosti vid zovnishn'ogo audytu [Internal audit: approaches to definition, differences from external audit]. *Biznes Inform – Business Inform*, 5, 342-348 [in Ukrainian].
4. Shot, A. P. (2020). Analiz vplyvu sluzhby vnutrishn'ogo audytu na dij'al'nist' sub'jektiv gospodarjuvannja [Analysis of the impact of the internal audit service on the activities of business entities]. *Biznes Inform – Business Inform*, 1, 278-284 [in Ukrainian].
5. Janchev, A. V., & Shehovcova, D. D. (2016). Suchasna koncepcija organizacii' vnutrishn'ogo audytu v upravlinni vytratamy pidpryjemstv restorannogo gospodarstva [Modern concept of internal audit organization in cost management of restaurant enterprises]. *Biznes Inform – Business Inform*, 7, 119-124 [in Ukrainian].
6. Mizhnarodni standarty kontrolju jakosti, audytu, ogl'jadu, inshogo nadannja vpevnosti ta suputnih poslug: vyd. 2016-2017 rr. [International standards of quality control, audit, review, other assurance and related services: ed. 2016-2017] (2017). O. L. Ol'hovikova, M. K. Shul'man [Trans.]. Kyiv: Mizhnarodna federacija buhgalteriv; Audytors'ka palata Ukrai'ny [in Ukrainian].
7. Mizhnarodni standarty profesijnoi' praktyky vnutrishn'ogo audytu [International standards of professional practice of internal audit]. *surl.li*. <http://surl.li/dffzo> [in Ukrainian].
8. Kamens'ka, T. O. (2011). Vnutrishnij audyt: metodologija ta organizacija [Internal audit: methodology and organization]. *Doctor's thesis*. Kyiv [in Ukrainian].
9. Shuhman, M. E. (2009). Organizacija vnutrishn'ogo audytu v korporacijah [Organization of internal audit in corporations]. *Candidate's thesis* [in Ukrainian].
10. Nacional'ne polozhennja (standart) buhgalters'kogo obliku 16 "Vytraty" [National regulation (standard) of accounting 16 "Expenses"]. *zakon.rada.gov.ua*. <https://zakon.rada.gov.ua/laws/show/z0027-00> [in Ukrainian].

*Received the editorial office 18.08.2022.*

*Accepted for printing 07.09.2022.*

*Publication online 23.12.2022.*