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The third issue contains articles by scientists from different countries, prepared on the basis of their scientific work. It is designed for university teachers, graduate students, undergraduates, practitioners in economics, finance, accounting and auditing, as well as other branches of economics.

EDITORIAL TEAM

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CHAPTER 1
CURRENT TRENDS IN ECONOMIC DEVELOPMENT

SUSTAINABLE BUSINESS DEVELOPMENT IN THE CONTEXT OF THE CONTEMPORARY RISKS AND CHALLENGES

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Abstract. *The direction of our research is based on the problem of sustainable business development in the context of the global risks and contemporary challenges. In the article, the authors emphasize the need to find new ways of business development in the conditions of contemporary crises and challenges, among which a key place is given to the COVID-19 and Russian military aggression in Ukraine. Accordingly, the research hypothesis consists in the assumption that the effective management of the economic development of business should be based on a deep understanding of contemporary challenges and global risks affecting the development of each specific country currently in the medium and long term. The main goal of the research is to develop a model of the process of smart business regulation, taking into account consumer behavior in conditions of contemporary risks and challenges. The article notes that the basis of the proposed model of smart regulation in the conditions of modern challenges lies in decision-making theories based on uncertainty. In conclusion, the authors note that the development and implementation of smart regulation, focused on risks and challenges proportional to them, is an important approach to increasing efficiency, strengthening effectiveness and reducing the overall burden on the economy. The article finds that the COVID-19 crisis and Russia's military aggression in Ukraine have demonstrated the obstacles that regulation can create for crisis response when it is disproportionate to the risk or when the trade-offs between different risks are not adequately anticipated. It also demonstrates the importance of regulatory flexibility and emergency management, as well as the use of new technologies. The use of the proposed model is especially relevant in the context of the impact of future risks - threats to the ecosystem, epidemiology threats, security threats, threats of digital rights violations, and threats to economic stability.*

Keywords: *sustainable business development, smart regulation, resilience, tourism and hospitality, Russian invasion in Ukraine*

JEL Classification: D01, E30, E71

Formulas: 0; fig.:1; tabl.0; bibl.: 21

Introduction. The upheavals of recent years – primarily the pandemic and Russia's military invasion of Ukraine – reflected and accelerated epochal changes in the world order. The risks that are seen as more serious in the short term are related to structural changes in the economic and geopolitical landscape that are accelerating other global threats that the world community will have to face in the coming years.

The concentration of world economies on returning to normal functioning after curbing COVID-19 was disrupted by the outbreak of war on the territory of Ukraine due to the aggressive invasion of Russia. Accordingly, a new series of crises has begun, among which the key elements today are the food and energy crises, inflation, the cost of living crisis, trade wars, social unrest, large-scale forced migration, the renewal of geopolitical confrontation on a scale comparable to the Cold War period, and the return of the threat of outbreak nuclear war.

In general, it is worth noting that contemporary challenges and crises can both restrain and promote the sustainable economic development of business structures separately and the economy as a whole. Accordingly, the research hypothesis consists in the assumption that the effective management of the economic development of business should be based on a deep understanding of contemporary challenges and global risks affecting the development of each specific country currently in the medium and long term. The purpose of the research is to develop a model of the process of smart business regulation, taking into account consumer behavior in conditions of contemporary risks and challenges.

Literature review. Not a single economic school, starting with the classics of economic theory, has ignored the issue of risks. As an independent science, risk theory developed relatively recently, although it existed earlier as part of separate sciences. Thus, the classic theory of risk is represented by the works of J. Mill (1824), according to which entrepreneurial income was determined, among other factors, by the risk fee, which is related to the compensation of a possible loss. The neoclassical theory of risk, developed in the first third of the 19th century by A. Marshall (1997) and A. Pigu (1909), is based on the fact that an entrepreneur who works in conditions of uncertainty is guided by two criteria when making decisions: the size of the expected profit and the size of his possible deviations. In this theory, the concept of marginal utility is introduced, and the amount of risk corresponds to fluctuations in the amount of expected profit. In parallel with the theory of economic risk, the development of the theory of risk assessment took place in various fields of scientific research of the 18th and 20th centuries, and by the end of the 18th century, almost all risk measurement tools that are used today were developed.

Of particular note is the innovative global model for forecasting currency crises (Alaminos et al., 2019), which has significant potential to adapt macroeconomic policies to risks associated with falling currency values, providing tools that help ensure financial stability at the global level. D. Backus, A. Ferriere and S. Zin (Backus et al., 2015) explore the role of risk and ambiguity in business cycle models. At the same time, in economic science, considerable attention is also paid to the study of the effects of uncertainty shocks in the 21st century (Bloom, 2009). In turn, the influence of political risks on economic development was studied by B. Born and J. Pfeifer (Born, & Pfeifer, 2014).

In the studies of the 20th and 21st centuries, among the risks that have a significant impact on the development of society in general and the business environment in particular, climatic and epidemiological risks began to be highlighted. Thus, S. Butorov (2020) notes that the scale of the epidemic, the rapidity of its spread, the number of victims and infected, its ability to cause irreparable damage to the world economy indicate that humanity has entered an era of global catastrophes, new threats and challenges. In turn, the concept of "challenge" was introduced into scientific circulation by the English historian A. Toynbee (Toynbee, 2019). A. Toynbee singles out the following types of challenges: the challenge of a harsh climate; the challenge of new lands; call for sudden blows from neighboring societies; the challenge of constant external pressure and the challenge of limitation, when society, having lost something vitally important, directs its energy to the development of properties that compensate for the loss.

Among recent studies, P. Peduzzi (Peduzzi, 2019) emphasizes that some aspects of disaster risk related to global environmental changes still don't have a clear meaning for the main stakeholders (governments, businesses, insurance companies or agencies). In turn, there are studies of the impact of the global pandemic examine the impact of the global COVID-19 pandemic on the relationship between corporate social responsibility (CSR) and firm sustainability (Kim et al., 2022). The authors argue that firms that are more active in CSR do not reduce the market risk associated with the global COVID-19 pandemic compared to their counterparts that are less active in CSR, that is, CSR doesn't provide a significant improving the company's market risks.

In the aspect of research on the risks caused by COVID-19, it was found that the business sector most affected by epidemiological risks is tourism and hospitality (Kostynets et al., 2021).

The analysis of the theoretical background shows that despite the presence of a sufficient number of scientific works that relate to the functioning of business in conditions of risks of various nature, today the topic of forecasting economic development is relevant and it is expedient to develop a model of smart regulation based on the study of the sustainable functioning of business in conditions of epidemiological threats, military conflicts and wars, as well as accompanying political collapses and economic crises in Europe and the world.

Aims. The purpose of the article is to find new ways of business development in the conditions of contemporary crises and challenges, among which a key place is given to the COVID-19 and Russian military aggression in Ukraine.

Methodology. The methodological approach to the formation of the smart regulation model in the conditions of modern challenges, which is able to take into account the maximum number of risks and predict their development, is based on the application of a combination of time series forecasting methods and neural network construction methods. In fact, the proposed model of smart regulation under the conditions of contemporary challenges is based on the theories of decision-making based on uncertainty (Goodwin, Wright, 2004; Clemen, 1996; Raiffa, 1997), which, in turn, are the basis for building smart regulation neural networks.

Neural networks, which are approximators of non-linear functions, can be used in conditions of uncertainty and risk, if the linear form of traditional models is replaced by a non-linear one (Jinu, 2019). To use a neural network forecasting model, it is necessary: first, to determine the type and architecture of the network; secondly, the parameters of the neural network using the training sample, which is built on the basis of the values of the original time series. As a rule, either recurrent networks or forward propagation networks are used for forecasting tasks (Bandara et al., 2020).

A genetic algorithm is often used to determine the structure of a neural network. The same algorithm can also be used to form the composition of input variables, but this approach requires significant computational costs.

To model management processes in conditions of uncertainty of modern challenges and risks, it is advisable to use the neural network method of direct propagation. In such a network, connections between nodes do not form a cycle. A feed-forward neural network is the first and simplest type of neural network. In a network of this type, information moves in a forward direction from input nodes and through hidden nodes (if any) to output nodes. At the same time, the input nodes are time series of the main indicators that affect the development of business, both exogenous and endogenous.

For smart regulation modeling, it will be more appropriate to use the techniques used in building a traditional linear predictive model, namely: autocorrelation functions and partial autocorrelation functions, to determine the composition of the input variables of the neural network. A non-stationary time series is reduced to a stationary time series with the help of simple transformations. One such method is, for example, taking finite differences. Based on the analysis of autocorrelation functions and partially autocorrelation functions, the parameters of the model $ARIMA(p,\ d,\ q)$ or the model $SARIMA(p,\ d,\ q)(Ps\ ,Ds\ ,Qs)$ are determined, respectively, in the absence or presence of a seasonal component. The obtained values of the parameters (orders) of the classic time series models determine the number of past values of the time series that are used in the neural network model.

Results. The nature of the functioning of various business spheres implies the presence of large economic ties between entities that are influenced by a large number of objective and subjective factors of both a positive and negative nature. A risk can arise at any time under the influence of factors of various origins. A vivid example of the manifestation of such global risks and contemporary challenges and business response to them is the field of tourism and hospitality. Thus, previous studies have shown that it is the tourism and hospitality around the world that has reacted very negatively to the pandemic due to the nature of the business, which is always associated with people's travels. The tourism sector has become one of the most affected by the outbreak of the COVID-19, which has affected both demand and supply, which has become additional risks for the industry in the context of a weakened global economy, geopolitical, social and trade tensions, as well as uneven opportunities among the main outbound travel markets (Kostynets et al., 2020).

The influence of Russian aggression in Ukraine on tourism and hospitality became no less serious. Thus, experts of the world tourism market claim that Russian aggression not only creates significant obstacles to the recovery of the continent's

tourism industry after the pandemic, but also encourages tourists to consider alternative tourist destinations to other countries. A big problem in this situation was also the fact that all international logistics routes that pass through the territory of Ukraine are not functioning now. However, the Ukrainian market is not the only one affected by this war: on certain European destinations, a drop in the number of flights is observed after February 24, compared to the same period in 2021. So, for example, the number of flights in Moldova fell by 69%, in Slovenia by 42%, in Latvia by 38%, and in Finland by 36% (UNWTO, 2022).

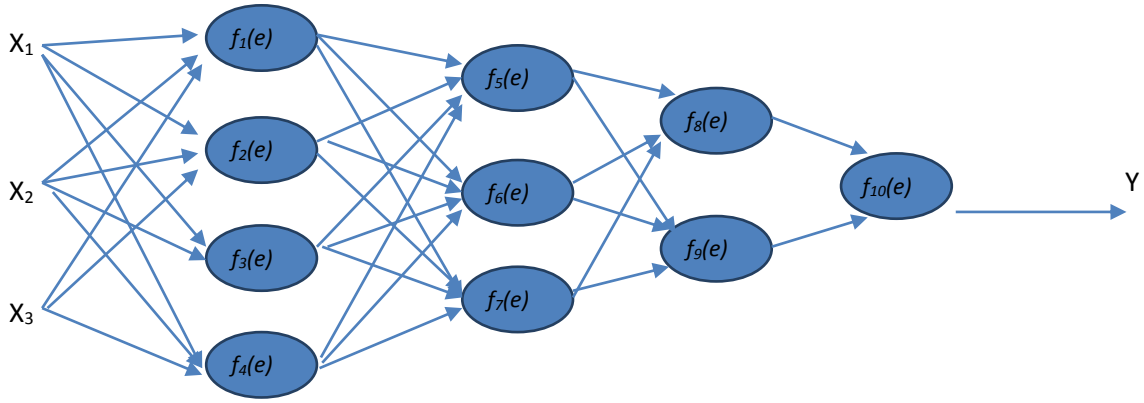
It is worth noting that the Russian invasion of Ukraine had a significant impact not only on the tourism industry, but also on all other spheres of Ukrainian business. Thus, surveys of business representatives in the field of real estate and construction, service, IT/Software, retail/e-commerce, and production conducted in August 2022 (Kyivstar Business Hub, 2022) show that it was the largest that adapted to the crisis most easily compared to others business: 49% work as before the war, and 31% - with restrictions. At the same time, the smaller company, the more difficult it was for entrepreneurs to continue their work. Among the industries, IT/Software feels the best: 40% of companies work without changes, 46% — with restrictions. In other areas, mostly only a quarter of companies were able to continue their work without changes, e.g., in the service sector, 28% are operating as before the war, and 48% have introduced restrictions. As for financial losses, it was found that 25% of companies from the real estate and construction sector, 25% - manufacturing, 24% - retail/e-commerce, 23% - IT/Software and 21% estimated their losses at $10,000-50,000. In addition, 26% of real estate and construction companies and 24% of manufacturing companies experienced losses of $50,000 to $200,000. The main causes of losses for most companies of all sizes and industries are increased fuel prices, disruptions in logistics and supply problems, loss of partners, loss of customers due to relocation, and business shutdowns.

On a global scale, business also experienced certain shocks due to the war in Ukraine. Thus, military actions during the Russian invasion of Ukraine affected global operations in many sectors of the economy due to the disruption of the global supply chain. The ban on Russian exports and the retaliatory ban on foreign imports by Russia, including Russia's refusal to allow foreign cargo through its waterways and airspace during the conflict, forced European countries to make urgent changes to the global supply chain.

As a result of the Russian invasion of Ukraine, most European countries faced the problem of the rising cost of living. So, in Great Britain, for example, inflation is already 5.5%, which means that consumers are already spending more money on fewer goods. Thus, military actions on the territory of Ukraine lead to further travel of energy carriers, food products and food ingredients. The overall negative effect for developed and developing countries is that it can lead to global inflation and high cost of living (Ozili, 2022).

Of course, the interconnectedness and velocity of risks has increased in recent years, and different approaches are now needed to see and address them. Increasing adaptation to risks will further contribute to the overall stability of each specific enterprise, business and the economy as a whole. With the right view, business and

the economy as a whole will be able to mitigate any future changes and prepare for them, because thanks to increased resilience, the business will have a strategic advantage and will be better able to respond to certain challenges in a seamless, coordinated and efficient way. All this is possible thanks to a system of intelligent regulation based on risk forecasting by combining time series and neural networks. The scheme of the forward propagation neural network for modeling intelligent regulation can be depicted as follows (fig. 1).



Note: input nodes: X1 – time series of consumer incomes, X2 – time series of consumer expenses, X3 – time series of population savings; fi(e) distribution nodes: inflation index, average salary in the country, speed of money circulation, budget deficit in the country, income level of the population, average rate on deposits; source node Y is the level of business risk as a target indicator.

Figure 1. Smart regulation model in the form of a neural network with three input neurons

Source: create by authors

The number of input neurons in the smart regulation model, which is built on the basis of a neural network for making managerial decisions based on the assessment of the level of general risk, can be increased according to the number of uncertainty factors affecting the functioning of various business areas. The neural network model preserves the proportionality of risks and challenges of the micro- and macro-environment of business, which makes them the most adaptable to modern conditions.

It is the development and implementation of reasonable risk-oriented regulation and challenges proportional to them that is an important approach to increasing efficiency, strengthening effectiveness and reducing the overall burden on the economy. Thus, risk assessment can serve to prioritize regulatory efforts and adapt the choice and structure of regulatory instruments both within and outside regulatory domains. It is not only about understanding the level of risk, but also about the characteristics of each risk in order to develop adequate regulatory measures. In particular, the COVID-19 crisis and Russia's military aggression in Ukraine have demonstrated the obstacles that regulation can pose to crisis response when it is disproportionate to the risk or when the trade-offs between different risks are not adequately anticipated. It also demonstrates the importance of regulatory flexibility and emergency management, as well as the use of new technologies.

Discussion and conclusion. Current trends in the development of the world economy indicate the presence of five groups of risks that can become "catastrophes of tomorrow":

1. Ecosystem threats. Biodiversity is declining faster than at any time in history. Over the next 10 years, biodiversity loss, environmental pollution, consumption of natural resources, climate change and socio-economic factors will create a dangerous combination. The consequences could be increased zoonotic diseases, reduced crop yields, potable water shortages that potentially contribute to increased violence and conflict, loss of incomes dependent on food systems, and more severe natural disasters.

2. Epidemiological threats. The expansion of disease sources will be accompanied by increasing disease severity. The key consequence will be an increase in disability, not mortality: people live longer, but with poor health - medical advances allow people to live with multiple co-morbidities, but treating them is still difficult and expensive. As the pandemic fades, health care systems are facing burnout and understaffing amid mounting financial pressures—reduced funding and rising costs and labor costs—as inflation continues, economies stagnate, and governments reallocate spending in favor of geopolitical security. This will reduce the quality of medical care and access to it even in prosperous countries. Geopolitical tensions can limit the joint development of medicines and the exchange of new scientific achievements.

3. Security threats. The past decades were characterized by the non-deployment of humanity's most powerful weapons and the absence of direct clashes between world powers. By 2022, militarization was declining in all regions of the world. A reversal of this trend has raised the risk of conflict on a potentially more destructive scale. The strengthening of the military power of many countries of the world can lead to a global arms race. While global norms limit the use of nuclear weapons, the pursuit of lower-power weapons and stronger defensive military technologies may undermine the perceived security provided by nuclear weapons: unlike the Cold War-era balance of power, which was defined by deterrence weapons, the next decade may become a period of devastating attacks and extended conflicts.

New technologies will change the nature of threats to national and international security in cyberspace and outer space. Over the next decade, directed energy weapons will make significant advances capable of disabling satellites, electronics, communications systems, and quantum computing can be used in increasingly sophisticated military technologies, from disinformation campaigns to hacking nuclear defense systems.

4. Threat of violation of digital rights. The proliferation of data-gathering devices and artificial intelligence technologies could open the way to new forms of control over individual autonomy and privacy. As more data is collected over the next decade and the power of new technologies grows, people will be subject to harassment and surveillance by the public and private sectors on an unprecedented scale, often without adequate anonymity or consent. Recognizing the potential risks to privacy and freedom of movement, some companies are independently regulating

the sale of facial recognition systems to law enforcement agencies, and the EU is set to ban the use of the technology in public places.

5. Threat to economic stability. Prolonged inflation could lead to more painful interest rate hikes even as economic growth slows, which in turn would lead to a tighter landing and a more widespread debt crisis. But even a relatively orderly fiscal consolidation will affect spending on human capital and development, ultimately jeopardizing the resilience of the economy and society to the next global shock, whatever form it takes. Countries with developed economies will have more opportunities to invest in economic development, the gap between them and developing countries will grow. However, in an era of low growth, even advanced economies will have to make trade-offs. Prioritizing security considerations may mean that the budget has fewer resources to finance social needs and support the environment. This can become a key factor for the realization of other global risks.

Deterring and counteracting the specified risks is possible only at the expense of intelligent regulation systems, which will allow to manage the flexibility of regulation and response to contemporary risks and challenges.

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ECONOMIC BEHAVIOR AND ECONOMIC SECURITY OF AN INDIVIDUAL IN THE CONDITIONS OF WAR RISKS

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Abstract. *Definitions of the concepts "economic behavior of a person" and "economic security of a person" are proposed. The economic behavior of a person is defined as a set of motives and economic decisions made by a person under their influence, which determine the priority and degree of importance of satisfying his economic needs, and the means and tools that will be used to cover them. The economic security of a person is understood not as the absence of economic challenges, dangers and risks for a person, but as the state of his/her economic life, which was the result of his/her rational economic behavior, and allows satisfying his/her economic needs and interests. Relationships between economic behavior and economic security of a person have been established. It is argued that economic behavior is determined by the conditions in which a person grew up and lived, and found himself at a specific moment in time. Economic behavior depends on the external environment – the state economic policy, the development of the social sphere, the presence or absence of military actions, the development of technological system, the level of integration of the national economy into the global competitive space, the quality of education, etc. On the other hand, patterns of economic behavior are formed under the influence of psychological characteristics of a person's perception of the world, his/her upbringing, the level of well-being and the model of handling financial resources that were inherent in the family in which a person was born. The structural elements of a person's economic security are characterized and the motives of economic behavior and factors influencing the state of economic security of a person in war conditions are summarized. The components of human economic security include: financial, informational, material, social, intellectual, communicative, legal, physical, technological, food components. The main motives of economic behavior of people during the war are: the need to save financial resources, the desire to restore spent savings; fear of an unknown economic future; search for alternative sources of income; the desire and need to help loved ones, including financially; predatory and parasitic perception of external financial and material help. Peculiarities of economic behavior of people are established, taking into account the realities of the military situation and the influence of threats and risks of war.*

Keywords: *economic behavior, behavioral economics, economic security, risk, war, economic decisions.*

JEL Classification: D11, D91, J10

Formulas: 0; fig.: 3; tabl. 1; bibl.: 30

Introduction. The behavior of people as consumers of economic goods largely determines their level of well-being, given the limited resources in the economic system. One cannot ignore the fact that "starting positions", that is, the initial level of life to which a person gets used to from a young age, the wealth or poverty that accompanies him or her, provoke or hinder the financial success. However, competent economic behavior is able to multiply the resources that a person has at disposal, prevent their excessive and pointless spending, and therefore, it will prevent more complete satisfaction of existing needs at a certain point in time. Therefore, determining the motives of human economic behavior and factors that influence economic decision-making is an urgent research task.

As the 2017 Nobel Prize laureate Richard Thaler notes, "If everyone includes all the factors that do determine economic behavior, then the field of behavioral economics will no longer need to exist" [1]. Thus, this scientific field remains an important and inexhaustible vector of modern science in terms of existing problems, especially in the realities of the transformation of behavioral economics under the influence of military operations that have been ongoing in Ukraine for more than a year. Uncertainty and anxiety, which arose and spread not only on the territory of Ukraine, but also in the European space, affect the economic behavior of people and lead to their loss of a sense of their own economic security. There is a logical explanation for this, because all European states are connected by a single market space, economic ties, logistics networks, labor migration flows, and the rapid growth of threats and risks in one of the sectors of the international economic system common to all states of Europe and the world immediately causes tangible impact on stability in other sectors. This is a kind of "economic butterfly effect", when war, military operations and the resulting economic decline in Ukraine led to the destabilization of the euro exchange rate, the threat of famine in African countries, and to the drop in the level of financial income from tourist services in the countries of Asia, America, and the European Union. World economic security, national economic security of any country, economic security of the region, economic security of economic entities, economic security of the household, economic security of a person is in a state of close and inseparable interdependence, and are in a cause and effect relationship with the economic behavior of economic relations participants. Changes in the motives of economic behavior of people caused by the war became a catalyst for conducting this study, because right now there is a non-standard set of factors influencing economic decisions that are worth studying in more detail.

Literature review. Modern researchers from many countries of the world call such scientists, laureates of the Nobel Prize in Economics as Richard Thaler [1], Herbert Simon [2], Daniel Kahneman [3, 4] the founders of the theory of behavioral economics and economic behavior. Herbert Simon, winner of the Nobel Prize in 1978, believed that a person gravitates towards rationality in the context of decision-making, including economic ones. The correctness of choosing the behavior model from the existing alternatives is thus determined by the adequacy in terms of the achievement of the set goal (for example, economic), taking into account all possible consequences, and the efficiency that accompanied the achievement of the desired result. Daniel Kahneman (who was awarded the Nobel Prize in 2002) studied the issue of irrationality of human behavior at the time of decision to accept risk (in particular, economic or financial). Neva Goodwin, Jonathan M. Harris, Julie A. Nelson, Pratistha Joshi Rajkarnikar, Brian Roa and Mariano Torras emphasize that the economic behavior of people is significantly influenced by factors such as time and emotions [5, p.213-216]. The scientific plane for the study of economic behavior is located at the intersection of economic and psychological sciences. Erik Angner and George Loewenstein describe in their publication the peculiarities of the psychology of economic behavior depending on the specific economic system [6] and note that "behavioral economics was a direct result of the cognitive revolution" [6, p.56]. In a study by Matthew O. Jackson, recent analyzes of social networks, both

empirical and theoretical, are discussed, with a focus on how social networks influence economic behavior [7]. So, even in 2009, the influence of social networks on economic behavior was obvious, and there is every reason to believe that now, in 2023, it has significantly increased due to the rapid pace of digitalization of the economy. The study of Sekścińska Katarzyna, Maison Dominika Agnieszka and Trzcińska Agata focused on the role of motivational systems (described by Higgins in the Regulatory Focus Theory) in explaining people's financial choices [8]. Philip Corr and Anke Plagnol establish connections between behavioral economics and economic behavior [9]. The influence of age on vectors of economic behavior is undeniable. The theory of generations is able to answer a large number of questions concerning the motives of economic decision-making by different categories of the population. In the research of Matthias Sutter, Claudia Zoller and Daniela Glätzle-Rützler, the peculiarities of the economic behavior of children and adolescents are studied [10]. At a young age, the foundations of financial literacy are laid, models of "adult" economic decision-making are formed – with a tendency to risk, spend, invest or save available resources. An interesting field of research is the motivation of people of different ages to one or another model of economic behavior, and tracking its transformation under the influence of time, risks and threats.

The economic behavior of a person, rational or irrational, can increase or, accordingly, decrease the level of personal (individual) economic security. At the same time, in the scientific publications of recent years, these two categories are not considered at the same time and the connections between them are not tracked. Therefore, the started research has scientific value, and in the future will have practical significance.

Aims. The purpose of the study is to establish the characteristics of economic behavior of people, taking into account the realities of the military situation and the influence of threats and risks of war on the motives for making economic decisions and the state of individual economic security. To realize the set goal, it is necessary to perform several research tasks, in particular: to provide a definition of the concepts of "economic behavior of a person" and "economic security of a person"; to establish and demonstrate the connections between economic behavior and economic security of a person, to characterize the structural elements of individual economic security and to generalize the motives of economic behavior and factors influencing the state of economic security of a person in war conditions.

Methodology. The research is based on the use of the method of content analysis, which was used to specify the concept of individual (personal) economic security and determine the motives of economic behavior of people in peacetime and in conditions of war. The monographic method was applied during clarification of the content essence of concepts and categories for the formation of a scientific and methodological basis for managing the economic security of an individual. The methods of analysis and synthesis made it possible to outline the range of factors influencing economic behavior and economic security of people. The graphic method made it possible to systematize and visualize the main results of the conducted research, including demonstrating the connections between the categories of economic behavior and economic security of a person, as well as visualizing the

structural elements of a person's economic security. The generalization method made it possible to form concise conclusions and recommendations based on the materials of the analytical work.

Results. Ivanova N.S. notes: "Economic security of the individual is the main object of the economic security system and represents the state of protection of his/her vital interests in the economic sphere. The economic security of the individual is expressed in the preservation of the most important interests of the individual included in socio-economic relations and forms the basis of his progressive development" [11, p.13]. It is proposed to consider the economic security of the individual in an inextricable connection with the state of satisfaction of the economic needs of a person. Assessing the level of personal economic security in such a case will involve the identification of personal economic interests, their ordering according to the level of significance, the impact on a person's ability to lead a normal economic life for him, for example, their rating with the subsequent establishment of the degree (percentage) of satisfaction of these interests in relation to the possible maximum or optimum. It is unlikely that it will be possible to develop a universal methodology for such diagnostics, because people's economic interests can differ significantly, as well as their perception of the degree of satisfaction or dissatisfaction of their basic economic needs. At this stage, psychological science with its specific research methods and techniques should be connected to the evaluation process. However, it is possible to put forward a hypothesis about the possibility of choosing a number of basic economic needs and interests of a person, a kind of "consumer basket", but in the system of ensuring personal economic security, and based on the state of satisfaction of these needs, determine the minimum level of economic security of a person. We find confirmation of the rationality of such an assumption in the definition of individual economic security proposed by the International Committee of the Red Cross (ICRC). ICRC and Global Social Development Innovations define economic security as «the ability of individuals, households or communities to cover their essential needs sustainably and with dignity. This can vary according to an individual's physical needs, the environment and prevailing cultural standards" [12, 13]. Economic security in this context is defined in accordance with such categories as food consumption, food production, income, living conditions, capacity. Now in Ukraine we are observing a situation where the needs for housing, nutrition (access to food and its quality) and normal living conditions are violated by war. Thus, part of the population is in a state of economic danger and must transform its economic behavior to meet the basic needs of not only economic, but even physical survival.

According to Kathryn Anne Edwards and Griffin Murphy, the four pillars of economic security are: labor, benefit, protection and equity [14]. The strength and functionality of these pillars largely depends on state policy. These columns form a protective environment for the economic security of the population, create a space with external conditions and factors necessary for self-sufficiency of a person's own economic security at the current moment of time and in the future.

Jacob S. Hacker, the Director of the Institution for Social and Policy Studies and Stanley B. Resor Professor of Political Science at Yale University defines economic

security as "vulnerability to economic loss and treats "economic" as a description of the consequences (such as income loss) rather than the causes of insecurity" [15]. At the heart of this opinion is an appeal to the economic behavior of a person, because it is thanks to his/her rational economic actions that losses can be minimized, vulnerability to them and their consequences – reduced due to savings, additional sources of income, etc. There can be many reasons for economic danger, and now war is the main one. But economic security or danger is considered not as a consequence of the impact of existing and potential threats, but as a result of the process of human behavior, which allows this impact and this undesirable result to prevent and avoid negative economic consequences. Therefore, the state of economic security is not the absence of economic challenges, dangers and risks for a person, but the state of economic life, which was the result of rational economic behavior, and allows satisfying his/her economic needs and interests. The author's proposed definition is based on the connection between the categories of a person's economic security and his/her economic behavior. A person's economic behavior is a set of motives and economic decisions made by a person under their influence, which determine the priority and degree of importance of satisfying his economic needs, and the means and tools that will be used to cover them. Economic behavior depends on external factors – the economic environment that is formed at the state level through the development and implementation of national economic policy, and on internal factors that are determined by the psychological characteristics of a person, his/her susceptibility to risks, upbringing, education, levels of financial and information literacy, work capacity, motivation, etc. Age and gender categories should also be taken into account, because these factors can significantly affect a person's economic needs and interests (Figure 1).

Balanyuk I.F., Maksymyuk M.M. believe that a person's economic security is determined by the ratio of income, expenses, and savings of an individual [16, p.143]. However, the essential understanding of this category and its use as a characteristic of the standard of living of the population makes it impossible to limit it to only a few financial indicators. Thus, the evaluation of the level of Well-being, which is constantly carried out by specialists of the Organization for Economic Cooperation and Development (OECD), covers a large number of parameters and indicators that can be used to characterize the level of economic security of the population of a particular country.

These are indicators such as Housing (Dwellings without basic facilities, Housing expenditure, Rooms per person), Income (Household net adjusted disposable income, Household net wealth), Jobs (Labor market insecurity, Employment rate, Long-term unemployment rate, Personal earnings), Community (Quality of support network), Education (Educational attainment, Student skills, Years in education), Environment (Air pollution, Water quality), Civic engagement (Stakeholder engagement for developing regulations, Voter turnout), Health (Life expectancy, Self-reported health), Life Satisfaction, Safety (Feeling safe walking alone at night, Homicide rate), Work-Life Balance (Employees working very long hours, Time devoted to leisure and personal care) [17].

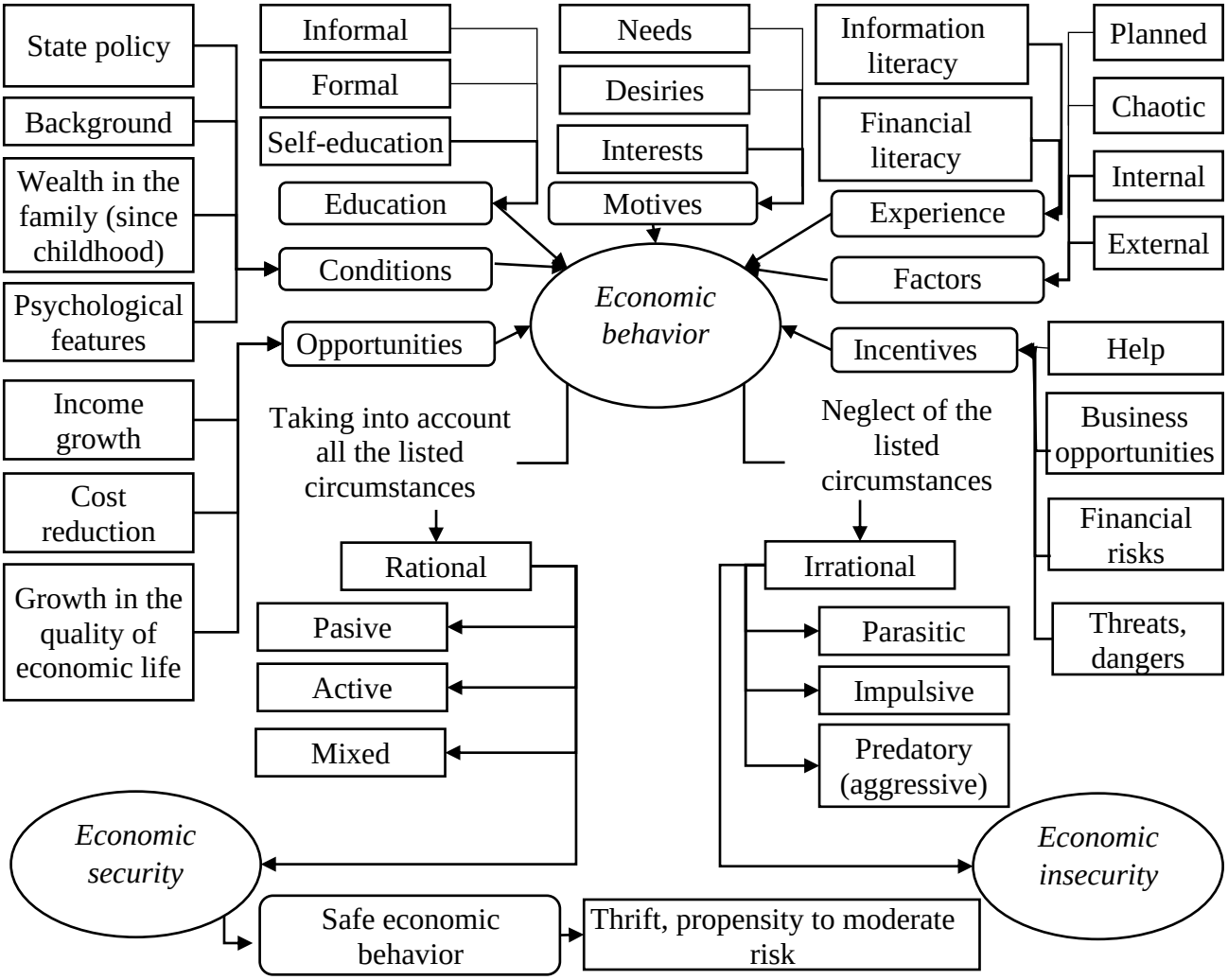

Figure1. The connections between economic behavior and economic security of the individual

Source: developed by the author

In particular, according to the indicator of Household net wealth, the top three positions are held by Luxembourg, the USA and Australia, according to the indicator of Personal earnings – by the USA, Iceland and Luxembourg, according to the indicator of Student skills – by Estonia, Japan and Korea, according to the indicator of Life expectancy – by Japan, Switzerland and Spain, according to the Life Satisfaction indicator – by Finland, Iceland, Denmark (Table 1) [17].

Most often in the presented table we find such countries as the United States, Switzerland, Luxembourg, Finland, the United Kingdom, Canada, New Zealand, from which we conclude that these countries have a favorable economic climate, formed by the state, for the rational economic behavior of people and to make sound economic decisions. Accordingly, these countries have a high standard of living and economic security of citizens, provided they have rational economic expectations.

There are no such statistics for Ukraine, however, it is logical to conclude that some indicators under the influence of threats provoked by the war would have minimal values in 2022-2023.

Table 1. Top-5 countries in Better Life Index-2022

Indicator	Leader	2-d place	3-d place	4-th place	5-th place
Housing expenditure	Slovak Republic	New Zealand	Czech Republic	Denmark	United Kingdom
Rooms per person	Canada	New Zealand	United States	Belgium	Ireland
Household net adjusted disposable income	United States	Luxembourg	Switzerland	Norway	New Zealand
Household net wealth	Luxembourg	United States	Australia	United Kingdom	New Zealand
Labour market security	Iceland	Germany	Finland	Luxembourg	Austria
Employment rate	Switzerland	Iceland	Netherlands	Germany	Japan
Long-term unemployment rate	Korea	Mexico	Israel	New Zealand	Canada
Personal earnings	United States	Iceland	Luxembourg	Switzerland	Netherlands
Quality of support network	Iceland	Czech Republic	Finland	Ireland	Norway
Educational attainment	Non-OECD Economies	Czech Republic	Lithuania	Poland	Canada
Student skills	Estonia	Japan	Korea	Canada	Finland
Years in education	Australia	Finland	Sweden	Belgium	Denmark
Air pollution	Africa	Korea	Turkey	Chile	Poland
Water quality	Norway	Finland	Iceland	Sweden	Switzerland
Stakeholder engagement for developing regulations	Mexico	United Kingdom	United States	Slovak Republic	Canada
Voter turnout	Australia	Luxembourg	Belgium	Sweden	Turkey
Life expectancy	Japan	Switzerland	Spain	Italy	Korea
Self-reported health	Canada	United States	New Zealand	Australia	Ireland
Life Satisfaction	Finland	Iceland	Denmark	Netherlands	Switzerland
Feeling safe walking alone at night	Norway	Slovenia	Finland	Luxembourg	Austria
Homicide rate	Japan	Luxembourg	United Kingdom	Iceland	Switzerland
Employees not working very long hours	Non-OECD Economies	Netherlands	Switzerland	Sweden	Lithuania
Time devoted to leisure and personal care	Italy	France	Spain	Norway	Germany

Source: compiled by the author on the basis [17]

According to the Quality of Life Index 2023, Ukraine ranks 59th among 84 countries evaluated by experts. According to the Purchasing Power Index, Ukraine ranks 57th, according to the Safety Index – 58th, and according to the Cost of Living Index – 79th [18]. The Recommended Minimum Amount of Money for food (2400 calories, Western food types), which for Ukraine is set at the level of 4,904.9 UAH

[19] with a minimum wage in 2023 of 6,700.0 UAH, is quite indicative. The World Happiness Index 2023 places Ukraine in 108th place out of 146 countries in the world (in the previous report, which was published in 2022 but covered data for 2019-2021, Ukraine was in 98th position). The value of the index is based on indicators of people's satisfaction with their lives, confidence in "tomorrow", health, perception of corruption, peaceful environment, ability to count on existing friends, freedom of action and emotional state (perceived joy, sadness, anger or stress) [20]. Regardless of the fact that the indicated indicators characterize the macro level, they are formed on the basis of individual opinions, the perception by individual respondents of the reality that surrounds them, including in economic life, and, therefore, forms patterns of their economic behavior and stimulates the adoption of certain economic decisions.

In 2009, in his study "Economic behavior of a person and his mental motives", K.Z. Voznyi wrote: "Nowadays, capitalist-oriented features of mentality are beginning to manifest themselves more and more noticeably in the behavior of Ukrainians: rationalism in behavior, individualism, independence, willingness to take risks, the desire to earn and make investments, the desire to live better, healthy careerism, etc. Only such changes will allow building and streamlining the system of values of a new, effective Ukrainian economy. However, they do not take place dynamically enough, but this is obviously the inertial specificity of the people's mentality" [21, p.13-14].

Bazetska G.I. emphasizes that every day a person makes one or another economic decision, that is, he/she is faced with the need to be aware of a problem or need, which forms a motive that determines the purpose of economic action and the means by which this purpose is realized. Making an economic decision can be rational, pragmatic or intuitive [22, p.56].

The rationality or irrationality of a person's economic decision depends significantly on the level of his financial literacy and the presence or absence of wealth management skills (wealth management includes investment advisory services catering to affluent clients; wealth management services offer wealthy individuals and their families a holistic approach to building and managing assets and investments) [23]. Research on the issue of financial literacy covers a number of publications by modern scientists [24-26]. Source [26] traces the connection between a person's level of financial literacy and his/her financial behavior. Financial literacy skills mean having the confidence, knowledge, and skills needed to make financial decisions that promote financial self-sufficiency, stability, and well-being. These skills include the ability to effectively locate, evaluate, and use information, resources, and services and to make informed decisions about financial obligations, budgeting, credit, debt, and planning for the future [27, p.1]. Understanding the importance of increasing the level of financial literacy of the population at the theoretical and practical levels led to the need to develop tools for its assessment, as well as the formation of a statistical base to ensure data comparison in different countries of the world, determination of normative and permissible values, establishment of benchmarks, etc. One such indicator is the P-Fin Index. The TIAA Institute-GFLEC Personal Finance Index (P-Fin Index) measures knowledge and

understanding that enable sound financial decision making and effective management of personal finances among U.S. adults [28]. Over 6 years of research, the experts of the TIAA Institute have established that only about 50% of respondents are able to correctly answer the questions asked when determining the level of financial literacy (49% in 2017, 50% in 2018, 51% in 2019, 52% in 2020, 50% in 2021, 50% in 2022) [28]. Observations and analysis proved that about 16-20% of Americans answer ¾ of the questions correctly, that is, they have a high level of financial literacy. In our opinion, those who gave correct answers to 15-21 questions and at least half of those who gave correct answers to 8-14 questions (closer to 14 correct answers) can be considered to have a sufficient (normal) level of financial literacy). Those who gave correct answers to 22-28 questions have a high level. The rest should be classified as persons with a low level of financial literacy (Figure 2). Such: 36% in 2017, 35% in 2018, 34% in 2019, 32% in 2020, 34% in 2021, 36% in 2022.

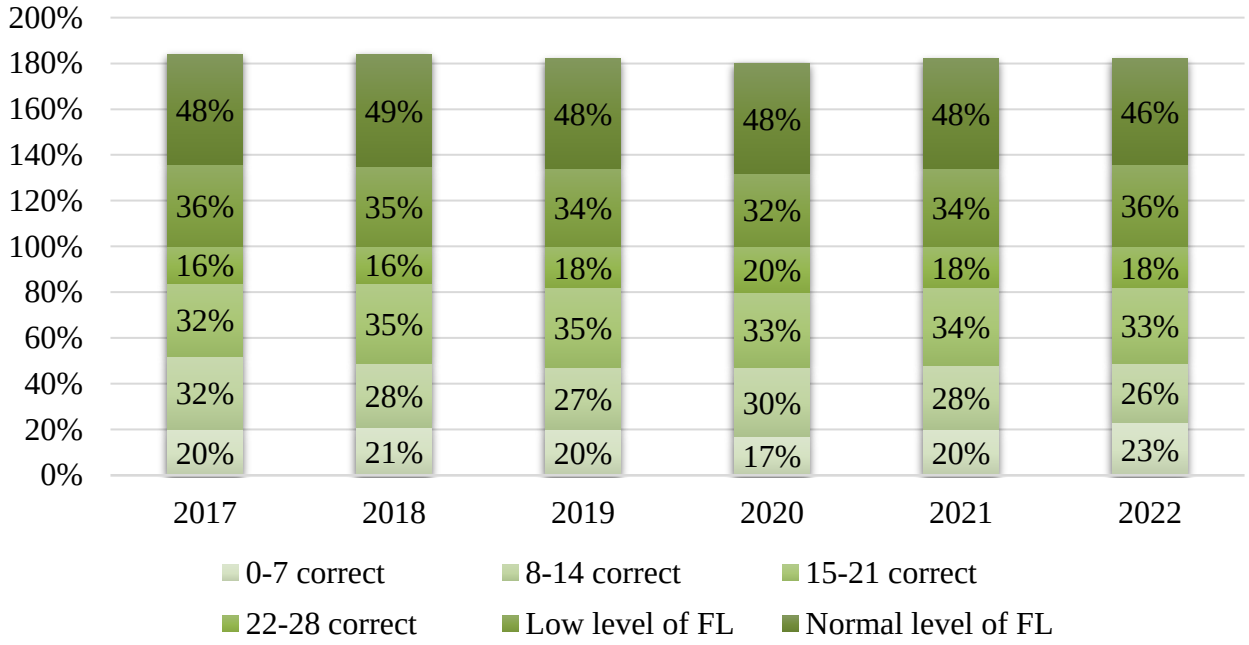

Figure2. Determination of P-Fin Index by counting correct answers to given financial questions

Source: compiled by the author the basis [28]

The OECD Financial Literacy Index is calculated based on 5 questions about financial attitudes, 7 questions about the level of financial knowledge and 9 questions about financial behavior. The value of the index varies from 1 to 21 points. Achieving the maximum (21 points) means having basic knowledge and skills in using finances [29, p.12]. According to the OECD methodology, the overall financial literacy index of Ukraine in 2021 was 12.3 points (or 58% of its maximum value). Factors affecting the level of financial literacy were: age, income, education, place of residence, ability to use technology and availability of savings among respondents [29, p.3-5]. Experts note the tangible impact of COVID-19 on the financial well-being of the respondents. The following criteria were evaluated: financial behavior, attitude to financial issues (problems) – financial motives, financial knowledge and understanding of the rights of consumers of financial products and services, the

population's perception of their own level of financial well-being, knowledge of financial products and services and the practice of using them, demography [29, p.11]. In 2022 and 2023, similar studies were not conducted.

A report from the National Financial Educators Council shows that 38% of individuals in a recent survey said their lack of financial literacy will cost them at least $500 in 2022, including 15% who said it will set them back by $10,000 or more. That's up from about 11% in 2021 [30]. Thus, irrational economic behavior, impulsive financial decisions negatively affect the state of economic security of a person.

Discussion. Therefore, the level of personal economic security is largely determined by the model of a person's economic behavior, his propensity to risk, primarily in economic or financial contexts, willingness to spend or, on the contrary, save available resources, the desire to increase his own level of financial literacy in order to obtain arguments and rationalize the adoption economic decisions. Based on this hypothesis, we will build an oriented structure of the system of economic security of the individual (Figure 3).

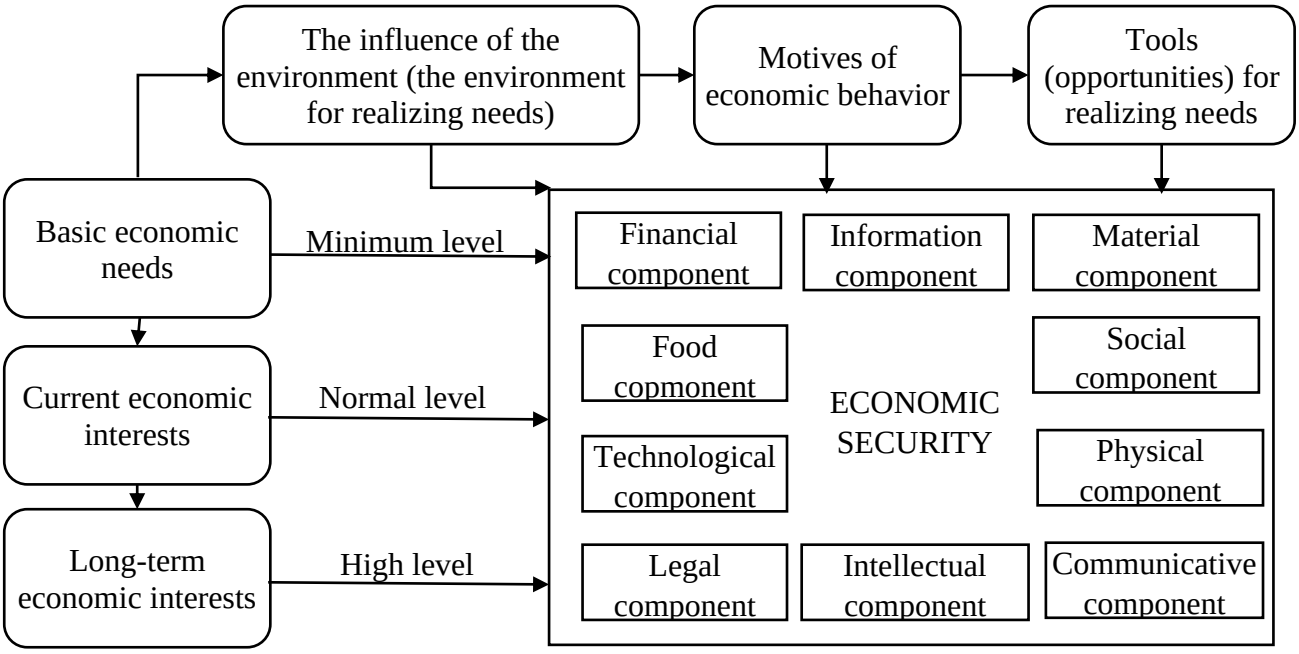

Figure 3. Structural elements of personal economic security

Source: developed by the author

The normal functioning of all structural elements of a person's economic security system depends on the external environment, and first of all, on the economic conditions and standard of living established in the state where a person lives. The war became a factor in the significant transformation of the economic behavior of Ukrainians and destroyed the economic security of many of them. The threats and risks of war affect the motives for making economic decisions, and the economic behavior of people begins to acquire the following characteristics:

- the level of daily expenses of the population decreases; consumer needs of temporarily displaced persons or those under occupation are partially or fully met by volunteers and international organizations;

- long-term financial savings are spent – for housing rent when moving, for restoration of destroyed houses, apartments, etc.;

- people demonstrate a tendency to save due to uncertainty about the future, loss of work and usual sources of additional income (for example, from renting out premises in occupied or destroyed territories);

- preference is given to cash payments, large sums of money are withdrawn from bank accounts, the purchase of currency by those who have free financial resources and the sale of currency values by those who used them as financial savings are intensified;

- the demand for inexpensive goods (cheap types of food, products for long-term storage, clothes that have been used or are sold at discounts) is increasing;

- the demand for services (hairdressing, cosmetics, catering, transportation, etc.) decreases;

- the demand for entertainment (cinemas, entertainment centers, amusement parks) decreases; this is facilitated not only by the need to economize on the provision of secondary needs, but also by a strong psychological attitude – war is not a time for entertainment;

- expenses for communal services increase, as people spend more time at home, in the family circle; at the same time, this tendency can be leveled by the mode of saving resources, which is introduced by the majority of families in conditions of financial hardship;

- the propensity to financial risk increases (lottery games, gambling) – the loss of traditional sources of income and the appearance of free time in case of unemployment serve as motives for searching for opportunities for quick enrichment with minimal contributions of financial resources;

- search for sources of income, including in the shadow sector (willingness to agree to wages lower than the legally established minimum, normal perception of wages "in an envelope");

- in the area of ensuring individual food security – growing interest in natural farming, growing basic food products on homesteads, in rural areas, etc.

Thus, the main motives of economic behavior of people during their stay in the territories of military operations or in conditions of temporary displacement are: the need to save financial resources, the desire to restore spent savings; fear of an unknown economic future; search for alternative sources of income (priority – remote employment and low-skilled work or vice versa – tasks for people with unique skills and narrow specialization); the desire and need to help loved ones, including financially; on the other hand – a predatory and parasitic perception of external financial and material assistance (expressed in behavior – I suffered, everyone should help me). This model of behavior leads to emotional and economic exhaustion of some sections of the population and to speculative enrichment and loss of own labor and intellectual value of others. The standard of living of the population and the level of economic development in Ukraine with the beginning of a full-scale war formed

two characteristic roles of the population's economic behavior: economic predator (active role) and economic victim (passive role). At the same time, both of them are in a state of economic danger, since the lack of stability of the economic situation and the spread of the realities of the war economy to public life excludes the possibility of planning the economic future for the long term, minimizes investment and entrepreneurial opportunities, demotivates in the processes of self-development, starting innovative business initiatives Of course, there are new opportunities to stabilize individual economic security – grant programs, projects of financial support from international and domestic budgetary and non-budgetary organizations, however, in order to receive funding, you have to make efforts and show perseverance, usually, form a team of performers, look for starting or additional resources, draw up a package of documents, present your business ideas, which is not always possible in the conditions of war, continuous psychological stress, chronic fatigue and limited time resources. Therefore, it is necessary to call on agencies and foundations that seek to promote the economic recovery of Ukraine and strengthen the state of economic security of its citizens, to reduce the level of formalization of project applications and to make quick economic decisions by donors based on personal communication with potential recipients.

Studies of economic and financial behavior have shown that a person's age creates a tangible impact on his economic decision-making, including in the context of ensuring personal economic security. Taking into account other influencing factors and being aware of the motives of economic behavior of young people, we can offer the basics of the concept of rational economic behavior of young people in the conditions of military operations. The foundation should be economic education in a distance or mixed format, the study period is from 1 to 3 months (express training, course training). The use of financial products and services online should be encouraged, in particular, by lowering the price of such services. It is advisable for young people to draw up an individual financial plan specifying their financial goals for the short-term and the current period, indicating the tools and means of achieving them in the future. It is important to allow for the existence of different scenarios of the development of economic life: optimistic, realistic and pessimistic – with amendments for different possible durations of military operations on the territory of Ukraine. It is advisable to review personal economic needs – regarding the size of housing, in the case of rent, clothing, the need to have a car, etc., rank them according to the level of importance and abandon those that are not critically necessary at the current stage of life and taking into account the prevailing economic conditions. Thus, the conceptual foundations of the economic behavior of young people in wartime conditions should be: financial literacy, thrift, minimization of financial risk, perspective financial planning, multiple sources of financial income (we are talking about the need to find a job, additional income, as teenagers do in USA, even if supported by parents or other relatives), availability of savings (at least minimal) in cash and non-cash forms; possession of several tools for non-cash payments (for example, a bank card and a phone with a chip).

Conclusion. The conducted study of economic behavior and economic security of an individual in the conditions of war risks made it possible to draw the following important conclusions.

1. Definitions of the concepts "economic behavior of a person" and "economic security of a person" are proposed. The economic behavior of a person is defined as a set of motives and economic decisions made by a person under their influence, which determine the priority and degree of importance of satisfying economic needs, and the means and tools that will be used to cover them. The economic security of a person is understood not as the absence of economic challenges, dangers and risks for a person, but as the state of economic life, which was the result of rational economic behavior, and allows satisfying economic needs and interests.

2. Cause-and-effect relationships between economic behavior and economic security of a person have been established. Economic behavior is determined by the conditions in which a person grew up and lived and found himself at a specific moment in time. They depend on the external environment – the state economic policy, the development of the social sphere, the presence or absence of military actions, the technological system, the level of integration of the national economy into the global competitive space, the quality of education, etc. On the other hand, patterns of economic behavior are formed under the influence of psychological characteristics of a person's perception of the world, his/her upbringing, the level of well-being and the model of handling financial resources that were inherent in the family in which a person was born. In the process of economic life, a person gains experience, increases the level of financial and information literacy, and has personal motives for making certain economic decisions. If a person's economic behavior is rational, that is, such that it allows them to satisfy their own economic needs and realize their interests through the use of available and acquired economic resources, they reach a state of economic security. In the case of making irrational economic decisions that lead to a state of constant anxiety about the financial future, provoke a permanent search for sources of income to ensure current basic needs – for food, housing, paying for utilities without the ability to form reserves and receive passive income – a person finds himself in a state of economic danger, which in the long run may lead to personal bankruptcy and loss of all means of livelihood.

3. The structural elements of economic security of a person have been established and the motives of economic behavior and factors influencing the state of economic security of a person in the conditions of war have been summarized. The components of human economic security include: financial, informational, material, social, intellectual, communicative, legal, physical, technological, food. The main motives of economic behavior of people during the war are: the need to save financial resources, the desire to restore spent savings; fear of an unknown economic future; search for alternative sources of income; the desire and need to help loved ones, including financially; predatory and parasitic perception of external financial and material assistance.

4. The peculiarities of the economic behavior of people, taking into account the realities of the military state, have been established. Threats and risks of war exert a restraining influence on the motives for making economic decisions, stimulate

savings, in some cases – to spending, and in others – to the formation of savings, the search for additional sources of income, the readiness to accept additional financial risks, the tendency to try out various forms of quick earnings and illegal forms of employment. The state of individual economic security of people whose lives were affected by military operations is characterized by instability and is such that changes cannot be reliably predicted. Depending on the model of economic behavior chosen by a person, the level of economic security can increase (if the tactics of the economic predator are chosen) or decrease (if the tactics of the economic victim are chosen). At the same time, war is a type of threat, the impact of which can be fatal for the economic and physical life of a person. Therefore, we believe that no citizen of Ukraine is currently in a state of absolute economic security.

Prospects for the further development of the started scientific research are seen in the study of the characteristics of the economic behavior of young people and the identification and tracking of their transformations under the influence of military actions and other risks and threats, the appearance of which was provoked by the war.

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CORRUPTION MANIFESTATIONS IN THE SYSTEM OF ECONOMIC SECURITY OF ECONOMIC ENTITIES

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Abstract. *The article establishes the impact of corruption on the economic and national security of the country, what dangers and threats it poses to economic entities. The role of corrupt practices in the economic activity of economic entities was considered. The approaches of scientists to the understanding of the concept of "economic security" were studied and the author's interpretation of it was proposed. Thus, economic security is proposed to understand the state of protection of economic interests of individuals, society and the state from internal and external threats, which contributes to economic development. The most negative consequences of the impact of corruption on the economy, creating a threat to the economic and national security of the country, have been disclosed. These include the expansion of the shadow economy, violation of market competitiveness, inefficient use of budget funds, higher prices for products as a result of "corruption costs", deterioration of the investment climate, increased corruption in non-governmental organizations, the merger of crime and the legal economy, lack of effective private owners, declining confidence in the state, etc. It is also noted that corruption has a positive impact on the economy and political development of the country. The dynamics of the Corruption Perception Index, corruption manifestations are analyzed. The causes of obstacles to foreign investment in the economy of Ukraine, the severity of different types of corruption and the level of corruption in different areas of public activity according to the results of a survey of the population and businessmen, conducted by the National Agency for the Prevention of Corruption in 2021, were studied. It is noted that Ukraine is doing a lot on the way to overcome corruption, but its efforts do not achieve the desired success because of the habituation to corruptive manifestations of the population. The impact of corruption on different spheres of social life and sectors of the economy, enterprises of different types and forms of ownership was characterized. It is noted that the main emphasis in combating corruption should be focused on the ways of determination, and the main determinants of corruption have been identified. The factors forming the demand for corrupt agreements and becoming threats to the economic security of economic entities have also been studied. The directions of prevention of corruption threats to the economic security of the country and entrepreneurship are proposed.*

Keywords: *corruption, economic security, threats, corruption threat, national security, corruption in the economy.*

JEL Classification: D 73, D 81, H 56, K 42, M 21.

Formulas: 0; fig.: 4; tab.: 1; bibl: 23

Introduction. In the modern world corruption has become one of the most acute global problems of mankind and at the same time is the main threat to the economic security of Ukraine. In recent years the topic of economic corruption in Ukraine has become particularly relevant. Corruption has penetrated into the institutions of power, attracted into its networks many political and public figures and a considerable part of civil servants. Internationally, Ukraine has acquired a reputation as an extremely

corrupt state, as evidenced by its consistently high ranking in terms of corruption [1, p. 3].

The problems associated with corruption will not lose their relevance until it is completely overcome. Considering the diversity of manifestation of this phenomenon, issues related to corruption with regard to theoretical foundations, assessment methods, ways to overcome it are always in the focus of representatives of many scientific schools from all fields of knowledge: both in economic security, economics, law, and public administration [2]. Although it should be noted that scientific research on issues related to corruption is mostly in the area of public administration and law.

Literature review. Theoretical and methodological foundations of economic security of the state, business entities and the individual at one time studied V.Amitan [8], A.Arkhypov [8], A.George [3], M.Kamluk [7], V.Kolodiazhnyi [6], V.Kuzmenko [7], Novikova O. [10], I. Chornodid I. [11]; Z.Zhyvko [2; 4] and others.

Theoretical and applied aspects of the problem of combating corruption were explored in the works of I. Bachynska, S. Hantington, O. Holota, M. Kinash, R. Klitgaard, A. Levchuk, S. Melnyk, Yu. Nesevych, G. Puatt, I. Revak, S. Seriohin, V. Trepak, O. Shostko, L. Shcherbyna, Z. Varnaliy, A. Voloshenko and others.

At the same time, the scientific community pays little attention to corrupt appearances in the economy and the threats that corruption poses to the economic security of economic entities.

Aims. The purpose of this study is to examine corrupt practices in various areas of the economy and to clarify their role in creating threats to the economic security of business entities and the national security of the country.

Methods. The methodological basis of the study was general scientific and specific research methods, namely analysis and synthesis, visualization, systematization, logical presentation and generalization.

Results. The basic assumption of the economic approach to the study of the problems of the emergence of corruption and the ways to overcome it is the statement that the cause of corruption, regardless of the type and time of its emergence is always a material interest, the desire to get economic rent due to state regulation of all spheres of the national economy. This is where corruption flourishes and has something to feed on.

A significant problem in overcoming corruption is that it is driven by powerful motives: power and wealth. That is why the process of overcoming it is so difficult. In addition, the corrupt environment is capable of high self-organization and self-preservation. In many societies, including Ukraine, there is a habituation to corrupt practices as something normal and habitual. That is why preventive measures on overcoming corruption should be aimed at forming a sense of "non-acceptance" of corruption among the population.

Corruption in the economy has become an organic part of the economy, helping to overcome various problems of doing business. It is massive, and without it, society would no longer know how to do business, function on the market, and solve urgent business needs. The more corrupt the country, the more crimes of corruption are committed in the business sphere.

Negative is the fact that 11% of top managers who dictate the model of behavior believe that distortion of financial performance can be justified if it helps the business to survive in an economic downturn [5, p. 24]. Companies in Ukraine are increasingly faced with corrupt practices, especially in the relationship between business and government agencies, regardless of the size of the company. The level of corruption is 4-10% of company turnover, and some companies lost business due to corrupt practices of competitors [4; 5].

Corrupt practices absorb the money that could have been spent on social and economic development. Due to corruption, enterprises of all types and forms of ownership suffer financial and legal losses, lose their reputation and go bankrupt.

On the whole, corruption, damaging the development of the economy, poses threats to both the economic security of the faucet and its national security.

The economic security of the state is the basis in the system of national security of the country, moreover, it provides the material basis for ensuring the independence, sovereignty and an adequate standard of living of the population. Considering that the national security of the country is implemented through public funding, the basis of which is GDP, it is the economic security that provides all kinds of security from external to internal threats and ensures the competitiveness of the state in the international arena, as well as the normal formation and development of the state [6, p. 145].

To understand the essence of the studied phenomenon and to develop an effective mechanism of its regulation it is necessary to clarify its theoretical basis. Yes, the authors consider economic security as:

- the resistance to internal and external threats;
- the ability to meet social needs;
- the state of security of the economic sphere;
- the adaptation to changing conditions of existence, etc. (Table 1).

We consider objectively reasonable to define economic security as a securityphenomenon through the prism of threats and the state of security, since "the ability to meet social needs" reflects the purpose of activity, and "adaptation to changing conditions of existence" is associated with the factors of the phenomenon of "economic security".

Thus, we propose under "economic security" to understand the state of protection of economic interests of an individual, society and the state from internal and external threats, which contributes to economic development.

The most negative consequences of the impact of corruption on the economy include:

- expansion of the shadow economy. As a consequence, the state loses financial leverage to manage the economy, and social problems become more acute due to the failure to fulfill budgetary obligations;
- market competitiveness is disturbed, as often the winners are not the competitive ones, but those who illegally managed to gain advantages;
- budgetary funds are used inefficiently, particularly in the allocation of government orders and benefits;
- prices rise at the expense of "corruption costs";

- investment climate is deteriorating, resulting in the problems of overcoming the decline in production, renovation of fixed assets;

- corruption in non-governmental organizations (firms, enterprises, public organizations) is increasing. This leads to a decrease in the efficiency of their work, and, accordingly, the efficiency of the economy as a whole is reduced [12, p. 112];

- merging of the criminal with the legal economy through access to political power and the ability to "launder" dirty money;

- delaying the emergence of effective private owners;

- reducing confidence in the state and its ability to regulate economic processes [13, p. 39].

Table 1. Definitions of the concept of "economic security"

Author	Definition
resistance to internal and external threats	
V. Kuzmenko	The state of the economy, ensuring the system's ability to withstand negative influences from the external environment [7]
ability to meet social needs	
V. Heets, A. Arkhypov	The ability of the economy to ensure that public needs are met effectively at the national and international levels [8]
state of security of the economic sphere	
M. Kamlyk	The reliable protection of national interests in the economy from real and potential internal threats, and primarily from direct and indirect economic damage; protection of the economic interests of the state, society and individuals, on the one hand, development and implementation of optimal socially-oriented economic policy, on the other hand [9]
O. Novikova	The state of protection of economic interests of individuals, society, and the state from economic threats and other threats to national security that affect them [10]
I. Chornodid	The state of protection of the most important economic interests of individuals, society and the state, the development of sufficient economic potential, which will contribute to sustainable and effective functioning in the mode of expanded reproduction [11]
adaptation to changing conditions of existence	
V. Amitan	The internal content of the concept of economic security is a model aimed at creating conditions for continuous adaptation of economic activity or economic functioning to changing conditions of achievement of the goal, both within the state and within its regions and economic entities [8]

Source: [5-9]

All these factors become threats to the economic and national security of the country.

However, some researchers believe that corruption has a positive impact on the economy. In particular, corruption can act as a factor of economic growth:

1. It can promote the accumulation of capital in the entrepreneurial sphere at the expense of the public sector, which will facilitate the creation and expansion of businesses while using the accumulated capital within the country.

2. Corruption induces active action: to a certain extent, corruption creates favorable conditions for profitable business, forcing the entrepreneur to look for ways

not only to do business successfully, but also to take into account the risks and ways to avoid them.

3. Corruption eliminates deficiencies of bureaucracy, speeding up decision-making.

4. Corruption can obey the laws of the market. It contributes to the creation of a parallel market, representing the logic of the market and improving the distribution of resources.

The same researchers see corruption as having a favorable impact on the political development of the country. In particular:

1. Corruption may contribute to the development and adoption of managerial decisions. When governance is excessively centralised at the top levels of government and civil servants are insufficiently qualified, managerial decision-making is complicated, and corrupt relations may contribute to meeting the pressing needs of society.

2. Corruption invigorates political life and promotes the formation of political parties.

3. Corruption promotes the more active involvement in political life of citizens, potential voters, who through patronage and favoritism try to get involved in political processes and solve their immediate needs.

4. Corruption unites the nation, where divisions and contradictions over the distribution of public resources reign. Territorial communities become active, uniting in the process of "beating out" budgetary funds.

One of the important directions was and remains the study of corruption threats to the economic security of Ukraine and the development of an effective mechanism for their prevention and elimination of negative consequences.

Corruption is definitely a negative phenomenon that affects different spheres of society: social, moral, psychological and economic. The spread of corruption in Ukraine and in the world defines this problem as a serious threat. A study conducted by experts of the World Economic Forum to identify the risks and threats that may change the world order and cause crises in the next decade has identified corruption as a threat to the geopolitical order [8].

Economic losses from corruption are defined as direct (reduction of revenues to the national budget and their inefficient use) and indirect (reduction in the level of economic efficiency). The indirect economic losses from corruption “are unmeasurable, while the direct ones are quite significant. For example, according to the UN report, the world economy loses $2.6 trillion annually to corruption. This is more than 5% of global GDP. The annual volume of bribes globally is one trillion dollars” [9].

In building a new prosperous society, we must also overcome all possible corrupt practices that reject us and hinder our development. Recent events have taught us a lot, but before that corruption in the country flourished. Thus, "according to the Corruption Perception Index (CPI) in 2020, Ukraine ranked 117th out of 180 countries, receiving 33 points out of a possible 100. Compared to 2019, this index increased by 3 points, and compared to 2018 - only by 1 point, which does not indicate significant results of the country in overcoming corruption [16].

Corruption in Ukraine has partially decreased over the past 10 years, as the Corruption Perception Index increased by 6 points in 2021 compared to 2012, from 26 to 32 (Fig. 1).

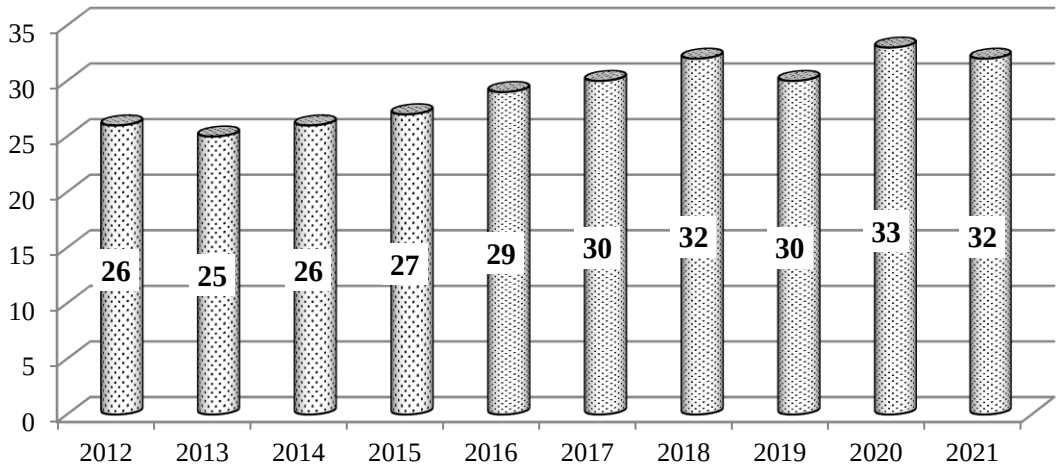

Figure 1. Corruption Perception Index in Ukraine, 2012-2021

Source: [17]

However, this growth is quite insignificant: 0.7 points per year on average. There are also two drops in the Corruption Perception Index: in 2013 and in 2019. 2013 was the last year of President Yanukovych's rule, when there was rampant crime, increased corruption of the authorities, interference in corporate rights of firms, extortion of "tribute" from entrepreneurs, etc., which led to a decrease in the Corruption Perceptions Index. The 2019 slump in the Corruption Perceptions Index (CPI) curve "happened because the index can sometimes be very slow to reflect changes in a country because the CPI takes into account research from the past two years. And we can see that since the beginning of 2017-2018, the fight against corruption in Ukraine has actually "frozen". It is not as active as in 2014, when the package of anti-corruption laws was adopted, as in 2015, when registries were opened and the NACBU was launched, and as in 2016, when e-declaration was launched. And the authorities, unfortunately, did not listen to the advice of civil society and international partners" [18].

In 2021 Ukraine ranked 122nd out of 180 countries of the world with 32 points out of a possible 100 on the Corruption Perception Index. The same score was obtained by Esvatina, with Zambia, Nepal, Egypt, the Flippines and Algeria having one more score. Our closest neighbors have advanced in their development, successfully overcoming corrupt practices. As stated in the report of Transparency International Ukraine: "Considering the 10-year hindsight, this indicator shows "stagnation" in the fight against corruption. And this despite a number of positive changes that have strengthened the anti-corruption ecosystem. The main reason for the sagging score is that many important anti-corruption tasks are on pause or even regressing... The following events influenced the decrease of scores in some surveys: the decision of the Constitutional Court of October 27, 2020, which exempted top officials, officials and judges from liability for false declarations...; changes in

antimonopoly legislation...; increased interference in the work of the Supreme Anti-Corruption Court...; general growth of pressure on anti-corruption ecosystem...; delay in implementation of judicial reform...; delay of the Anti-Corruption Strategy adoption in the second reading..." [19].

Corruption slows down the economic development of the country, creates social tension in society and threats to economic and national security. The results of the survey of foreign investors allowed us to highlight the main obstacles for investing in the economy of Ukraine (Fig. 2).

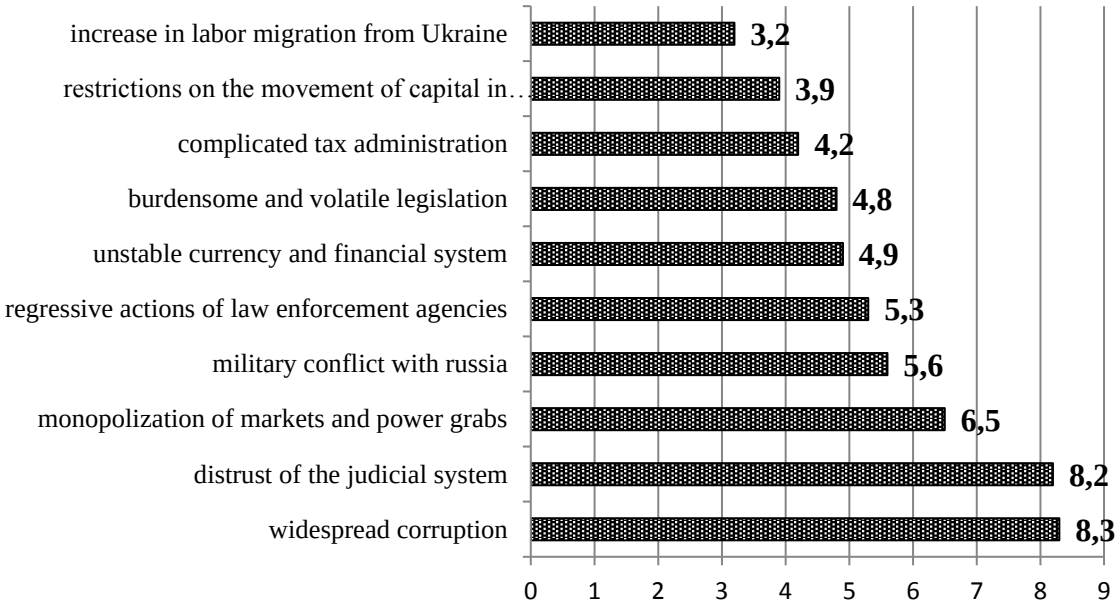

Figure 2. Survey results concerning the reasons for obstacles to foreign investment in Ukraine, 2019

Source: [20]

Foreign investors are most concerned (Fig. 2): high level of corruption (8.3 points); distrust of the judicial system (8.2 points); monopolization of markets and seizure of power by oligarchs (6.5 points); military conflict with Russia (5.6 points); regressive actions of law enforcement (5.3 points); significant fluctuations at the currency market and instability of financial system (4,9 points); imperfect legislation (4,8 points); complexity of tax administration (4,2 points); limitation of capital movement for currency operations (3,9 points) and growth of labor migration from Ukraine (3,2 points).

Business environment considers corruption to be quite a significant obstacle to doing business. According to the results of national sociological survey of population and representatives of business for complex evaluation of corruption situation in Ukraine according to Methodology of standard survey on corruption in Ukraine, approved in 2021 by order of NACP, businessmen "consider political corruption at the highest level as the most serious type of corruption among three suggested" (political, business and everyday), "but assess the situation more positively than population. In particular, 85.8% of business representatives consider political corruption at the highest level to be a serious problem, and less than half of the respondents consider everyday corruption to be a serious problem [21, p. 18] (fig. 3).

On a five-point scale, business representatives consider corruption to be a very serious threat to entrepreneurial activity (4.35 points on average). The most corrupt sphere is considered to be that of granting permits and mining (4.54 points). Next comes customs (4.40 points), privatization of enterprises (4.26 points), forestry (4.25 points), public procurement of works and services for the construction, repair and maintenance of roads of state and local importance (4.24 points), public procurement of works and services for the implementation of other major infrastructure projects (4.18 points), land relations and land management (4.16 points), the judicial system (4.05 points) and others (Figure 4).

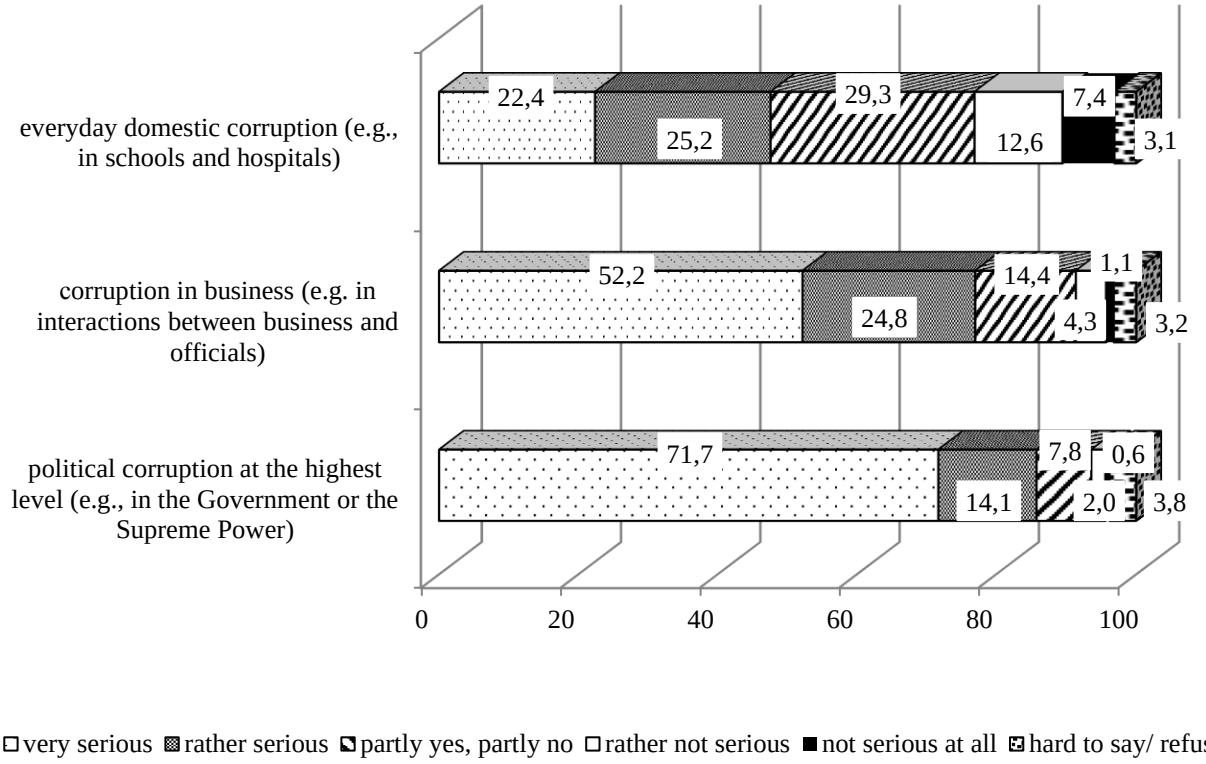

Figure 3. Results of the survey of businessmen regarding the severity of different types of corruption in Ukraine, 2021

Source: [21]

In general, Ukraine is doing a lot to overcome corruption, but its efforts are not achieving the desired success due to the population's "habituation" to corrupt practices. As Ukraine tries to develop in the international market, it is under pressure from its Western partners and international institutions. Thus, the country should intensify the apparatus of anti-corruption structures, increase the scope and quantitative parameters of sanctions, and provide support to domestic producers.

At the same time, the focus of the anti-corruption mechanism should shift from the means to fight corruption to the means to prevent its occurrence. Thus, Hrinenko A. notes that "efforts in this area should go beyond the narrow framework of fighting the direct manifestations of corruption, towards a broader approach in the form of fighting the causes rather than the consequences [22]. First of all, it is necessary to reduce the volume of corrupt manifestations, narrow the scope of their spread, reduce

the level of aggressiveness, isolate corruption from political, legal, economic, social and other processes of public life, increase corruption risks.

The impact of corruption on different spheres of public life and sectors of the economy, enterprises of different types and forms of ownership is manifested in different ways. Large enterprises, in particular, monopolists in the field of energy and metals extraction, with the help of corrupt arrangements try to "promote" the necessary law, gain the support of those in power, get a favorable tender, win in a competitive struggle.

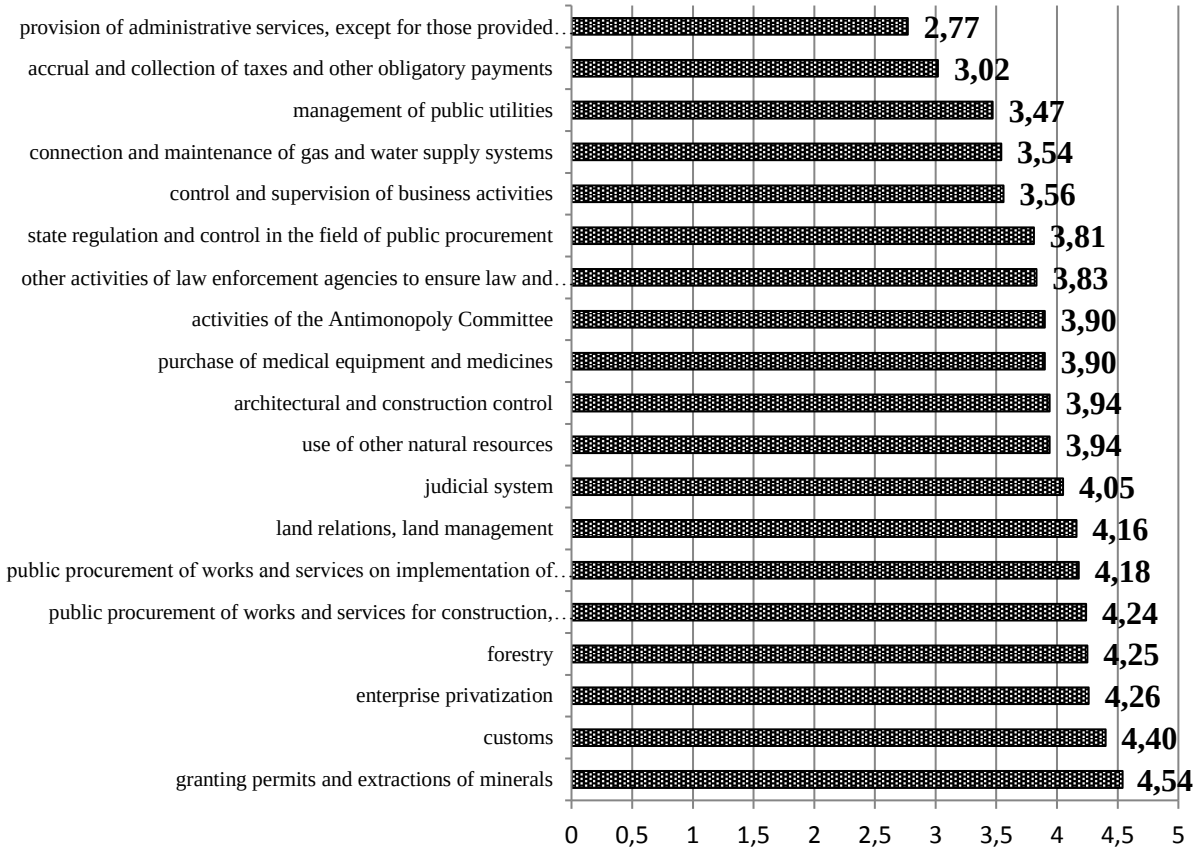

Figure 4. Perception of the prevalence of corruption in individual areas in Ukraine by representatives of business, 2021

Source: [21]

Medium-sized enterprises are smaller in size, but more numerous and concentrated in all sectors of the economy. They try to gain the support of corrupt schemes in order to avoid sanctions and inspections and to preserve their own income.

Small businesses are mainly concentrated in trade and services. It is not profitable for them to enter into corrupt relationships, because the costs may be greater than the benefits received. On the corrupt side they are. Like medium-sized businesses, they enter to avoid inspections and sanctions, looking for every possible way to make a profit and keep the business.

The volume and prevalence of corruption are closely related to large businesses, which benefit the most. For medium and small businesses, bribes are unreasonable expenses; they are funds that could have been invested in the development of the enterprise. Moreover, corrupt officials create additional obstacles for business

development in order to enrich themselves. As a result, there is a reduction in production and profitability of enterprises. The exit of medium and small businesses from the corruption plane will help to increase the number of cases filed in court and the dissolution of corrupt ties at the lowest managerial level.

Each area of the economy, in terms of the size and specificity of companies, is affected by corruption individually. Small and micro-businesses that are not sole IEs, as well as sole IEs that are medium-sized businesses, are slightly weaker than the others, and experience an improvement when the level of corruption drops. It has also become known that such an industry as agriculture - 95-97% in the context of small and medium businesses - feels particularly good and depends almost directly on an honest market. This can be explained by the numerous legislative acts regulating relations in agriculture. Various bills can both help and hinder small and medium - sized businesses in agriculture. This is where the corruption factor comes in. [23, p. 54].

The economic aspect of corruption also consists in the segregation of entrepreneurship by corrupt officials. It is a well-known fact that in order to obtain a permit, license or certain certificate, an entrepreneur, in addition to the mandatory payment, has to separately thank an official for a favorable or accelerated solution of the issue. At the same time, the bribe takes place even if the favorable resolution of the issue belongs to the entrepreneur by law. On the other hand, the economic aspect of this side is closely intertwined with the moral [24, p. 157].

Given the weighty economic basis for the existence of corruption, the economic aspect of its study should be a priority. Because it determines the level of economic freedom in each country.

Methodological foundations of effective anti-corruption policy should be formed as a result of comprehension of its nature, determinants and consequences, on the basis of development of conceptual provisions, tasks and mechanism of formation of institutional support of economy, system of state bodies due to restoration of state monopoly on security production as the most important type of pure public goods. Such a policy is not opposed to measures of non-economic order, but complements them with non-force methods of influence [25, p. 216].

The main emphasis in combating corruption should be focused on the conditions and causes of determination of this phenomenon, which includes the rehabilitation of the human external environment, the characteristics of the person himself and the processes of interaction between the environment and the individual. In this case, the fundamental role should be given to the economic approach [25, p. 215].

The main determinants of corruption include:

- significant scale of the shadow economy;
- extensive spread of discretionary functions in the civil service;
- underdeveloped traditions of civil service subject to strict rules and restrictions;
- underdevelopment of institutions to ensure the attractiveness of public service - a system of guarantees, benefits, insurance, social security;
- incompleteness of the processes of formation of institutions of control over corrupt practices;

- underdeveloped institutions of civilized interaction between business and government [25, p. 216].

When studying corruption, one should also take into account that "the state is a bureaucratic institution, and bureaucracy is directly related to corruption. Thus, where there is an institution of the state, there are always manifestations of corruption, differing only in scale from country to country [24, p. 156].

In general, from the point of view of the institutional approach, corruption is an agreement between officials, representatives of various kinds of institutions and individuals. It ensures the reduction of transaction costs. Violating all existing restrictions to enrich the client.

The demand for corrupt transactions depends on two factors. The first - institutional factors of corruption - leads to an increase in the level of transaction costs of bureaucratic procedures and customer motivation to enter into a corrupt agreement. The second group - the factors of simplification of the corrupt agreement - leads to a decrease in the level of transaction costs of the corrupt agreement. By increasing the efficiency of existing formal rules, eliminating the institutional factors of bureaucratic corruption can be achieved to reduce its level [24, p. 156].

Institutional factors in the emergence of corruption include inconsistency of formal rules with the moral norms of society, inefficiency of formal rules, and ineffective implementation. The high level of corruption in our state is due to the ineffectiveness of the institutional framework. This is due to the existence of old and new formal rules, which leads to their discrepancy [24, p. 156].

Factors facilitating the conclusion of corrupt agreements include the level of corruption in the country, the presence in society of "corrupt" traditions, the imperfection of the administrative system of the state [24, p. 156].

Conclusions. The connection between corruption and the economy is interdependent: corruption has a negative impact on the development of a country's economy, and economic methods can become one of the most effective in overcoming corruption. This is confirmed by international experience, because economic methods have a fairly powerful potential to prevent threats caused by corruption, as well as to influence the conditions and causes of corruption manifestations.

Given the threats posed by corruption to the development of the economy of the country, it is advisable to focus on enhancing the implementation of the Concept to overcome corruption in Ukraine, to provide favorable conditions for small and medium domestic businesses, to introduce a mandatory declaration of income and justification of their sources, mandatory justification of origin of funds to purchase expensive goods and services, to form an internal resistance to corrupt practices in the population.

Author contributions. The authors contributed equally.

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CONCEPTUAL MODEL OF ECONOMIC SECURITY FORMATION AND THE PLACE OF THE SECURITY PROCESS IN THIS MODEL

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Abstract. *Military operations, the crisis in the country's economy, and other factors have negatively affected the economic security of all business entities in Ukraine and the country as a whole. This state of affairs requires a modernized approach to the formation of economic security. The purpose of the article is to develop a conceptual model of economic security formation and to distinguish the place of the security process in this model. The study applies general scientific theoretical methods – generalization, explanation, grouping – to analyzing economists' and practitioners' ideas about the object of the research and formulating conclusions of content analysis of primary sources, analysis and synthesis – to substan-tiating a new scientific approach to ensuring economic security. Based on a critical review of professional sources, the article differentiates three approaches to the formation of economic security. It is shown that the author adheres to the approach according to which the formation and ensuring of economic security are not identical. A three-component model of economic security formation is developed. The elements of the model are the decomposition of economic security, its provision and the creation of a special security unit. It is shown that at the country level such a unit should be included in the Ministry of Economy of Ukraine. An integrated approach to ensuring economic security has been improved. It is based on bringing the current parameters of the enterprise's activity into line with the future parameters of the internal and external environment. This takes into account three groups of processes: resource provision, interaction with stakeholders and value added. Each group of processes is contrasted with appropriate means of influence and security actions, which together help to ensure that the current parameters of activity are consistent with the forecasted changes in the environment. The peculiarity of this approach is its versatility: the possibility of using it to ensure the economic security of an individual business entity and the economic security of the State.*

Keywords: *formation of economic security, provision, measures, parameters, processes*

JEL Classification: D81, H56, L83

Formulas: 0; fig.: 3; tabl.: 1; bibl.: 22

Introduction. Economic security itself is a rather complex category, and the processes of its formation cause even more debate. The controversial nature of key issues in the area of economic security formation (from terminology to specific measures) necessitates clarification and improvement of methodological and methodological aspects in this area. The predominant set of ways (directions) of strengthening economic security is identical in its content not only to the ways of ensuring it, but also to the ways (directions) of improving the financial and economic condition of an enterprise, managing competitiveness and economic sustainability, etc. On the one hand, this is explained by the multidirectional effect of each management decision, which has a response in different areas of the enterprise's activity. On the other hand, economic security is still a specific category that is broader than competitiveness and economic sustainability, and this should be taken into account when forming it.

Literature review. Economic scientists use the concepts of "mechanism of economic security formation", "mechanism of economic security provision" and "mechanism of economic security management", which are identified in the vast majority of scientific works [1, p.90-91]. In addition, the scientific literature uses separate concepts: "formation of economic security" and "formation of the economic security system". Summarizing the existing scientific opinions, N.O. Lysenko and N.V. Biloshkurska made an important conclusion that the purpose and goal of the mechanism of formation of economic security of an enterprise is to ensure it to achieve the tactical and strategic goals of the enterprise [2, p.28]. At the same time, the objects of the economic and organizational mechanism for the formation of economic security include completely different aspects, including types of operating activities, resources and various stakeholders. From our point of view, the definition of the mechanism of economic security formation provided by N.V. Biloshkurska is quite extensive: "a combination of goals, objectives, tasks, principles, methods, functions, means that allows to diagnose, predict and control the state of economic security to make adaptive decisions on the development of the enterprise" [2, p.28].

Traditionally, the factors of formation of economic security of an enterprise are divided into external and internal [3, p.79]. External factors include changes in international and foreign exchange markets, changes in legislation, socio-economic conditions of development at the macro- and meso- levels, demographic situation, state policy in various spheres of economic life, etc. Therefore, they do not directly depend on the activities of the enterprise itself, and therefore are uncontrollable and beyond its control. Internal factors of economic security deserve more attention. Thus, N.D. Belous divides internal factors into entrepreneurial and private ones, which relate to various manifestations of personnel development [3, p.79]. However, in our opinion, this approach is narrow and contradictory. The narrowness is due to the fact that financial, environmental and production factors are not taken into account. The contradiction is manifested in the coherence of the interests of owners and staff, since, as we and other scholars have repeatedly emphasized, in practice, there is a clear inconsistency of economic interests of the enterprise and its staff. Moreover, if we are talking about owners (shareholders), their economic interests may be inversely proportional to the interests of not only the staff, but also the enterprise itself.

The professional literature identifies typical factors that affect the level of economic security of an enterprise, regardless of the form of ownership and industry [4, p.31-32]. Among these factors, in our opinion, special attention should be paid to production factors, stability of demand and supply, competition of export products, state regulation, which will contribute to the economic security of the enterprise to a greater extent [4, p. 32]. In addition to this generalized approach, the scientific literature also contains an approach based on the personalization of the factors of economic security formation in accordance with its components, among which are the representatives of the forging T. Hrynko and L. Lysenko (Fig. 1).

However, such a personalized approach raises a number of concerns, including: duplication of the above factors with traditional indicators of economic security itself, direct formation of some factors by others (e.g., net profit and profitability), presence

of both factors controlled and uncontrollable by the enterprise (e.g., salary and food expenses of the employee's family), etc.

As a result of the study, T.V. Hrynko and L.V. Lysenko concluded that there is no clear commonly used classification of factors of economic security formation, and most economists do not classify them according to certain features at all [5, p.90].

It is obvious, in our opinion, that in today's business environment, the greatest influence on the SE is exerted by its own employees, majority shareholders, competitors, contractors and the state. In this regard, the formation of the SE is influenced by the economic security of its personnel, owners, competitors, contractors and the state. It should be emphasized that the impact of economic security of different stakeholder groups will vary in strength, time, current and long-term consequences, and other indicators. At the same time, in different cases, depending not only on external conditions, but also on internal ones (for example, the financial and economic state of the enterprise), the level of this impact may vary even within the same group of stakeholders.

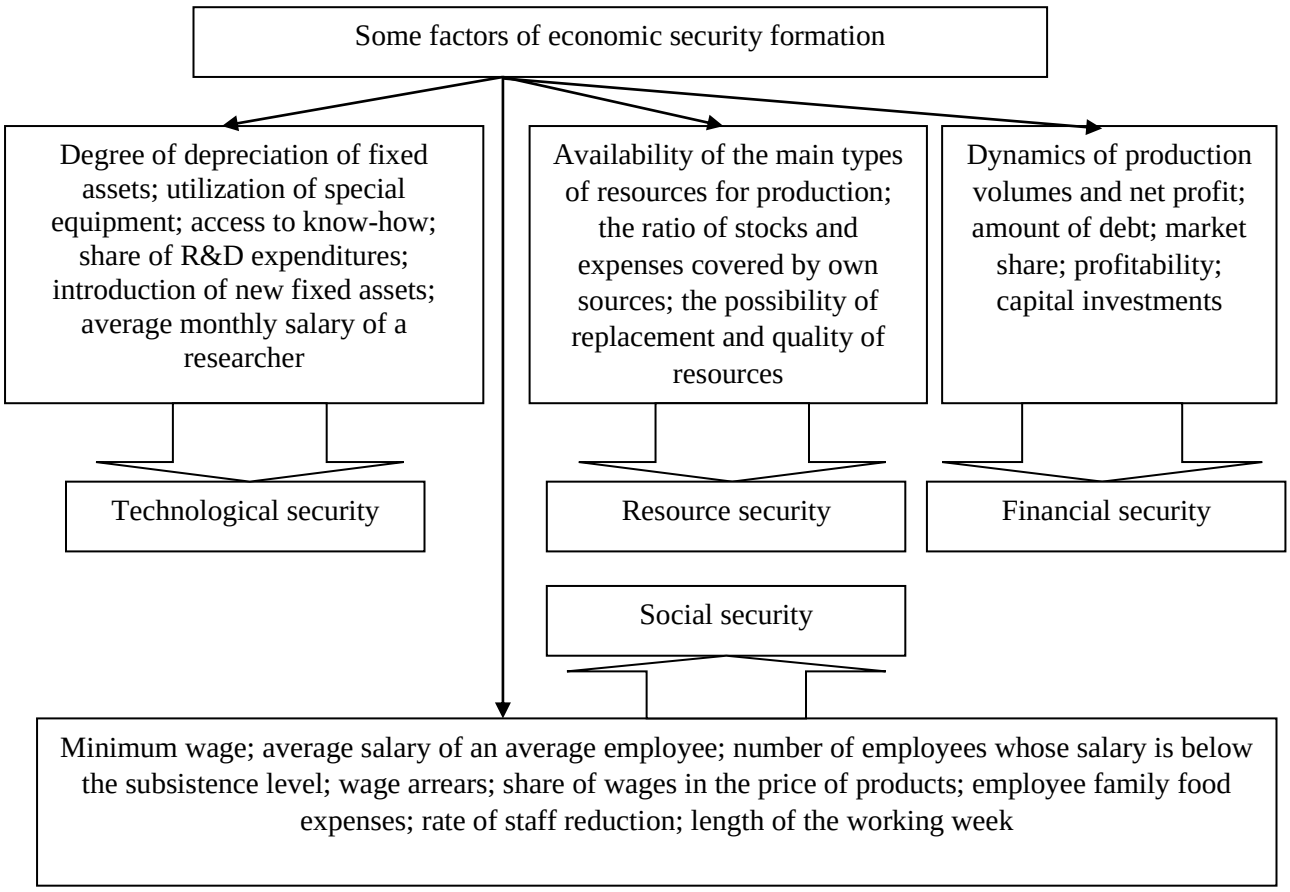

Figure 1. An example of the list of factors of formation of economic security of an enterprise in accordance with the personalization of its components

Source: visualized by the author according to [5, p. 89]

O.M. Lyashenko calls development the goal of ensuring the economic security of an enterprise, which he characterizes as one of the priority interests of the enterprise [6, p.93-94].

Of scientific interest is the explanation of economic security provided by P. Putsenteylo and O. Humeniuk as "maintaining a state of the enterprise in which the interests of the enterprise as a whole, as well as the owners, management, and employees of the enterprise are protected, resistance to internal and external threats is maintained, the ability to develop the enterprise is maintained, and the progressive development of employees' competencies and the use of enterprise resources is carried out" [7, p.40]. At the same time, according to these scholars, the system of economic security of an enterprise is a set of elements that protect a multi-level pyramid of economic security objects, the foundation of which is the material and technical base, personnel of the enterprise and resource provision [7, p.40].

For this study, it is important to note the statement put forward by scientists O. Kirichenko and O. Shikova that ensuring economic security is based on forecasting and predicting a large number of factors not only of the internal but also of the external environment of the enterprise [8, p. 36]. A similar opinion is traced in the definition of economic security by scientists O. Kovalenko and L. Lysenko [9] (Table 1).

Table 1. Existing definitions of economic security

Authors, source	Definition of economic security provision
O.V. Kovalenko, L.V. Lysenko [9]	A continuous, systematic process that involves diagnosing the external and internal environment of an enterprise, planning, organizing and implementing measures to support the stable functioning of the enterprise in accordance with its strategic, tactical and current goals, which is achieved primarily through the most rational allocation and use of resources.
I.P. Moiseenko [10, p. 142]	A set of activities aimed at obtaining the highest level of solvency, liquidity, efficient capital structure, improving the quality of planning, management of fixed and current assets of the enterprise, as well as its potential (technological, human, intellectual).
A.V. Cherep, O.V. Lyaskovets [11, p. 31]	It is a long, costly process that requires the development of protection measures, an effective system for diagnosing the level of economic security, and the formation of a relevant unit for effective management decision-making and optimal use of resources.
The security mechanism	
G.V. Kozachenko, V.P. Ponomarev, O.M. Lyashenko [12, p.106]	It is a set of managerial, economic, organizational, legal and motivational methods of harmonizing the interests of the enterprise with the interests of the external environment, which ensures the receipt of profit sufficient to ensure the economic security of the enterprise.
C.A. Lebedko [1, p. 92]	It is a component of the economic security system, a set of goals, objectives, methods, measures, the implementation of which makes it possible to achieve the target level of economic security.

Source: systematized by the author based on the results of the analysis of works [1, p. 92; 9; 10, p. 142; 11, p. 31; 12, p. 106]

The team of authors led by V.K. Vasenko made an apt statement about the economic security, specifying that it is determined by the state of its most vulnerable area [13, p.11]. However, this is a limited view, in our opinion, because it is important to take into account the opportunities presented by the external and internal environment of the enterprise.

The team of authors led by T. Momot sees the mechanism of ensuring economic security in the application of a set of certain methods that ensure stable profit and development of the enterprise [14, p.43]. However, the orientation of these methods

lies in the plane of the stakeholder-oriented approach, which, in our opinion, is an element of the harmonization approach (the criticism of which we have pointed out earlier) and, thus, shifts the focus from the operating activities of the enterprise, which is key to the functioning of the enterprise.

T. G. Vasyltsiv and co-authors call the policy of ensuring financial and economic security a set of economic and legal measures to maintain a safe state of viability of an enterprise, carried out in accordance with the strategic plan of its development [15, p. 35]. These scholars have a rather original but controversial view that only the financial and economic security of an enterprise is subject to both assessment and provision; all other security components, in their opinion, are the environment for developing operational goals of the policy of ensuring this security [15, p. 50].

Ensuring economic security is impossible without special means, among which Z. Zhyvko identifies technical, organizational, informational, financial, legal, personnel and intellectual ones. It is important that the scientist emphasizes their phased use [16, p.30]. The latter, in our opinion, seems contradictory given the need for simultaneous implementation of individual tools and their interdependence on each other.

There are two opposing views on how to compare the mechanisms of formation and provision of the UBE. According to the first one, these mechanisms differ from each other. Thus, the scientist S. A. Lebedko studied and systematized the existing definitions of the concepts of "mechanism of ensuring economic security" and "mechanism of forming economic security", which, in his opinion, define different types of mechanisms for managing economic security and established a conceptual essential difference between them: different purposes of their application [1, p.90-91]:

- when using the mechanism of ensuring economic security, the emphasis is on achieving its target level;

- when using the mechanism of formation - on creating safe conditions for the functioning of the enterprise [1, p.90-91].

Supporters of the second view, including N.O. Lysenko, N.V. Biloshkurska, stated that the mechanism of formation of economic security of an enterprise is identified with the mechanism of its ensuring. At the same time, scientists agree with the existing view that the mechanism of ensuring the economic security of the enterprise is characterized by the harmonization of its interests with the interests of external entities through the unity of managerial, economic, motivational, organizational directions; which is carried out with the aim of obtaining the necessary profit [2, p.27-28]. It is interesting that N. O. Lysenko and N. V. Biloshkurska indicated the latter as the goal for finding an enterprise in a state of economic security.

It is important that in scientific thought there is also a grouping of directions for strengthening the economic security of enterprises, which, according to M.P. Denysenko and P.T. Kolisnichenko, are represented by information and analytical, institutional and legal, and economic [17, p.35]. In addition, scientists propose measures not only to ensure the EBP, but also to increase, grow, and maintain it.

It should be emphasized that economic security management is a separate area of research. In this context, it is worth noting the work of scientists I. Mihus, L. Melko [18]. In it, in the modern business model of an enterprise, it is proposed to take into account the ability to predict the emergence, realization and impact of hazards, threats and risks, providing for the possibility of neutralizing catastrophic threats and eliminating material and intangible losses [18]. At the same time, all of these management actions are actively used in the formation of economic security.

Aims. The purpose of the article is to develop a conceptual model of economic security formation and to distinguish the place of the security process in this model.

Methods. The study applies general scientific theoretical methods – generalization, explanation, grouping – to analyzing economists' and practitioners' ideas about the object of the research and formulating conclusions of content analysis of primary sources, analysis and synthesis – to substan-tiating a new scientific approach to ensuring economic security.

Result. Thus, based on our analysis, we conclude that the formation of economic security is not identical to its maintenance. The latter is its separate significant component. For example, a customer (analogous to a business owner) wants to have a painting with a composition of fruit. To form an artistic composition (in our case, economic security), the elements of this composition - fruit (and for us, security components) - need to be structured in a certain way, paints, canvas, etc. need to be provided (ensuring economic security), and the artist (economic security structural unit) needs to be involved.

Therefore, in our opinion, the scientific approach to the formation of economic security of an enterprise is to synthesize its decomposition, provision and functioning of the economic security unit. Taken together, this combination will allow

- to adequately assess the economic security itself and the degree of its provision. The latter is related to decomposition, since it is easier to assess individual security components separately than all at once;

- to provide economic security with a structure that will correlate with the economic interests of the enterprise and will contribute to quantitative certainty;

- improve the organizational structure of the entity whose economic security is being formed. Due to this, the formation process will have specific performers and those responsible for the result [19].

The proposed view is the basis for the three-component model of economic security formation developed by us, which is visualized in Fig. 2.

It is important to emphasize that the model we propose can be applied both at the level of an individual enterprise and at the level of the state. In other words, the three-component model is universal. Only instead of an economic security unit in the structure of the enterprise, it is advisable to create a corresponding unit under the Ministry of Economy of Ukraine to form the economic security of the state.

It is worth noting that economic security itself is a specific object of provision, as it belongs to the class of partially controlled systems. At the same time, the level of controllability is determined by the dynamism of the external environment and the influence of factors beyond the control of management. The nonlinearity of the relationship between the level of economic security and the state of provision

determines the objective need to substantiate the dynamic parameters that would, on the one hand, represent the internal properties of the economic system, and on the other - the external forms of their manifestation, which in their aggregate form the desired level of economic security. We consider the postulate of equality of efforts to ensure economic security with the level of security obtained to be an omission of the traditional understanding of economic security and its mechanism.

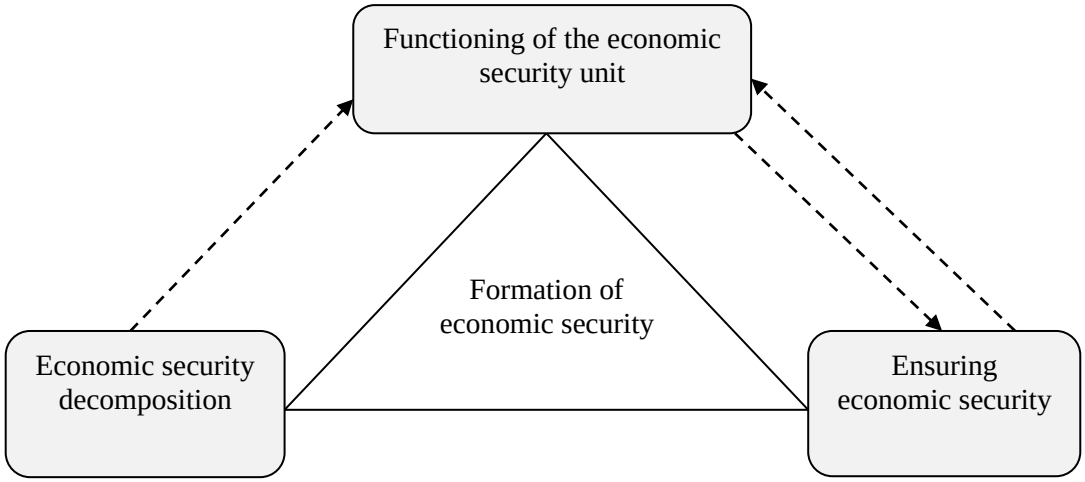

Figure 2. Conceptual three-component model of economic security formation
Source: author's development

The dynamic parameterization of the economic security of an enterprise as an object of provision is proposed to be carried out on the basis of internal properties - operational excellence and their external manifestations - market stability [20].

The set of dynamic parameters "operational excellence - market sustainability" allows us to reveal a complex system of interaction of various forces and factors that determine the prerequisites for achieving the desired level of economic security. We consider market sustainability in the generally accepted context as the position of an enterprise (state) in a particular sectoral market (the world market - for the economic security of the state), which ensures the expansion of activities and achievement of the desired socio-economic results in the dynamic conditions of the internal and external environment on the basis of the established competitive advantages. In general, the definition of "operational excellence" was proposed by M. Porter: performing similar actions better than competitors [21]. The specification of such a context at the enterprise level was carried out by scientists through the prism of the following aspects: technological leadership; business process excellence; conditions for achieving high product quality; continuity of improvements; speed of adding value to the product; cost minimization; economic sustainability of the operating system. In this study, we adhere to the view of scholars who define operational excellence as an element of organizational leadership, which manifests itself in achieving the desired state of the organization of business processes of the value chain and realization of its resource potential [22, p. 6].

Modern realities, supported by the evidence base of scholars, have shown that the formation and maintenance of economic security at all levels of its hierarchy

should accompany the entire life cycle of a product, an enterprise, and all cycles of regional and national development. At the same time, we believe it is important to emphasize the impact on economic security of the financial condition of its suppliers and consumers. However, we believe it is advisable to supplement this list of stakeholders with all their groups, both internal and external. Therefore, a fundamental element of the formation of economic security of an enterprise is to take into account the impact of the economic security of the enterprise's stakeholders, whose interests are directly related only to it, and the economic security of stakeholders whose economic interests are related to different enterprises. At the same time, it is obvious that it is competitors who, through their actions, influence the company's choice of markets, suppliers, intermediaries, the formation of the product range (goods, works, services), pricing and, ultimately, all types of activities.

The generalization of the above provisions is the basis for the formation of an integrated approach to ensuring economic security (Fig. 3).

It is important to note that the proposed integrated approach to ensuring economic security is universal: it can be used both at the enterprise level and to ensure the economic security of the state.

Conclusions. Thus, based on a critical review of professional sources, three approaches to the formation of economic security are differentiated. According to the first of them, the formation of economic security is identical to its provision. According to the second approach, which is broader, scholars do not distinguish between not only the processes of formation and ensuring, but also strengthening economic security, its enhancement, maintenance at a given level, increase in level, improvement of the state, etc. The third approach involves distinguishing between these processes, including the separation of formation from provision. We adhere to the third approach. In our opinion, ensuring is one of the three elements of the three-component model of economic security formation. The other two are the decomposition of economic security and the creation of a special security unit.

The basis of the improved integrated approach to ensuring economic security is the synthesis of the past and future time, operational and strategic levels of security measures in one plane. The essence of this synthesis is that in the present time, the current parameters of the enterprise's activity are brought into line with the future parameters of the internal and external environment. At the same time, three groups of processes are taken into account: resource provision, interaction with stakeholders, and value added. Each group of processes is contrasted with appropriate means of influence and security actions, which together help to ensure that current performance parameters are consistent with forecasted changes in the environment.

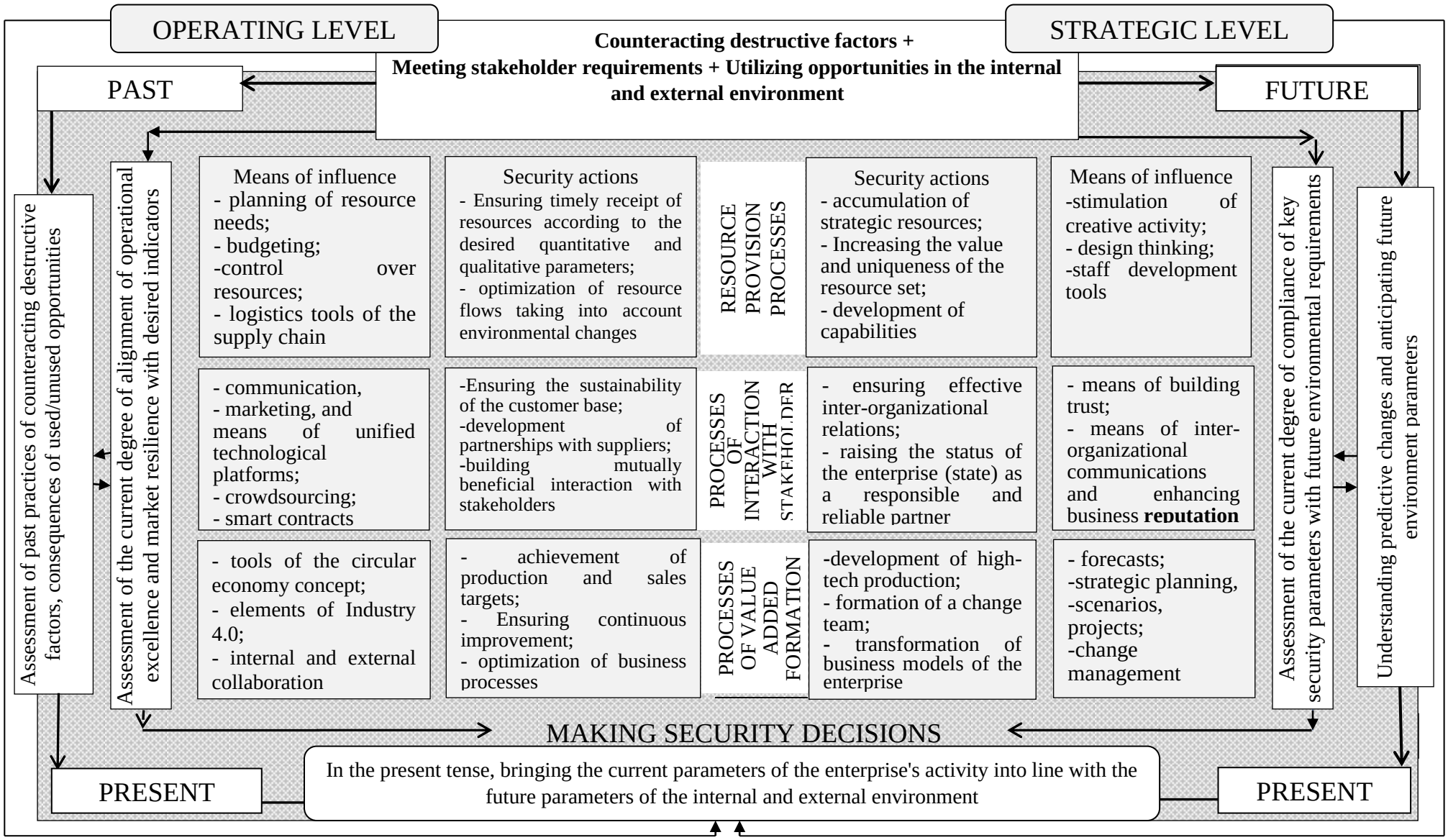

Figure. 3. A comprehensive approach to ensuring economic security

Source: author's development

The peculiarity of the above approach is its versatility: the possibility of using it to ensure the economic security of an individual business entity and the economic security of the State. In this regard, the direction of future research is to develop specific management actions in the plane of "counteracting destructive factors + meeting stakeholder requirements + using the opportunities of the internal and external environment" to ensure the economic security of Ukraine in the postwar period.

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CHAPTER 2
DEVELOPMENT OF FINANCE, ACCOUNTING AND AUDITING

RELATIONSHIP INVOLVED BY VIETNAMESE SMALL BUSINESSES BETWEEN CAPITAL STRUCTURE AND FIRM PERFORMANCE

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Abstract. *From data collected from 126 small and medium enterprises in HCM City, the paper was conducted to examine the connection between capital structure, ownership structure and operational efficiency of Ho Chi Minh City's small and medium businesses. The purpose of the article is to study the interdependence between the capital structure and the results of the small business firm of Vietnam. The author analyzes data based on different methods to contribute additional previous studies follow four dimensions: operational efficiency is measured by DEA model, instead of using the financial ratio in order to verify the theory's predictions agency costs; shows that the operating effectiveness is an important factor in choosing the capital structure for some industries; test whether some hypothesis can dominate each other in various segments of the distribution of leverage or not; and provide fresh empirical data on the connection between capital structure, ownership structure, and operational effectiveness. Future studies can look into the connections between company sizes, market measurements for business financial success, and capital structure. Future research may use the decide methodology with the moderator proxy being company size. The study's findings might be improved even more as a result.*

Keywords: *capital structure, ownership structure, performance, small and medium enterprises*

JEL Classification: G30, G31, G38

Formulas: 2; fig.: 0; tabl. 4; bibl.: 40

Introduction. The purpose of this study is to examine the relationship between business success and capital structure. The connection between capital structure and financial performance has been a topic of considerable debate in financial theory. Examining the factors that affect a financial structure for the business or financing decisions is crucial to comprehend how businesses finance their operations. Factors that are both internal and external, however, affect a capital structure of the company. The government's tax policy, the rate of inflation, and the state of the capital markets are examples of macroeconomic variables that are considered external.

One of the ASEAN nations with the quickest rates of economic growth is Vietnam, so more and more studies focus on exploring economic issues in ASEAN in particular and Vietnam in general (Dang et al., 2020; Dang & Nguyen, 2021a, 2021b, 2022; Nguyen, 2020, 2022a, 2022b). In particular, recent studies show that the study of financial and non-financial enterprises plays an increasingly important role in Vietnam's economic development (Nguyen & Dang, 2020; Nguyen, 2022c; Nguyen

& Dang, 2022). In Vietnam, for the period of 2016-2018, SME accounted for 93.5% of the total number of businesses in the nation; in which medium-sized and tiny businesses increased by 54.8%, 36.9% and 43.3% respectively compared to the average period of 2011-2015. These businesses play a vital role in the Vietnamese economy, although their capital and revenue are not strong points. Small and medium enterprises in Vietnam play a crucial part in stabilizing the economy and also make a great and important contribution to budget revenue, create jobs throughout the country, and contribute a significant part to GDP. In addition, SMEs draw a lot of attention of labor and social resources to make products. In order to compete more directly with big businesses and corporations, their products are generally biased in terms of exemplary and diverse, giving consumers a wide range of options. Additionally, they access several niche markets that big businesses bypass because there is not enough money coming in. Because of that importance, the study of small and medium enterprises is very important for the Vietnamese economy. Meanwhile, to our knowledge, previous research has not given much thought to the of small and medium enterprises. Especially in the context that these enterprises are more difficult to access the capital market than large companies. Therefore, this study is complementary to studies done in the past on the capital structure of firms. From the research results, this study provides some important policy implications to facilitate the development of small and medium enterprises in Vietnam.

Up until now, a great deal of study has been done on the connection between capital structure, ownership structure, and enterprise performance both internationally and in Vietnam. Different outcomes have been seen in experimental research. In particular, the trade-off theory contends that debt is necessary to boost performance whereas the agency cost theory contends that a high debt ratio will lower operating efficiency. The risk efficiency theory contends that an efficient corporation will borrow more because of its capacity to avoid financial difficulty when the inverse relationship between capital structure decisions and performance is taken into consideration. Businesses should avoid taking on too much debt if the franchising theory is correct and they want to maintain certain competitive advantages. In order to evaluate and improve these theories, as well as to present fresh empirical data from a sample of small and medium-sized businesses, this study was carried out because the findings of the earlier research are varied. The study responds to the following questions by using data from 365 small and medium-sized businesses in Ho Chi Minh City, Vietnam for analysis: How is operational efficiency is influenced by a number of factors, including capital structure and ownership structure? Does the firm's decision to use leverage have an opposite effect depending on the ownership structure and operating efficiency? And are there variations in these linkages between businesses in various industries? by using data to measure operational effectiveness using the DEA model.

The other portions of the essay are organized as follows: part 2 gives an overview of earlier investigations, part 3 gives data and research techniques, part 4 gives research findings, and part 5 gives conclusions.

Literature review. *Operational efficiency and capital structure.* Numerous empirical studies to date have found a positive correlation between business performance and capital structure. One such study is Schiantarelli and Sembenelli's (1999) investigation of the causes and effects of debt term structure using panel data of British and Italian firms. The authors discover that selecting a debt maturity structure typically balances liabilities and assets. The author makes the case that successful companies frequently take on more long-term debt. With a sample of 167 Jordanian businesses, Zeitun and Tian (2007) looked at the effect of capital structure on firm performance. The information is utilized in tabular form from 1989 to 2003. The study discovers an intriguing fact: the ratio of total debt to total assets has a positive and significant impact on the measure of company performance. Utilize the Tobin'Q index to gauge the market. The author also demonstrates how regional and national policies have an impact on businesses in Jordan. Narendar V. Rao et al. (2007) looked at the association between capital structure and company performance in the context of Omani companies in another study. The study looked at the trade-off between whether or not businesses using debt to finance their operations are protected from taxes. This implies that raising the debt ratio will improve business performance.

Moreover, some studies have revealed the opposite findings, such as the study by Gleason and Mathur (2000), which collected information from merchants in 14 European nations and utilized both financial measurement and operational measurement systems to assess business success. Since the dispute between the owner and the agent might result in the usage of financial leverage above what is necessary the findings show an antagonistic relationship between capital structure and business success. Capital structure, which has an impact on how well a company performs.

Ownership structure and performance. The connection between ownership structure and business performance has drawn a lot of attention in the literature on finance. The failure of this collection of literature to agree on the nature of the relationship is a notable aspect of it. Controlling for firm-specific traits is also required when modeling the relationship between company performance and ownership structure. By including these variables, it is possible that multiple variables may have an impact on ownership structure or corporate performance simultaneously, leading to erroneous correlations between them.

Lack of information regarding the relationship between ownership structure and corporate performance in businesses established in Vietnam served as the primary impetus for the current study. More precisely, when ownership is viewed as multifaceted and internally motivated, the relationship between these two variables has not been taken into account in prior studies. The findings, which show that managerial ownership is statistically related to performance, imply that Vietnam too suffers from the same homogeneity issues that were found in the American setting. But when homogeneity is taken into consideration, neither ownership metric has a statistically significant impact on performance.

Previous research on this link has frequently produced conflicting findings. Performance and ownership concentration do not significantly correlate with one another, as demonstrated by Chen, Cheung, Stouraitis, and Wong (2005). According to a 2007 study on the Spanish stock market by Minguez-Vera and Martin-Ugedo, there is a trustworthy correlation between ownership concentration and firm performance. Thomsen and Pedersen's (2000) research, however, also found a link the relationship between concentrated ownership and performance. This relationship is not linear, so once the firm reaches a particular degree of efficiency, it shifts to an inverse relationship. Similar to this, Garcia Meca and Sanchez-Ballesta (2011) studied the Spanish market to look at three aspects of ownership structure: internal (family) ownership, centralized ownership, and decentralized ownership and board members) as well as ownership of the business. According to research, ownership concentration is positive connected with firm performance up to a certain point but turns negative once it exceeds that point.

This study also demonstrates that internal ownership and ownership by outside organizations will improve business performance because managers will work for the company's common goals and, if the owner is an organization, will have stronger control over the enterprise. However, a research by Turki et al. (2012) utilizing panel data of 23 non-financial companies registered on the Tunisian Stock Exchange between 1998 and 2009 found the opposite. The author discovers a negative correlation between ownership concentration and business performance. As a result, it does not lessen conflicts of interest between stockholders and minority shareholders who own the bulk of the shares. In addition, family firms are a particular kind of major shareholder with a distinctive incentive structure, according to the research of Demsetz and Lehn (1985); Anderson et al. (2003). For instance, business owners often try to keep the agency costs of external debt and external equity to a minimum out of concern for their family's reputation.

Structure of ownership and capital. According to research by Brailsford et al. (2002), If major outside shareholders are able to successfully monitor management, managers might not be able to change debt to their own advantage. Freely, or to put it another way, debt and ownership concentration are positively correlated. However, they discovered that there is a nonlinear link between stock ownership and leverage. Agency conflict necessitates a greater use of debt at low levels of ownership, whereas managers who possess ownership try to lower their risk by using less debt. In that instance, companies with significant outside shareholders may have debt-to-equity ratios that are larger, at least until the possibility of bankruptcy makes debt reduction necessary. Friend and Lang (1988) concluded that there is a favorable correlation between debt and the level of foreign ownership.

Aims. The purpose of the article is to study the interdependence between the capital structure and the results of the small business firm of Vietnam.

Metodology. *Data collection and sample selection.* The combined financial accounts are the foundation for the analysis of 126 businesses in Vietnam's two traditional manufacturing sectors, agro processing and agriculture (including

companies in the food and processing industries). agricultural goods, fishing), building, and information services, which is a mature industry.

Table 1. Summary of the results of some previous studies

Relationship	Author	Result on sign
Corporate brand and capital structure	McConnell and Servaes (1995) followed Myers (1977), Jensen (1986) and Stulz (1990).	Maybe (-) or (+)
	Schiantarelli and Sembenelli (1999), Zeitun and Tian (2007), Narendar V. Rao et al (2007)	(+)
	Gleason and Mathur (2000),	(-)
Corporate efficiency and ownership structure	Chen, Cheung, Stouraitis, and Wong (2005); Minguez-Vera and Martin-Ugedo (2007)	Maybe (-) or (+)
	Turki et al (2012)	(-)
	Thomsen and Pedersen (2000); Garcia Meca and Sanchez-Ballesta (2011)	Maybe (-) or (+)
	Kole and Mulherin (1997)	(-)
Ownership concentration	Brailsford et al (2002)	(-)
	Friend and Lang (1988)	(+)
Family ownership	Demsetz and Lehn (1985); Anderson et al (2003).	(+)

The choice of industries is based on identifying significant differences across industries. For five years, from 2015 to 2020, financial statements and data tables provided by businesses were used to gather the information needed to assure the validity of cross-sectional data regression.

Table 2. Statistics on the number of observed samples

Department	Total number of companies	Number of medium-sized companies	Number of small-sized companies
Agriculture	45	30	15
Construction	47	12	35
IT services	34	16	18
Total	126	58	68

Business performance evaluation model. DEA - Data Envolopment Analysis is a boundary estimation approach. Färe et al. (1994) proposed input and output oriented DEA models to evaluate technical effectiveness (TE). This is a very good method to evaluate the performance of a business in a certain field. Input-oriented engineering efficiency studies the set of inputs that led to a specific output beam. Utilizing the bare minimum number of input types (Inputs) to generate a predetermined set of outputs is the answer for each decision-making unit (DMU) (Outputs). The potential output of a DMU from a given set of inputs is measured via output-oriented engineering, in contrast. According to the research of Lovell et al. (1993), it is more appropriate to assess the effectiveness of input-oriented strategies when the enterprise input factors can be easily manipulated. It is more appropriate to use the efficient determination of input-oriented strategies in the application of this study. Because the assumption of constant returns to scale is frequently inappropriate for commercial organizations, the DEA model employs the VRS (Variable Return to Scale) technique in this study. The ideal input to output ratio will be obtained by solving the aforementioned linear programming problem with specific data for each DMU decision-making unit. The ratio of the distances between the quadrant and the

effective boundary and the quadrant and the associated DMU will be the TE efficiency measure (Färe et al., 1994).

Business performance evaluation model. The regression equation for the firm efficiency model is given as follows:

$$\boldsymbol{HQ_i = a_0 + a_1 DB_i + a_3 Z_{1i} + u_i} \quad \textbf{(1)}$$

with HQ is the performance efficiency equal to the TE value obtained from the data envelope analysis model DEA; DB is the ratio of debt to total assets; Z_l is the control variable vector, and u is the random error.

Firm characteristics are represented by variables, including the control variable Z_l. More precisely, the study contends that business performance may be influenced by profitability, ownership type and structure, scale, asset composition, and potential for growth. The following variables are included in variable Z_l: The return (EBIT) to total assets ratio is used to calculate profit (LN). The ratio of intangible assets to the company's equity is used to quantify intangible assets, whereas the ratio of tangible fixed assets to the total assets of the organization is used to calculate tangible assets. According to Titman and Wessels, this is a metric to assess the enterprise's capacity for future growth (1988). The natural logarithm of corporate sales is used to calculate revenue growth (DT) and company size (QM). Additionally, the impact of ownership type and level on business performance is investigated in this study. This uses the percentage of shares held by entities and people categorized as significant shareholders to calculate ownership level (MDSH). By segmenting each of the different levels of ownership concentration and including dummy variables, the paper enables the effect of ownership to vary in a linear piecewise form. The number of inputs can be divided into an infinite number of time intervals, and in each interval, the number of outputs is a linear function of the number of inputs (see Morck et al., 1988). As a result, the model's ownership structure variable (CCSH) is created by multiplying "MDSH" by "SH." The family ownership variable (GD), which is a dummy variable, will have a value of 1 if family members own the business and 0 otherwise. The measure of these variables was base on previous studies (Dang et al., 2022; Nguyen, 2021, 2022a, 2022d, 2022e; Nguyen & Dang, 2022).

Leverage Model. The debt-to-assets ratio and operating performance are associated with the capital structure equation, along with a number of other variables discovered via related research (see Harris and Raviv, 1991; Myers, 2001). . The following is the given leverage equation:

$$\boldsymbol{DB_i = \beta_0 + \beta_1 HQ_i + \beta_2 Z_{2i} + v_i} \quad \textbf{(2)}$$

where $\boldsymbol{v_i}$ is the random error and $\boldsymbol{Z_2}$ is a vector of factors that are connected with leverage (apart from the efficiency factor). The variables in the control variable $\boldsymbol{Z_2}$ represent aspects of the firm that could have an impact on capital structure (see Harris and Raviv, 1991; Rajan and Zingales, 1995). They include variables like profit (profit), asset structure (VH), size (QM), revenue growth (DT), base structure ownership (CCSH1, CCSH2), and family ownership that are utilized in representative cost models (GD).

Results. The study discovered some significant affects of a variety of elements on the performance of the firm using two-stage regression 2SLS (Two-Stage Least Squares) for the efficiency model. Table 3 displays the outcomes of the effective model.

The central assertion of Jensen and Meckling's (1976) agency cost hypothesis that increased leverage is related to overall improved efficiency is found to be supported in terms of firm performance. The full spectrum of observable information. Leverage has an impact on performance, although to different degrees depending on the industry. Despite the fact that this is an old result, it helps to validate and evaluate earlier hypotheses on how leverage affects corporate performance.

There are variances between industries, but the study also found that a variety of other factors have an effect on how well businesses function. With regard to the factor of past profit, the information services sector shows a positive association, whereas the construction sector shows a negative correlation and the agriculture and agro-processing sector does not show any statistical significance. Additionally, there are differences in the degree of ownership concentration. For the information technology service sector, a low level of ownership concentration contributes to increased operational efficiency, whereas a high level of ownership concentration would result in decreased efficiency. For some industries, the outcomes are, however, the opposite. The study indicated that performance is negatively correlated with assets virtually everywhere, particularly with the retirement of family members. This result does not support the study of Demsetz and Lehn (1985); Anderson et al (2003).

The risk efficiency hypothesis and the franchise value hypothesis need to be balanced out, therefore, the study additionally looked into the relationship between efficiency and leverage inside the company. Particularly, the research findings provide more evidence in favor of the risk-effective argument.

Table 3: Regression results of panel data for performance model

Variables	IT services		Agriculture		Construction	
	Coff-2SLS	SE	Coff-2SLS	SE	Coff-2SLS	SE
GD	-0.16654*	0.06072	-0.06364	0.05077	-0.09319**	0.04258
DT	0.00304	0.005636	0.01866	0.05290	0.02570	0.03697
TSVH	-3.05237*	1.026421	-1.59071*	0.64491	-0.64740*	0.29921
DB	0.29663*	0.122182	0.37924*	0.07252	0.42905*	0.07320
QM	0.08595*	0.027227	0.17602*	0.03452	0.02489	0.02492
CCSH1	1.59759	0.464993	-0.02844	0.67037	-0.20084	0.34766
CCSH2	-0.11854**	0.19402	0.14109**	0.21799	0.11465	0.10691
LN	0.44092*	0.161524	0.10469	0.18873	-0.49318*	0.12014
TSHH	-0.13938*	0.142095	-0.05309	0.15328	-0.25540*	0.06175
Constant	-0.57421	0.301454	-1.80720	0.42198	-0.03251	0.28814
R^2	0.58		0.47		0.43	

*Significance level: *1%; **5%; ***10%*

The percentile regression and OLS regression results for the leverage model indicate that for businesses in the IT service sector, the impact of efficiency on leverage is favorable and substantial in the analysis. This result supports the risk efficiency hypothesis from low to high leverage: more efficient enterprises with relatively low debt levels typically chose larger debt ratios because increased efficiency makes predicted bankruptcy costs and financial distress costs less expensive. However, the regression results for the efficiency variable are only statistically significant for enterprises in the IT service industry and not for the rest of the industries. Regarding the degree of ownership concentration, the regression

results show that there is no clear and consistent relationship in each industry and each segment of the leverage distribution, in the information technology service industry, the degree of ownership concentration At low levels, leverage and high concentration of ownership are inversely correlated, with leverage being positively correlated and high concentration of ownership being negatively correlated. At low levels, leverage and high ownership concentration are negatively correlated, while leverage and leverage are positively correlated. For the remaining industries, the regression coefficients are also not statistically significant. The results from the remaining variables are also comparable, but because of the high p-value, the regression coefficients do not reach statistical significance.

Table 4. OLS regression results and 50% percentile for leverage model

Variables	IT services		Agriculture		Construction	
	Cof-OLS	Coft-Q50	Coft-OLS	Coft-Q50	Cof-OLS	Cof-Q50
HQ	0.34469**	0.33688***	-0.24752	-1.24514	0.377145	0.38854
GD	0.00729	0.04445	1.37273	0.40013	-0.290524	-0.28563***
DT	0.10007	0.20353	-0.045622	-0.26324	0.321864	0.007952
TSVH	0.71616***	0.11776	2.59123	0.29652	0.24831**	1.20213
QM	-0.01109***	-0.01706	0.22448	-0.13536	-0.45262	-0.92833*
CCSH1	0.14796	-0.41178	-0.11033	0.32652	0.38227	0.16335
CCSH2	-0.16572	0.24137	1. 82750	0.46621	-0.43562	-0.60475
LN	-0.09309***	0.07696	-0.23849	-0.15673	-1.34546	0.23262**
TSHH	-0.22743	-0.4152***	-0.19542	-0.72868	0.10475	0.05673
Constant	0.45779	0.57237	0.30927	-0.23672	0.03364	4.43936
R^2	0.41	0.38	0.28	0.19	0.33	0.26

Additionally, the sign of the association between the variables remains same when running percentile regression on each percentile of the leverage distribution. As a result, the analysis demonstrates that the connections between variables in each percentile of the leverage distribution are identical. This empirical finding aids in dispelling questions regarding the various justifications for the findings of numerous writers' study.

Conclusions and discussion. In the actual world, the capital structure definitely affects how well a company performs, since markets are inefficient. But it's still up for dispute whether this influence is beneficial or harmful. The relationship between capital structure and firm performance has been the subject of extensive investigation. Between these variables, some of these research have discovered a positive link, while others have discovered a negative relationship.

The study uses a sample to look into the causal relationship between leverage and performance as well as performance of SMEs in Ho Chi Minh City from industries with various high and low growth rates. the relationship between several elements, including performance and capital structure. The study offers the following conclusions after examining the data and model outputs: First, in terms of performance, We discover support for the agency cost hypothesis' main predictions made by Jensen and Meckling (1976), according to which greater leverage is linked to better performance across the board. The second factor that improves performance is past leverage. Numerous additional favorable aspects also have an impact on performance and capital structure, but the connections between these variables are

varied across industries and the same for each segment of the leverage distribution. This study helps to understand why the outcomes of earlier investigations were different.

Based on the research's conclusions, the author offers the following suggestions: First, small and medium-sized businesses should adopt a capital structure with a greater debt ratio to increase operational efficiency. Second, organizations must familiarize themselves with other niche characteristics relevant to each industry, such as ownership structure, tangible and intangible assets, etc. Create the most effective development plan. Thirdly, in order to manage risks and prevent the organization from getting into trouble, businesses must also create a good control and management system in addition to an ideal capital structure and ownership structure. Financial difficulties, which raises the possibility of the company going bankrupt. The study contains numerous data constraints as a result of the very small sample size and short time series. Additionally, the study did not examine a wide range of variables, necessitating additional research to broaden the data and observational scope. Including applying models to more businesses and industries... First, more input and output variables for the DEA model need to be added and taken into account in order to increase the number of variables. Secondly, in order to fully assess the correlations between variables that this study may have ignored, it is required to take other variables into account for the performance and leverage model.

Additional research can be done in the future to overcome some of the shortcomings of this study. The moderating effects of business size on the correlations between capital structure and accounting metrics of firm financial performance are the main focus of our research. Future studies can look into the connections between company size, market measurements for business financial success, and capital structure. Future research may use the decide methodology with the moderator proxy being company size. The study's findings might be improved even more as a result.

Author contributions. The authors contributed equally.

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MOBILE BANKING ADOPTION IN VIETNAM: AN EMPIRICAL STUDY

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Abstract. *Several banks in Vietnam are beginning to provide banking services via mobile phones, but few investigations have explored the factors that could assist bankers in creating mobile services that are appropriate and appealing to bank customers. The aim of this study is to explore the impact of a set of technical attributes on the adoption of mobile banking in a developing country like Vietnam. The study utilizes the Diffusion of Innovation theory as a framework to investigate the factors that could influence the adoption and usage of mobile banking. The study specifically examines the potential facilitators and barriers to mobile banking adoption, including the five attributes of innovations identified in previous studies: relative advantage, compatibility, complexity, trialability, and observability, as well as perceived risk. This research is the first attempt to apply the Diffusion of Innovation theory to the context of mobile banking in a developing country like Vietnam. This study addresses this gap by analyzing various factors that influence mobile banking adoption. The study draws on the Diffusion of Innovation theory and collected data from 420 mobile banking users. The results indicate that adoption is positively influenced by relative advantage, compatibility, and observability, while trialability and complexity have no significant effect. Perceived risk has a negative impact on adoption, which contradicts previous research findings. The study's conclusions will have practical implications for the banking industry in Vietnam.*

Keywords*: mobile banking, IT adoption, IT satisfaction, Vietnam.*
JEL Classification: G21, L86
Formulas: 0; fig.:1; tabl. 4; bibl.: 22

Introduction. The banking industry has undergone significant transformation in recent years due to technological advancements in telecommunications and information technology. This has resulted in major changes in the delivery of financial services (Almustafa et al., 2023; Dang et al., 2020; Dang & Nguyen, 2021a, 2021b). The industry has become more turbulent and competitive on a global scale, prompting banks to adopt a new strategy that prioritizes customer satisfaction through better products and services while minimizing operational costs. To achieve this, banks have leveraged technological developments and introduced mobile banking services. Understanding the customer adoption process of these services is crucial for both bankers and customers.

Mobile banking is increasingly important in Vietnam due to several factors. Firstly, the country has experienced rapid economic growth over the past decade, leading to a rise in the number of middle-class citizens who are seeking convenient and efficient banking services. Mobile banking offers a convenient way for customers to conduct financial transactions without the need to visit physical bank branches, which can be time-consuming and inconvenient. Additionally, mobile banking offers greater accessibility to banking services for customers living in remote areas or those who may have difficulty visiting physical bank branches. Mobile banking in Vietnam is still very young, the development of mobile banking system is considered very important, contributing to the development of the banking system in general (Dang & Nguyen, 2022; Dang et al., 2022).

Secondly, the increasing penetration of smartphones in Vietnam has created a significant market for mobile banking services. The number of smartphone users in Vietnam is growing rapidly, with over 50% of the population now owning a smartphone. This provides a huge opportunity for banks to reach a large customer base and offer them the convenience of mobile banking services. With the COVID-19 pandemic leading to increased social distancing measures and reduced physical interactions, the importance of mobile banking has only increased further. In summary, mobile banking is essential in Vietnam due to its convenience, accessibility, and the growing penetration of smartphones in the country (Q. K. Nguyen, 2022d, 2022e; Q. K. Nguyen & Dang, 2022).

Aims. The aim of this study is to explore the impact of a set of technical attributes on the adoption of mobile banking in a developing country like Vietnam. The study utilizes the Diffusion of Innovation theory as a framework to investigate the factors that could influence the adoption and usage of mobile banking. The study specifically examines the potential facilitators and barriers to mobile banking adoption, including the five attributes of innovations identified in previous studies: relative advantage, compatibility, complexity, trialability, and observability, as well as perceived risk. This research is the first attempt to apply the Diffusion of Innovation theory to the context of mobile banking in a developing country like Vietnam.

Literature review. Previous research on the adoption of mobile banking has predominantly focused on it as a technological innovation. The Diffusion of Innovation theory is a widely accepted theory that aims to explain the factors that influence an individual's adoption of a new technology or innovation. The theory explores how new ideas and technology spread through cultures and the rate at which they are adopted. Rogers, who developed the theory, defines diffusion as the acceptance or penetration of a new idea, behavior, or physical innovation within a given social system over time. Rogers also identified several key attributes of an innovation that impact adoption behavior, including relative advantage, complexity, compatibility, trialability, and observability. Previous studies have examined these attributes in the adoption and diffusion of Internet-based technologies and have consistently found that relative advantage, ease of use, and compatibility are the most significant factors for the adoption of internet and mobile technologies (Koenig-Lewis et al., 2010). In the following sections, we provide a brief overview of Rogers' five attributes and their relationship with the adoption of innovation.

Based on the previous studies (More & Benbasat 1991; Gu et al. 2009; Chen 2008; Rogers 2003), we propose the hypotheses as follow:

H1. Relative advantage will have a positive effect on mobile banking adoption.

H2. Complexity will have a negative effect on mobile banking adoption.

H3. Compatibility will have a positive effect on mobile banking adoption.

H4. Observability will have a positive effect on mobile banking adoption.

H5. Trialability will have a positive effect on mobile banking adoption.

H6. Perceived risk will have a negative effect on mobile banking adoption.

The adoption of an innovation, according to Rogers (2003), refers to the decision to fully utilize it. This study aims to examine the factors that influence the adoption of mobile banking. While there are various studies that define adoption in terms of implementation, usage, utilization, or satisfaction, this study uses satisfaction as the measure of adoption. Satisfaction is often used as a dependent variable for measuring the success of information technology. The reason for choosing satisfaction as a surrogate measure for adoption is twofold. Firstly, "satisfaction" is a valid measure of success. It is difficult to refute the success of a system if users report liking it. Secondly, satisfaction is widely used as a measure of success and post-adoption measure of mobile services (DeLone et al. 1992; DeLone et al. 2003). Figure 1 illustrates the hypotheses of this study.

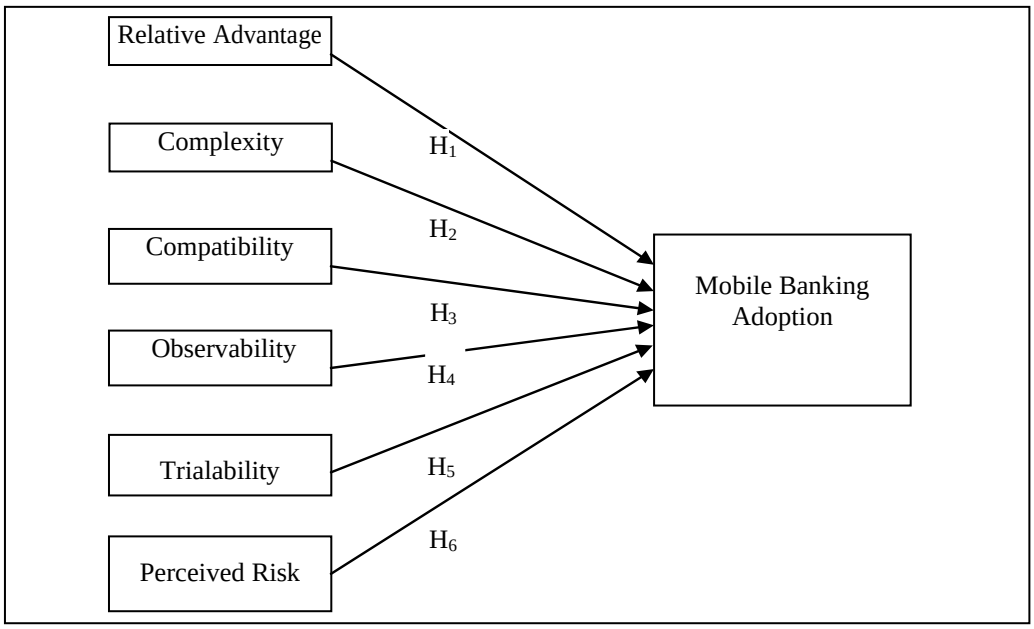

Figure 1. The Research Model

Methodology. The study created a survey instrument to examine factors that influence mobile banking adoption, based on a literature review and focus group discussion. The survey was designed as a self-administered questionnaire with two parts. The first part gathered data on demographic characteristics and mobile banking usage patterns of respondents. The second part collected information on constructs such as relative advantage, complexity, compatibility, observability, trialability, and perceived risk that affect mobile banking adoption. The items used to measure these constructs were adopted from prior research on internet and mobile banking. A pilot test was conducted with 20 randomly selected mobile banking users from various backgrounds to ensure the clarity and validity of the survey instrument. The feedback from the pilot test led to modifications in the wording of some questions. All items were measured on a five-point Likert scale ranging from strongly disagree to strongly agree.

The study aimed to investigate the adoption of mobile banking among adult individuals living in Vietnam, and due to the challenges of obtaining random samples, the researchers used a convenience sampling technique. Initially, the authors randomly selected university students from three major cities in Vietnam,

and questionnaires were distributed to 1500 participants. The collected questionnaires were then checked for completeness, and an editing process was carried out to eliminate illegible, inconsistent, and ambiguous responses. After data cleaning, the data was inputted into SPSS for analysis. Out of the 466 questionnaires, 420 were completed by mobile banking users, while 131 were potential mobile banking users, resulting in a 31% response rate. This rate is comparable to previous studies conducted in Vietnam. In this study we also apply OLS estimation method to investigate the impact of some factor affect mobile banking adoption. This method is used in many previous studies (Q. Nguyen & Dang, 2020; Q. K. Nguyen, 2020, 2021, 2022a, 2022b, 2022c).

Results. *Factor Analysis*. After conducting a review of the literature, the researchers identified the items to measure the six independent variables, including relative advantage, compatibility, observability, complexity, trialability, and perceived risk. To verify their unidimensionality, a factor analysis was performed on these items, and they were grouped into meaningful clusters. The factor analysis specified six factors, and principal component analysis with orthogonal varimax rotation was used. The researchers used the Bartlett Test of Sphericity and Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy to validate the use of factor analysis. The KMO value indicated that factor analysis can be conducted, and the Bartlett's Test of Sphericity was significant ($P<0.05$). A cutoff value of 0.50 was considered practically significant for factor loadings. However, the authors retained two items with lower loadings because they loaded on their own constructs. The remaining items were grouped into six factors, which explained 72.23% of the total variance. The results of the factor analysis are summarized in Table 2.

Table 1. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.823
Bartlett's Test of Sphericity	Approx. Chi-Square	4621
	Degrees of Freedom	231
	Significance	0.000

Factor 1 contains five items measuring the Relative Advantage with a variance of 18.87%. Factor 2 has five items measuring Compatibility with variance of 14.49%. Factor 3 has four items measuring Observability with variance of 11.07%. Factor 4 has three items measuring Complexity with variance of 10.99%. Factor 5 has three items measuring Perceived Risk with variance of 10.80%. Finally, two items of Trialability loaded on the sixth factor with variance of 8.64%.

Cronbach's coefficient of reliability. The study's constructs were evaluated for reliability by conducting an analysis of internal consistency using Cronbach's Alpha. The coefficients ranged from 0.918 for the Satisfaction factor to 0.775 for the Observability factor, which are all greater than the value of 0.6. This indicates that all of the items in the factorial groups of this study are sufficiently reliable measures. Table 3 presents the descriptive statistics and Cronbach's Alpha reliability coefficients.

Table 2. Exploratory factor analysis

Constructs	Factor Loadings					
	1	**2**	**3**	**4**	**5**	**6**
Relative Advantage						
MB is a convenient way to manage finance	**.859**	.105	.185	.135	.067	.065
MB allows to manage finance efficiently	**.840**	.135	.115	.085	.013	.058
MB allows me to manage my finance effectively	**.818**	.211	.235	-.055	.085	.181
MB gives greater control over finances	**.781**	.250	.111	-.028	.068	.061
MB is useful for managing financial resources	**.748**	.139	.333	.138	.143	.149
Compatibility						
MB fits well with the way I like to manage my finances	.532	**.529**	.142	.075	-.111	.240
I like to try new technology	.131	**.757**	.105	-.085	.009	.077
I like to adopt new innovation	.142	**.871**	.065	-.107	.118	.087
MB is compatible with my lifestyle	.296	**.656**	.261	-.002	-.010	.272
Using MB fits into my working style	.321	**.643**	.270	.020	-.109	.306
Observability						
MB can be accessed anytime & anywhere when in Viet Nam	.151	.117	**.855**	-.014	.007	.257
MB have no queue	.302	.106	**.719**	.095	.057	.033
MB can be accessed when abroad	.347	.219	**.682**	.145	.117	-.074
I can see the effect of a transaction immediately	.231	.332	**.482**	-.133	.171	.299
Complexity						
MB requires a lot of mental effort	.083	-.027	.076	**.842**	.278	-.039
MB requires technical skills	.119	-.106	-.005	**.832**	.157	.195
MB can be frustrating	.066	-.037	.062	**.828**	.229	.012
Perceived Risk						
Information about my transactions may be tampered by others	.037	-.073	.140	.252	**.847**	.098
I fear that the PIN codes get lost & end up in wrong hands	.029	.011	.071	.152	**.828**	.159
Information about my transactions may be known to others	.192	.112	-.065	.317	**.823**	-.002
Trialability						
I want to try for at least one month	.207	.175	.182	.148	.118	**.834**
I want to use MB on a trial basis to see what it can do for me	.135	.420	.078	.017	.199	**.822**
Eigen value	**4.15**	**3.19**	**2.44**	**2.42**	**2.38**	**1.90**
Variance explained (%)	**18.87**	**14.49**	**11.07**	**10.99**	**10.80**	**8.64**
Cumulative variance explained (%)	**18.87**	**33.36**	**44.42**	**55.42**	**66.22**	**72.23**

Regression analysis. Table 4 reports the result of the multiple regression model. The dependent variable is satisfaction of mobile banking use as a surrogate measure for mobile banking adoption. The *F* statistic for the regression model is 40.222 (with a *p* value of 0.000). The results of the regression analysis show that four factors, that are relative advantage, compatibility, and observability have positive significant effect and perceived risk has negative significant effect on mobile banking adoption.

Table 3. Mean, Standard Deviation, and Cronbach's Alpha Reliability

Dimension	No. of Item	Mean	Standard Deviation	Alpha
Relative Advantage	5	3.625	0.751	0.908
Compatibility	5	3.831	0.749	0.883
Complexity	3	2.913	0.935	0.843
Observability	4	3.697	0.747	0.775
Perceived Risk	3	3.336	0.958	0.858
Trialability	2	3.768	0.925	0.839
Satisfaction	5	3.515	0.820	0.918

Notes: Mean scores based on a five point scale, where 1= Strongly Disagree and 5= Strongly Agree

However, complexity and trialability are found to have no significant effect on mobile banking adoption. Further, R^2 which is 0.428 indicates that 42.8% of mobile banking adoption is explained by the model. The variance inflation factor (VIF), which indicates the degree to which each predictor (i.e. independent) variable is correlated with other predictor variables, showed that there is no evidence of multicollinearity. A threshold VIF that is less than or equal to 10 (i.e. tolerance > 0.1) suggests that multicollineariy is almost absent.

Table 4. Regression Model of mobile banking adoption

Independent Variables	B	Standard Error	T	p-value	Collinearity Statistics	
					Tolerances	VIF
Relative Advantage	.310	0.062	4.371	.000	0.554	1.816
Compatibility	.290	0.059	4.913	.000	0.509	1.964
Observability	.294	0.061	4.821	.000	0.573	1.745
Complexity	.057	0.043	1.304	.193	0.728	1.378
Trialability	-.045	0.046	-0.987	.294	0.598	1.541
Perceived Risk	-.141	0.043	-3.333	.001	0.711	1.403
Dependent Variable = Satisfaction; R^2 = 0.428; Adjusted R^2 = 0.418; F = 40.222; P-value <0.05						

Discussions. The first hypothesis, H1, which states that relative advantage has a positive impact on mobile banking adoption, has been confirmed with a t-value of 4.371 and a significance level of $p \leq 0.001$. This result is consistent with previous research on mobile commerce and supports it. Relative advantage is similar to perceived usefulness in the technology acceptance model. This indicates that customers who perceive mobile banking as a useful and convenient way to manage their finances efficiently and effectively are more likely to adopt it.

The research results indicate that compatibility is the most significant factor in predicting mobile banking adoption. This finding supports hypothesis H2 ($t=4.913$, $p \leq 0.001$) and is consistent with previous research which also found that perceived compatibility of an innovation has a positive impact on the adoption of mobile banking. This suggests that customers find mobile banking to be a suitable and convenient way to manage their finances, and it fits well with their working and lifestyle preferences, leading to their adoption of this new technology. When customers believe that mobile banking is fully compatible with their current banking practices and aligns with their preferences, they are more likely to adopt it.

The study found that H3, which states that observability has a significant impact on mobile banking adoption, is supported ($t=4.822$, $p \leq 0.001$). Observability, in the context of mobile banking, refers to the ability to see the benefits of using the service, such as having immediate access to transactions at any time and location. From the customers' point of view, mobile banking is considered a very convenient and efficient way to manage financial transactions because it is easily accessible 24/7.

The study did not find support for H4, which suggested that complexity would have a negative effect on mobile banking adoption. This result was unexpected and contradicts some previous research. One possible explanation for this finding is that the majority of the study's respondents (72.7%) were young (between the ages of 18

and 25). It is possible that young people can easily learn how to use mobile banking, making complexity a non-factor in their decision to adopt it. Young people tend to be more knowledgeable about new technologies and have more experience using them, including mobile banking.

The study did not find significant support for H5, which hypothesized that trialability would have an effect on mobile banking adoption. This aligns with previous research on phone and PC banking. However, the reasons for this lack of support are unclear. Typically, during the trial period, customers are expected to receive full support and knowledge about the mobile banking services. One possible explanation for the lack of support is that banks may not pay much attention to potential customers who want to try mobile banking. As a result, such customers may not be convinced of the benefits of mobile banking during the trial period. Another possible explanation is that consumers may already trust mobile banking, find it useful, and consider it safe and low-risk. Consequently, they may not feel the need to try it out.

The study found that H6, which states that perceived risk has a negative impact on mobile banking adoption, is supported ($t=-3.333$, $p \leq 0.001$). This aligns with previous research findings that indicate customers consider risk as a major barrier to adopting mobile banking due to concerns that their PIN codes could be lost or that their transaction information could be compromised. Banks need to address these concerns by providing assurances that mobile banking is a secure and trustworthy system to use.

Conclusions. Based on our study's results, it is recommended that banks in Vietnam should provide mobile banking services that cater to a variety of customer needs, past experiences, lifestyles, and beliefs to meet customer expectations. Improving mobile banking support and offering a range of services will increase customers' perceived usefulness and adoption of mobile banking. Therefore, banks should focus on understanding customer behavior and developing reliable mobile banking systems that meet their needs and provide high-quality services. Additionally, banks should communicate the advantages and usefulness of mobile banking over other banking channels, such as physical bank presence or using ATM machines. Banks must also reduce customer-perceived risks by offering specific guarantees to protect their customers and addressing their complaints in a timely manner.

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FEATURES OF ACCOUNTING AND WAYS OF ITS IMPROVEMENT AT ENTERPRISES IN THE CONSTRUCTION INDUSTRY

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Abstract. *This article summarizes the arguments and counterarguments within the scientific discussion on the peculiarities of accounting and ways of its improvement at construction enterprises of Ukraine. The purpose of the article is to determine the features of the accounting of construction enterprises and to develop practical recommendations for its improvement. The research used a complex of general scientific methods: analysis and synthesis, induction and deduction, theoretical generalization, grouping and classification, logical generalization, and comparative comparison. The methods of logical generalization were used in the study of accounting features at construction enterprises. Proposals based on the results of the study of accounting in construction enterprises were developed using the methods of concretization and systematization. According to the results of the study of economic sources of information, an analysis of the construction industry was carried out in order to determine the peculiarities of the accounting of construction enterprises. In order to increase control over the formation of the cost of construction works, additional sub-accounts to account 23 "Main production" have been proposed to analytically form costs in construction. It is proposed to introduce into the standard Plan of accounting accounts, accounts 238 "Unfinished construction contracts", 239 "Interim accounts", which will ensure uniform requirements for accounting in construction and a reliable reflection of the technology of the construction process in accounting and financial reporting. The practical use of the results of the conducted research will allow to increase the efficiency of accounting of construction enterprises, its efficiency, analytical, mobility, will strengthen both control and management functions of accounting and management accounting.*

Keywords: *construction, income, accounting, calculation, complex, cost, management.*

JEL Classification: M 40

Formulas: 0; fig.: 1; tabl.: 2; bibl.: 12

Introduction. A building complex is "a large number of independent economic entities, which have their own specific features and separate system goals, which are quite branched without the possibility of management from one or more centers. Thus, according to the volume of products produced and the number of employed workers, the construction industry currently occupies almost a tenth of the economy of Ukraine" [9].

Construction is "construction of a new object, reconstruction, expansion, completion, restoration and repair of objects, execution of assembly works" [9].

"Products of the construction industry are completed and put into operation plants and factories, railways and highways, power plants, irrigation and shipping canals, ports, residential buildings and other objects that form the main funds of the economic complex of the country" [9].

The technology of carrying out construction and installation works is characterized by specific features that affect the organization of accounting, methods of cost formation and determination of the financial result of construction companies.

In modern conditions, the management process at construction enterprises requires mobile and effective management of them, especially labor-intensive sectors of the construction industry, which requires a clear formation of appropriate information and analytical support.

At the present time, in the conditions of military operations, the entire economy of Ukraine, including the construction industry, is suffering from devastation and destruction.

Ukraine, after the end of the war, is awaiting the most extensive reconstruction in Europe, in 2023-2025 it is planned to implement most of the projects of the entire plan for the restoration of social sphere objects, housing construction

Reconstruction and restoration of the construction industry will take place thanks to the help of international organizations, based on their experience and the latest methods and procedures that require developed economic information for making management decisions.

Accounting, the peculiarities of its management by construction companies, is aimed at reliable assessment of economic processes and their reflection in reporting. Based on the results of accounting and analysis of its indicators, decisions aimed at minimizing costs and obtaining profit are made.

That is, an information resource in which a significant specific weight belongs to the information formed in the accounting system acquires special relevance in modern conditions.

Literature review. Many works of domestic scientists are devoted to the study of accounting features in the construction industry: Yu.A. Chains [2], F.F. Butynetsa [3,4,5], N.O. Lobody [6], V.F. Maksimova [7], L.M. Pylypenko [9], in which various aspects of accounting at construction enterprises are highlighted.

At the same time, there are still many unresolved issues and problems related to the organization of accounting for the construction process.

Aims. The purpose of the article is to determine the features of the accounting of construction enterprises and to develop practical recommendations for its improvement.

Methods. The research used a complex of general scientific methods: analysis and synthesis, induction and deduction, theoretical generalization, grouping and classification, logical generalization, and comparative comparison.

The methods of logical generalization were used in the study of accounting features at construction enterprises. Proposals based on the results of the study of accounting in construction enterprises were developed using the methods of concretization and systematization.

Results. One of the important functions of managing the construction process is keeping operational, reliable records, the effectiveness of activities and the effectiveness of management decision-making by enterprises in the construction industry depends on the correct organization of which.

Construction is "a special branch of the national economy, which is formed, on the one hand, as a process of reproduction of fixed assets, which requires the necessary capital investments for its implementation, and on the other hand, as a process of own development of this branch of material production" [9]. Accounting is conducted at construction enterprises to provide reliable information to managers who make operational decisions regarding the regulation of the construction process.

The peculiarities of construction and accounting in it are so significant that it led to the adoption of an industry standard - P(S)BO 18 "Construction contracts", namely:

1. "The duration of production cycles causes a large specific weight of unfinished production and special terms of settlements with customers - payment is usually made for completed stages of work, the cost of which is determined in accordance with P(S)BO 18; construction organizations are often forced to borrow funds due to the slow turnover of their own funds" [11].

2. "Construction objects are immovable, there is no movement of objects to the buyer, but there are costs for moving construction machines and mechanisms to the construction object, for the construction of temporary (untitled) structures" [11].

3. "Construction organizations, as a rule, before the start of work, know a specific customer with whom they conclude a contract, from whom they receive funds for construction and who accepts the object on site after the construction is finished. This necessitated the accounting of costs and revenues in terms of construction contracts" [11].

4. "Construction sites are scattered over a large area, are at a considerable distance from the management, their location is constantly changing, which weakens the control over the execution of works, storage of materials" [11].

5. "The presence of auxiliary productions, the variety of types of work (assembly, plastering, finishing, sanitary-technical, electrical, etc.) and their different labor intensity complicate primary and analytical accounting" [11].

6. "Construction objects are located in the open air, climatic conditions lead to material losses due to the action of rain, frost, snow, wind" [11].

The peculiarities of the technological process of construction determine the peculiarities of keeping records by enterprises of the construction industry.

Accounting in construction is one of the most difficult types of accounting in the fields of economy. The cost system of construction is "the funds spent on the purchase of material assets, wages and others, which form the cost of construction and assembly works" [9].

In P(S)BO 18, account 23 "Production" is proposed for accounting of construction costs. Let's consider the peculiarities of accounting for construction costs with the help of table 1.

That is, actual expenses are formed during the period on subaccount 23 "Main production", and at the end of the period recognized expenses are included in the cost price.

The grouping of expenses by elements and articles in construction is carried out, as in other industries, in accordance with P(S)BO 16 "Expenses".

Table 1. Display of business transactions for accounting of construction costs using correspondence of accounts

Content of the operation	Debit	Credit	Amount, UAH	Accounting registers
1. Direct costs at the first stage are reflected	23	661,65, 20...	83000	Accounting help
2. The cost of works under the construction contract has been written off	903	23	83000	Accounting help
3. Credited to the financial result	791	903	83000	Accounting help
4. Direct costs in the second stage are reflected	23	661,65, 20...	84000	Accounting help
5. The cost of works under the construction contract has been written off	903	23	84000	Accounting help
6. Credited to the financial result	791	903	84000	Accounting help

Source: compiled by the authors based on data [7]

Cost accounting is carried out in terms of construction contracts. P(S)BO 18 "Construction Contracts" defines that costs under a construction contract include:

- expenses directly related to the execution of this contract (direct);
- total expenditures.

The classification of expenditure items in construction has a generalized, complex nature. Some articles summarize various costs in economic terms. This classification of costs does not provide reliable information about the cost structure of construction works and management decisions.

In order to improve the accounting of construction costs and form the production cost of construction works, we offer a more detailed classification of construction costs in terms of sub-accounts opened under account 23 "Main production" (Fig. 1).

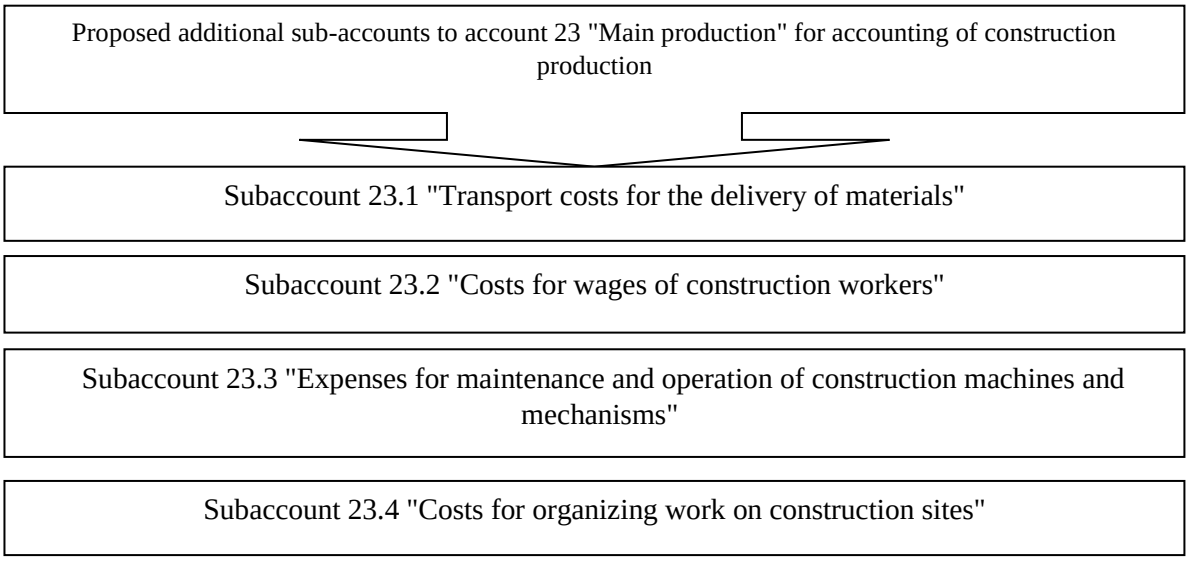

Figure 1. Proposed additional sub-accounts to account 23 "Main production" for accounting of construction production

Source: developed by the authors

Such an improvement will strengthen the analytical and information function of accounting, establish a direct connection between costs and the volume of construction work, and provide analytical information for the analysis and control of construction production costs

We will consider the peculiarities of accounting of the income of construction enterprises with the help of table 2.

Table 2. Peculiarities of the accounting display of income under a construction contract

The content of the business transaction	Debit	Credit	Amount, UAH	Accounting registers
1 stage				
1. The income of the construction organization and the debt of the customer at the first stage are displayed	361	703	12800	Accounting help
2. The tax liability for value added tax is displayed	703	641	2133	Accounting help
3. The amount of the interim account is displayed	238	239	8300	Accounting help
4. Adjustment of interim account	361	239	1200	Accounting help
5. Value added tax on the amount of the adjustment is reflected	361	641	200	Accounting help
2 stage				
1. The income of the construction organization and the debt of the customer at the first stage are displayed	361	703	8300	Accounting help
2. The tax liability for value added tax is displayed	703	641	1383	Accounting help
3. The amount of the interim account is displayed	238	239	6500	Accounting help
4. Adjustment of interim account	361	239	-600	Accounting help
5. Value added tax on the amount of the adjustment is reflected	361	641	-100	Accounting help
6. Income is credited to the financial results account	703	791	6917	Accounting help
7. Closing of interim accounts	239	238	7700	Accounting help

Source: compiled by the author based on data [9]

Features of accounting in construction enterprises are the use of specific accounts. In table 2., to display the income of the construction organization, accounts 238 "Unfinished construction contracts", 239 "Interim accounts" are used and they are widely used in the accounting practice of many construction companies, but there are companies that use these accounts, but under other codes , because their use is not provided for by the standard Chart of Accounts and the Instructions for the Application of the Chart of Accounts for Accounting of Assets, Capital, Liabilities and Business Operations of Enterprises and Organizations.

The plan of accounting accounts is aimed at ensuring the unity of the display of economic transactions that are homogeneous in content on the corresponding synthetic accounts and sub-accounts, but it does not take into account all the industry-specific features of production processes. Therefore, one of the ways to improve accounting in the construction industry is the introduction of accounts 238 "Unfinished construction contracts", 239 "Interim accounts" into the standard Chart of accounting accounts, which will ensure uniform requirements for accounting in construction and a reliable reflection of the technology of the construction process in accounting and financial reporting.

Conclusions. Therefore, the use of a more detailed classification of construction costs in terms of subaccounts opened to account 23 "Main production" significantly increases the information quality of the cost accounting system at the construction enterprise, creates the necessary conditions for the analysis and control of costs, increases the analytical value of the received information, which is necessary for the adoption justified management decisions.

The introduction of accounts 238 "Unfinished construction contracts", 239 "Interim accounts" into the standard Plan of accounting accounts will ensure uniform requirements for accounting in construction and a reliable reflection of the technology of the construction process in accounting and financial reporting

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CHAPTER 3
MODERN MANAGEMENT TECHNOLOGIES

THE ROLE OF VENTURE BUSINESS AND ITS STRUCTURE IN THE INNOVATION MANAGEMENT PROCESS

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Abstract. *The purpose of the article is to analyze the role of venture business and structure in the process of innovation management and to identify factors that hinder the process of innovation management in startups. The main types and features of the functioning of venture business have been singled out. Startups are one of the important structural elements of venture business. To identify factors that have an impact on the innovation management process in startups, an expert study was conducted using the Delphi method, which was carried out in the fall of 2022 in Ukraine. This made it possible to determine the influence of individual factors on the innovation management process in startups. It was established that the lack of own financial resources, low innovative intensity, activity in the process of implementing innovative activities, and lack of market opportunities to implement innovations are the most significant internal obstacles to the innovation management process for startups. Underdevelopment of the marketing system, weak support from management team members, and obstacles of a structural nature (high level of formalization, centralization) are the less significant internal obstacles to the innovation management process for startups. The most significant external obstacles to the innovative activity of enterprises were found to be a high level of bank interest on loans, a complex and inefficient taxation system, which is connected with the lack of interest of state bodies in stimulating innovative activity, a decrease in the purchasing power of the population. Unexpected changes of leadership and raiding, insufficient stimulation of entrepreneurship to use innovative technologies, and lack of the necessary base and structures for the transfer of technologies and relevant information are the external factors that had less impact on the innovation management process in startups.*

Keywords: *management, innovation management process, factors, startups, venture business, innovative activity.*

JEL Classification: G 24, O 31, L 21, M 21

Formulas: 0; fig.: 0; tabl.: 2; bibl.: 6

Introduction. According to present evaluations nowadays in developed countries, 50 to 90% of GDP growth is determined by innovations and technological progress. Under these conditions, the more popular becomes venture business, which is the driver of the development of the innovational economy [3]. Venture business significantly contributes to the innovative development of the economy, the restructuring of the country, and the formation of promising technological industries in the country.

The transition of Ukraine's economy to an innovative model requires efforts from all sectors of the country's economy to create a favorable climate for the development of venture business. Peculiarities of venture business formation should be the basis for the development of strategic plans for the future revival and post-war reconstruction of the country.

Literature review. The scientific works of Patel C. P., Guedes M. J., Pagano M. S., and Olson G. T. (2020) [2] are devoted to the issue of the development of venture business and the analysis of the state of venture business in Ukraine. Considerable attention was paid to the problems of ensuring venture business development processes by scientists such as Popkova E., Akopova E., Alekhina E., Dubova J., Popova J., Avdeeva I., Proskurina I. (2013) [3]. The question of the theoretical foundations of the functioning of venture businesses as institutions of joint investment and the prospects for their development in the innovative ecosystem of the state is revealed in the works of such authors as Rahman A., Hayati N., Sahiq M., Nadiah A., Ismail S. (2016) [4]. Sivaruban S. (2021) [5] devoted research to risk management tools in which venture business is located, and the impact of COVID-19 on venture capital in small and medium-sized enterprises.

Therefore, factors that hinder the innovation management process in startups should be a key focus for venture business.

Aims. The purpose of the article is to analyze the role of venture business and structure in the process of innovation management and to identify factors that hinder the process of innovation management in startups.

Methodology. During the research, the method of synthesis and analysis, induction (in the study of venture business and its structure in the innovation management process); an expert method (for identifying factors that hinder the process of innovation management in startups); the method of schematic, graphic images (for the visual display the received results of the study) has been used.

Results. The venture business is a field of entrepreneurial activity related to the implementation of risky projects and risky investments. Often, this kind of business is identified only with a small business, as it typically begins with a small number of financial resources [6].

The following main types of venture business can be singled out [1]:

- independent venture firms are small innovative firms (startups, SMEs) that seek funds from private and institutional investors for their original idea of creating and implementing innovation. They are mostly engaged in the search for one idea, technical and economic substantiation of the project. Such organizational structures can grow into a large company or can be sold to another company;

- financial institutions (venture capital firms) that provide capital to small innovative firms (banks, investment, and innovation funds, i.e. venture financing funds, etc.);

- corporate venture business (large venture companies, corporations, partnerships, associations, etc.), whose activities are financed by venture financing funds and investment funds or companies, or trusts. Such structures are engaged in the search for many ideas, technical and economic substantiation of projects and

production of prototypes, study the sales market, and promote products on the market.

The problem of access to capital affects the vast majority of businesses on the market. However, it particularly affects early-stage small businesses that are, or want to be, higher-risk businesses. Such enterprises do not have adequate collateral and credit history that would allow them to raise capital from traditional sources. They are forced to look for alternative sources of capital. One option is venture capital funds.

The essence of venture financing is to provide the company with interest-free capital in the initial phase of its existence or the development phase. This will enable rapid innovation, fill gaps in the market, and generate satisfactory revenue. Companies of this type reduce their risk by diversifying stakes in different enterprises at different stages of existence in the market, which aims to achieve a high rate of return on invested capital.

Providers of capital (deductions) that invest in venture capital funds can be banks, insurance companies, pension funds, non-financial enterprises, individuals, state institutions, academic institutions, private funds, state capital funds, and others.

The most frequently repeated features and terms of venture capital include [2]:

- financing based on equity capital (share);
- investing in young, innovative private enterprises;
- providing business consulting and operational support;
- medium and long-term nature of the investment;
- providing financing with a higher degree of risk;
- high risk compensated by above-average returns on investment;
- the innovative character of the company.

The economic growth of each developing country is now mostly influenced by SMEs. Supporting SMEs is one of the most important driving forces in developing the country's economy to accelerate growth and become self-sufficient. Venture capital is the main source of equity for SMEs as startup businesses [5].

A startup is a type of business venture. Creators of startup companies must have a few key characteristics [4]:

- startups generally have a short lifespan. Startup companies can fulfill many ideas;
- to grow rapidly, creators are going to have to think big;
- for those who have never launched a business before, incubators and accelerators can provide more valuable assistance. Incubators offer support and guidance to assist startups in growing and thriving in an unstructured way, without any goals or timeline. On the other hand, accelerators provide a specific course of action within a short period to rapidly grow the value and size of a company in pursuit of a particular goal, typically funding.

To identify factors that have an impact on the innovation management process in startups, an expert study was conducted using the Delphi method, which was carried out in the fall of 2022 in Ukraine. This made it possible to determine the influence of individual factors on the innovation management process in startups.

The expert survey was conducted in two rounds to achieve statistical compatibility of expert feedback. The study involved 65 respondents (in the first round) and 60 experts in the second and covered the western region. Due to the complexity and multifacetedness of the chosen field and the design of the research, it was decided to include in the group of expert heads of enterprises, employees of the regional administration sector, consultants in the field of innovation management, and scientific workers who specialize in innovation issues.

The stage of gathering and coordinating experts' opinions, when the participants received the research questionnaire by e-mail, involved two phases:

1) statistical analysis of the collected anonymous, individual results and the formation of a preliminary proposal according to the degree of importance;

2) transmission to the participants by e-mail, organized and already collected results of the previous phase of the research, and a modified questionnaire (questionnaire) with comments, to review their previous feedback and submit the resulting comments and statements.

If the experts did not make fundamental changes in the answers, it should be assumed that a satisfactory level of conformity to the experts' opinions was achieved and the process of interviewing the respondents was completed.

To assess the consistency of experts' opinions and to determine the reliability of expert assessments, Kendell's concordance coefficient was calculated, which was more than 0.6, so we can talk about a certain consistency and reliability of experts' opinions.

Experts assessed the strength of the influence of the factors identified based on the conducted research on a Likert scale from 1 (no influence) to 5 (very strong influence).

All factors were divided into factors of the internal and external environment, as obstacles to the implementation of innovative activities. For the factors, the average weight obtained in the case of ranking is indicated (Table 1).

Table 1. Internal environment factors that hinder the innovation management process in startups

№	Factors	Weight
1	Lack of own financial resources	0,21
2	Low innovative intensity, and activity in the process of implementing innovative activities	0,14
3	Lack of market opportunities to implement innovations	0,13
4	Lack of innovative strategy	0,12
5	Low absorptive capacity (the presence of organizational procedures thanks to which organizations acquire, master, and transform available knowledge)	0,10
6	Underdevelopment of communication links	0,08
7	Low level of management	0,07
8	Lack of employees with appropriate qualifications	0,06
9	Underdevelopment of the marketing system	0,04
10	Weak support from management team members	0,03
11	Obstacles of a structural nature (high level of formalization, centralization)	0,02

Source: developed by the authors

The lack of own financial resources, low innovative intensity, and activity in the process of implementing innovative activities, lack of market opportunities to implement innovations are the most significant internal obstacles to the innovation management process for startups. For startups in today's unstable political, economic, and military conditions, it is difficult to get investments, loans, and own resources are not enough. This situation affects the reduction of innovative activity of startups, the intensity of innovative activity, which is characteristic of most domestic startups.

Underdevelopment of the marketing system, weak support from management team members, and obstacles of a structural nature (high level of formalization, centralization) are the less significant internal obstacles to the innovation management process for startups.

The most significant external obstacles to the innovative activity of enterprises were found to be a high level of bank interest on loans, a complex and inefficient taxation system, which is connected with the lack of interest of state bodies in stimulating innovative activity, a decrease in the purchasing power of the population. This situation is connected to difficult political, economic, and military conditions that have developed in Ukraine (Table 2).

Table 2. External factors that hinder the innovation management process in startups

№	Factors	Weight
1	High level of bank interest on loans	0,2
2	Complicated tax system	0,18
3	Decrease in the purchasing power of the population	0,15
4	High level of current competition	0,13
5	The increase in the cost of material resources, technologies, energy carriers	0,1
6	Absence of the need to introduce innovations	0,08
7	Lack of strong connections in the system (government - science - business)	0,06
8	Underdevelopment of the network of infrastructure supporting entrepreneurship	0,04
9	Unexpected changes of leadership, raiding	0,03
10	Insufficient stimulation of entrepreneurship to use innovative technologies	0,02
11	Lack of the necessary base and structures for the transfer of technologies and relevant information	0,01

Source: developed by the authors

Unexpected changes of leadership and raiding, Insufficient stimulation of entrepreneurship to use innovative technologies, and lack of the necessary base and structures for the transfer of technologies and relevant information are the external factors that had less impact on the innovation management process in startups.

Each of these factors contributes to the reduction of the process of development and implementation of innovations. That is, in the process of forming a startup development model, all factors must be taken into account.

Conclusions and discussion. Startups are one of the most important structural elements of venture business. Startup managers must identify factors that prevent the effective development of innovations. This issue is especially relevant today in the

unstable and crisis conditions of the development of the economy of Ukraine. It is necessary to monitor the most significant factors. This can help startups improve their innovation management process. Analysis of the peculiarities of the venture business of Ukraine, its structure, and determination of ways of further development of venture funds is one of the most urgent problems of the modern development of the economy of Ukraine.

Taking into account the main aspects highlighted in the research that has an impact on the venture business will contribute to increasing the efficiency of the use of the available capital and the potential of the venture business. This will make it possible to identify obstacles to the growth of its competitiveness and innovative development of startups. The problems that arise in the activities of startups are a common phenomenon and should be taken into account in the course of innovation management and development of innovation strategies.

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RISK MANAGEMENT ASPECTS, WAR AND FURTHER PERSPECTIVES IN CLINICAL TRIALS IN UKRAINE

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Abstract. *There is a first time for everything, including a crisis, which often comes unexpectedly and brings with it uncertainty and complexity. It rarely happens that politicians, government or managers are able to assess appropriately the impending danger, anticipate and take the necessary measures to avoid negative consequences. And it does not matter what kind of crisis it is: pandemic, financial and economic one, extreme weather events and associated natural disasters, or war. The crisis almost always contains unusual challenges and tasks, requires non-standard solutions. In addition, it is really important to act quickly. On the other hand, although any crisis has negative consequences, it often can cause the creating of the value for the society, can bring positive changes. Especially it concerns for the crises that continue for months or years. Such a crisis is changing and evolving all the time, and these are characterized by an abrupt development, there are spark and halt over the time. On the over hand, for the industry like clinical trials when the participation/adequate input of each stakeholder is obligatory, it is really necessary to develop overall strategy, ensure synchronicity of actions of all participants. Moreover, not all the stakeholders have direct link/communication among themselves, which adds a level of complexity into the resolution of the risk(s) under such circumstances. Any well-planned strategy cannot be successful without great motivation, clear instructions, good communication among all the parts, appropriate monitoring of the processes, the deliverables and the noncompliance with the following re-training, if necessary. It is fairly much relevant for Ukraine that is subjected to violence and aggression from Russia last 10 years. All group of the industry involved was not prepared for the disaster first, still started understanding, analyzing and reacting appropriately to constantly changing circumstances. That is why the purpose of the article is to research risk management strategies for the risks originating from modern crises, which make ineffective the traditional approaches, without paying attention to new non-traditional, constantly changing, unsustainable, sophisticated threats. At the same time, the purpose is to research new paradigms in multi-agency collaboration to resolve such challenges. The methods which are being used in this article are Empirical/Quantitative Researches, including Observation, Measurement and Comparison ones, Graphic images, outlines, tables have been provided to illustrate the logical sequence of the research. As a result of the study, the main risks affecting clinical trials in Ukraine due to the war and other events were established.*

Keywords: *risk, management, crisis, strategic, communication.*
JEL Classification: D80, D81, D79, D22
Formulas: 0; fig.: 1; tabl.: 12; bibl.: 13

Introduction. Geography of clinical trials on humans is constantly expanding, cover all new countries around the world. When choosing participating countries for clinical trials of a potential drug, large and small pharmaceutical companies are guided by similar criteria: «Each Sponsor has its own research strategy, as well as strategy for further expanding the successfully tested drug into the International Market. Before selecting country for the clinical trial, the Sponsor considers

numerous factors such as the desired country population, epidemiological data, experience in similar trials, competitive landscape in the country, scientific societies, regulatory/ ethic committees' approval process, including regulatory timelines, having naïve to the certain treatment patients and so one. » [1]

Ukraine is a non-EU, but still European country that became particularly attractive for the Sponsors over last 20 years. Together with key criteria listed above there are several significant advantages while conducting clinical studies in the country:

- Clinical trials in Ukraine almost always cost effective;
- Submission process to Regulatory authorities (RA) and Local Ethic Committees (LECs) can go in parallel, which allows to save the time;
- No special license for exporting biological specimens;
- Ukrainian sites can quickly enroll patients;
- Ukrainian sites usually provide high quality of the research;
- Ukrainian investigators can easily adapt to the changes, regardless of the type of the factor that cause the given change.

Along with the benefits and opportunities, that can provide the country every sponsor considers danger for its business. Unfortunately, Ukraine is still on the list of riskiest countries in the industry, as it was attacked by its neighbors 2 times over last 10 years, and the last aggression is still going on.

Literature review. In this article the analysis of status of Clinical trials in Ukraine during last 10 years mainly based on Dr. David Rubens researches of crisis/risk management in 21th century. «Beyond 'Command & Control" Developing a New Paradigm for Incident Command Systems, Critical Decision-Making and 21st Century Crisis Response", David Rubens, 2015 [14].

In order to highlight the practical data to illustrate challenges, as well as deliverables in the industry in Ukraine materials of the sixth scientific-practical conference with international participation «Clinical trials of medicinal products in Ukraine: new challenges and responses to them» of MoH of Ukraine, October 2020, as well as information from the website of MoH of Ukraine from September, 2022 and November 2022 about clinical trails' status in Ukraine have been used. [3, 4, 6, 9, 11].

Ukrainian Clinical Studies at Risk due to Russian Invasion, Zahraa Chorghay, PhD, Mar 01, 2022, As Russia's clinical trials sector falls, Ukraine rebuilds, August 23, 2022, Priya Nair – expresses mainly deliver the forecasts and warnings. [2, 3]. International standard of the industry ICH GCP E6R12, as well as local Procedure for Conducting Clinical Trials of Medicinal Products and Expert Evaluation of Materials Pertinent to Clinical Trials and Model Regulations of the Ethics Committees approved by MoH Ukraine Order of 23.09.2009 № 690 provides specific rules that should be followed by all stockholders [13].

Aim. The purpose of the article is to research risk management strategies for the risks originating from modern crises, which make ineffective the traditional approaches, without paying attention to new non-traditional, constantly changing, unsustainable, sophisticated threats. At the same time, the purpose is to research new paradigms in multi-agency collaboration to resolve such challenges.

Methodology. The methods which are being used in this article are Empirical/Quantitative Researches, including Observation, Measurement and Comparison ones. Graphic images, outlines, tables have been provided to illustrate logical sequence of the research.

Results. Let us to have a look at trends in the industry of the clinical trial since 2013 till 2022, when the risk started becoming obvious, when Russia started actively intervened in internal affairs of Ukraine, while Ukraine chose the European vector of development. It is necessary to answer the question of whether or not international pharmaceutical companies think Ukraine still has great prospects in the industry despite ongoing threats to conducting studies.

First some statistics related to clinical trial in the country since 2013 according to data provided by Ministry of Health of Ukraine (MoH). The number of clinical trials approved by the State Expert Center of the MoH in Ukraine for 2010-2020 (data provided as of 02 Oct 2020) is provided in table 1 [4]

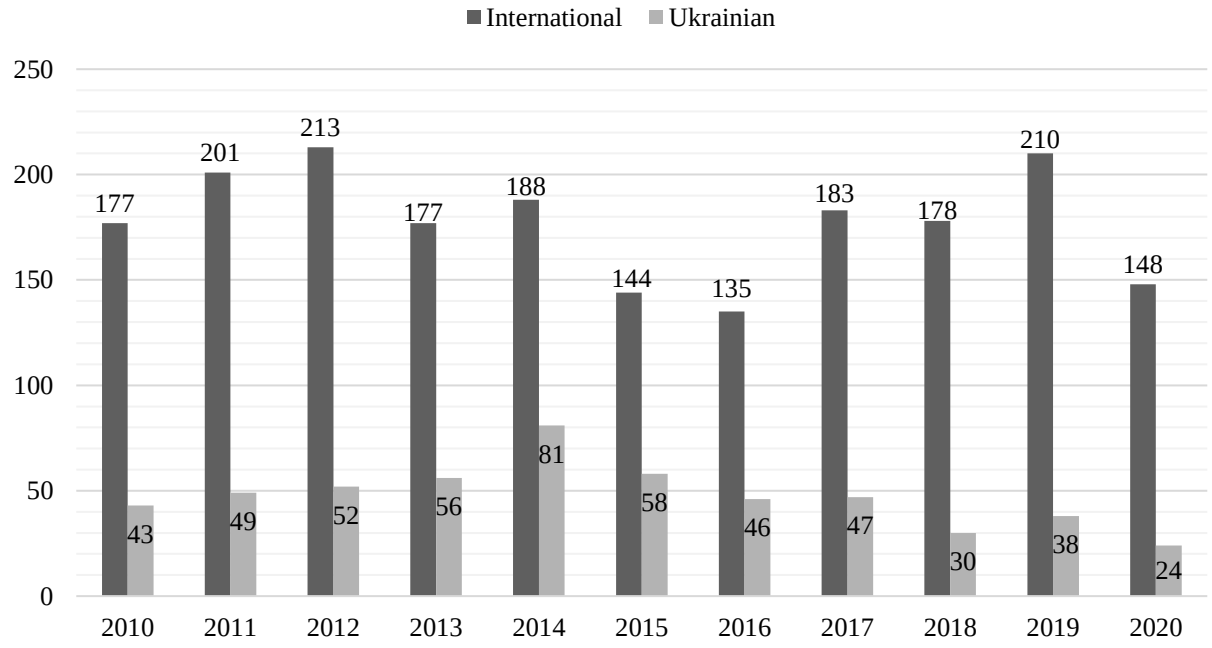

Table 1. Number of clinical trials 2010-2020

According to statistical data of the State Expert Center of the Ministry of Health of Ukraine (Tabl. 1) in 2012 RA approved the largest number of international clinical trials 213. The average between 2010 and 2014 was 191,2. One can be indicative of the number of submitted studies, as well as an indirect indicator of

interest of international investors in the capacity of Ukrainian clinical sites of conducting Clinical Trials there.

However, as a result of aggression, as well as annexation of the significant part of Ukraine the number of studies gradually decreased on 29,4% to 135 trials till the end of 2016. It may be explained that many sponsors decided to put on hold Ukrainian sites in international sponsors' upcoming and expected projects. This is also true for regions that have not been affected by the war. The sponsors were rather monitoring the risks arising as a result of it. Table 2 provides details on the number of audits in Ukraine [4].

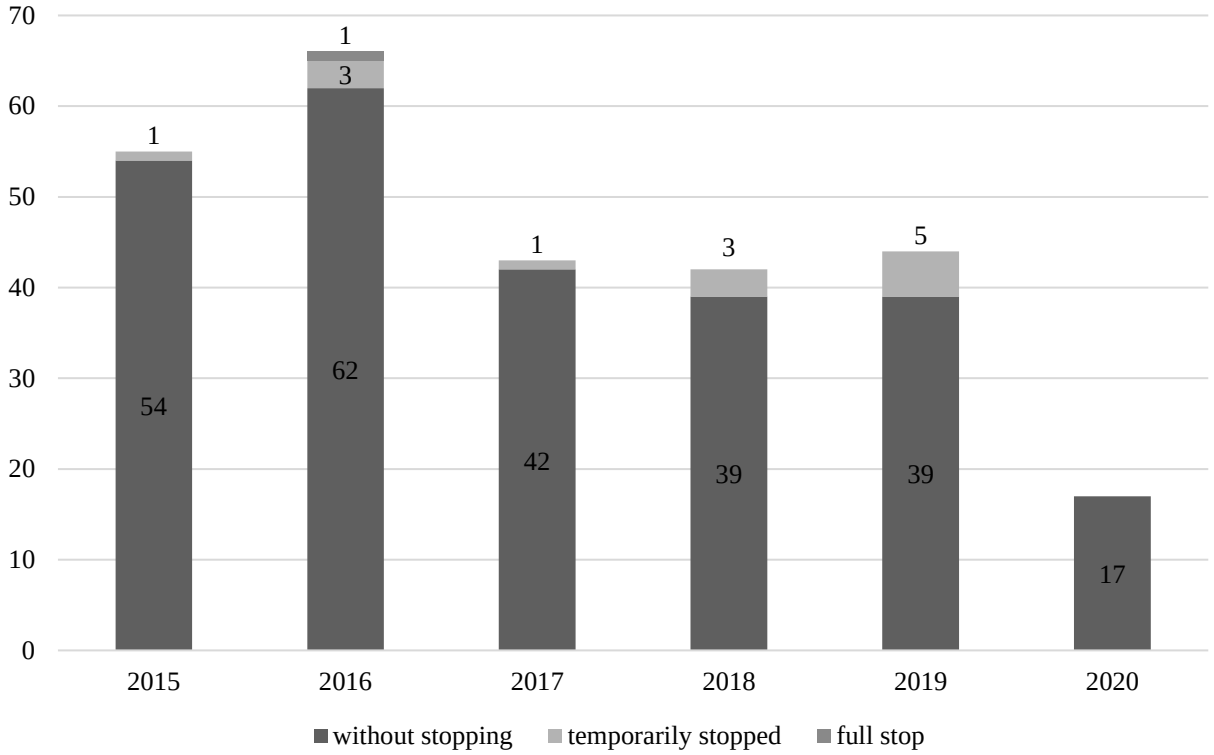

Table 2. Number of audits since January 2015 till October 2019 data provided as of 02 Oct 2020

Thus, comparing the data of tables 1 and 2 it is easy to notice that in 2015 and 2016 number of clinical trials approved by MOH in Ukraine is decreasing, while the number of audits is increasing over the same time period. The increased number of audits is usually a clear sign of extra attention to the quality by the sponsors, RA, various agencies.

In 2017 the picture is different, number of audits was reduced on 32%, while number of approved international trials was increased on 23% compared to the previous year. In general, it could be seen as the Ukrainian community of clinical trials managed to quickly increase its capacities, as well as confidence of international sponsors in the country by 2017.

The average between 2017 and 2019 was 191,3 approved by RA studies per year, and in 2017 was achieved appropriate 183 approved studies. This is particularly

surprising, because as a result of Russian aggression the industry in Ukraine lost 3 very important research cities as Donetsk, Lugansk and Simferopol, which required recovery of resources. This is especially true for Donetsk which was one of the top 5 of the Ukrainian research cities.

Here are some of the statistics according to MoH which indicates how fast the industry in Ukraine has been growing over the period 2015-2019:

Another indicator that indirectly shows the scale of the study is the phase of the study. There are 3 core phases on the path to approval for any new drug. And the largest/wide-scale clinical study is phase 3 - that goes for every aspect of the trial – number of countries, number of sites, number of patients and of cause amount of investment. Number of international clinical trials in Ukraine for period from 2015 till 9 months of 2020 is depicted in Table 3, provided by the State Expert Center [4].

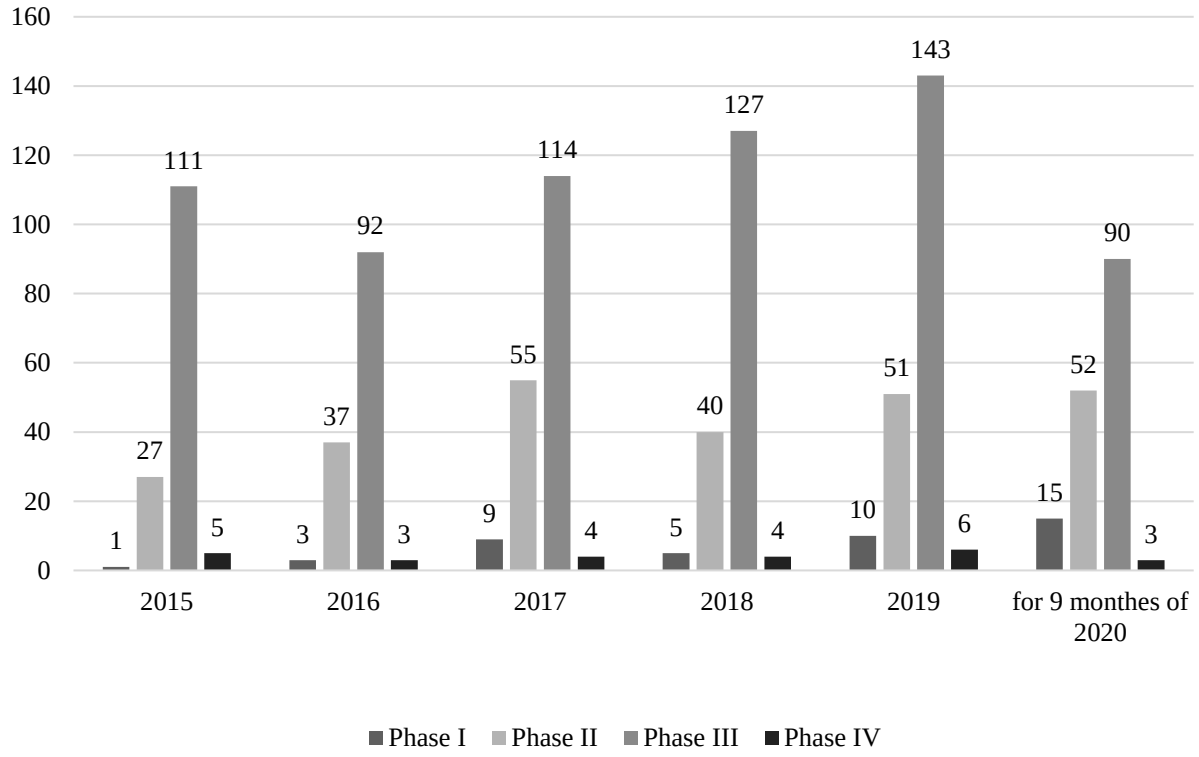

Table 3. Number of Clinical trials by phase in Ukraine

Phase 3 studies number increases on 22%.

Therefore, increase in the number of both sites and patients can be indirectly shown based on the data provided in the table above [7].

The comparative data of number of clinical trials per 100.000 population is another indicator of the development of the industry. Number of Number of clinical trials per 100,000 populations as of October 2, 2020 is shown in Table 4. And Number of clinical trials per 100,000 populations as of July, 2015 is presented in Table 5 [4]. So that we can compare amounts and evaluate it growth.

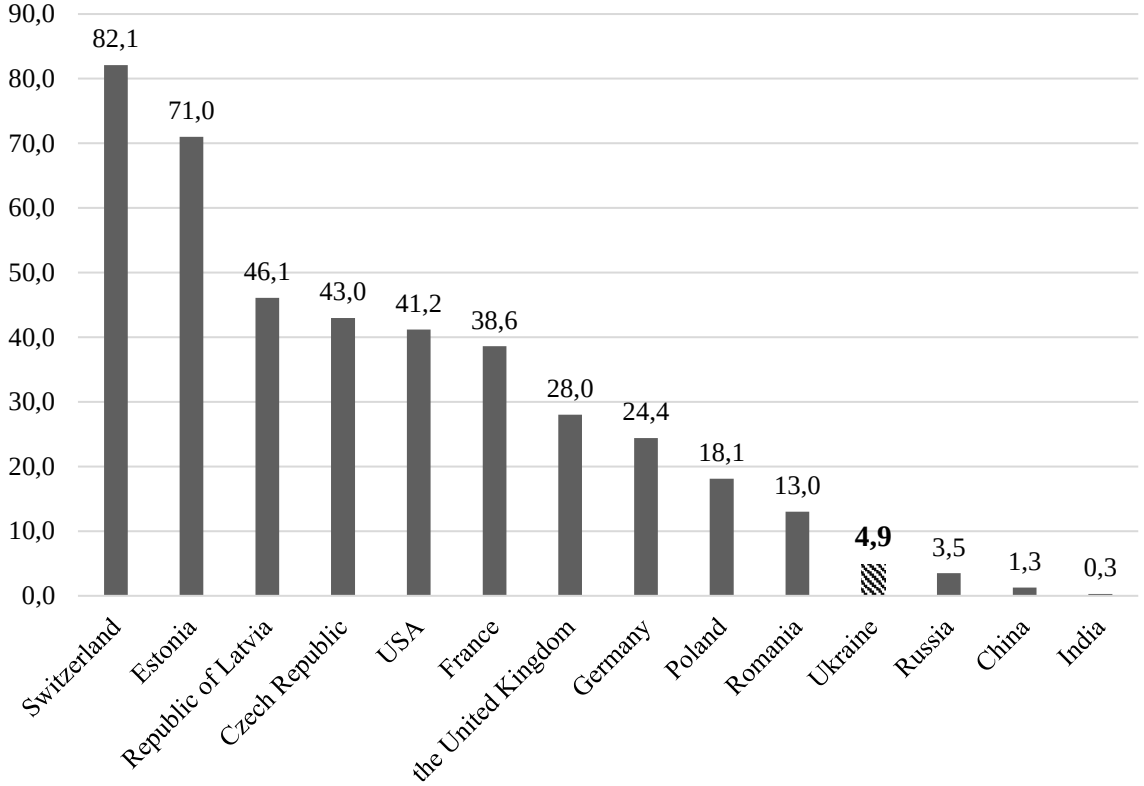

Table 4. Number of clinical trials per 100,000 populations as of October 2, 2020

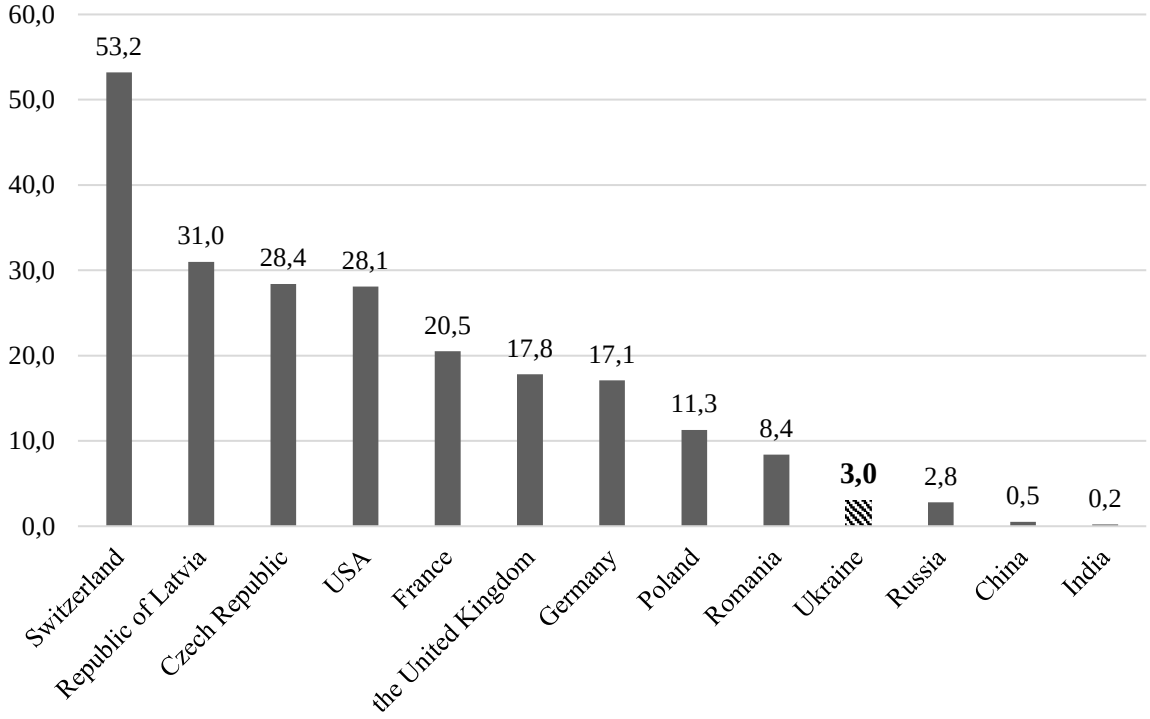

Table 5. Number of clinical trials per 100,000 populations as of July, 2015

The number of clinical trials per 100.000 population increased on 39% by 2020 over last 5 years.

The statistic provided by the State Expert Center of MoH above reflects the latest trends in the industry over last 10 years both negatives and positives, as well as divides the period into 3 periods:

- 2014 till 2016 – a drop in the amount of researches in Ukraine due to first Russian aggression;
- 2016 till February 2022 – despite both Ukrainian territory and population have been reduced, the international pharmacy companies did not loss the interest to the opportunities which can provide the industry. The number of studies has been going up;
- February 24, 2022 – October 2022 - a drop in the amount of researches in Ukraine due to first Russian aggression.

In order to understand transformational changes within industry it is necessary to define the core stakeholders of any clinical study in Ukraine and consequently the decision maker(s), and who is ultimately the risk owner(s) "The person, organization, or entity accountable and with authority to manage a risk." [1]

Every research is initiated by a pharmaceutical company/the sponsor. As it well known the core value of any research is the information, which is being received in the experiment. Thus, the pharmaceutical company/the sponsor is first core stakeholder who take care of all the aspects of the study financial, organizational, quality ones.

An international clinical trial is a human experiments which is being conducted according to an international ethical and scientific quality standard ICH GCP, the current version is ICH GCP E6(R2). Below are first 3 out of 13 principles of the standard:

2.1. Clinical trials should be conducted in accordance with the ethical principles that have their origin in the Declaration of Helsinki, and that are consistent with GCP and the applicable regulatory requirement(s).

2.2. Before a trial is initiated, foreseeable risks and inconveniences should be weighed against the anticipated benefit for the individual trial subject and society. A trial should be initiated and continued only if the anticipated benefits justify the risks.

2.3. The rights, safety, and well-being of the trial subjects are the most important considerations and should prevail over interests of science and society. [7]

Thus, the subject of the clinical trial/the patient is also core stakeholder of the clinical trial.

A contract research organization (further CRO) is another stakeholder that can be involved in the study in certain country, it is a sponsor's representative in the country. Sponsor can delegate to CRO as many responsibilities as it wants.

Almost all sponsors in Ukraine currently prefers to delegate to/to outsoars different CROs by 2023, which indirectly proves that CROs are able to react to risk in a timely manner.

There are 2 more core stakeholders of any clinical trial MoH and LEC – these bodies regulate, provide their either expert opinion or approval/rejection either in country and in the given hospital respectively in accordance with ICH GCP and local regulations (Order of 23.09.2009 № 690 of MoH Ukraine) [13].

Finally, investigators/clinical sites – "A person responsible for the conduct of the clinical trial at a trial site. If a trial is conducted by a team of individuals at a trial site, the investigator is the responsible leader of the team and may be called the principal investigator." [8]

Now when all core stakeholders are identified, let us have a look at the greatest difficulties the industry in Ukraine has faced since 2014, what exactly were done to mitigate the problems/improve the situation, and save the industry, to get it restarted for the further development.

1. The most significant risks caused by Russian invasion?
2. Who owns the problem? The core decision makers? The risk owner(s)?
3. Risk response strategy which was chosen in 2014 – 2016 in comparison with 2022? What is the difference/ what was changed?

1. In December 2022 one of the biggest worldwide CRO PPD carried out a survey on top 5 Challenges and Opportunities Drug Developers Face in Executing Clinical Trials (Tabl. 6) [15].

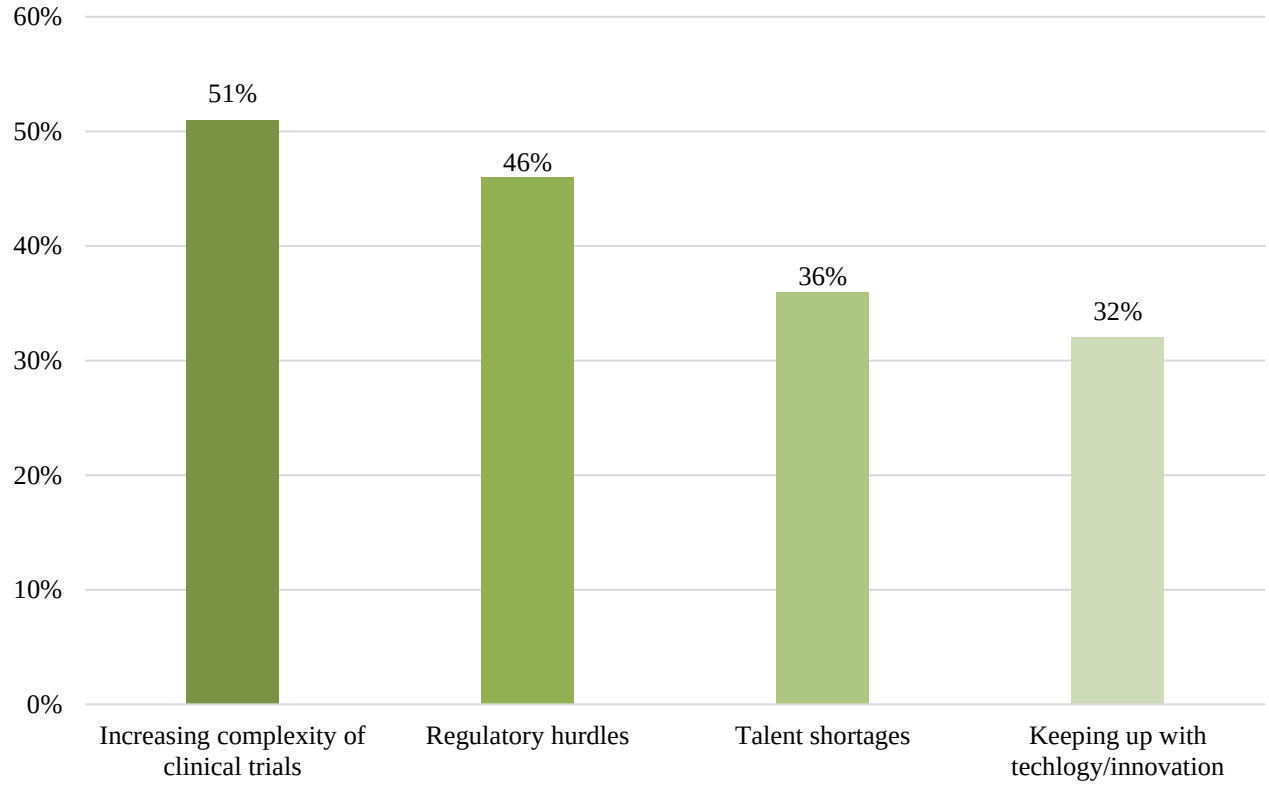

Table 6. Top 5 Challenges and Opportunities Drug Developers Face in Executing Clinical Trials

Almost all challenges (with the exception of Increasing complexity of clinical trials) are applicable for both periods. In the meantime, first and fourth-most reported

challenges are applicable to damages to clinical trials in Ukraine due to the occupation by Russia. In addition, patient's recruitment includes also patients' retention and diversity.

2 Both the clinical trials sponsors'/ CROs and MoH Ukraine should be considered owner of the problem in the current situation: both of them no longer ensure neither quality/data integrity of the study, nor both patients' safety and well-being. In addition, the sponsors were not able to ensure logistics of drug and lab supplies. It goes without saying, the sponsors ran the risk of losing data for patients, who has been already enrolled, but not supposed to complete the clinical trial. In the meantime, the sponsors' and MoH Ukraine definitely are core decision makers.

3 In 2014 – 2016 it was a new risk - nobody anywhere knew how to take care of it, how to mitigate the damage to patients who were being treated in Donetsk, Lugansk or Simferopol, who lost both free and effective medication and medical care, as well as to the sponsors - it was the damage of the equipment, investigational drug, the data received by the sites over the study, and the most significant loss was the time wasting.

Therefore, looking ahead, it should be noted that risk management strategies were not the same in 2014-2016 and since 24 Feb 2022.

Unfortunately, the risk of Russian intervention was identified too late - nobody expected Russia Federation to violate international agreements and actually annexes part of the territory of Ukraine. However, at some stage it became obvious that there are a lot of issues to resolve and nobody knows how to do it – as there is no possibility to attend the sites in Donetsk, Lugansk or Simferopol to monitor sites' activities, deliver study drug to the site and ship biological specimens from the sites to the central Lab. Both Sponsors' and CROs' project managers should have evaluated the risk properly as soon as possible to identify resources either to save patients in the study or to accept the risks and as a result to lose the data. Although many sponsors and CROs have been eagerly following the crisis since November 2023, almost no sponsor was prepared to a moment when the situation got worse and became uncontrolled. No action has been taken before this moment, as well as no mechanisms were created to mitigate the risk. Some CROs were trying to keep monitoring, find a little detour on the way to get the sites, to deliver drugs, re-supply sites with accompanying materials. Many attempts have been made to relocate patients to Ukraine-controlled territory. However, the clinical trials demand transparency, it is hard to do this if there are no real mechanisms. Thus, someday MoH of Ukraine make a decision to accept the risk – RA recommended to sponsors not to start new clinical studies, to stop patients' enrollment and to discontinue these patients who are already in the study in Donetsk, Lugansk, and Crimea.

David Rubens investigating the modern trends in the development of risks notes propensity for mutation which require the change in the risk management approach: "Developing a New Paradigm for Incident Command Systems, Critical

Decision-Making and 21st Century Crisis Response «Similar to a virus that mutates so much from its original form that it not only refuses to respond to traditional approaches, but redefines the parameters of the threat… so the new threat must be seen in terms of a completely new and distinct threat topology, rather than merely being a sub-set of previously modelled problems, or anomalies that fall outside of the parameters of crisis response. If classical risk management was the domain of the statistician, predicting future possibilities based on an analysis of an aggregate of the masses, the threat set by the new paradigm is predicated on the criticality of the singularity, the outlier – the unknowable and inconceivable" [14].

Unknowable and inconceivable risk does not mean resolved and non-refundable, especially considering the fact that tension on the line of contact between Russian and Ukraine has not much decreased. The logical solution in the current situation was to get stronger the core stakeholders' interaction, to keep in mind key takeaways, to search the right strategy, to make sure the risk is being controlled/to reduce the possible negative consequences in case of recurrence.

Here are some measures taken by the MoH of Ukraine, CROs, Investigators.

MoH of Ukraine – the Regulatory Authority must have had the most difficult challenges after 2015, as it was necessary properly identify the basic directions of development, mobilize resources:

1. to keep pace with the industry to make sure both compliance with the modern trends of the clinical trials in terms of changes in European legislation, as well as in ICH GCP E6(R12).
2. every effort had to be made to boost the investigators', as well as clinical center growth/to provide a qualitative training
3. to facilitate the process of the submission of the documents
4. to get ready for Russian intervention reoccurrence

Over the time period 2015-2020 Ukrainian RA successfully handled the tasks – changes in ICH GCP E6(R12) has been implemented, local low was harmonized with European legislation, implemented electronic forms, electronic register of clinical trials, as well as electronic on-line services. MoH of Ukraine has been conducting numerous seminars and workshops for investigators – many new specialists were engaged.

In fact, Investigators' number increases on 30% over 2015-2019 [9]. The amount of investigators, who work in Ukraine (according to MOH of Ukraine), is presented in Tabl.7 [9].

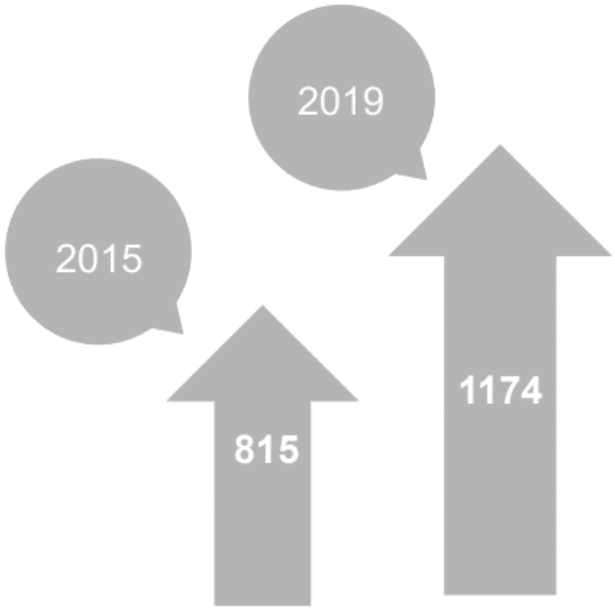

Table 7. Number of investigators in Ukraine

Number of clinical sites in Ukraine (approved by MOH of Ukraine) is provided in the Table 8 [9].

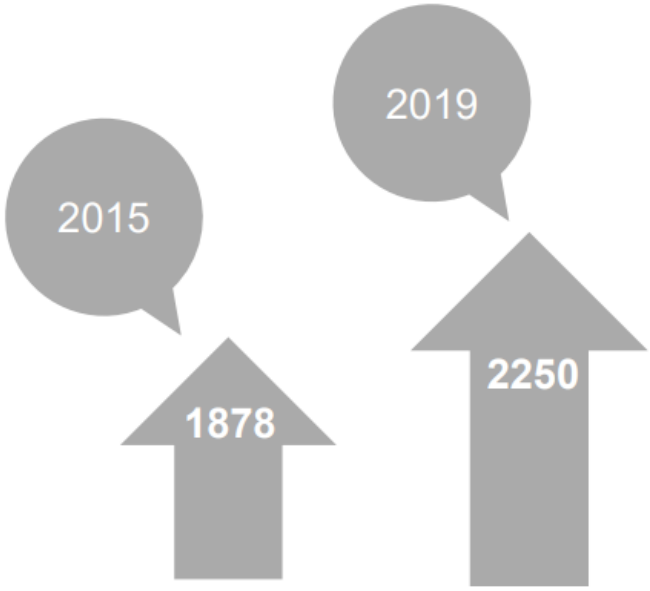

Table 8. Number of clinical sites in Ukraine

Clinical sites` number increases on 16,5%.

Looking ahead, it should be noticed that Ukrainian RA was well-prepared to face Russia's full-scale military invasion to Ukraine in February 2022. Let us consider the last third of the period we are talking about. According to Information-memo about the state of clinical trials in Ukraine for the period from 01.01.2022 to 08.31.2022 which has been released by State Expert Center of the MoH Ukraine we

can observe the following trends in number of submissions of protocols over first 8 months January-September in each year - in 2020, 2021, and 2022 (Tabl.9) [6].

Table 9. Number of submissions of protocols by State Expert Center

Month	**2020**	**2021**	**2022**
1-January	15	14	22
2-February	20	18	12
3-March	14	27	0
4-April	20	33	1
5-May	20	21	3
6- June	19	39	0
7-Jul	30	33	4
8-September	16	24	0
	154	**209**	**42**

According to the table the number of submitted protocols in January decreased on 35% in 2021 in compare to previous year, and clearly shows how much war in Ukraine in 2022 affected the local market of the clinical trials.

The table 10 illustrates the number of terminated because of sponsors decision studies since March till August of 2022 [6].

T**able 10. The number of terminated because of sponsors decision studies**

Month	**In total**
March	16
April	16
May	4
June	2
July	2
August	2
In total	**42**

There are approximately 20% of all active studies at that time. Most of terminated studies either were in the initial stage of the trial or just began the patients' enrollment.

Almost all studies terminated enrollment, which is can be perfectly well understood, as it would be irresponsible from sponsor's side to get involved new patients in conditions of uncertainty. Number of studies in which treatment was stopped is provided in Table 11 [6].

Table 11. Number of studies in which treatment was stopped

Month	**In total**
March	182
April	11
May	4
June	2
July	3
August	0
In total	**202**

In the meantime, above mentioned metrics (20% of terminated studies, as well as stop treatment for 202 studies) demonstrate rather the readiness to face the risk. 80% clinical trials continue conducting in Ukraine. More other, although in 2022 Russian Federation attack was much larger and affected almost 1/3 of the territory of Ukraine, core stockholders - RA, sponsors, CROs, LECs were able to mitigate the risk adequately.

MoH of Ukraine turned out to be quite ready for "the circumstances of military aggression and martial law." On 12Mar2022 Ukrainian RA provided detailed recommendations how to proceed with the patients, drug, laboratory. Here are some recommendations [12]:

- In case it is not possible to continue clinical trial at the approved site, to implement the procedure of patient withdrawal from clinical trial, or should this be possible –transfer such patients to other clinical trial sites since under current circumstances it is difficult to safeguard their rights, safety and health to the full extent.
- It is recommended to take all possible actions regarding uninterrupted provision of patient IMP (Investigational medical product – drug Author) at site and compliance with study protocol by all parties to ensure patients safety under conditions of Martial Law
- Sponsor should evaluate IMP related risks and consider any alternative methods of organizing IMP delivery with complying to storage conditions set by manufacturer.
- IMP may be delivered to subjects by independent distributor, contracted by Sponsor, in those cases when it is possible as per study protocol and with detailed instructions from Sponsor to subjects available
- To consider an option to use site laboratories for patient examination, provided there are necessary contractual agreements and required technical possibility
- In case it is not possible to continue clinical trial at the approved site, to implement the procedure of patient withdrawal from clinical trial, or should this be possible –transfer such patients to other clinical trial sites since under current circumstances it is difficult to safeguard their rights, safety and health to the full extent.

Here are Number of patients, who were relocated from original Ukrainian clinical site due to war (Table 12) [6].

The last table give us the information that the risk management strategy has been chosen in 2022, either risk mitigation or avoidance, wherever possible. The core stakeholders turned out to be prepared to make possible to transfer patients to other sites not only within the country but also to other countries' sites.

Table 12. Number of subjects transferred to other Clinical Trial Sites

	March	**April**	**May**	**June**	**July**	**August**	**Total**
Ukraine	0	43	41	24	44	4	156
Poland	4	34	34	24	5	6	107
Germany	1	3	15	14	4	9	46
France	0	1	3	2	1	0	7
Spain	0	6	2	3	1	2	14
Italy	0	4	0	1	0	3	8
Hungary	0	5	0	0	0	0	5
Moldova	0	7	3	0	1	0	11
Czech	0	3	3	6	2	2	16
Belgium	0	1	2	1	0	0	4
Switzerland	0	1	1	0	0	0	2
Romania	0	1	0	1	1	0	3
Estonia	0	2	0	0	0	0	2
Slovakia	0	1	0	1	0	1	3
Israel	0	0	1	2	0	0	3
Lithuania	0	0	0	3	0	0	3
Netherlands	0	1	0	0	0	0	1
Great Britain	0	1	0	0	1	0	2
Portugal	0	1	0	0	0	0	1
Canada	0	0	2	0	0	0	2
Greece	0	0	2	0	0	0	2
Bulgaria	0	0	1	0	0	0	1
Georgia	0	0	0	1	0	0	1
RF	0	0	0	1	0	1	2
Total	5	112	110	87	60	27	**401**

Undoubtedly, such advances wouldn't be possible without close communication/collaboration among all core stakeholders.

Let us have look at the typical scheme of communication among core stakeholders in clinical trials (Fig.1).

It should be noted that not all kind of the communication are happening in a regular basis, some of them are being occurred quite rare, especially between RA and clinical sites or between the sponsor and the clinical sites (for example the audits when either MoH or Sponsor can conduct at the clinical site with quality check purpose, or investigational meeting with the training purpose which conducts the sponsor before the study start).

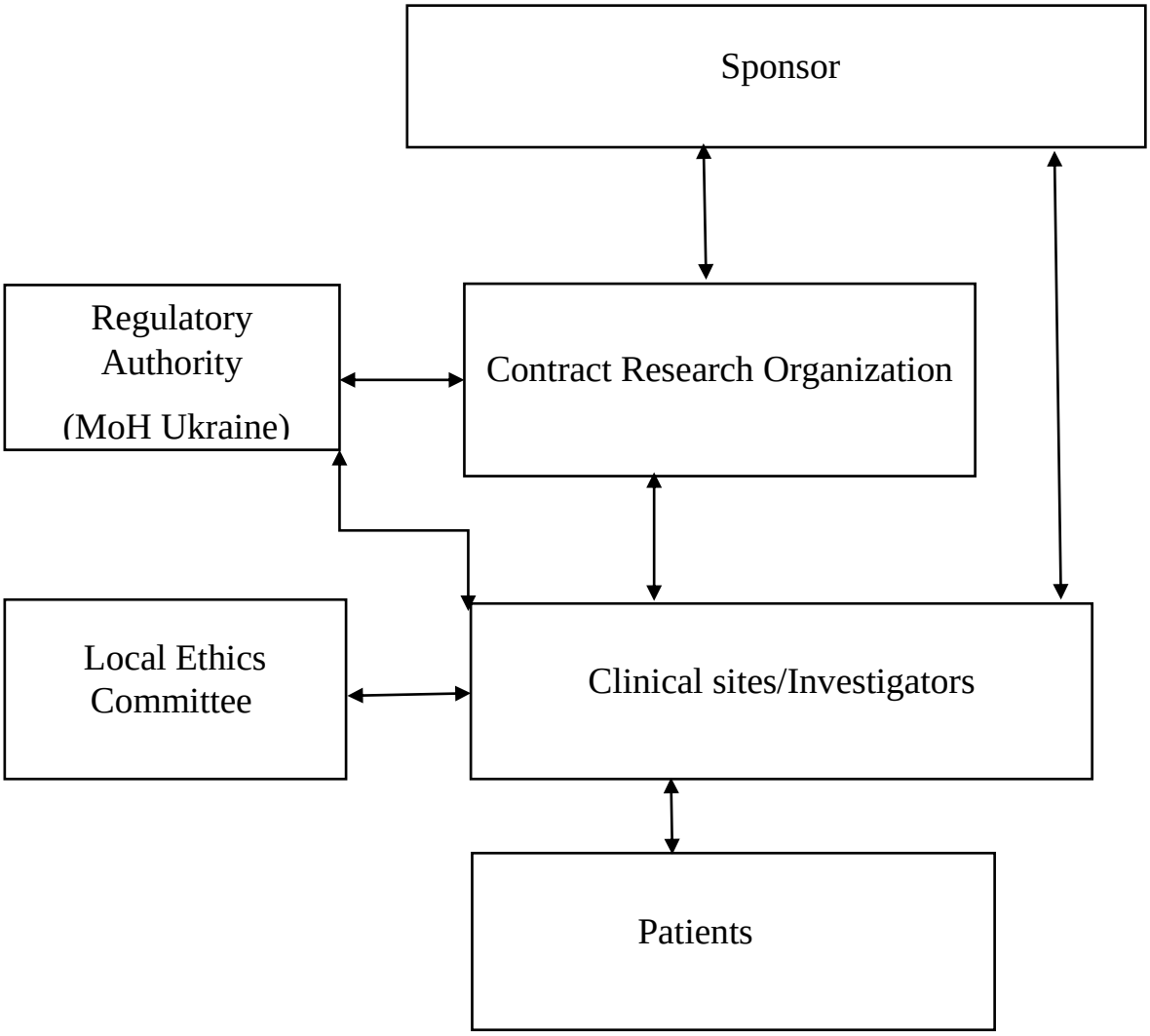

Figure 1. Typical scheme of communication among core stakeholders in clinical trials*

Sources: developed by the author

The liveliest communication happens regularly in the following couples:

- Sponsor-CRO
- MoH-CRO (MoH-CRO if the sponsor is conducting the clinical trial without CRO)
- CRO-clinical site
- Sponsor – clinical site
- Clinical site-patient

Thus, to make the patients' transfer possible it is necessary to provide multiple communication, to make sure the patient's transfer will be beneficial to both the patient and study integrity.

- MoH of Ukraine make a decision to allow patients' transfer
- Both MoH of Ukraine and site's LEC should be notified
- Sponsor make a decision to transfer patient, delegate CRO to start discussing with sites, identify list of patients who wants to be relocated

- CRO start discussing list of patients with both patient's original site and new one, which is about to receive a patient/keep conducting further procedures within the study with the patient
- Original site discussing with the patient, identify possible issues/difficulties, address them to CRO
- CRO discuss with sponsor the budget of the relocation including patients logistic, accommodation, any other supports. As soon as the sponsor approves the budget CRO gets back to the original site
- Both original site and the new site are being instructed by the CRO, all the communications/instruction are being documented, including emails, minutes of the teleconferences, sponsor's/CROs clarifications
- Original site makes a copy of the patient's medical records, certify it, hand over to patient he/she to provide it personally to the new site
- Original site notifies its LEC about patient's transfer
- CRO make sure that patients inform consent form translated into Ukrainian/certified/approved by Ethic committee/RA (applicable for patients who are being transferred to the foreign site)
- Before re-starting the study at the new site the patient should be re-consented, the process should be documented in patient's medical chart appropriately
- CRO should check that all the procedures have been performed/documented in accordance with both ICH GCP E6(R12) and local low.
- CRO/sponsor should make sure respective coordination among all accompanying vendors – logistic, drug delivery, accommodation etc.

Furthermore, according to website of MoH of Ukraine there are some positive trends has been identified by the November 2022 despite the ongoing war in the country:

- 55 clinical trials started,
- 10 clinical trials restarted,
- 8 studies restarted patients' enrollment.
- RA audits restarted

Discussion. The war has taken a heavy toll on the clinical trial system in Ukraine. There were a lot of experts who be treated with doubt that clinical trials industry in Ukraine can handle it. "Most of the industry-sponsored clinical trials are part of multi-country investigations. In these cases, the trials could likely pivot to other countries, especially for US drug approval, which can be easier to obtain with US-based data. However, the largest impact will be for studies being conducted entirely in Ukraine or in earlier clinical stages, since it can be time-consuming and difficult to start from scratch elsewhere to secure trial approval, begin recruitment, and actually carry out the study." [3].

Given the scale of the breakdown, as well as difficulties that the industry originally faced in 2014 some sponsors rushed to part both the benefits and the results already achieved, accepted the risk and went to other countries.

"When the Ukraine war started, clinical trial activity in the country was frozen, Vyshnyvetskyy recollects. While some overseas-sponsored studies with recruited patients managed to continue, investigations with a small number of participants or ones that are yet to recruit had local sites scrapped or put on hold, he adds. "Nobody knew what to do next because players did not know when the full-scale aggression would stop.""[2].

"After months of hard work, there is now a sense of returning to normalcy in Ukraine-based study sites. New trials have started locally in the past several weeks, Vyshnyvetskyy notes. In the past six months, two single-country studies were initiated, as well as 44 multinational investigations with a site in Ukraine, according to GlobalData's clinical trials intelligence." [2].

Conclusion. These sponsors that make decisions to leave in Ukraine, to mitigate the risk, to be acting in collaboration with one another - did not regret it. The main reason is that, although the risk has been transformed significantly since 2014 and suddenly acquired a new shape, in 2022 all core stakeholders turned out to be ready for facing the risk based on the previous experience, had a good mitigation, as well as contingency plan. These 10 years for the industry in Ukraine have shown that to achieve sustainability of the system it is necessary to learn to find new non-standard methods in the face of crisis, as well as in associated with it uncertainty and time pressure. In the meantime, to be able to ensure the stable operation clinical trials as an industry with extremely complex communicative relationships among core stakeholders it is necessary to make sure the excellent quality of relationships and trusting collaboration.

"Management, based on the concepts associated with organizational resilience, that would allow multiagency operations to main their functionality in high-volatile crisis environments, and the lessons that can be learned from high reliability organizations in terms of recognizing the importance of reliability over efficiency… the acceptance by all levels of the crisis management community of their responsibility to create and maintain 'organizations that work' could lead to a rapid improvement in the rates of success" [14].

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MANAGEMENT OF FINANCIAL RISKS OF ENTERPRISES AS A PREVENTION COMPONENT OF THEIR FINANCIAL INSTABILITY AND BANKRUPTCY FOR THE SUSTAINABLE DEVELOPMENT ACHIEVING

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Abstract. *The development is impossible without ups and downs, as a result the stability is disrupted. It is hypothesized that development cannot occur continuously, and therefore it does not exclude the possibility of unstable states. The enterprise unsustainable development is characterized by its financial failure, which is identified with its bankruptcy. At the same time, bankruptcy and liquidation of enterprises in Ukraine is currently a fairly common phenomenon. The purpose of the article is to systematize the methods of financial risk management of enterprises as an ingredient prevention of their financial instability and bankruptcy for achieving sustainable development. A set of general scientific and special research methods were used to solve the set tasks, in particular: generalization and comparison - to establish similarities and differences between the results of research by other authors regarding their understanding of the essence of the categories "development", "sustainable development" and "risk"; grouping of indicators - to operate with information of the kinds and types of risks existing in the scientific literature and to operate with statistical data of the initiated bankruptcy procedures number of legal entities in Ukraine; mathematical - to develop a model for determining the maximum allowable value of lost cash flow of the enterprise, graphic - to visualize the presentation of information, etc. It is substantiated that the prevention of bankruptcy of enterprises is a tool for the sustainable development ensuring. An economic and legal tool is the plan of sustainable development of the enterprise that helps to solve the problem. Its component should be an economic analysis of the company's financial condition. At the same time, any enterprise carries risks related with its business activities. Scientists mostly recommend to use the minimum cost criterion for measures to reduce risk to its acceptable level as the main criterion for risk management. However, the question arises: what risk is considered to be acceptable? For the determination it is advisable to model the movement of the company's cash flows and to identify the limits that lead to unacceptable results for the company, For example, that can lead to the deterioration of the company's financial condition as well as to its bankruptcy and even liquidation. It is taken into account that the economic activity of the enterprise can take place both under normal operating conditions and burdened by certain extraordinary events. The method of determining the maximum permissible risks for enterprises of two groups is substantiated: for the ones, which violation of the bankruptcy procedure in general is possible; for the ones, which violation of the bankruptcy procedure is unlikely. The events that determine the risks during the export of products are considered.*

Keywords*: development, changes, sustainable development, unsustainable development, financial instability, bankruptcy, liquidation, risk, maximum permissible risk, risk management.*

JEL Classification: C 51, D 81, G 33, O 10

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Introduction. A huge number of countries of the world, including Ukraine, declared the sustainable development of states as the main direction of the movement vector of world society as a result of the adoption of such international legal acts as the Agenda for the XXI century (Rio de Janeiro, 1992) [11] , UN Millennium Declaration 2000 [6], Johannesburg Declaration on Sustainable Development 2002 [10], etc. The priority is the development that meets the needs of the present time without jeopardizing the ability of future generations to meet their own needs.

The concept consists in ensuring the development of modern civilization on the basis of a harmonious combination of the realization of social, economic and ecological goals, as a result of which the satisfaction of not only material, but also spiritual, social, ecological, cultural needs of both modern people and future generations is ensured. The sustainable development at the macroeconomic level contributes to the ecological growth of the country, preserves and restores the environment, fairly distributes property and non-property goods and on this basis overcomes poverty. Taking into account the close interrelationship of macro- and microeconomics, it is possible to speak about the sustainable development of both the economy in general and an individual enterprise. Moreover, it is difficult to talk about achieving the goals of sustainable development at the country level without the sustainable development of business entities.

The signing of the Association Agreement between Ukraine and the European Union, between the European Atomic Energy Community and their member states has strengthened the urgency of introducing sustainable economic development, because ensuring such a vector of development is one of the prerequisites for our country to acquire the status of a full member of the EU.

However, the rapid spread of the infectious disease COVID-19 had a negative impact on the world economy and endangered the level of its sustainable development. The one of the indicators of the world economy state, the Dow Jones index, experienced a record drop. In Ukraine, the impact of the pandemic exacerbated crisis phenomena due to the layering on top of the unstable economic and political situation in the country. Nevertheless, the most terrible and most difficult challenge was Russia's armed aggression against Ukraine, which began on February 24, 2022. This entire chain of outlined events that have taken place recently led to a rapid increase in the number of unprofitable enterprises. In addition, as a result of Russian armed aggression, enterprises lose property due to its destruction, demolition and damage, which also leads to unprofitability of enterprises, their bankruptcy and forced sale of assets and business. In turn, the rapidly growing share of bankrupt and liquidated enterprises became one of the factors of increasing unemployment in Ukraine. Therefore, it can be stated that as a result of the martial law declared in Ukraine, the possibility of implementing the Decree of the President of Ukraine dated September 30, 2019 No. 722/2019 "On the Sustainable Development Goals of Ukraine for the period until 2030" is under threat, which was aimed at ensuring national interests of Ukraine regarding the sustainable development of the economy, civil society and the State.

The application of methods of economic forecasting, regarding the further application of appropriate economic and legal measures, aimed at financial recovery, makes it possible to identify the enterprise unstable state. That enables on the one hand, to solve the problem in time, and on the other hand, to determine the expediency of the debtor rehabilitation with his economic activity restoring in the case of a creditor filing a claim for bankruptcy. The financial rehabilitation of the debtor ensures the stability of not only this enterprise development, but ultimately of a certain industry in general.

As the main criterion for risk management, most scientists recommend to apply the minimum cost criterion for measures to reduce risk to its acceptable level. However, the question arises: what risk is considered to be acceptable? It is advisable to model the movement of the company's cash flows to determine the risk, as well as to define the limits that lead to unacceptable results for the company. For example, it can lead to the deterioration of the company's financial condition, which can result its bankruptcy and liquidation as well.

The above outlines the relevance of this study from both theoretical and practical considerations.

Literature review. Recently, a huge number of scientific works have been devoted to the study of the society sustainable development problems, outlining it from the point of view of legal and economic aspects. But the works of researchers, both lawyers and economists, do not reveal the issue of sustainable development of enterprises, in particular by preventing their bankruptcy.

In their works, O. Belyanevich, A. Butyrskyi, I. Butyrska, V. Jun, S. Zhukov, Yu. Kabenok, V. Pogrebnyak, B. Polyakov, and O. Sinegubov revealed the issue of directions for improving the legal regulation of the bankruptcy procedure. Without diminishing the importance of the preliminary studies, it should be noted that neither at the works of economists nor at the works of lawyers included the research about the issue of the enterprises bankruptcy probability preventing, as one of the most important conditions capable for influencing the provision of their sustainable development.

There is a significant contribution to the development of modern theory and practice of risk analysis and assessment, as well as its management, consideration when making management decisions and the determination of possible risk consequences in the works written by such domestic and foreign scientists as I. Blank, Z. Bodi, R. Braley, Y. Brigham, J. C. Van Horn, D. Wachowicz, W. Witlinsky, L. Gapeski, R. Daft, R. Kaplan, A. Kane, B. Coyle, S. Myers, F. H. Knight, D Norton, V. Nusinov, A. J. Marcus, V. Savchuk, J. G. Siegel, T. Rice, J. K. Shim, and others. However, the issue of identification, classification, assessment and management of risks is still the subject of close attention and discussions among scientists, which causes a number of approaches to their interpretation and measurement.

Aims. It is the determination of the factors that lead to the bankruptcy of the enterprise, as well as economic and legal means, appropriate to prevent the development of financial insolvency of the enterprise and the abuse of the right to file

a lawsuit to declare the enterprise bankrupt and the developing of a methodical approach that will allow determining the maximum permissible risks for enterprises of two groups:

1) for the ones, when the violation of the bankruptcy procedure is generally possible;

2) for the ones, when the violation of the bankruptcy procedure is unlikely.

In addition, the events that determine the risks during the export of products are considered.

The purpose of the article is to systematize the methods of financial risk management of enterprises as an ingredient prevention of their financial instability and bankruptcy for achieving sustainable development.

Methodology. A set of general scientific and special research methods were used to solve the set tasks, in particular: *generalization and comparison* - to establish similarities and differences between the results of research by other authors regarding their understanding of the essence of the categories "development", "sustainable development" and "risk*"; grouping of indicators* - to operate with information of the kinds and types of risks existing in the scientific literature and to operate with statistical data of the initiated bankruptcy procedures number of legal entities in Ukraine; *mathematical* - to develop a model for determining the maximum allowable value of lost cash flow of the enterprise, *graphic* - to visualize the presentation of information, etc.

Results. In order to achieve the goals of the research, it is necessary to focus more on the understanding of the essence of the category "sustainable development of the enterprise".

It is worth of attention the opinion of V. Nepiyvoda [15], who studied the philological interpretation of this word, stresses that these words are derived two synonyms strings, namely:

1) the feature of the first row (sustainable – steady – stable) is constancy;

2) the term "development" is a process resulting in a change in the quality of something. Similarly, the word "process" means a successive change of states or phenomena.

Therefore, his opinion is correct that the phrase "sustainable development" is an oxymoron (that is a stylistic phrase consisting of an emphasized combination of categories that are opposite in content, which logically exclude each other, but together give a new idea).

According to L. Kvyatkovska, the sustainable development of the enterprise in the current period should be considered as its ability to carry out economic activity at each individual moment of time in conditions of the external environment effects uncertainty, which disrupt the normal functioning and development of the enterprise [13].

According to D. Prozorov, the sustainable development of an enterprise is a purposeful and continuous development aimed at creating long-term value by balancing financial and non-financial goals, effective use of available resources (capital), implementation of the concept of corporate social responsibility and the

use of opportunities and management of risks that arise as a result of economic, social and ecological development [25].

N.Vasyutkina considers the sustainable development of an enterprise as the balancing of the enterprise development process based on the acquired approaches and technologies, taking into account the constantly changing external and internal conditions, by increasing and regulating its potential. That provides an opportunity to maintain the stability of the operation of all subsystems [32].

Mainly, the researchers share the opinion that the sustainable development of an enterprise is determined by a set of possible changes in the economic, ecological and social subsystems caused by the influence of various factors that lead to the transition of the enterprise from one relatively stable state to another [7, 29; 34].

Therefore, the sustainable development of the enterprise is characterized by the stable, balanced functioning of its three subsystems - economic, social, and environmental. It can be noticed that their material basis is the presence of a stable cash flow that is able to meet the development requirements of the specified three components of the enterprise sustainable development. Indeed, the implementation of natural resources economical use, measures to raise social standards for company employees, development of one's own economic activity – are the objects that require the investment of funds, the lack of which leads to a decrease in standards for certain components of sustainable development. Therefore, financial insolvency is the evidence of the enterprise unsustainable development. First of all, this requires careful monitoring of such processes by the enterprise top managers as well as the prevention of negative phenomena by the use of appropriate economic and legal means.

Also, the factors of sustainable development of the enterprise, proposed in the economic literature, should be grouped into the following three blocks:

- macro environment - shows the dependence of the enterprise sustainable development on economic, scientific and technical, political, legal, international, environmental and infrastructural factors;

- meso-environment - reflects the state of the enterprise's field of activity in general, and also provides an opportunity to assess the specifics of the field development state influence on the sustainable development of a separate enterprise;

- microenvironment - operates out of the middle of the enterprise and, unlike the previous ones, it can be managed, and if necessary, managerial decisions can be made for correction [12].

One can partially agree with the above thesis. Indeed, it is impossible for the management of the enterprise to directly manage the factors of the macro environment and meso environment, but due to forecasting and risk management, the enterprise management can timely monitor the negative trends of the first two factors that affect the sustainable development of the enterprise and significantly correct the influence at the microeconomic level.

At the same time, the question is actual: "what period of time will the sustainable development of the enterprise last?". If the time range of the enterprise sustainable development is exhausted, then its development will be unstable. That is, the development involves the possibility of unstable states. The unstable development of the enterprise is mostly characterized by its financial instability, which increases the probability of negative consequences in the form of bankruptcy.

When economists define the concept of bankruptcy, the main emphasis is placed on the lack of assets and the financial inability of the debtor to satisfy the demands of creditors and fulfill obligations to the budget.

Thus, I. Blank points out that bankruptcy is a judicially established financial insolvency of an enterprise, i.e. its inability to meet the demands of creditors and fulfill its obligations to the budget within the prescribed period [3].

O. Tereshchenko considers that bankruptcy is connected with the insufficiency of assets in liquid form, that is the inability of a legal entity to satisfy the demands made to it by creditors and fulfill its obligations to the budget within the period established for this purpose [30].

The disadvantage of these definitions is that they do not fully take into account the provisions of the Code of Ukraine on Bankruptcy Procedures (hereinafter the Bankruptcy Code).

First, the lawmaker operates a single term – the creditor in opposition to the debtor. The latter include a legal entity or an individual, as well as a supervisory body authorized to take measures to ensure the repayment of tax debt and arrears from the payment of a single contribution to mandatory state social insurance, and other state bodies that have requirements regarding monetary obligations to the debtor (Article 1 of the Labor Code). Therefore, it does not make sense to single out obligations to the budget in the general definition.

Secondly, the legislator does not deal with any non-fulfillment of the debtor's monetary obligations to the creditor, but with persistent financial insolvency. The basis for such a conclusion is the provisions of Art.1 of the Code of Criminal Procedure of Ukraine that bankruptcy is the inability of the debtor, recognized by the commercial court, to restore his solvency through the rehabilitation and restructuring procedure and to repay the monetary claims of creditors established in accordance with the procedure specified by the Code of Criminal Procedure, other than through the application of the liquidation procedure, as well as the provisions of Part 6 of Art. 39 of the Code of Civil Procedure, according to which the commercial court refuses to open proceedings in the case when the demands of the creditor (creditors) are satisfied by the debtor in full size before the preparatory court session.

Thirdly, according to the provisions of Part 6 of Art. 39 of the Code of Civil Procedure, the creditor's claims must indicate the absence of a dispute about the right, which is a subject to a decision in the procedure of a lawsuit, that is, the creditor's claims must be undisputed.

Therefore, financial insolvency in the bankruptcy procedure is associated with the persistent inability to satisfy the creditor's undisputed monetary claim. Therefore, it is possible to identify bankruptcy with the financial insolvency of the enterprise, which cannot be eliminated in the course of court proceedings by the application of rehabilitation and restructuring, that is, with the unstable development of the enterprise for a certain, sufficiently long time.

On the one hand, such an unstable state of the enterprise leads to a decrease in the sustainable development of higher-level systems, which are - the industry as well as the economy of the country, because the debts of the bankrupt enterprise are canceled, and as a result, creditors may be deprived of a significant part of the funds due to them. As a result, the state will not receive taxes, workers will be deprived of their jobs. That is all reduces the sustainable development of the country in general.

On the other hand, the institution of bankruptcy is aimed at ensuring the discipline of settlements between economic entities and the stability of economic turnover. It is a means of responsibility "for the inefficient organization of the work of enterprises and allows to create conditions for the capital transferring from inefficient, unprofitable industries to profitable areas of economic activity" [12].

In view of the above, it is difficult to disagree with N. Aseeva, who noted that the purpose of applying the insolvency procedure is to find a balance between the interests of the creditor, the debtor, society and the state by applying various procedures provided by law to the debtor [2].

The significant factor is incorrect decisions of the enterprise management that leads to the emergence of financial insolvency and do not ensure the sustainable development of the enterprise. The aspirations of the top management of any enterprise are mostly reduced to the following: that is to achieve the maximum development of the enterprise as well as to ensure its longest functioning. At the same time, under the influence of time, the concept of "conservation through development" is to replace the previously existing management priority "first conservation, then development".

According to O. Raevneva, the development is a unique process of transformations of an open system in space and time, characterized by a permanent change in the global goals of its existence through the formation of a new dissipative structure and its transformation into a new attractor of functioning [26].

We agree with the statement of V.Vasylenko regarding the fact that the development is not a one-time transformation aiming at the achieving the best (and therefore primordial) state of the system, but a process that does not stop in time, the flow of which does not always occur constantly and uninterruptedly. Mostly, it goes in leaps and bounds, overcoming the crises different in depth and coverage [31].

In the work [1] the development is characterized as a process based on the results of scientific and technical achievements and contributes to the development of productive forces and the satisfaction of society's needs for high-quality goods. The authors of the work [1] emphasize that the development is associated with an increase in the degree of efficiency, improvement of business processes or their management,

as a result of which a quantitative or qualitative useful result increase is achieved compared to the previous level. Therefore, according to researchers [1], the development is accompanied by exclusively positive changes.

One can only partially agree with this opinion, because management activity at the enterprise consists in correctly assessing risks and preventing them, predicting in a certain way the processes of development of the political and economic situation not only in the domestic market, but in the conditions of globalization and in the foreign market, monitoring development of science and technology, as well as prospective legislation. This process is quite complex and not always successful, as a result of which the negative trends arise in the enterprise.

The category "risk" is the subject of great controversy among scientists, surrounded by attempts to define it and measure it.Therefore, the concept of risk is multifaceted and is used in various fields of science: sociology, political science, economics, law, international sciences, etc.

In practice, top managers often face the need to determine whether a particular project should be accepted or rejected. For this, it is necessary to assess possible consequences for the enterprise. Of course, the risk factor must be taken into account at the decision-making process. It is worth noting that a risk-related decision is made on the basis of a sufficient amount of information, aimed at the specific goal achieving, but the future results of various choices may change.

T. Rice and B. Koili rightly note that risk is associated with the uncertainty of the future situation and occurs when actual events differ from the expected ones [27].

Decisions are made under conditions of uncertainty, when it is impossible to estimate the probability of potential outcomes, because the necessary factors are complex and new, and it is impossible to obtain sufficiently relevant information about them.

Uncertainty is generated by the unpredictability of the final result, which can either coincide with the expected one, or occur to be better or worse. In the conditions of uncertainty, the final result can only be predicted approximately by assuming the one of the potentially possible values. As a rule, the uncertainty is caused by the subjective perception of real phenomena.

In the contrast to the uncertainty concept, the concept of risk has a practical application, and therefore its content needs an objective definition. Therefore, a transition is needed from the subjectively perceived uncertainty and randomness to an objective concept of risk. It is the only way to make such a transition is to estimate uncertainty (randomness) using quantitative methods, giving it real numerical values. It follows that only such a risk can only be recognized by the quantified uncertainty.

It is possible to give the most accurate quantitative assessment of uncertain values by calculating the probability of their occurrence. This probability has the characteristic feature that simultaneously takes into account two necessary components of the general assessment of complementary randomness:

- the frequency of occurrence of the event in relation to place and time;
- the size of the loss, that is, the absolute value of the negative deviation of the actual result from the expected one.

Therefore, the risk indicator by its meaning is not only the probability of an uncertain (random) event, but is also the probability of a negative result.

Uncertainty is the lack of sufficient information about possible events. It determines the risk, that is, the possibility of deviation of the actual results from the expected ones. The greater the uncertainty, the greater the risk when making a decision.

The level of uncertainty is characterized by a lack or complete absence of information about processes, phenomena, and the impact of individual factors on the company's activities. According to the approach applied by specialists of the McKinsey consulting firm, there are four levels of uncertainty:

- level 1 (fairly clear future) – the possibility of predicting only one forecast of the future, which is accurate enough to develop a strategy;
- level 2 (alternative options for the future) - the future is predicted in the form of one of several alternative options for the development of events, or alternative scenarios;
- level 3 (a wide range of future options) – a range of potential opportunities is predicted, when limited by time;
- level 4 (complete uncertainty) - forecasting is impossible.

The higher the level of uncertainty, the lower the quality of management decisions and the effectiveness of actions. Therefore, it is necessary to minimize (ideally, to eliminate) the uncertainty in order to improve the quality of managerial influence by structuring information about the situation inside and around the enterprise, i.e., to separate defined and uncertain parameters, and to choose methods of increasing the certainty of the latter, etc. The reduction of uncertainty contributes to streamlining the activities of company managers and enables them to develop solutions for adapting the organization and its individual subsystems to the situation changes.

According to the results of the literary sources review regarding the essence of the "risk" category, it was concluded that scientists mainly identify risk with the danger or uncertainty of the future situation, an unfavorable event or result, expenditures or losses of the enterprise. In addition, the terms "risk" and "uncertainty" are improperly equated by scientists very often.

We share the opinion of those researchers who believe that risk - it is not always bad. At the same time, big bets mean not only big successes, but also big losses.

The essence of the risk, the variety of its manifestations and characteristics are reflected in the classifications. Today, researchers offer a large number of risk classifications based on their various features, such as: the field of occurrence, the nature of the origin, dependance on the reason for the occurrence of risks, on the possible result, etc. At the same time, risk classification systems include groups, categories, types, subtypes, and kinds of risks. In general, despite the variety of existing risk classifications, they are all based on two principles:

1. Subject classification of risks, which contains a large list of risk types and provides a basis for characterizing their possible consequences.
2. Division of risks into groups for the purposes of their management.

So, for example, V. Savchuk classifies risk into operational, financial, investment, market and political [28].

The authors of the works [5; 35] distinguish the following types of risk depending on the possible result:

1) dynamic – the risk of unforeseen changes in the value of fixed capital as a result of management decisions or unforeseen circumstances (that can lead to both losses and profits);

2) static (or liquidity) – the risk of real assets loss due to damage to property, as well as loss of income due to the incapacity of the enterprise (that leads only to losses).

The authors of the work [35] classify risks according to certain characteristics, distinguishing subtypes of risks:

- depending on the main cause of risks – natural, environmental, political, transport, commercial;
- by structural feature - property, production, trade, financial;
- risks related to the purchasing power of money - inflationary, deflationary, currency and liquidity risks;

investment risks – risk of lost profits, risk of lost profitability, risks of direct financial losses.

We share the opinion of the authors of the work [35] regarding the fact that other risks are derived from their main types and are the kinds of risk, and each type of risk corresponds to its own system of techniques and ways of managing it.

Within this study, it is appropriate to focus on the definition of the financial risk of the enterprise.

V. Savchuk [28] rightly notes that financial risk characterizes the possibility of financial losses associated with the failure to achieve the set goal or the ambiguity of the predicted result.

The authors of the work [19] note that financial risk is the probability of unplanned changes in the composition and structure of the company's financial resources. The approach to the definition of risks simplifies their identification and is a prerequisite for the application of effective management mechanisms.

It should be noted that today there is no unity in the views of scientists regarding the types of financial risk. The most widely used are the following approaches to its classification:

– interest rate, credit, currency, investment and business risk [27];

– business, market, interest, liquidity, non-repayment of debt (non-payment), purchasing power [35];

– risks associated with the purchasing power of money and risks associated with capital investment (investment risks) [17].

V. Nusinov [17] emphasizes that the purpose of qualitative analysis is to establish potential areas of risk and identify all possible risks, as well as the purpose of quantitative analysis is the numerical determination of risks. Therefore, the risk tolerance degree determining becomes important.

Sharing the view of R.Dafta we mean the probability of a negative impact of future events on the effectiveness of the made choice under the concept of "degree of risk".

We also consider that risk is an element that arises when making any decision and which cannot be neglected, because it determines the choice of a certain behavior or action.

Therefore, the development process is accompanied by gradual quantitative and qualitative changes, which can be both positive and negative under the influence of certain factors, so development can be managed.

It overcomes crisis phenomena under the condition of the enterprise proper management, and management errors lead to the occurrence of negative phenomena up to the occurrence of insolvency.

The economic and legal means that ensures the prevention of insolvency is the planning of the activity and development of the enterprise on the basis of sustainable development. The one of the important elements of this planning is the assessment of the negative indicators of the enterprise's development, which allow early detection of negative trends at the initial stage and the use of appropriate response measures. Risk occurs only in relation to future events and is associated with forecasting and planning, as well as with management decision-making. This determines the need to take into account the risk, manage it and determine its consequences. For this, it is necessary to use the toolkit that economic science can offer, in particular, the one proposed below by the authors of this study.

According to the results of the literary sources review accomplished by the author of the work [17], it was concluded that according to the the risk consequences scale, scientists mostly distinguish the following types of risk:

1) acceptable risk – is the threat of activities profit loss under accepted conditions;

2) critical risk – is associated not only with profit loss, but also with failure to receive the proposed revenue, when costs have to be reimbursed at one's own expense;

3) catastrophic risk – it leads to loss of investments, company property or even to its bankruptcy.

We consider that such an approach is also appropriate for diagnosing the degree of risk admissibility. But at the same time, in our opinion, the names of the categories "critical risk" and "catastrophic risk" need to be clarified, because these concepts are quite close in their lexical meaning. As it seems, it is more correct to replace the name of the category "critical risk" with "marginally acceptable risk", and "catastrophic risk" is to be replaced with "extraordinary".

Thus, when evaluating the management made decisions, we consider it expedient to quantitatively measure their risk and identify it as acceptable, marginally acceptable and extraordinary.

We share the opinion of the authors of the work [27] regarding the fact that risks arise during the movement of financial flows and are caused by the action of certain exogenous (systematic risk) and endogenous factors (unsystematic risk).

An exogenous factor of risk management is its insurance, and endogenous factors include risk avoidance, limiting, diversification, hedging, creation of reserves, obtaining additional information, etc. In the scientific research, a lot of attention is paid to the illumination of various aspects of endogenous financial risk management mechanisms. However, in our opinion, methodical aspects of risk limitation need improvement due to the lack of unity among scientists regarding their normalization, limit values and calculation methods. Today, the list of such financial standards and their limit values is established by each enterprise independently.

The author of the work [17] characterizes the limit as a quantitative limitation that is imposed on certain characteristics of operations or indicators of enterprise activity.

Indeed, when using limiting, it is possible to establish a system of restrictions for those financial risks that go beyond acceptable limits. This will contribute to the reduction of the degree of risk, i.e. establishing the limit of its level according to the main indicators of the enterprise's activity.

Therefore, limiting financial transactions must be carried out in the zone of maximum permissible and extraordinary risk by establishing appropriate internal standards at the enterprise for key indicators of the enterprise's activity.

It should be noted that the economic activity of the enterprise can take place both under normal operating conditions (that is, without any extraordinary or extraordinary events), and burdened by certain extraordinary events.

For example, if the money from the debtors was not received in full or late to repay the debt owed to the company, then, as a result, the creditor will not receive them in a timely manner and may file a petition regarding the bankruptcy proceedings of the company. For example, if the company is in the process of restructuring, in this case, the lack of funds can lead to the failure to implement the company's restructuring plan and, ultimately, to its liquidation. At the same time, it is advisable to justify the maximum permissible risks for each case separately.

Let's consider the justification of the maximum permissible risks in the first case. To do this, we will use the division of all enterprises into two groups, as suggested in the work [18]:

1. Enterprises for which violation of the bankruptcy procedure in general is possible.

2. Enterprises for which violation of the bankruptcy procedure is unlikely (for example, enterprises of raw materials industries - mining and ore-dressing combines, metallurgical plants, iron ore enterprises, which are the monopolists at the specialized markets in their exclusive majority).

Let’s consider the justification of the maximum permissible risks for enterprises of the first group.

Depending on the company's financing policy (aggressive, conservative or moderate), an unacceptable event for the company is selected. For example, it is the

achieving a medium or high probability of bankruptcy of the enterprise, as well as the forced liquidation of the enterprise as a result of its bankruptcy.

Let's consider the events that determine the risks during the export of products for the enterprises of the first group.

Nowadays, comprehensive indicators and separate financial coefficients reduced to an integral form have become widely used in the diagnosis of assessing the probability of enterprises bankruptcy. Among the latter, the most famous foreign methods are the two-factor and five-factor models of E. Altman, the model of R. Lees, the evaluation based on the indicators of U. Beaver, the predictive model of Tuffler, the Fulmer model, and the Springate model. Ukrainian researchers also dealt with the development of similar models, namely: I. Blank, O. Zaitseva, A. Kovalev, G. Savytska, R. Saifullin, O. Tereshchenko, A. Sheremet, M. Ishchenko, V. Nusinov and others.

Let's consider the method of calculating the probability of bankruptcy of enterprises ("Z") based on the best-known model of E. Altman:

$$Z=1,2\times X_1+1,4\times X_2+3,3\times X_3+0,6\times X_4+X_5 \quad (1)$$

where "Z" is an estimate of the enterprise bankruptcy probability, determined according to the model of E. Altman.

The coefficients applied in E. Altman's model are calculated as follows:

$$X_1=\frac{current\ assets}{total\ assets}\ ; \quad (2)$$

$$X_2=\frac{retained\ earnings}{total\ assets}\ ; \quad (3)$$

$$X_3=\frac{profit\ from\ the\ operation}{total\ assets}\ ; \quad (4)$$

$$X_4=\frac{market\ value\ of\ shares}{total\ amount\ of\ liabilities}\ ; \quad (5)$$

$$X_5=\frac{sales\ revenue}{total\ assets}\ . \quad (6)$$

As is known, the probability of the company bankruptcy is estimated according to E. Altman's model on the basis of the following scale:

$Z<1.8$ - a very high probability of bankruptcy of the enterprise;

$1.8\leq Z<2.7$ – high probability of bankruptcy of the enterprise;

$2.7\leq Z<2.9$ – the average probability of bankruptcy of the enterprise;

$Z\geq 2.9$ – low probability of bankruptcy of the enterprise.

So, a possible risk-determining event boils down to the following:

- non-receipt, incomplete receipt and (or) untimely receipt of revenue for sold goods in foreign currency;
- decrease in the currency rate during the execution of currency transactions;
- non-receipt, incomplete receipt and/or untimely receipt of the value added tax (VAT) refund.

That is, as a result, the company will not receive a certain amount of cash flow.

At the same time, if we consider the "delay" of payments, then by discounting, this case is also reduced to non-compliance with the cash flow.

Let's assume that all the indicators used in the enterprise bankruptcy probability assessing will have planned values as a result of obtaining cash flow according to E. Altman's model (1).

If the cash flow is lost (ΔDcf), an increase of this value in the amount of payables compared to its planned value is accepted, which compensates the lost cash flow.

We will use the method proposed by O. Nusinova [21] to set the desired value of the net financial result of the company's activity (or profit from operational activity, revenue from the sale of goods) to the cash flow of the company.

Let's denote the ratio of the increaseof profit and revenue to the increase of cash flow with the previously mentioned indicators $К_{fr}$, $К_{op}$ and $К_r$ respectively.

In addition, it is advisable to equate the value of Z with the limit value set by the economists of the enterprise, based on the equation for determining the limit value of the value ΔDcf - the maximum allowable value of the lost cash flow as a result of the failure to receive revenue in foreign currency and (or) the amount of the tax credit, and it is "delay" at the time of their receipt, fluctuations in the exchange rate (its decrease), which the company can "afford", the loss of which determines the maximum permissible risk.

Having performed the appropriate mathematical transformations with some assumptions, E. Altman's model (1) can be presented as follows:

$$\Delta D_{cf} = 1{,}2 \text{ x } \frac{А_{ca}-\Delta D_{cf}}{А_{\sum}-\Delta D_{cf}} + 1{,}4 \text{ x } \frac{RE-\Delta D_{cf}\times К_{fr}}{А_{\sum}-\Delta D_{cf}} + 3{,}3 \text{ x } \frac{OP-\Delta D_{cf}\times К_{op}}{А_{\sum}-\Delta D_{cf}} + 0{,}6 \text{ x } \frac{А_{\sum}-\Delta D_{cf}}{CL+\Delta D_{cf}} + \frac{NI-\Delta D_{cf}\times К_{r}}{А_{\sum}-\Delta D_{cf}} \qquad (7)$$

where ΔDcf – the maximum allowable value of lost cash flow; $А_{ca}$ *– current assets of the enterprise, UAH;* $А_{\sum}$ *– total assets of the enterprise, UAH; CL – current liabilities of the enterprise, UAH; RE – retained earnings of the enterprise, UAH; OP - profit of the company's operating activities, UAH; NI – net income (revenue) from the sale of goods, UAH;* $К_{fr}$ *– coefficient characterizing the ratio of the financial result of the company's activity to the value of cash flow increase, UAH;* $К_{op}$ *- coefficient characterizing the ratio of profit from the company's operating activities to the value of cash flow increase, UAH;* $К_{r}$ *– the coefficient characterizing the ratio of net income (revenue) from the sale of goods to the value of cash flow increase, UAH.*

If the enterprise is already in a state of bankruptcy, it is advisable to determine the probability of its liquidation. L. Burkova developed the methodical approaches to its assessment, which are detailed in works [4; 16].

Let’s consider the second group of enterprises for which bankruptcy is generally unlikely.

In this case, other approaches should be developed taking into account the specifics of financial management of such enterprises. For example, the maximum amount of liabilities should not exceed the value of the EBITDA indicator, as emphasized by M. Ishchenko for mining and ore-dressing combines [9].

Proceeding from this, the marginal non-compliance with the amount of cash flow for enterprises of the second group can be determined from the equation:

$$L_{\sum pl} + \Delta D_{cf} = L \text{ x } (EBITDA - \Delta D_{cf} \times К_{EBITDA}) \quad (8)$$

where $L_{\sum pl}$ – the total value of the company's planned liabilities, UAH; EBITDA (earnings before interest, tax and depreciation) – earnings before interest, taxes and depreciation; L – the ratio of the maximum permissible amount of liabilities to the indicator EBITDA; $К_{EBITDA}$ – coefficient characterizing the ratio of the amount of cash flow to the value EBITDA.

Discussion. Any enterprise carries risks related with its business activities, since risk is an inherent characteristic of a market economy, which is of particular importance in a dynamic and unstable environment. Foreign economic risks are higher than the risks of an enterprise in the domestic market, as the influence of environmental factors is added, so their timely detection and effective management is a priority factor during the implementation of foreign economic activities.

The difficulty of identifying risks in the foreign market consists in the instability of the economic and socio-political processes of the partner countries, the limited information base as well as the specificity of each foreign economic operation.

The sequence of risk management of the enterprise's foreign economic activity can be represented by the following stages:

1. Identification of risks.
2. Analysis and assessment of each type of risk.
3. Analysis and quantitative assessment of risks.
4. Determination of the maximum permissible risks for the enterprise.
5. Control and comparative assessment of risks relative to their maximum permissible value.
6. Making a decision regarding the acceptability or unacceptability of the obtained results during risk management.
7. Implementation of the risk management system.
8. Assessing the possibility of increasing risks.
9. Identifying the possibility of reducing risks and determining the necessary measures for this.
10. Development of algorithms for risk management business processes.
11. Development of a risk management system.

Conclusions. The sustainable development of the enterprise is determined by a set of possible changes in the economic, ecological and social subsystems. At the same time, the enterprise can move to different states of development under the influence of certain factors. We assume that the time range of the sustainable development of the enterprise cannot last forever, so it is limited. In general, development involves the possibility of unstable states. The unstable development of the enterprise is characterized by its financial failure, which is mostly identified with its bankruptcy.

The factors affecting the emergence of financial insolvency are external (economic, scientific and technical, political, legal, international, environmental, pandemic, infrastructural factors) and internal (poor management by the debtor's founders and its management). At the same time, internal factors are the main ones.

Bankruptcy is a consequence of the enterprise unsustainable development, which is related with the financial insolvency of the enterprise, which cannot be eliminated by applying in the course of court proceedings rehabilitation and restructuring.

An economic and legal means of preventing bankruptcy is a plan for the sustainable development of an enterprise, which should include a forecast and analysis of the development of negative trends in the early stages using economic analysis.

The research substantiates a methodical approach to the determining the maximum permissible risks during product export for enterprises whose economic activity takes place under normal operating conditions, as well as for those enterprises whose activity is burdened by certain extraordinary or extraordinary events.

We consider it expedient to create a risk management system at the enterprise. As part of this system, it is worth creating a risk management service, which is an important stage in risk management at enterprises. To do this, it is necessary to determine the place of such a service in the organizational structure of the enterprise, as well as to outline the scope of its tasks. In addition, it is advisable to develop recommendations for identifying and evaluating external risks of the enterprise's foreign economic activity. The development of these methodological aspects is the goal of the further research.

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MANAGEMENT AND EVALUATION OF INVESTMENTS AS A COMPONENT OF THE ECONOMIC SECURITY OF THE STATE WITH THE USE OF ACCOUNTING AND ANALYTICAL SUPPORT, STATISTICAL METHODS AND MARKETING RESEARCH

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Abstract. *The article is concerned with analyzing the investment component of the economic security of the State and diagnostics of enterprises' activity. The article considers the theoretical foundations of the investment component of economic security: the essence of the concept of "economic security", the main tasks of achieving economic security, the segmentation of sectors of the national economy by stages of investment development and the main measures of the State to regulate the investment component of economic security are presented. The article considers accounting and analytical support of the investment component of the economic security of the State and diagnostics of activity of enterprises. In order to develop statistical research methods in the analysis of the investment component of the economic security of the State and diagnostics of enterprises, the concept of "investment climate" is interpreted, the components of the investment attractiveness index and their components are systematized. By accumulating general information, the article substantiates an assessment of the economic security of the country, regions, enterprises in various spheres and diagnoses the real state of economic entities. The article considers the issues of investment marketing and marketing research as a diagnostic process in wartime: the goals and principles of investment marketing, investment marketing strategies aimed at increasing the market share using the main factors of marketing activity are outlined, the specifics of marketing research are reviewed. It has been found that in order to create an investment-attractive climate, even in the context of military operations, it is necessary to expand marketing research using modern tools already used in the practice of the world's leading developed economies.*

Keywords: *management, evaluation, investments, accounting and analytical support, economic security, statistical methods, diagnostics, investment marketing.*

JEL Classification: E22, H56, C10, M31
Formulas: 1; fig.: 19; tabl.: 7; bibl.: 38

Introduction. The growth rate of Ukraine's economy and its socio-economic development are directly affected by the state of economic security of the state and enterprises operating in the country.

One of the main tasks for achieving economic security is to intensify the investment process, which will lead to positive economic and social changes in the face of emergencies, threats to the ability to develop economically and maintain the country's sovereignty. Today, this is more relevant than ever, when Ukraine's economy has suffered as a result of the war, businesses are unable to operate

normally, and most of them have been destroyed or gone bankrupt. Therefore, one of the most pressing issues today is the organisation and establishment of the investment process in the context of strengthening economic security.

Attracting investment in Ukraine's economy and creating a favourable investment climate is currently a necessary and important aspect of the development of the state, regions, individual industries and enterprises. Attracting investments will help the economy to recover from the crisis, ensure the emergence of new technologies, capital renewal and modernisation of fixed assets, renewal and modernisation of old technologies through innovation, improve key macro- and microeconomic indicators, etc.

The country's economy is currently in a difficult economic situation. A large number of large enterprises, which were the main taxpayers, either ceased to function or switched to minimal activity as a result of the attack and destruction. The blocking of the possibility of exporting products by sea had a major detrimental impact, as land routes were not adapted to the transportation of goods (non-compliance of railway transport and tracks with European standards, high transportation costs, etc.) Another understandable but detrimental factor is that foreign investors do not risk investing in the Ukrainian economy when the country is at war.

Literature review. According to the results of the study of the theoretical tools on the topic of economic security, among the scholars it is worth noting Z. Varnalii, O. Vlasyuk, V. Heets, Y. Zhalilo, V. Muntean, etc. In particular, according to O. Vlasiuk, economic security is a complex polystructural science of security or "viability" of socio-economic systems at different levels of hierarchy (whether an individual, a household, an industry, a whole region, a sector of the economy, the national economy, even the world economy) [1, c. 45]. In this interpretation, the subject of its study is the objective protective properties of the economic system, mechanisms of its resistance to the impact of dangerous forces and factors, as well as the protective functions of the state and its special institutions [2, p. 13].

Given that we consider the issue of economic security from the point of view of the state and enterprises as one integral and interconnected system, especially in wartime, we believe that the most appropriate and relevant definition of this concept is the following: "...it is a state and property of the system and its function, which has two interrelated areas of action: defensive and offensive. The defensive one is implemented through counter-intelligence measures, and the offensive one - through intelligence. Taken together, this creates a new quality of the economic system - its ability, on the one hand, to prevent and stop threats (counteract), and, on the other hand, to create certain conditions for the realisation of economic interests. This is the main content of security and the subject of activity of the security subject" [3, P. 66]. Right now, the economic security of Ukraine should ensure the main goals and functions: the ability to ensure and maintain normal living conditions of the population of the state, create a resource for the development of economic activity even in such difficult conditions, counteracting threats and dangers to promote the realisation of economic interests [4, p. 47-48].

One of the main tasks for achieving economic security is to intensify the investment process, which will lead to positive economic and social changes in the face of emergencies, threats to the ability to develop economically and maintain the country's sovereignty. Today, this is more relevant than ever, when Ukraine's economy has suffered as a result of the war, businesses are unable to operate normally, and most of them have been destroyed or gone bankrupt. Therefore, one of the most pressing issues today is the organisation and establishment of the investment process in the context of strengthening economic security.

The issue of systematisation of economic security parameters based on the components of investment activity is being discussed among scientists: sources of investment, external environment, economic status, nature of investment and performance. Thus, the author Slatvinsky M.A., based on a comprehensive assessment of the investment component of economic security for a separate segment of the economic system, proposed to conduct a qualitative analysis and assessment of the investment status of the object [5].

Practice shows that in the current conditions of Ukraine's economy, the state has no effective mechanisms to neutralise threats to economic security. Therefore, all efforts should be directed to strengthening the investment process to ensure economic growth, improving the quality of economic activity of all economic actors, technical re-equipment with the introduction of innovations, and most importantly, improving the quality and standard of living of the Ukrainian population, which now requires state guarantees and support.

The modern investment process in Ukraine should be aimed at ensuring a favorable investment climate in the country, which is a very complex issue in the context of war and requires a transition to a qualitatively new system of state regulation using the principles, criteria, and methods that form a modern mechanism for implementing investment security with its components: 1) the market mechanism of implementation as a subsystem of market self-regulation and adjustment of investment security; 2) the state mechanism of regulation of investment processes and management of investment activity; 3) the mechanism of investment partnership as a subsystem of cooperation between the state, entrepreneurs and the population [6]. Each of these mechanisms for implementing investment security is based on the use of statistical methods of analyzing indicators of investment climate in the country; production activities of enterprises in the region, industries; financial condition; securities market, etc. on the basis of which investors make investment decisions.

Aims. The article considers management and evaluation of investments as a component of economic security of the state with the use of accounting and analytical support, statistical methods and marketing research in wartime.

Methods. The article uses analysis, synthesis, generalization, induction, deduction, explanation, classification, forecasting, comparison, as well as systemic and functional research methods.

Results. In the current environment, the task of national and regional authorities is to ensure the balanced development of enterprises, expand and strengthen their financial base and find sources of replenishment. One of the most important ways to

solve this problem is to create a system of financial security for enterprises that will allow them to attract and allocate additional funds for investments in the modernization and reconstruction of production facilities and the implementation of regional social and economic development programs.

The investment security of enterprises in various industries depends on the sources, scale and methods of financial support. In today's environment, most enterprises cannot function without sufficient financial resources that can be raised through interaction with external investors. In the absence of a comprehensive approach to determining the factors that guarantee investment security, it is impossible to create a knowledge base for analyzing the formation and use of investment capital by a firm.

Economic security is considered in the works of many researchers. In this case, economic security is considered from the point of view of efficient use of available resources. In some works, economic security is seen as a state of the firm that ensures its protection from negative external and internal threats. In addition, economic security is seen as a way to reconcile the economic interests of the firm with the interests of the external environment, both internal and external to the firm [7].

In turn, the investment security system of an enterprise should be understood as a set of elements that together ensure the protection of investments from all types of risks and contribute to the creation of safe conditions for the development and improvement of the financial security system.

The subjects of the investment security system of enterprises should be distinguished from each other. We consider it expedient to divide the subjects of investment security of an enterprise into two different but related categories: external and internal. Thus, we have: 1. internal subjects of investment security of the enterprise. These are employees of the financial security department, whose tasks include monitoring investments; employees of such departments as accounting, financial and economic department, internal audit department, investor relations department, innovation policy department, etc. 2. external entities that ensure the security of the company's investments. We believe that the presence of external entities of the company's investment security should be mandatory, since these are the investors who invest in the socio-economic system and try to ensure a high level of financial security [8].

The accounting system is based on the accounting policy, which determines not only a part of information, but also the economic efficiency of the company's activities, especially in terms of minimizing subsequent risks arising in the course of investment activities. In order to facilitate accounting and analytical support for management decisions on investment security, it is proposed to include the investment policy in the accounting policy of the enterprise, since its application determines the procedure for accounting for transactions with investment-backed securities. Given the nature and purpose of the enterprise's activities, the investment policy of an enterprise is defined as a system of principles and methods for developing and implementing decisions related to the selection and implementation of the most effective forms of real and financial investment for the enterprise, in

order to ensure high growth rates and a constant increase in market value in accordance with the needs and potential of the enterprise's growth strategy [9].

Any security has to be measured. Therefore, it is necessary to develop an appropriate system of investment security indicators as a basis for criteria. To solve this problem, it is necessary to create an investment security monitoring system. One of the most important stages of investment security diagnostics is the classification of conditions. The purpose of classifying investment security situations (country, region, industry, enterprise, etc.) is to determine the levels of security for each group of indicators and to assign the situation to a certain category according to the severity of the situation. For example, the following crisis levels (zones) can be distinguished: normal situation, pre-crisis situation, crisis situation. The disadvantage of dividing the security level into three zones is that the qualitative state of a region, economic sector or type of economic activity cannot be distinguished by the level of security, and thus it is impossible to determine the extent to which negative phenomena have been overcome. Therefore, it is advisable to consider additional sub-levels within the pre-crisis and crisis zones, which differ according to the stages of crisis deepening [10].

The security of an enterprise's investments includes:

- security of real investments, where the investing enterprise is also the recipient of investments, security of external investments in real assets of other enterprises, as well as ensuring the required level of economic efficiency of real investments of the enterprise;
- security of financial investments, which consists in the safe placement of funds in the securities market, foreign exchange market, precious metals market and deposit accounts and ensuring the required level of economic efficiency [11].

Thus, investment security is an important element of economic security. The security of the entire enterprise depends on the effectiveness of its provision. The current business reality in Ukraine is characterized by complexity, constant struggle, competition between companies and an unstable political situation. That is why businesses have to constantly adapt to an incomplete and constantly changing legal framework, lack of working capital, tight monetary and fiscal policies, etc. All of this limits the ability of companies to finance and implement investment projects, increases investment risks and thus undermines their investment security. As a result, it is very difficult for domestic companies to invest in the Ukrainian stock market, which is developing very slowly.

Statistical methods are widely used in assessing economic security. The most common methods include correlation and regression analysis; discriminant analysis; principal component analysis; factor analysis; comparative analysis; scoring methods; non-parametric methods of assessing relationships, etc.

The same applies to the use of statistical research methods in assessing investment security and the investment climate at the level of the state, regions, oblasts, and economic sectors.

The literature provides several interpretations of the concept of "investment climate" (Figure 1).

The term "investment climate" is interpreted as	is a set of political, social, innovative, and infrastructural elements that are available in a certain territory and produce a synergistic effect in their total manifestation [12];
	a set of political, legal, economic and social conditions that ensure and facilitate investment activities of domestic and foreign investors [13, p. 189];
	the degree of favourability of the situation in a particular country (industry, region, enterprise) in relation to investments that could be made in the country (industry, region, enterprise) [14];
	a set of objective and subjective conditions that characterise the attractiveness of a given economic environment for domestic and foreign investors [15].

Figure. 1. The essence of the concept of "investment climate"

When assessing the investment climate, integral indicators are often used, which are determined on the basis of a system of interrelated indicators based on statistical data or the results of social and expert surveys. It is the methods of determining integral indices that are used to form a rating of countries or regions, etc. At the same time, there are formulaic methods based on the sum of values or scores of all indicator indicators; sums of products of values or scores of all indicator indicators with the determination of their weighting coefficients; and integral formulas.

In international practice, when choosing a country for investment, it is customary to use the system of indices listed in Table 1. The dynamics of these indices and the trend of their change are important.

Table 1. General information on the main international and national assessments

Title	Characteristics	Rating scale	Indicators (number)	Development organization
Investment attractiveness index	assesses the overall socio-economic development of countries, which makes it possible to rank them in terms of their investment potential	points from 0 (low) to 100 (high)	20	Hamburg Institute international economies, company BDO
The investment of Ukraine's attractiveness	assesses the state of Ukraine's business climate based on expert opinions of the top executives of EBA member companies	from 1 to 5 (negative, neutral, positive)	-	European business association
Global innovation index	assesses the country's ability and success in innovation	points from 0 (low) to 100 (high)	81	Cornish University, INSEAD business school, World organization Intellectual property
Ease of doing business index	assesses the ease of starting and running a business from a bureaucratic point of view	points from 0 (low) to 100 (high)	109	World Bank Group

Title	Characteristics	Rating scale	Indicators (number)	Development organization
Global outsourcing attractiveness index	assesses the attractiveness of locating production facilities in the country for foreign companies	scores from 1 (low) to 8 (high)	38	Consulting company AT Kearney
Index of economic freedom	assesses whether a person can exercise the fundamental right to manage his or her own labor and property	from 0 to 100 (0-49.9 - oppressive, 50-59.9 - mostly unfree, 60-69.9 - moderately free, 70-79.9 - mostly free and 80-100 free countries)	76	Wall Street Journal and Heritage Foundation
Global Competitiveness Index	assesses the national competitiveness of countries and the stage of economic development (factor-oriented, transition from stage 1 to stage 2, efficiency-oriented, transition from stage 2 to stage 3, innovation-oriented)	scores from 1 (low) - 7 (high)	118	Global economic forum
Global peace index	assesses the level of security both within the country and the impact of countries on the state of peace outside the country.	from 1 to 5 (very high peace, high peace, medium peace, low peace and very low peace).	23	Institute of Economics and peace
Regional socio-economic development rating	assesses the effectiveness of the implementation of the state regional policy in the regions of Ukraine	units of measurement are given for each indicator; three groups of regions - from leaders to outsiders.	64	Ministry regional development, construction and housing and communal services economy of Ukraine (2015)

Sources: [16, pp. 249-250]

Based on the analysis of the information provided in the reports of the World Economic Forum on "Global Competitiveness", the World Bank Group on "Doing Business", "Global Innovation Index", etc., scientists have systematized the main indicators of international assessments (Table 2) [16, P. 251-252].

Each of the indicators is used to determine the investment attractiveness, ease of starting and running a business, overall competitiveness, etc. At the same time, only a comprehensive assessment using a system of indicators makes it possible to assess the investment climate of a country, region, etc. In particular, a group of indicators is used to determine the investment component of economic security.

Table 2. List of international assessment indices taken into account by investors when choosing an investment country

Component areas economic security of the state	International assessments	Indicators and indicators
Macroeconomic	Global outsourcing attractiveness index	Corruption costs
	Investment attractiveness index	Corruption control
	Global outsourcing attractiveness index	Political risks
	Investment attractiveness index	Population growth
	Global outsourcing attractiveness index	Population aged 15-39 years
	Investment attractiveness index	Unemployment rate (%)
	Global outsourcing attractiveness index	Average annual salary
	Global outsourcing attractiveness index	Average infrastructure costs
Financial	Global Outsourcing Index attractiveness, Ease of Doing Business Index, Global Competitiveness Index	Total tax burden (% of income)
	Ease of doing business index	Tax payments (number, duration in hours)
	Ease of doing business index	Credit information index
	Investment attractiveness index	Public debt (% of GDP)
	Global Competitiveness Index	Inflation
Foreign economic activity	Global outsourcing attractiveness index	volume of foreign investment
	Investment attractiveness index	FDI per capita
	Global Innovation Index	FDI volume (% of GDP)
	Global Competitiveness Index	FDI and technology transfer
	Ease of doing business index	Exports and imports (duration in years)
	Global Competitiveness Index	Exports and imports (% of GDP)
Investment and innovation	Ease of doing business index	Company registration (number of procedures and days, cost)
	Ease of Doing Business Index, Global Competitiveness Index	Obtaining a building permit (number of procedures and days)
	Ease of doing business index	Connection to power grids (number of procedures and days, cost)
	Ease of doing business index	Property registration (number of procedures and days, cost)
	Global outsourcing attractiveness index	Ease of doing business
	Ease of doing business index	Shareholder rights protection index
	Global Competitiveness Index	Investor protection (0-10)
	Global Innovation Index	Expenditure on education (% of GDP)
	Global Innovation Index	Research expenditure (% of GDP)

Sources: [16, P. 251-252]

The investment attractiveness index is based on three main components: economic, socio-cultural, and political and legal. Each component includes up to eight indicators. When the values of individual indicators are normalized, they are used to calculate the overall index value for each of the above components as an arithmetic mean. Some indicators can be used to describe the "market attractiveness" and "location attractiveness" of a territory for production.

Along with the investment attractiveness indicators, the Global Innovation Index indicators are also defined and classified into groups (Fig. 2):

The indicators of the Global Innovation Index are divided into two groups of sub-indices, which include 7 subgroups:	The Innovation Input Sub-Index allows us to assess the elements of the national economy in which innovation processes take place (institutions, human capital and research, infrastructure, market development, business development);
	The Innovation Output Sub-Index reflects the actual results of such efforts (technology and knowledge and creative activity).

Figure 2. Groups of indicators of the Global Innovation Index [16, p. 103]

Of course, in order to invest and introduce innovative products, it is necessary to determine not only the investment climate and investment security at the country level, but also to diagnose business entities to determine the level of competitiveness of enterprises. Although the calculation of the Global Competitiveness Index indicators focuses on the macroeconomic environment, taking into account one of the groups into which the indicators of this index are divided (Figure 3), namely "business compliance with modern requirements, innovation", we consider it appropriate to diagnose business entities at the micro level, i.e., enterprises. After all, by accumulating information at the micro level, general and real information about the global competitiveness of countries is compiled.

The list of indicators of the Global Competitiveness Index is divided into three groups of sub-indices, which include 12 subgroups of components:	basic requirements (institutions, infrastructure, macroeconomic environment, healthcare);
	productivity enhancers (primary education, higher education and vocational training, efficiency of the market for goods and services, efficiency of the labour market, financial market development, technological readiness, market size);
	innovations and development factors (business compliance with modern requirements, innovations).

Figure 3. Components of the Global Competitiveness Index [16]

It is logical and appropriate to define the indicators of the Ease of Doing Business Index, which are grouped into ten categories and are based on the accessibility and simplification of the procedure for registering enterprises, obtaining a construction permit, lending, registering property rights, taxation, enforcing contracts, conducting international trade, etc. Optimal values of these indicators lead to an influx of investment into the country for registration and business.

At the same time, the Index of Economic Freedom is a necessary component, which is determined by the following components (Fig. 4) [16]:

The Index of Economic Freedom focuses on four key aspects of the economic environment and measures 12 specific components of economic freedom:	Rule of law (property rights, efficiency of the judiciary, freedom from corruption)
	limited government (fiscal freedom, public spending, financial health)
	regulatory efficiency (business freedom, labour market freedom, monetary freedom)
	openness of markets (freedom of trade, freedom of investment, financial freedom).

Figure 4. Components of the Index of Economic Freedom [16]

Indicators of investment climate conditions in the context of their impact on economic security also include (Table 3):

Table 3. List of indicators

Title	Characteristics
Gross fixed capital formation (monetary value, percentage of GDP, growth rate)	This indicator reflects the level of formation of funds for the development and renewal of the production base and infrastructure as the country's potential. A value of more than 30% of GDP is considered optimal for this indicator. The source of information is the State Statistics Service of Ukraine's Gross Domestic Product of Ukraine express releases
Capital investments (monetary value, % growth, structure by industry, sources)	Reflects the expenditures of enterprises on fixed assets that wear out as a result of operation and require periodic renewal. This indicator reflects progress in all sectors of the economy. The source of information is the statistical collection of the State Statistics Service of Ukraine "Capital Investments of Ukraine"
Ratio of newly added fixed assets to capital investments (percentage)	Reflects the renewal of the material and technical base and the increased ability of domestic enterprises to produce competitive products. A value of more than 85% is considered optimal. Source data are provided in the statistical bulletins of the State Statistics Service of Ukraine "Balance of fixed assets of Ukraine" and "Capital investments of Ukraine"
FDI (monetary value (USD), % growth, ratio of net growth to GDP, structure by country, sector)	FDI is a long-term investment in tangible or financial assets in a country from abroad, and thus its volume reflects the competitiveness of current investment conditions, investor confidence in the long term, etc. Despite all the positives that FDI brings, there are a number of risks, including the displacement of domestic producers from the market, including from the most profitable industries, the location of environmentally harmful industries in the host country, the consolidation of an irrational (mainly raw material) economic structure, etc. The relevant risks are crucial for each country in determining the optimal values for FDI volumes. As for the ratio of net FDI growth to GDP, a value of more than 7% is considered optimal. The source of the initial information is the publication of the National Bank of Ukraine "Balance of Payments and External Debt of Ukraine" and the express releases of the State Statistics Service of Ukraine "Gross Domestic Product of Ukraine"
Degree of renewal and depreciation of fixed assets (% and rates by type of economic activity, region)	Depreciation, which occurs as a result of the operation of fixed assets, characterizes the deterioration of their technical condition, reduction of their suitability and loss of value. Optimal values of depreciation of fixed assets are usually differentiated by types of economic activity. For example, for industry, construction, transport and communications - 30-40%, and for agriculture - 25-35%. Relevant data are provided in the statistical bulletin "Balance of Fixed Assets of Ukraine".

Sources: [16]

These indicators make it possible to accumulate general information for assessing the economic security of the country, regions, and enterprises in various areas and to diagnose the real state of business entities.

International experience shows that for stable and optimal economic development of the state, it is necessary to attract direct investments at the level of 6% of gross domestic product annually. This principle determines the level of investment security [17]:

$$Lis1 = \frac{FI}{GDP} \text{x} 100 \geq 6\ \%, \qquad (1)$$

where Lis1 - the level of investment security in percent; FI - the inflow of foreign investment into the country's economy for the period under review in monetary terms (Table 4); GDP - gross domestic product for the period under review (in monetary terms).

Table 4. Key quantitative assumptions of the forecast (conditions for the development of the economy over the forecast period)

Name of the indicator	2020	2021	2022	2023	2024
Net inflows/outflows of foreign direct investment (according to the balance of payments methodology), USD bn	"-"1,0	1,5-2	3-3,5	4-4,5	5-5,5

According to the official data of central banks, Focus Economics, Trading Economics, as of 31.01.23, the following data on investments from non-residents were determined (Fig. 5) [18]:

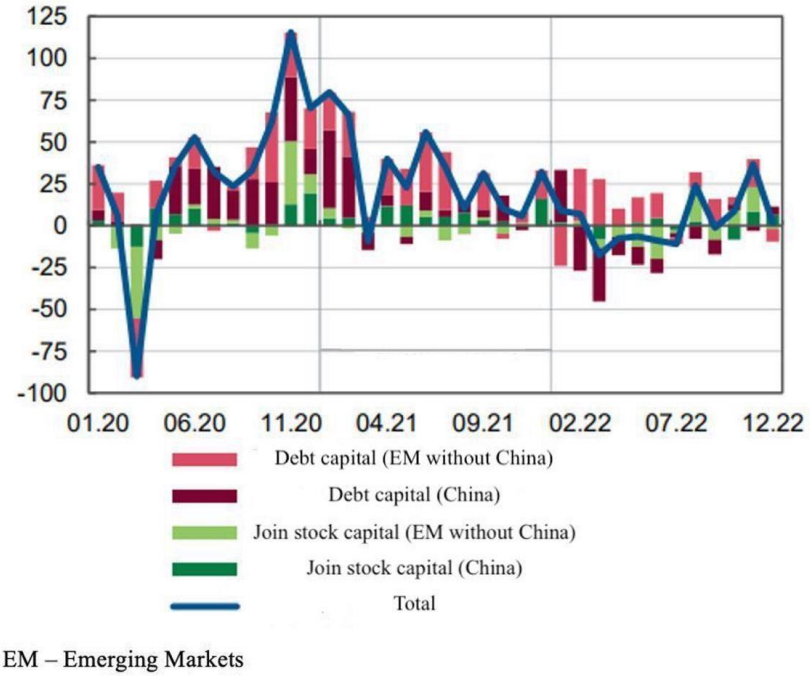

Figure 5. Net portfolio investment flows from non-residents, USD bn [18]

The occupier's attack on the country's energy infrastructure at the end of 2022 had a global impact on the suspension of Ukraine's economic recovery. The NBU estimates that in 2022, Ukraine's economy contracted by 30.3% (% year-on-year,

annual change compared to the corresponding period of the previous year). In such difficult conditions with high security risks, Ukraine's economic activity will slow down in 2023, which will affect the insignificant marginal growth of real GDP by only 0.3% (Figure 6) [18]:

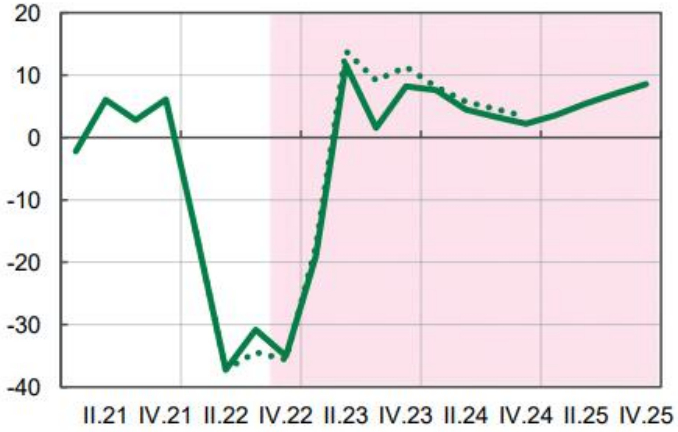

Figure 6. Real GDP, % y/y [18]

It is worth noting the gap between the actual GDP and the potential GDP (Figure 7) [18]:

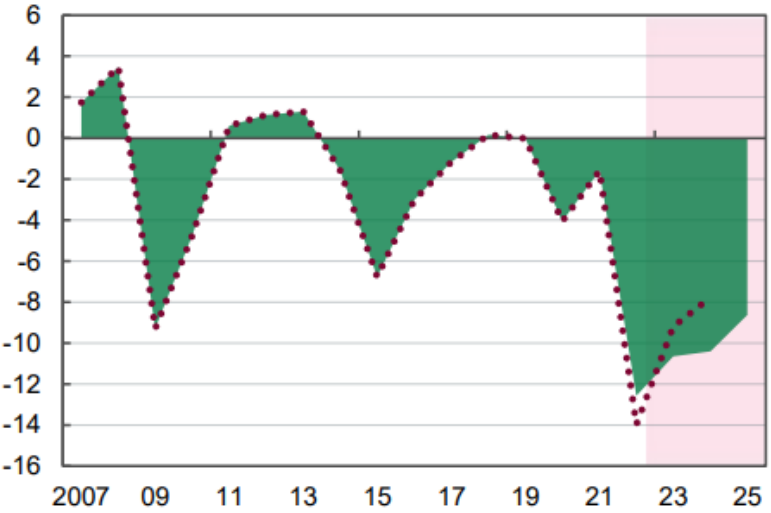

Figure 7. GDP gap, % of potential GDP [18]

In the third quarter of 2022, the 30.8% y/y decline in GDP, according to the State Statistics Service of Ukraine's preliminary estimate, was lower than the NBU's October estimate. Businesses were setting up logistics, relocating enterprises, and expanding online services (Figure 8) [18]:

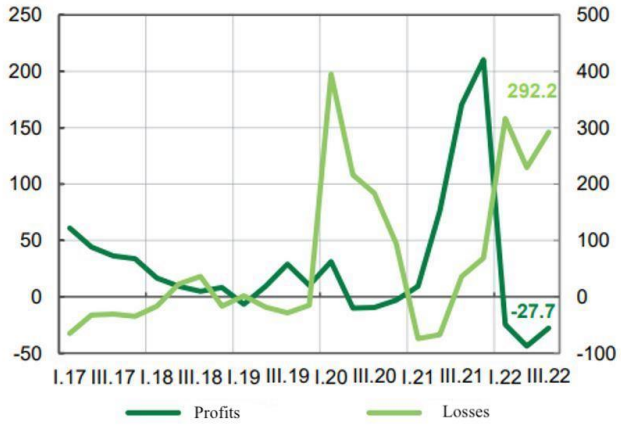

Figure 8. Profits and losses of large and medium-sized enterprises, for the period, % y/y [18]

Ukraine's economic activity in 2023 will be weak, and real GDP growth is forecast to be only marginal, at 0.3%. Although businesses and consumers have partially adapted to the war and energy supply problems, the prolongation of the period of high security risks will have a negative impact on consumers and investment sentiment, which will ultimately hamper the country's economic recovery. Private consumption growth will only be possible thanks to significant amounts of international aid that will flow into the Ukrainian economy and be redistributed through its budget.

The moderate growth in GDP forecasts will be driven by the adaptation of Ukraine's economy to the new realities of today, and in the future - by the acceleration of European integration processes. However, in 2022-2023, it will not be possible to compensate for the costs of restoring production facilities due to destruction and damage. It will also not be possible to establish and restore technological chains and return the workforce from abroad during this period. Insufficient investment will constrain the growth rate of potential GDP. Real GDP over this period will be lower than its potential level due to a weak labor market, a slow recovery in domestic demand, and logistical difficulties (Table 5).

Table 5. Key macroeconomic parameters according to the NBU forecast as of January 2023 [18]

Indicator	2023	
	The cabinet of ministers of Ukraine	National bank of Ukraine
Nominal GDP, UAH bn	6 279	5 985
Real GDP, % y/y	3.2	0.3
Consumer price index, % (December to December)	28.0	18.7
Exports of goods and services (USD billion)	61.3	49.0
Import of goods and services (USD billion)	76.6	99.9
Exchange rate, UAH/USD (average)	42.2	-
Nominal average salary, UAH thousand	18.3	17.6

Thus, high risks will remain in the country for an indefinite period of time, which will continue to negatively affect Ukraine's investment attractiveness.

Currently, Ukraine's economy is largely dependent on international aid, which will remain the main source of funds for a long time to come (Figures 9 and 10) [18]:

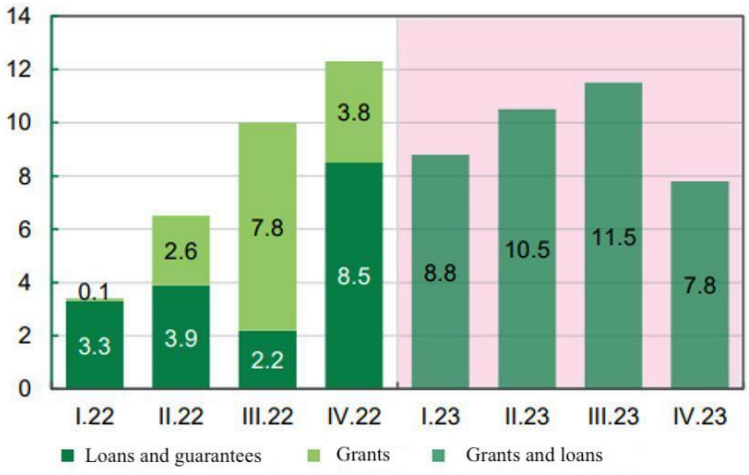

Figure 9. International financial assistance, billion USD [18]

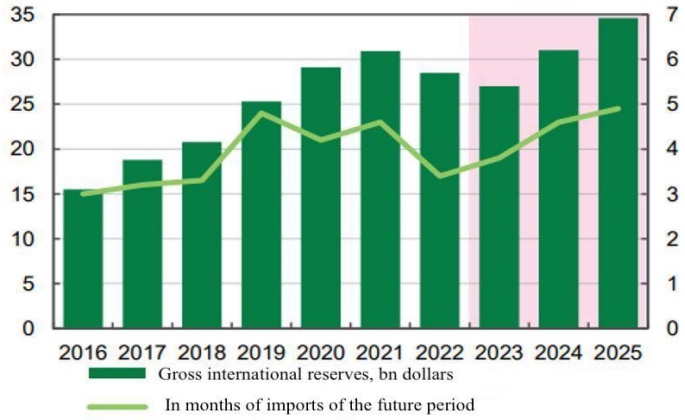

Figure 10. Gross international reserves [18]

As can be seen from the research results, it is very difficult to predict the future scenario of events in Ukraine, and even more so to calculate the forecast macroeconomic indicators. All this has a negative impact on the level of investment security. Consequently, the state should develop a program to overcome the crisis, reduce risks and restore the country's economy (Figure 11).

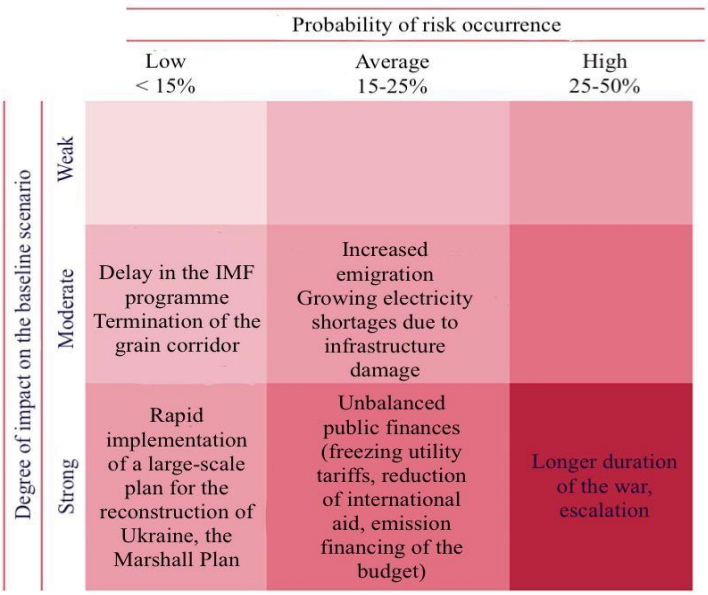

Figure 11. Scenario of Ukraine's economic development under the influence of real risks [18]

The extraordinary and difficult situation in which Ukraine's economy finds itself requires a new conceptual approach to assessing the investment security of the state, regions, and enterprises (Figure 12).

This conceptual model for assessing the investment security of the state and enterprises takes into account the realities of today: first, it is necessary to take into account the high risks inherent in the Ukrainian economy under martial law. Secondly, when assessing investment security, emphasis should be placed on the use of internationally assessed indicators, which is appropriate in the context of international financial assistance to Ukraine, sluggish GDP growth, logistics for export-import operations, solvency and increased competitiveness of domestic enterprises, etc. Third, it is necessary to segment the country's territory into investment-attractive and more or less safe regions. After all, when assessing investment security, it is currently relevant not only to assess the investment security of projects in each strategic economic zone, but also to choose it depending on security. Most importantly, it is necessary to ensure effective state regulation of the investment component of the country's economic security with the development of a plan for the recovery and development of Ukraine during the war, which is a basic component of the modern concept of investment security of the state, regions, and enterprises.

The government is developing plans and strategies for the recovery and development of Ukraine (Table 6). The main task is to make a triple leap from a transitional economy ($4,000 GDP per capita per year) to a developing economy ($12,000 GDP per capita per year). And, most importantly, to go this way in about 10 years, i.e. in half a generation. In practice, this means creating a Ukrainian economic miracle - growth of 7% of GDP annually for a long period of time [19].

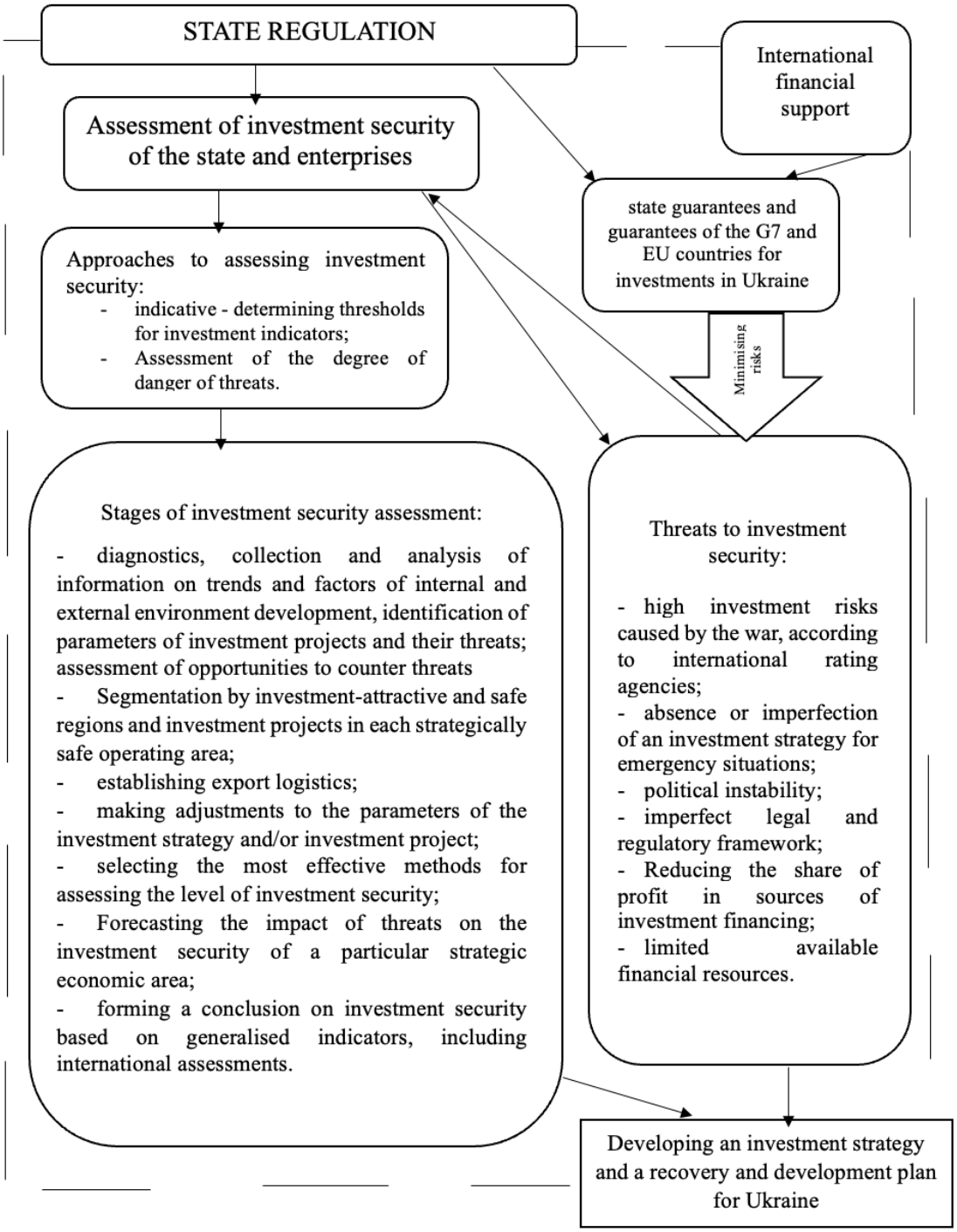

Figure 12. Conceptual model for assessing the investment security of the state and enterprises in times of war (systematized by the author)

Consequently, Ukraine is actively countering Russian aggression and developing plans for economic recovery and development. The tremendous support of the international community has helped to keep the country's economy moderately stable. However, the future outlook is not encouraging given that the war may continue. Therefore, it is necessary to develop and implement measures to stabilise economic processes at the national, regional and enterprise levels. One of the most important components is attracting investment into Ukraine's economy.

Table 6. Measures of the Recovery and Development Plan of Ukraine

Stages	Characteristics
The first step to economic growth is to achieve the optimal size of the state	In Ukraine, GDP before the war averaged 40-45%. For example, in the United States, GDP was 25-30%, and in China, 10-11% during the years of rapid economic growth. It is planned to reduce the fiscal percentage of GDP in Ukraine from 45% to 30% from 1 January 2023, despite the war, and then steadily reduce it over the next 10 years to 20% in 2032. In times of war, it is important to determine the real "size" of the state, as many Ukrainian citizens have gone abroad due to the war, but at the same time, state social payments continue. It is difficult to control the activities of enterprises and their payment of taxes on real income, etc. In order to achieve the optimal size of the state, it is proposed to carry out a liberal tax reform with the adoption of a liberal labor code (some of its elements have already been introduced by the state in wartime), as well as to carry out a major reform of social benefits based on a single digital register.
The second step is economic diversification through small and medium-sized businesses	Developing and implementing an economic structure where the main contribution to GDP is made by small and medium-sized businesses (SMEs). Poland, the Czech Republic, the United Kingdom, and the United States are following this path.
The third step is a free regulatory environment	Introduce a state policy based on the Free Steppe philosophy, when an entrepreneur can do anything that does not violate the freedoms of others and does not endanger society. The government launched a large-scale deregulation even during the war: more than 500 permitting procedures were converted to a declarative principle, according to which an entrepreneur simply reports that he meets all the existing requirements and can start operating. The current legislation provides for only 5 types of permits, while in reality there are 14. Most of these permits and licences are to be cancelled. Restore common sense to the relationship between the state and business.
The fourth step is the rule of law	In the longer term, the government plans to continue judicial and law enforcement reform, which is also a prerequisite for Ukraine's accession to the EU. It is also planned to use the experience of foreign countries, in particular, British law in relations with each other and with the state of Ukraine. This will be a strong argument for foreign investment, which will be protected by the rules of law that meet international standards.
The fifth step is the export model of growth	To reorient the vector of economic development and export-import operations: to develop industrial processing and reverse the proportions: export 75% of finished products and services and only 25% of raw materials. It is important to establish export logistics in Ukraine so that companies can sell their products abroad and make a profit. To achieve this, it is necessary to invest in infrastructure, transport interchange, etc.
The sixth step is intensive capital investment in industry	For economies with low levels of fixed asset accumulation, capital is crucial and more modern equipment is needed to increase output. Without foreign direct investment, this task is almost impossible. Ukraine needs investment now more than ever, without waiting for the war to end, but military and political risks are holding it back. The state has two solutions. 1. Increase lending by Ukrainian banks on the basis of state guarantees. Decisions are being prepared to provide Ukrainian state guarantees to destroyed enterprises to attract bank loans for reconstruction. 2. State guarantees of the G7 and EU countries for investments in Ukraine . For example, French companies could receive French state guarantees against military and political risk to open businesses in Ukraine. Ukrainian companies

Stages	Characteristics
	with a 20-25% stake could act as partners for French investors, ensuring local coordination. The guarantees should cover military and political risk (the French government pays compensation to the investor in case of loss of an asset). For its part, if the French government is forced to pay out money under the guarantee, it gets the first right to compensate for this payment with confiscated Russian assets. State guarantees are planned in the amount of 0.2% of GDP of each G7 and EU country for 5 years, which is approximately USD 100 billion annually.
The seventh step is to develop land logistics to Europe	It is planned to create export logistics capacity (approximately 200 million tons) by road and rail. Priorities: - Reducing the cost of transportation; - Increasing the capacity of border and customs control points, - speed of customs procedures, - availability of transport. The government is establishing agreements with neighbouring countries on new checkpoints and more customs officers on their side (the Ukrainian side has reached the maximum possible speed, so the restriction is on the passage of vehicles and wagons from the European partners).
The eighth step is to further reduce the size of the state in the economy through mass privatisation	The transfer of state-owned enterprises to private ownership through privatisation is another impetus for economic growth, as each facility is a potential platform for creating new production or maintaining existing production. This will result in a small number of powerful large state-owned enterprises that are either monopolies (such as the Ukrainian Sea Ports Authority, which owns the quay walls, and Ukrzaliznytsia) or perform a social function (such as Ukrposhta, which delivers pensions to all parts of Ukraine).
The ninth step is to develop the social sector through public-private partnerships	The government's focus on public-private partnerships in rebuilding the country's infrastructure. Under a public-private partnership, a private partner receives state or municipal property in the condition it is in after the destruction, repairs it at its own expense and makes it modern, uses it for its intended purpose to recover its investment, and then transfers the property back to state ownership in a good condition. Despite significant improvements in PPP legislation in recent years, the number of objects actually transferred to private partners under PPPs is insignificant. One of the reasons is the very long project preparation period, which, according to the current law, is up to 2 years. The government has prepared amendments to the law on public-private partnerships. The President's Office, the Ministry of Regional Development and regional administrations are currently creating an electronic catalogue of facilities that need to be restored, which will serve as a source of proposals for investors to participate in public-private partnerships.

Sources: [19]

Attracting investment in Ukraine's economy and creating a favourable investment climate is currently a necessary and important aspect of the development of the state, regions, individual industries and enterprises. Attracting investments will help the economy to recover from the crisis, ensure the emergence of new technologies, capital renewal and modernisation of fixed assets, renewal and modernisation of old technologies through innovation, improve key macro- and microeconomic indicators, etc.

The country's economy is currently in a difficult economic situation. A large number of large enterprises, which were the main taxpayers, either ceased to function or switched to minimal activity as a result of the attack and destruction. The blocking of the possibility of exporting products by sea had a major detrimental impact, as land routes were not adapted to the transportation of goods (non-compliance of railway transport and tracks with European standards, high transportation costs, etc.) Another understandable but detrimental factor is that foreign investors do not risk investing in the Ukrainian economy when the country is at war.

Currently, the state leadership is expected to take prompt and effective actions to improve the legislation of Ukraine, taking into account the extraordinary conditions of martial law, and to develop and implement economic reforms, one of the priority areas of which is effective investment activity. To implement such actions and measures, it is necessary to use marketing tools that ensure the implementation and promotion of ideas, concepts, and views. This is all the more important when it comes to stimulating Ukraine's economy, manufacturing new competitive products, maintaining market positions, and creating the image of Ukrainian companies in the international arena, which will ultimately lead to investment attractiveness and a favourable investment climate in the country. The issue of risks, which are a fact of today's reality in Ukraine, should also be incorporated into the country's economic development strategy. All of this points to the need to develop new thinking and new approaches to the development of the country's development strategies, and today we believe that the use of marketing tools and market research will help bring the country to a new level, and with the help of effective investment marketing - to attract investment.

It is worth noting that before the war in Ukraine, this process had already begun and there were successful attempts in the field of investment marketing, which allowed to form a positive investment image of many regions of Ukraine. However, today the situation has become more complicated and the marketing tools, algorithms, concepts, etc. that were previously used effectively now need to be adjusted and improved, given the complexity of the situation caused by the war.

The first thing to start with is to build an investment marketing "goal tree" that takes into account the specifics and current state of economic processes in Ukraine (Figure 13).

Marketing activities traditionally involve studying the demand for a particular product, market segmentation with the subsequent selection of a target segment for investment, development of a product policy and market strategy. At the same time, one of the most important aspects today is the development and establishment of export-import logistics, which will allow for the free and reasonable export of products of domestic enterprises and import of necessary goods to Ukraine on acceptable terms and at reasonable prices. That is why the proposed scheme (Figure 13) focuses on ensuring export-import logistics, the development of which will allow the formation of traditional and new investment marketing goals.

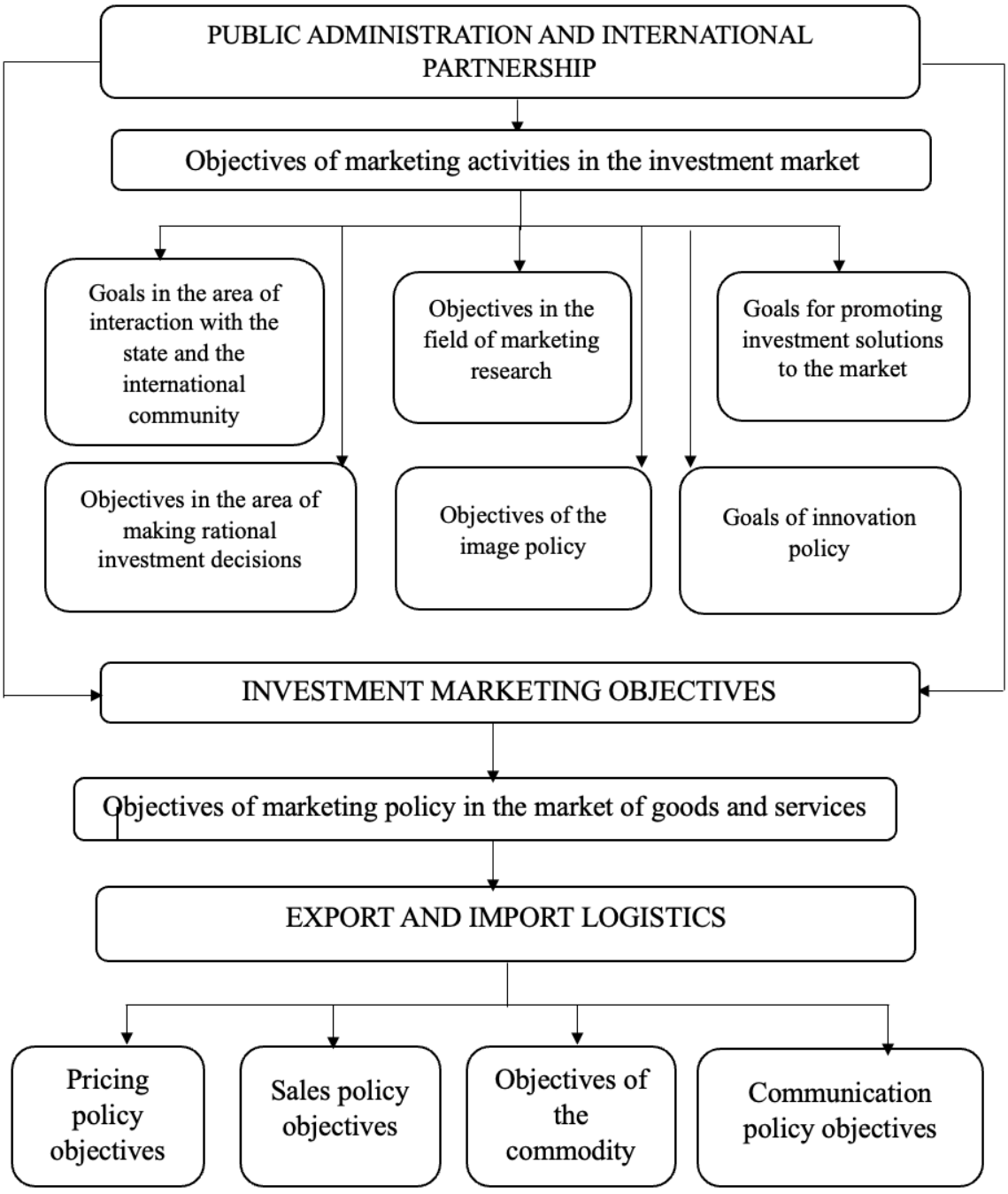

Figure 13. "Goal tree" of investment marketing in times of war

Today, in the context of the war in Ukraine, it is impossible to create an effective export-import logistics system without close cooperation with international partners and their support. Ukraine receives enormous financial assistance from foreign partner countries, so this aspect should be taken into account at the state level when developing the state investment policy.

It is important that domestic enterprises and entire regions are attractive and safe for investment. To this end, market research should focus on security, risk minimisation, company image, innovation policy and rationality in investment decision-making. That is, on the basis of investment marketing, adapted to the

realities of today, a cognitive space is formed for the investor to make informed decisions about investing funds (Figure 14) [20; 21]:

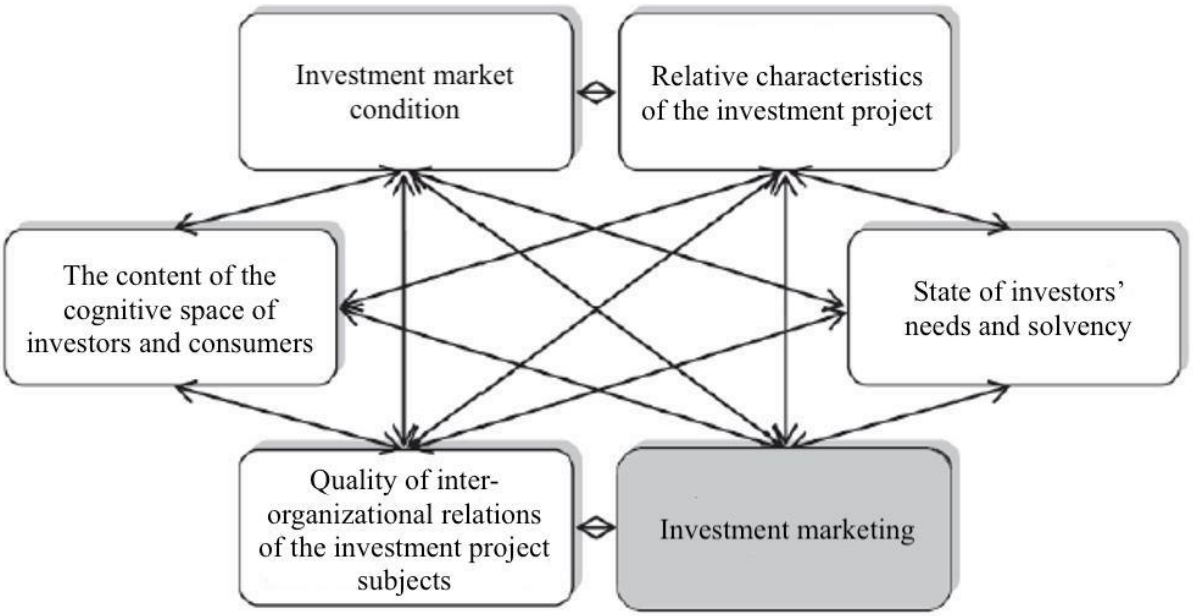

Figure 14. Determinants of competitiveness of enterprises in the investment market [20; 21]

The goal of investment marketing is to ensure that projects are highly attractive. It is important to adhere to the principle of alternative and optimal marketing solutions. It is with the help of investment marketing tools and on the basis of market research that possible ways to attract investment are developed. As a result, investment marketing strategies are formed that aim to increase market share using the main factors of marketing activity (Figure 15):

Investment marketing strategies take into account:	
forecasts of the investment environment (pessimistic, optimistic, realistic, force majeure);	The "spyglass" strategy is based on a careful study of the business space from a distance using mechanisms and technologies that do not allow you to recognise your actions and ideas in advance
changes in the structure of investment market segments;	
possible dynamics of price and cost changes; real and forecasted models of competitors' marketing behaviour	The "boarding" strategy is defined by determination and pressure

Figure 15. Investment marketing strategies [22]

Developing an investment marketing strategy for entering the market with a new investment project is one of the main planning stages. Moreover, the availability of such a strategy, business tactics, where the main indicators for a particular investment

project are analyzed and forecasted, and all possible risks are taken into account (Figure 16), is currently a mandatory requirement for attracting investors [23].

Methods of risk factor analysis:	analysis of the project's sensitivity to performance indicators;
	calculation of the break-even point;
	a simulation model for risk assessment;
	methods of formalised description of uncertainty (analysis of development scenarios or construction of a "goal tree")
	method for calculating the risk adjustment to the discount rate

Figure 16. Risk assessment methods [23]

Investment marketing is based on a number of principles that ensure its effectiveness (Figure 17) [21]. As a result of their observance, an effective and efficient management system is formed, which makes it possible to gain competitive advantages, form investment attractiveness with rational use of resources, develop an optimal structure of actions and measures, etc. Without market research and development of an investment marketing strategy, without attracting interest and providing investors with appropriate and relevant information on the feasibility of investing in a particular object, it is very difficult to attract investment, especially foreign investment.

Principles of investment marketing:	1. The principle of full provision of resource potential for the existence of economic entities and ways to use it. Ability to ensure investment activity in the optimal amount and create a mechanism for modifying investment resources into investment objects.
	2. The principle of target orientation and complexity. It means integrating all elements of activity into a single investment process. Complexity means that the use of marketing actions alone will not produce the synergistic effect that is present in the marketing system. Complexity guarantees a combination of: The 4Ps of classical marketing; two areas of activity - the traditional market for goods and services and the investment market; the interests of all investment market participants and the creation of interconnected conditions for all parties to the investment process.
	3. The principle of multivariate and optimal marketing decisions.
	4. The principle of timely implementation of investment projects based on the time factor. Reflects the readiness of marketing investment measures for practical application.

Figure 17. Principles of the investment marketing concept [21]

As already mentioned, marketing research plays an important role in investment marketing and is a comprehensive diagnosis involving the collection, processing and analysis of information. The traditional interpretation of this concept is as follows: "it is the collection, processing and analysis of data on the market, competitors, consumers, prices, internal potential of the enterprise in order to reduce uncertainty and accompanying marketing decisions" [24, p. 10].

Currently, trends in marketing research are being studied quite actively, as foreign and domestic communities have finally realized the need to use marketing tools in economic activity (Figure 18) [25]:

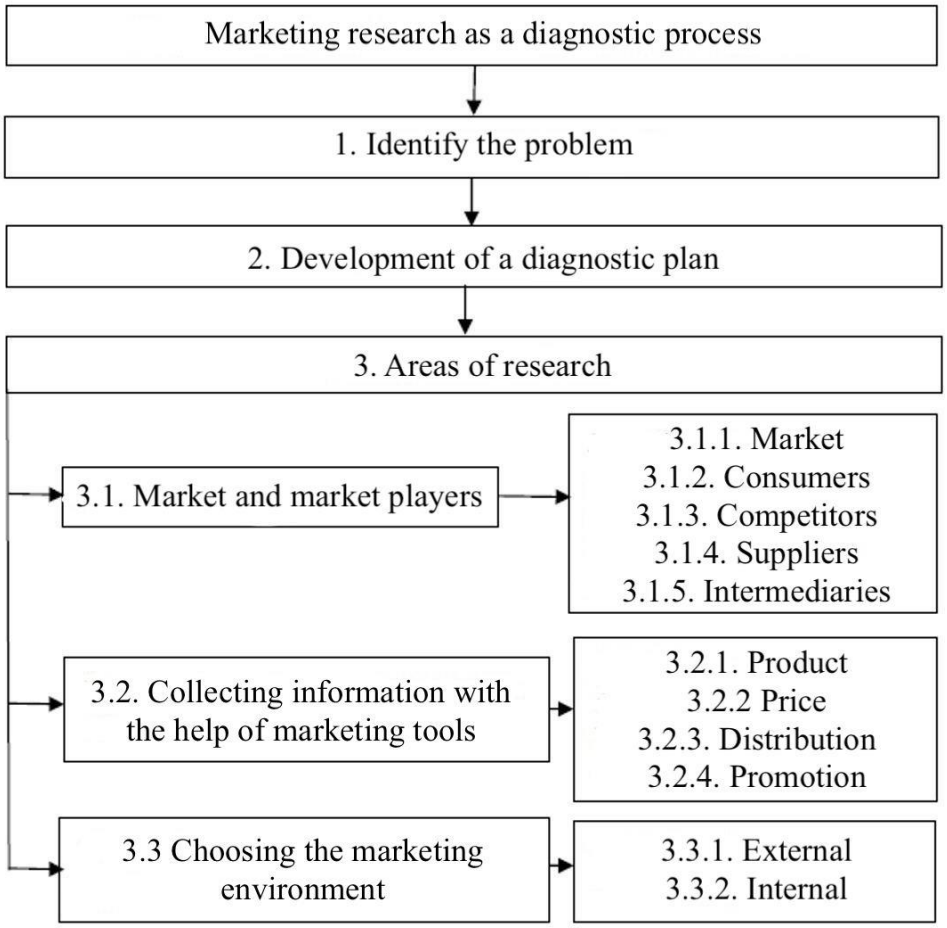

Figure 18. The classic mechanism of marketing research [25]

The generally accepted scheme for conducting marketing research begins with the main stage - defining the problem and developing a plan. Depending on the problem or bottleneck, the areas of marketing research are determined, which can be either comprehensive or focused on a single object. It should be added here that today one of the mandatory areas of research should be risk assessment related to the situation in Ukraine and the world. The harsh realities of today lead to the emergence of new unpredictable and uncontrollable risks for any sector of the economy, for the state, for society. Therefore, this area should be separated into separate blocks using modern international analysis tools.

That is why we consider it expedient to first consider the procedure of "choosing the marketing environment" (Figure 18) with a detailed analysis of the internal (production and sales volumes, management, marketing, finance, performance indicators, achievement of goals, effectiveness of marketing programs) and external (state of the economy, development dynamics, regulatory framework, demographic situation, production technologies, foreign economic activity, export-import logistics, international financial assistance, etc.

Focusing on the need to establish trade with EU countries, special attention should be paid to marketing research on demand for goods, prices for goods, distribution, and promotion.

The concept of "product-market-fit" (attributed to the scientist Adressen), which literally translates as market fit or product compliance with the market, is more relevant than ever. He noted that a product should satisfy the market and in no case spoil it with a low-quality or even "unnecessary" product [26]. Today, the whole world is facing the problem of limited resources, significant savings, price increases, etc., so for the efficiency of economic processes, it is necessary to study in detail the infrastructure of the commodity market, demand for goods, quality, and competitiveness. It is important to study commodity prices, because today there is a tendency for them to increase, which will only gain momentum in the near future.

An important tool is product promotion, which traditionally includes research on promotion methods, sales promotion, consumer behaviour, use of advertising, its effectiveness, etc. Today, this tool is the most popular, due to the use of Internet technologies (digital marketing) - digital channels for attracting and retaining customers: from online radio advertising to contextual advertising on the Internet (Table 7).

The development of digital tools is not stopping, but rather growing at a rapid pace. These tools include corporate website development, media advertising, online game advertising, and banner advertising.

Of course, when talking about digital marketing, we cannot but mention the popularity of viral marketing, which is often referred to as one of its tools. This method has gained particular popularity due to the distribution of content on social networks using such functions as "share" or "like". However, according to many scholars [34], viral marketing is a separate type of marketing and is associated not just with the concept of "method of information dissemination", but with the research of scientist Jonah Berger in his work "Contagious: Why Things Catch On" [35]. Viral marketing is a way of influencing the target audience when the audience itself, consciously or unconsciously, promotes a brand, product or service [35, p. 11]. In his works, the scientist identified six principles of viral marketing (Figure 19).

Table 7. Main popular digital marketing tools

Tool name	Characteristics
Social Media Marketing (SMM)	a set of measures to promote products, companies, brands on social media [27, p. 110]. This contributed to the emergence of the following concepts: SMO - optimisation for social networks (attracting visitors to the website from social networks through the use of high-quality content); SEO - search engine optimisation (promotion of the website to the top positions in search engines to increase the possibility of the user's transition to the advertiser's website), SEM - search engine marketing (attracting targeted traffic to the website in order to increase its traffic, working directly on the website to increase its relevance to users, etc.) [28, p. 58].
Email marketing	is the use of email to promote products or services while developing relationships with potential customers or clients. Email is characterised by its low cost and, according to statistics, is a very effective element of product or service promotion. According to the Statista website, email reached 4.0 billion users in 2020, and according to statistical expectations, this figure will grow to 4.5 billion users by 2024 [29; 30].
Teaser advertising	is an advert that consists of text and a picture. The main task of such ads is to interest the user so that he or she goes to the website. The emphasis in such ads is on the image and the caption, which should arouse curiosity. Such ads often appear on the pages of search engines or on e-commerce platforms.
Targeted advertising	is online advertising that uses methods and settings for finding the target audience: demographic, geographic, time, etc. Unlike teaser advertising, targeted advertising appears on social media and is most often used on Facebook and Instagram [31, p. 759-760].
Contextual advertising	is a type of advertising in which ads are shown to users based on the content of their queries or pages. Such advertising requires investments, but the seller gets customers almost immediately after the launch of the advertising campaign. Regular budget investments in advertising and competent audience setup will help you to constantly get new customers. Thus, 33% of marketers make from 2 to 5 contextual advertising publications per month, 70% of companies increase their budget for video content, the popularity of infographics has increased by 80% over the past year, more than 80% of marketers use written content and plan to increase it [32, p. 24-25].
Blogging	is a modern method of product promotion based on blogger reviews, which is becoming the most popular online tool every year. With the right strategy, blogging can be an effective way to attract visitors and promote products. HubSpot research has shown that the more blogging you do, the more traffic you get to your website, which is a great tool for SEO. Today, there are more than 570 million blogs on the web. The number of bloggers in the US alone will reach 31.7 million users by 2020 [33].

Principles of viral marketing:	1. Social currency to get people to talk about something, you need to craft a message that will help create the desired impression. You need to find a special characteristic, the knowledge of which will make people feel involved in a narrow circle. This principle involves using the mechanism of play to show the path to achieving a higher position and provide visible status symbols that can be shown to others.
	2. Triggers - stimuli that encourage people to think about related objects.
	3. Emotion. People are always eager to share things that excite them, as viral content provokes a feeling. If a product or service evokes positive emotions of high activation (awe, excitement, fun) or negative emotions (anger, fear), people will talk about it and share information. If the emotions are positive or negative, but characterised by low activation (satisfaction, sadness), no one will remember the product or service.
	4. Society or publicity. The famous English proverb "monkey see - monkey do" illustrates that what is easy to see is easy to imitate, so it is easier to make popular
	5. Practical value is the simplest of the virality principles, because if the product is of high quality and its packaging is practical, then such a product will be in demand
	6. Stories, "people love to tell stories", so virality should be valuable.

Figure 19. Principles of viral marketing [35]

Conclusions. Thus, in the era of digital technologies, most marketing research is carried out using Internet resources associated with such definitions as "product-market-fit", "digital marketing" and "viral marketing".

It is important that such technologies used as market research tools are not used as cyberattacks or for propaganda, distortion of information, dissemination of false information, etc. During the period of confrontation with the aggressor country, it is important to have a stable and strong economy, which is a very difficult task during the war in Ukraine. It is more important than ever to use marketing tools to create investment attractiveness of the country, regions, domestic enterprises, etc [36]. And since Internet technologies currently prevail in all spheres of society, in economic processes in doing business, etc., investment marketing should be based on such marketing research tools. And this is where the issue of ensuring the country's economic security arises, including in the context of the investment component [37]. After all, among the hostile intentions, the priority is to destroy the economy of Ukraine, to counteract the attraction of foreign investment in the country, which can be done using marketing moves and tools.

Ukraine's economy has long been in the process of reform, improvement to meet European standards, improve the lives of the population, develop domestic production, etc. Such global changes required, first of all, public administration reform [38]. Long-term cooperation with foreign partners and international cooperation has made it possible to apply new standards and new approaches to public policy making, economic development, and ensuring Ukraine's economic

security. However, the new reality requires the government to take more decisive and progressive actions and measures to establish and develop the country's economy. Without attracting foreign capital, it is difficult to predict the further development of Ukraine's economy, as the main source of funds is currently international financial assistance from the EU and the US.

It is important to create an investment-friendly climate in Ukraine, even in the midst of military operations. This process is very complex and, in the opinion of many experts, impossible. However, the government is currently negotiating with European countries to provide guarantees to investors to minimize their risks and ensure proper insurance, to establish export and import logistics with neighbouring countries on acceptable terms for all participants, etc. All these processes require extensive marketing research using modern tools used in the practice of the world's leading developed economies.

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