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MODELING ECONOMIC COMPONENT OF NATIONAL SECURITY

Abstract. The national economic security is a complex and multilevel structure. In addition, it is an integral characteristic of the state of the economic system, since the system includes a number of subsystems – the most important, interconnected structural components of economic security, reflecting the functioning of the economy separate sectors. The main task of the state is to ensure a guaranteed level of security for all its constituent components, including methods of neutralizing the negative impact of internal and external threats. The dynamics of such macroeconomic indicators as: gross domestic product, inflation, money supply have been investigated. The volume and level of expenditures on national defense financing are analyzed, which testify to the provision of the necessary conditions for the country's defense capability. An integral index of the country's economic security has been constructed and factors that have a negative impact on the level of economic security of the country have been identified. The comparison of the state of economic development of Ukraine with other countries of the world by the index of global competitiveness, the quality of population's life, the level of social development and military power has been made. A multi-factor multiple regression model of Ukraine's economic security has been constructed and factors have been identified that play a significant role in threatening the country's economic and national security.

Keywords: national security, national economic security, threats to economic security, modeling of national security, military power of the state, globalization processes, integral index, regression model

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Introduction. National security concerns the interests of many countries. In the current conditions of the country's economic development of problems of internal and external character that lead to deterioration of economic and national security become relevant and need to solved. Therefore, measures should be taken to identify and prevent major threats to Ukraine's national security.

Economic security of the country is an important component of the national security system, which forms the protection of national interests, provides sustainable socio-economic development in the country, forms a mechanism to counter internal and external threats, contributes to improving the population living standard and the development of the system of international economic interdependence.

The novelty of the work is to build a multifactorial multiple regression model of Ukraine's economic development and to identify factors that play a significant role in making threats to the country's national and economic security.

The rate of economic growth depends on the country's economic strength, the population's living standards, the implementation of social programs, the success of competitiveness in the world market. Therefore, economic growth, namely the growth of gross domestic product (GDP), is the main content of economic development and one of its most important components. The GDP dynamics of Ukraine in 2010-2020 (State Statistics Service of Ukraine, 2021; Financial portal of the Ministry of Finance of Ukraine, 2021) is displayed in Fig. 1.

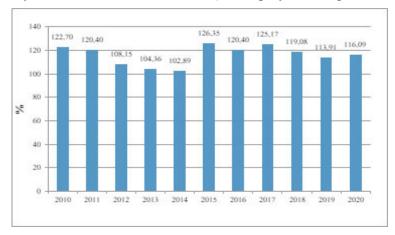


Figure 1 – Dynamics of Ukrainian GDP of 2010-2020 (in % to the corresponding period of the previous year)

(Source: built by the authors according to the data (State Statistics Service of Ukraine, 2021; Financial portal of the Ministry of Finance of Ukraine, 2021)

Analysis of GDP threshold vectors, where the value of real GDP growth of 2% is taken as the lower threshold; lower and upper optimal – 5 and 8% growth of real GDP; for the upper threshold – 13% (Yu. Kharazishvili & E. Drones, 2014, 117 p) showed that in Ukraine in 2010, 2011 and 2015-2020 there is a significant excess of the upper threshold (Fig. 1), which negatively affects the country's economy. Anti-inflation policy methods must be used to stabilize the economy. A significant indicator for assessing the state of the monetary area is also the level of dollarization of monetary circulation, because the high value of this indicator will testify to the dependence of the national economy on fluctuations of the foreign exchange rate, in particular the US dollar. The level of inflation is also a determinant of the level of internal stability of the country. The inflation is reflected in rising prices, which causes a depreciation of funds of economic entities and the population.

One of the most important indicators in the national security system is the volume and level of expenditures for financing national defense (Fig. 2), which indicate the government's desire the to provide the necessary conditions

for the country's defense capability (Financial portal of the Ministry of Finance of Ukraine, 2021). The world practice of financing national security allows to distinguish three main approaches to the formation of military doctrine: 1) complete abandonment of military expenditures; 2) building of a powerful military superpower; 3) funding defense based on the principle of minimum sufficiency.

The main task facing the Armed Forces of Ukraine today is to protect sovereignty, independence, territorial integrity. The Constitution of Ukraine (2021) establishes as one of the most important functions of the state, which is the cause of the whole Ukrainian people, the protection of the sovereignty and territorial integrity of Ukraine, ensuring its economic and information security (Article 17).

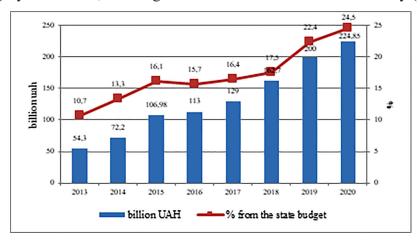


Figure 2 – Defense and law enforcement expenditures in 2013-2020

From 2013 to 2018, defense and law enforcement spending from the State Budget increased in 3.8 times (from UAH 54.3 billion to UAH 162.7 billion), which is 10.7% and 17.5% % of the total expenditures of the State Budget of Ukraine respectively. According to the forecast of the Ministry of Defense of Ukraine in 2019-2020 expenditures for the maintenance and development of the Armed Forces of Ukraine will increase and will amount to 200 and 224,85 billion UAH. respectively, which makes up at least 5% of the country's GDP and complies with the National Security Strategy of Ukraine and the Concept of Development of the Security and Defense Sector.

The need to increase the level of national security is conditioned by the challenges of globalization, which require increasing the country's economic and social level, improving living standard of the population and the international competitiveness of Ukraine.

Analysis of recent research and publications. During the last decades a lot of efforts have been aimed at the study of economic security of the country, regions, industries and enterprises. The economic development of a country depends on many of its components, the basis of which is to ensure an adequate level of security both from internal and external threats. The national economic security depends on the state of national security and the country's ability to generate and use its economic attractiveness to strengthen national values. The national economic security depends on many factors, which depend on global economic stability, the international economy, economic policy with other leading countries in the world, on human capacity building, scientific, technical and innovative activities in the country. For example, in the US, security is achieved not only by military means but also by the entire American economy (Nanto, 2011, p.78).

The United States could field an overwhelming fighting force and combine it with economic power and leadership in global affairs to provide far greater resources

than any other country against any threat to the nation's security (Krepinevich, 2010).

This paper (Pugach & Matkovskiy, 2014) examines the existing threats to the economic security of Ukraine in the social area, where a relatively high level of poverty and a large differentiation in wages have been defined. This situation contributes to the catastrophic gap between the incomes of a relatively small proportion of the rich population and a predominantly larger proportion of the poor. In this regard, ensuring the economic security of Ukraine is considered in the development of a comprehensive policy on poverty eradication and the development of a strategy to avoid systemic threats to economic security in the country.

Economic security depends heavily upon (1) an economic growth rate sufficient to keep the unemployment rate low and provide opportunities for entrepreneurs, (2) US industries able to compete in international markets, and (3) US leadership in science, technology, and innovation (Levit, 2010).

To be economically secure, American families must work with good wages, be financially secure, and develop entrepreneurial skills. This is the kind of economic security that becomes national security. Only economic prosperity provides the new resources and technological innovations needed to create the world's most advanced armed forces. Economic security is national security, US tax, regulatory, energy and trade policies are now raising spending on defense, arms sales, and pursuing a strong defense policy that is one of President Trump's key strategies for security and prosperity of the country (Navarro, 2018).

The Gulf National Security Survey in 1990–2014, using panel data, showed that its national security was at a very low level and had a negative indicator, but foreign investment and trade factors had a positive effect on its economic growth (Asghari, 2017). The close link between military spending and economic growth in China in 1992-2010 has been proven through the use of econometric analysis and the making the model that shows that military spending is largely related to security which took place in the economy and affected its development in different periods, not vice versa (Dimitraki & Menla Ali, 2015; Chiwei et al., 2018).

Making a model using dynamic data for 106 countries in 1988–2010 (Dunne & Tian, 2014) and for 109 low-income countries in 1998–2012 (D'Agostino et al., 2019) showed that national security is represented in military spending for countries with different level of income, natural resources, conflict state does not affect economic development. That is, groups of countries with low level of living, low-income and other military spending do not affect economic growth or have a negative impact.

The allocation of military and non-military expenditures for developing economies is a major policy issue that can direct the pace of economic growth of Shahbaz, Afza, and Shabbir (2013). The macroeconomic theory has no clear link between defense spending and economic development (Dakurah et al., 2001). Other studies show that the causes are ambiguous and unconvincing (Kollias, Mylonidis & Paleolodou 2007, Wijeweera & Webb, 2009) (Kollias et al., 2007).

This article examines the work of many scholars concerning national security, but it is important that such study has not been in the research literature before, as far as the authors are aware.

The purpose of our article is to analyze the main components of Ukraine's national security, identify the problems that impede its economic development, formulate priorities that are aimed at stabilizing the national interests of the country and its security.

Formulation of the main material.

Methodological approach for the evaluation of the state's economic security level. Studies of many national scholars on assessing the level of national and economic security of Ukraine have become the basis for the elaboration, analysis, generalization of approaches, improving the methodology, innovative components of indicators of integrated assessment of the national economic security, the use of a wide range of proposed methods of justification of thresholds and calculations of the methods

presented in this paper (Kharazishvili & Drones, 2014). The methodology proposed by them makes it possible to compare the dynamics of the integral index with the integral thresholds on a single scale, that is, to correctly identify the state of economic security.

The national economic security is an integral characteristic of the state of the economic system, since the system includes a number of subsystems – the most important, interconnected structural components of economic security, reflecting the functioning of certain branches of economy: macroeconomic, investment, innovative, financial, social, foreign economic, energy, food, demographic one.

In Fig. 3 the dynamics of the level of integral indices of economic security of Ukraine and its components are displayed.

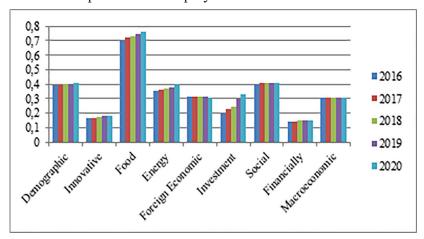


Figure 3 – Dynamics of the integral index of economic security of Ukraine and its components in 2016-2020

According to the projected calculations by 2020, according to the optimistic scenario of socio-economic development, only 3 components of Ukraine's economic security barely cross the lower threshold (macroeconomic, investment, energy one), 4 components continue to be below the lower threshold (innovative, foreign economic, social, demographic one), financial security balances at the bottom of the threshold and only one component – food in the forecast period is in the range of optimal indicators.

In Fig. 4 the dynamics of the weight coefficient of the integral index of the level of economic security of Ukraine in comparison with the lower threshold index.

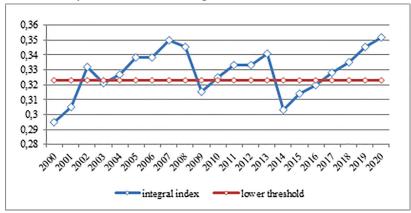


Figure 4 – Dynamics of the level of economic security of Ukraine in comparison with the lower threshold

Source: built by the authors according to the data (Kharazishvili & Drones, 2014)

According to the calculations results (Kharazishvili & Drones, 2014), the level of economic security of Ukraine (Fig. 4) balances at the level of the lower threshold. Among its 9 components, at the end of 2018, 6 are below the lower threshold (innovative, financial, foreign economic, social, demographic and energy ones) (Fig. 3). The rest balance on the border of the lower threshold or between the lower threshold and the lower optimum. None of the components are within the optimal range. All this testifies to the inefficiency of the existing model of economic development and macroeconomic policy as a whole.

The reasons for the low level of national economic security are the high level of shadow economy; low level of investment, low level of updating of fixed assets; low level of financing of innovative activity; high level of external and internal debt; high cost of bank loans; high level of import dependence; low level of remuneration, significant level of shadow employment; high mortality rate.

2.2. Empirical data. One of the important indicators in the study of the economic security of the state is the standard of living of the population. According to the rating of the countries of the world in 2016-2020 (Quality of Life Index 2020, 2021) the first three are headed: Australia (Canberra), Netherlands (Eindhoven) and the USA (North Carolina). Ukraine has gone down by 37 steps compared to 2016, ranking 189 out of 226 countries (Table 1).

Table 1
The life quality of the countries of the world in 2016-2020

	2020	2019	2018	2017	2016			
Country, City	227 countries			184 countries	177 countries			
	Rank							
Australia, Canberra	1	1	1	1	1			
Netherlands, Eindhoven	11	2	2	4	7			
USA, North Carolina	2	3	3	3	2			
New Zealand, Wellington	4	8	8	2	3			
Poland, Warsaw	137	127	127	102	82			
Ukraine, Kiev	189	192	192	160	152			

Source: built by the authors according to the data (Quality of Life Index 2020, 2021)

The surveyed indicators include: purchasing power index, safety index, health index, cost of living index, real estate price to income ratio, transport time index, pollution index and climate index (Quality of Life Index 2020, 2021). The lowest rates in Ukraine were: health, safety and public administration. This situation indicates a significant deterioration in the living standard in the country by all indicators, which was studied in 2016-2020.

According to the World Economic Forum, which published the ranking of the countries of the world on the Global Competitiveness Index 2017-2019, traditionally, the rating is headed by Switzerland. The top ten most competitive are the United States, Singapore, the Netherlands, Germany, Hong Kong, Sweden, the United Kingdom, Japan and Finland (Ukraine's Position In The Rating Of The World By Global Competitiveness Index 2017-2019, 2021). Ukraine ranked only 85-st among 140 countries of the world.

The negative factors for doing business in Ukraine are defined (in decreasing order): inflation, corruption, political instability, high tax rates, complexity of tax legislation, instability of governments, difficult access to finance, inefficient state bureaucracy, regulation of the currency market, insufficient oscillation of the labor market, poor workforce ethics, lack of innovation capacity, restrictive labor market regulation, inadequate infrastructure quality, crime and theft, poor health care.

The macroeconomic environment in Ukraine is such that during 2015-2019 Ukraine has taken almost the last place in the ranking among other countries of the world (Ukraine's Position In The Rating Of The World By Global Competitiveness Index 2017-2019, 2021). The inflation rate is also very high. From 140 countries in 2015-2016, Ukraine ranked 134-th, in 2016-2017 – 136, in 129 – in 2017-2018 and 134 – in 2018-2019.

According to the level of the Social Development Index of the World Rating developed by the American non-governmental organization Social Progress Imperative with the support of Deloitte (Social Progress Index 2020, 2021), Ukraine in 2020 ranked 63-th between Mexico (62) and Sri Lanka (64) and remains in the group of developing countries above average. The index consists of a number of indicators of social development and the environment, reflecting three strands of social development: basic human needs, well-being and opportunities. According to the results of this year's Index among the CIS countries, Ukraine gave way to Belarus (47) and Poland (31) (Fig. 5).

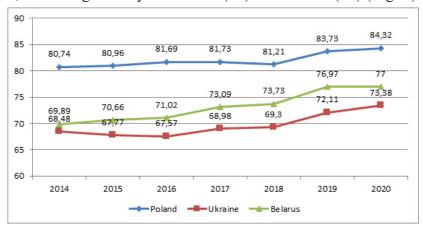


Figure 5 – Index of Social Development of Ukraine in 2014-2020 Source: built by the authors according to the data (Social Progress Index 2020, 2021)

There was a slight improvement in Ukraine's performance in the Basic Human Needs, Fundamentals of Wellbeing and Opportunities categories. Ukraine's GDP per capita has increased from \$ 7,46 in 2017 to \$ 12,81 in 2020 (Social Progress Index 2020, 2021).

Norway is the leader of the Social Development Index for 2020, receiving 92.73 points out of 100. The country has performed well on all index components. Norway has strengthened its position by 3.97 points compared to 2014, the highest figure among other Northern European countries.

Topical for the analysis of national security problems is the international ranking of the military power of the countries of the world – Global Firepower Index (GFP), which annually provides a unique analytical presentation of data on the modern military forces of the countries of the world. This rating (Military Strength Ranking 2020, 2021) combines more than 50 indicators. The assessment of military power is focused not only on the total number of weapons in the country, but the

main focus of the GFP is on the variety of weapons, which provides an optimal balance of combat damage. In this case, the index does not take into account the factor of nuclear weapons (Table 2).

Table 2
Ranking of countries by military capability index

Nº	Country	Index 2020	№	Country	Index 2018	№	Country	Index 2016
1	US	0,0606	1	US	0,0818	1	US	0,0897
2	Russia	0,0681	2	Russia	0,0841	2	Russia	0,0964
3	China	0,0691	3	China	0,0852	3	China	0,0988
4	India	0,0953	4	India	0,1417	4	India	0,1661
5	Japan	0,1501	5	France	0,1869	5	France	0,1993
6	South Korea	0,1509	6	United Kingdom	0,1917	6	United Kingdom	0,2466
7	France	0,1702	7	South Korea	0,2001	7	Japan	0,2466
8	United Kingdom	0,1717	8	Japan	0,2107	8	Turkey	0,2623
9	Egypt	0,1872	9	Turkey	0,2216	9	Germany	0,2646
10	Brazil	0,1988	10	Germany	0,2461	10	Italy	0,2724
27	Ukraine	0,4457	29	Ukraine	0,5383	30	Ukraine	0,5867
138	Bhutan	10,1681	136	Bhutan	7,5497	126	Central African Republic	3,7343

Source: built by the authors according to the data (Military Strength Ranking 2020, 2021)

In 2016-2020, the US, Russia and China have traditionally split the top three, with Ukraine ranking 30 and 27, respectively (Military Strength Ranking 2020, 2021). The top ten also included India, Japan, South Korea, France, the United Kingdom, Egypt and Brazil.

The World Economic Security Rating in 2005-2020 (Economic Data and Statistics on the World Economy and Economic Freedom. 2020 Index of Economic Freedom, 2021) is based on such basic indicators as: property rights, judicial efficiency, integrity (activity) of government, tax pressure (burden), government spending, physical health, freedom to do business, the right to free labor, freedom of money relations, freedom of trade relations, investment and financial independence (Fig. 6).

The state's economic independence index shows the ratio between economic independence and a range of socio-economic indicators. These indicators include: property rights, integrity of the government, judicial efficiency, freedom of work, tax pressure (burden), public spending, physical health, freedom to do business, freedom of money relations, freedom of trade relations, investment (attractiveness) and financial independence. Economic independence is linked to the state of health, the environment, per capita income, human development, democracy and the fight against poverty.

According to the World Economic Security Index and the authors' calculations for 2005-2020, a multifactorial multiple regression model of the dependence of the index of economic freedom y on such basic components as freedom of labor

-x1, tax pressure (load) -x2, public spending -x3, freedom to do business -x4, freedom of money relations -x5, freedom of trade relations -x6 and investment (attractiveness) independence -x7.

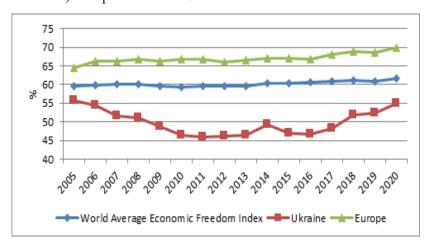


Figure 6 – World Economic Security Index 2005-2020

Source: built by the authors according to the data (Economic Data and Statistics on the World Economy and Economic Freedom. 2020 Index of Economic Freedom, 2021)

The influence of selected factors on the level of economic development of Ukraine has been studied with the help of econometric and mathematical modeling methods and a measure of the influence of each factor on the formation of threats to the economic and national security of the country has been obtained.

The even correlation coefficients have been calculated (Table 3) and the model for multicollinearity has been studied.

$$r[X, Y] = \frac{K[X, Y]}{\sigma[X]\sigma[Y]}$$

Table 3

Even model correlation coefficients

$$R = \begin{bmatrix} y & x_1 & x_2 & x_3 & x_4 & x_5 & x_6 & x_7 \\ y & 1 & -0.137 & 0.667 & 0.923 & 0.058 & 0.299 & -0.858 & 0.788 \\ x_7 & -0.137 & 1 & -0.442 & -0.317 & 0.187 & -0.619 & 0.197 & 0.266 \\ x_2 & 0.667 & -0.442 & 1 & 0.775 & -0.290 & 0.417 & -0.669 & 0.314 \\ x_3 & 0.923 & -0.317 & 0.775 & 1 & -0.142 & 0.255 & -0.896 & 0.656 \\ x_4 & 0.058 & 0.187 & -0.290 & -0.142 & 1 & -0.011 & 0.268 & -0.093 \\ x_5 & 0.299 & -0.619 & 0.417 & 0.255 & -0.011 & 1 & -0.237 & -0.199 \\ x_6 & -0.858 & 0.197 & -0.669 & -0.896 & 0.268 & -0.237 & 1 & -0.725 \\ x_7 & 0.788 & 0.266 & 0.314 & 0.656 & -0.093 & -0.199 & -0.725 & 1 \end{bmatrix}$$

Source: built by the authors

Factors x3 and x6 were found to have a significant effect on the y, compared to other factors, there is multicollinearity between factors x3 and x6, so these factors were excluded from the model and were not considered for further study, but with the remaining factors the multifactor model has been made:

$$y = -16,59 + 0,31x_1 + 0,35x_2 + 0,15x_4 + 0,09x_5 + 0,33x_7$$

$$(-2,92)^* (4,16)^* (6,82)^* (6,42)^* (4,24)^* (9,74)^*$$

The determinant $\Delta rx1x7 = 0,2759$, whose value indicates a low dependence between factors, has been calculated. The brackets give the calculated values of t – statistics for estimating regression parameters. One asterisk indicates the

parameters significant at a significance level of 5%.

For certainty, for the absence of multicollinearity between the remaining factors, the Farrar-Glober method was applied and the values of χ^2 – chi-square were calculated for the factors:

$$\chi$$
tabl2(8;0,05) = 15,5.

 $\chi tabl2(8;0,05) = 15,5.$ Since $\chi 2 < \chi tabl2$, there is no multicollinearity in the factor vector. The quality of the model is investigated and the multiple correlation coefficient is found to be R=0.9828 and shows a sufficiently high correlation between the indicator and the factors. Determination factor values

$$R^{2} = 1 - \frac{\sum_{i=1}^{16} l_{i}^{2}}{\sum_{i=1}^{16} (y_{i} - y)^{2}} = 0,9914$$

shows that 99.14% explains the dependence of the index of economic freedom y on the factors x1, x2, x4, x5, x7. The model is adequate according to the Fisher criterion with a reliability level of P = 0.05, since the calculated value

$$F_p = \frac{R^2/m}{(1-R^2)/n-m-1}$$

more critical $F_{tabl(0.05;16:8)} = 3,20$

The standard error of regression is: s=1,1. The average coefficients of elasticity kex1=0,33, kex2=0,57, kex4=0,15, kex5=0,13 and kex7=0,16 are calculated, which show that with the increase of labor freedom x1 by 1%, the index of economic freedom y increase by 0.33%, with increasing tax pressure (load) x2 by 1%, economic freedom index y increase by 0.57%, with increasing business freedom x4 by 1%, economic freedom index y increase by 0.15%, with the growth of monetary freedom x5 by 1%, the index of economic freedom y increase by 0.13%, with the growth of freedom of labor x7 by 1%, the index of economic freedom y increase by 0.16%, that is, of all the factors, the biggest influence is tax pressure (load) x2 and the labor freedom x1 on the economic freedom index y.

Thus, the level of national and economic security in Ukraine depends on all the factors selected. That is, in the state during 2005-2020 there was a tendency to increase the level of tax burden and shadowing of the economy, low (ineffective) level of activity of the government and public confidence in the government, low level of trade and monetary relations (high cost of bank loans, significant level of dollarization of the economy, external government debt and a negative balance of payments), as well as low investment attractiveness, which are the main indicators of a threat to Ukraine's national and economic security.

Conclusions. The conducted research showed that the economic security of the state is an important component of national security, which for many years has been at a very low level due to the influence of a number of destabilizing factors that lead it to such a situation, namely: high level of shadow economy and consolidated budget revenues, low the level of investment, macroeconomic, innovative, demographic, foreign economic, social and energy security. Therefore, to strengthen the economic security of Ukraine it is necessary to take strategic measures at the state level, which should be aimed at stabilizing the economy of the country, including by improving the legislative framework.

The state guarantees the protection of national economic interests. However, Ukraine does not yet have a well-defined national economic interests, and their integrated system is not formed. This enables governments at different levels to justify their actions by assuring that they are fully in line with national economic

interests.

Balancing the development of all elements of the economic system will strengthen the security of the national economy, and their development will determine the activity of economic processes that affect the economic system of Ukraine.

The national security is an important component in ensuring development in all sectors of the economy, strengthening ties with the leading countries in the world, as well as in ensuring competitiveness.

Threats to the national economic security of Ukraine are factors that directly or in the future impede or complicate the realization of national economic interests, creating obstacles to the normal development of the economy and a danger to the independent state existence and well-being of the people.

Among the most important national economic interests, which determine the future of Ukraine, the well-being and prosperity of the nation, are the building of a powerful national economy with a reliable system of economic security, the solution of social problems by the government, the development of scientific and technical potentials of Ukraine, the development of entrepreneurship, ensuring employment and decent salary of the people.

Conflict of Interest and other Ethics Statements The authors declare no conflict of interest.

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МОДЕЛЮВАННЯ ЕКОНОМІЧНОЇ СКЛАДОВОЇ НАЦІОНАЛЬНОЇ БЕЗПЕКИ ДЕРЖАВИ

Анотація. Економічна безпека держави є складною та багаторівневою структурою. До того ж, вона виступає інтегральною характеристикою стану економічної системи, оскільки система включає ряд підсистем — найважливіших, взаємопов'язаних структурних складових економічної безпеки, що відображають функціонування окремих сфер економіки.

Основним завданням держави є забезпечення гарантованого рівня безпеки для усіх її складових компонент, включаючи методи нейтралізації негативного впливу внутрішніх і зовнішніх загроз. Досліджено динаміку таких макроекономічних показників, як: валовий внутрішній продукт, інфляція, грошова маса. Проаналізовано обсяг та рівень видатків на фінансування національної оборони, які свідчать про забезпечення необхідних умов обороноздатності країни.

Побудовано інтегральний індекс економічної безпеки країни та виявлено фактори, які негативно впливають на рівень економічної безпеки держави. Виконано порівняння стану економічного розвитку України з іншими країнами світу за індексом глобальної конкурентоспроможності, рівнем якості життя населення, рівнем соціального розвитку та військової могутності. Розроблена багатофакторна множинна регресійна модель економічної безпеки України та виявлено фактори, які відіграють суттєву роль у формуванні загроз економічній та національній безпеці країни.

Ключові слова: національна безпека, економічна безпека держави, загрози економічної безпеки, моделювання національної безпеки, військова могутність держави, глобалізаційні процеси, інтегральний індекс, регресійна модель

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