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THE IMPACT OF THE WAR EFFECTS ON HUMAN SOCIAL SECURITY IN UKRAINE

Background. *The paper explores the impact of such external factors as military aggression from russia on the human social security system in Ukraine. During the war, this system is affected mainly by external factors. Moreover, in the case of Ukraine, the dominant external influence is the military aggression against Ukraine. Thus, the purpose of this study is to determine the impact of external disturbances that determine the sustainability of human social security in Ukraine during a hybrid and full-scale war.*

Methods. *For this purpose, we used the most influential internal factors that exerted an influence on human social security in Ukraine during the war (people using at least basic sanitation services as % of population, proportion of people living below 50 percent of median income in %, domestic credit to private sector by banks in % of GDP, internally displaced persons, new displacement associated with conflict and violence, number of cases, armed forces personnel in million people). To study the impact of military aggression from russia on the human social security system in Ukraine we used vector autoregression models framework. The fact of military aggression we incorporated in models by using russia's military expenditures in current billion US dollars as it correctly reflects the most acute phases of the conflict and preparation for the war in 2021.*

Results. *The results of the models showed that the dynamics of the proportion of people living below 50 percent of median income is characterized by significant deterioration, especially after the eighth period after the shock. Fluctuations of this indicator are explained at almost 50% by changes in military expenditures in russia. The decrease in domestic credit to the private sector by banks in the first period after the shock in military expenditures in russia is up to 7%. Then the situation improves, but it still is lower than the equilibrium level. The volatility of domestic credit to the private sector by banks is nearly 22% explained by fluctuations in russia's military expenditure. In addition, we observe an immediate increase in the number of internally displaced persons and new displacements associated with conflict and violence by up to 35 %. At the same time, the volatility of the number of internally displaced persons and new displacements is explained by the volatility of military expenditures in the russian federation at 95%. Also, an immediate rise of the personnel of the armed forces in Ukraine due to the shock is up to 8% which tails off until the sixth year. Changes in military expenditure in russia explain 91% of fluctuations of this indicator.*

Conclusions. *Finally, it may be concluded that the system of human social security in Ukraine is relatively stable due to the influence of external factors.*

Keywords: *social security, human social security system, threats, external shocks, war in Ukraine, VAR models.*

Background

Human social security is a key element of poverty reduction and economic development policies to ensure countries grow with equity (Townsend, 2009). This is especially relevant in the period of hybrid and full-scale wars. Social security covers such crucial functions as protecting individuals during hardships, for instance, various economic downturns, diminishing poverty, and promoting long-term economic growth (Prasad, & Gerecke, 2010). At the same time, it helps to reduce the influence of external shocks during a war and a recovery period as well. Moreover, during the war human social security was mainly influenced by external factors rather than internal ones (Bazhenova, Varnalii, & Mykytiuk, 2024). Thus, during wartime human protection and self-preservation of people should come to the fore, during the post-war period – the problems of restoration and acceleration of economic development (Bazhenova, Varnalii, & Cheberyako, 2023 In the case of Ukraine, the dominant external influence is the military aggression against Ukraine. Thus, the purpose of this study is to shed light on the effects of military aggression on human social security in Ukraine..

Literature review. We can identify two empirical approaches to researching human social security. The first approach involves assessment of social security through the construction of integral indices. The second approach pertains to the application of economic and mathematical methods to study human social security.

According to the first approach, we can highlight several key papers including (Zavora, & Chepurnyy, 2012; Kharazishvili, & Dron', 2014; Novikova, Sydorchuk, & Pankova, 2018; Kharazishvili et al., 2020; Sydorchuk, 2020; Bazhenova, Varnalii, & Cheberyako, 2023) etc. For example, in Kharazishvili (Kharazishvili et al., 2020), the authors propose a comprehensive system of social security indicators categorized into subsystems such as standard of living, demographic component, and quality of life. This system allowed the construction of three subsystem integral indices for the subsystems of a standard of living, demographic component, and quality of life, as well as social security index for society. The calculations have shown that the most influential subsystem of social security is the standard of living which in turn affects other subsystems. The system of human social security indicators proposed by Bazhenova, Varnalii, & Cheberyako (Bazhenova, Varnalii, & Cheberyako 2023) includes the levels of life activities assurance, well-being, social assurance, protection and self-preservation, and the level of education and self-development. The research demonstrates an improvement in human social security in Ukraine despite the hybrid war from 2014 to 2020, primarily to increasethe levels of life activity assurance protection and self-preservation.

Among the papers dedicated to the application of economic and mathematical methods for studying human social security, we will focus on those utilizing the Vector Autoregression (VAR) framework that is useful for modeling interrelated macroeconomic data. In this way, Gechert,

Paetz and Villanueva (Gechert, Paetz, & Villanueva, 2021) investigated the effects of social security contributions and benefits on various macroeconomic indicators, such as GDP, private consumption, and employmentin Germany, concluding that GDP exhibits persistent reactions to benefit shocks. Additionally, Rodríguez (Rodríguez, 2018) applied the Structural Vector Autoregression (SVAR) methodology to examine the relationship between components of public expenditure, labor market indicators, and public spending in the United States taking into account legislated increases in the US social security benefits. Bazhenova et al. (2023) use the panel VAR model to explore the impact of economic and social policy on the life expectancy at birth in Armenia, Azerbaijan, Georgia, Moldova, and Ukraine – countries that are the victims of either hybrid wars or full-scale hostilities. In addition, the empirical results of the research demonstrated a slight response of life expectancy to economic and social policy shocks in these countries with the most significant effect of the growth of GDP per capita. In addition, authors use such instruments as the overlapping generations model (OLG) to model the aspects of social security. For instance, Forni (Forni, 2005) applies an overlapping generations model focusing on the young people's welfare. Gonzalez-Eiras (Gonzalez-Eiras, 2011) uses the OLG model with the logarithmic utility to find the globally well-defined equilibrium. Also Lopez-Velasco (2022) studies the politico-economic sustainability of pay-as-you-go social security with the help of OLG models with logarithmic utility under Markovian strategies.

Methods

Vector autoregression models, or VAR models, are econometric tools that describe dynamic interdependencies among multiple time series, assuming that past values of model variables explain their current values (Chernyak, 2014). In our study vector autoregression framework will be used as a tool for studying the impact of war on the human social security system in Ukraine, which will allow examination of its stability.

Thus, VAR model of p-order (or VAR(p)) may be described by the following form:

$$Y_t = C_0 + C_1 Y_{t-1} + C_2 Y_{t-2} + \cdots + C_p Y_{t-p} + v_t,$$

where Y_t – k-dimensional vector of variables, C_0 – k-dimensional vector of intercepts, C_j – matrices of coefficients of dimension $k \times k$ ($j = 1,\ldots,p$), v_t – k-dimensional vector of disturbances with covariance matrix Σ. In addition, $\mathrm{cov}(v_{mt}, v_{kl}) = 0$, $t \neq l$ for any m, $k = 1,2$ and $\mathrm{cov}(v_{mt}, y_{kt-j}) = 0$ for $j \geq 1$ and any m, $k = 1,2$. For coincident moments in time, the perturbations can be correlated with each other ($\mathrm{cov}(v_{mt}, v_{kl}) \neq 0$, $t = l$ for m, $k = 1,2$) (Chernyak, 2014).

The stability or stationarity of vector autoregression models consists of the attenuation of external shocks acting on the model. If we simulate the behavior of model variables over time, in the case of their stabilization around certain levels after some period, we should conclude the stability of the model. Moreover, for instance, in the case of VAR(1) the stability condition implies that all eigenvalues of the matrix C_1 must be less than one in absolute value. In the context of the interpretation of modeling results, great attention should be paid to the analysis of impulse response functions and sources of volatility of the variables. Thus, impulse response functions can be obtained by finding partial derivatives $\Theta_i = \partial Y_t / \partial v_{t-j}$. The ($m$, s)-th element of this matrix shows how the error in the m-th equation of the system affects the s-th dependent variable in the presence of a lag in l periods. The analysis of the decomposition of forecast error variances allows a demonstration of the sources of their volatility. At the same time, the limitation of this method is that we use only past information (not current one) to model the relationships between variables.

Results

The concept of human social security is defined as the extent to which vital socio-economic interests, rights, freedoms, and values are protected from internal and external threats (Varnalii, 2022). To monitor human social security, a system of indicators has been proposed encompassing various levels such as life activities assurance, well-being, social assurance, protection and self-preservation, and education and self-development (Bazhenova, Varnalii, & Cheberyako, 2023).

As known, war has a significant impact on the social security system. It leads to an increase in the number of internally displaced persons, and an increased need for support for veterans, including pensions, medical care, rehabilitation services and financial assistance to their families. Moreover, war destabilizes economic activity, provoking a decrease in national income and tax revenues. Social infrastructure also suffers significant damage and destruction. Finally, war leads to a significant migration both within the country and abroad, eroding human potential. As a result, the loss of the working-age population due to migration and military actions affects the demographic balance, increasing pressure on the social security system. At the same time, in conditions of war aspects of protection and self-preservation are becoming more crucial for a human (Bazhenova, Varnalii, & Cheberyako, 2023). That is why, in this paper we are making an attempt to check the hypothesis about the impact of military aggression in Ukraine on human social security.

First, to analyze the influence of military aggression we will consider the indicators related to the military expenditure in russia. For this purpose, we have to analyze the dynamics of military expenditures and export and import volumes of weapons in russia (Tab. 1). Therefore, the analysis of military expenditures allows us to come to a conclusion regarding its growth in 2022 compared to 2021 (in absolute and relative terms), a significant reduction in exports and an increase in imports of weapons in 2022. Similar dynamics was observed during 2014-2016. For instance, there was an increase in military expenditure in relative terms (in percent of GDP) and military expenditure (in percent of general government expenditure). Nevertheless, we should emphasize a significant decrease in military expenditure in current billion US dollars during 2014-2016. Moreover, there was observed a rise in exports during 2014-2018 and a noticeable decline in imports of weapons in 2014-2020. Armed forces personnel in absolute and relative terms is the most sustained among all considered indicators during 2014-2022.

Thus, to study the effect of military aggression on human social security in Ukraine we will consider russia's military expenditures in current billion US dollars (variable mil_exp_rf) as it correctly reflects the most acute phases of the conflict and preparation for the war in 2021. Among internal factors of human's social security, we will consider the most influential ones, identified in (Bazhenova, Varnalii, & Mykytiuk, 2024): people using at least basic sanitation services as % of the population (variable g1_2), proportion of people living below 50 percent of median income in % (variable g1_7), domestic credit to private sector by banks in % of GDP (variable g2_2), internally displaced persons, new displacement associated with conflict and violence, number of cases (variable g4_2), armed forces personnel in million people (variable g4_3).

The data set considered covers 23 observation periods (from 2000 to 2022). The information source of the study is

the annual data of World Development Indicators of the World Bank (World Bank, 2025).

To test the variables for unit root we used the Augmented Dickey-Fuller test. The results of the testing are presented in Table 2. They showed that the most variables (g1_7, g2_2, g4_2, g4_3) are non-stationary, but their growth rates are stationary ones. Therefore, we will use the growth rates of these variables in the models (g1_7p, g2_2p, g4_2p, g4_3p). The variable g1_2 does not have a unit root that is why it will be included as level. Military expenditure in russia mil_exp_rf is first-order integrated variable, so in models we will use first differences of this variable (d_mil_exp_rf).

Table 1

Dynamics of main military indicators in the russian federation

Indicator	2014	2015	2016	2017	2018	2019	2020	2021	2022
Military expenditure (% of GDP)	4,11	4,87	5,43	4,25 4	3,72	3,86	4,17	3,72	4,06
Military expenditure (% of general government expenditure)	11,77	13,81	14,83	12,20	11,40	11,40	10,59	10,22	10,35
Military expenditure (current bil.USD)	84,7	66,4	69,2	66,9	61,6	65,2	61,7	65,9	86,4
Armed forces personnel (% of total labor force)	1,71	1,98	1,93	1,95	1,95	1,98	1,99	–	-
Armed forces personnel, total (million people)	1,287	1,490	1,454	1,454	1,454	1,454	1,454	-	-
Arms exports (SIPRI trend indicator values)	5 467 000 000	5 927 000 000	6 811 000 000	6 199 000 000	7 173 000 000	5 627 000 000	3 904 000 000	2 857 000 000	2820 000 000
Arms imports (SIPRI trend indicator values)	207 000 000	113 000 000	127 000 000	93 000 000	62 000 000	5 000 000	1 000 000	6 000 000	129 000 000

Source: World Development Indicators (World Bank, 2025).

Table 2

Unit root results

Variable	Augmented Dickey-Fuller Statistics			
	Level	1st differences	Growth rate	
g1_2	–3,58876**	–	–	Level
g1_7	–1,00465	–0,310291	–3,284396***	Growth rate
g2_2	–1,65007	–2,63558	–3,53177**	Growth rate
g4_2	–0,922212	–0,28582	–3,78591**	Growth rate
g4_3	–3,59241	–0,228135	–3,58882**	Growth rate
mil_exp_rf	–1,3677	–2,79191***	–	1st differences

Note: *Significance at 1%, ** Significance at 5%, *** Significance at 10%.
Source: compiled by authors.

To find the number of lags in VAR models we used the information criteria of Akaike, Schwartz and Hannan-Quinn. At the same time, stability of the models was checked based on inverse roots of the characteristic polynomial. Finally, we analyzed the impulse response functions of endogenous variables to the shock in military expenditures in russia. The sources of variables' volatility were identified using the forecast error variance decomposition.

Thus, to model the impact of military aggression on people using at least basic sanitation services (g1_2) we used VAR model with two lags. The dynamics of the response function of the variable g1_2 to the shock in d_mil_exp_rf allows us to draw a conclusion about a decrease of this indicator (Fig. 1a). However, the variance distribution shows that 37% of the volatility of the variable g1_2 is explained by the military aggression (Tab. 3a of Appendix).

We identified the effect of military aggression on the proportion of people living below 50 percent of the median income based on VAR model with one lag. The results showed that the dynamics of the proportion of people living below 50 percent of median income is characterized by significant deterioration, especially after the eighth period after the shock (Fig. 1b). Fluctuations in the proportion of people living below 50 percent of median income are explained by changes in military expenditures in the russian federation at almost 50% (Tab. 3b of Appendix).

For studying the domestic credit to the private sector by banks (variable g2_2p) effects due to military aggression we used the VAR(1) model. Based on the simulation results of this model, the decrease in domestic credit to the private sector by banks in the first period after the shock in military expenditures in russia is up to 7%. (Fig. 1c). Then the situation improves, but it still is lower than the equilibrium level. This also confirms the distribution of the forecast error variance for the variable g2_2p (Tab. 3c of Appendix). Thus, the volatility of domestic credit to the private sector by banks is explained by fluctuations in russia's military expenditure at nearly 22%.

The number of internally displaced persons and new displacements associated with conflict and violence significantly depends on an external shock in the form of an increase in military expenditure in russia by one standard deviation (Fig. 1d). Thus, we may observe an immediate increase in the number of internally displaced persons and new displacements associated with conflict and violence by 35 % after the shock. Then the effect is fading out. At the

same time, the volatility of the number of internally displaced persons and new displacements is explained by the volatility of military expenditures in the russian federation at 95% (Tab. 3d of Appendix).To investigate the impact of military expenditures in russia on the personnel of the armed forces in Ukraine we applied the VAR model with one lag that was recommended due to information criteria values. Impulse response function shows an immediate rise of the personnel of the armed forces in Ukraine after the shock up to 8% that tails off until the sixth year (Fig. 1e). In addition, 91% of fluctuations of this variable are due to changes in military expenditure in russia (Tab. 3e of Appendix).

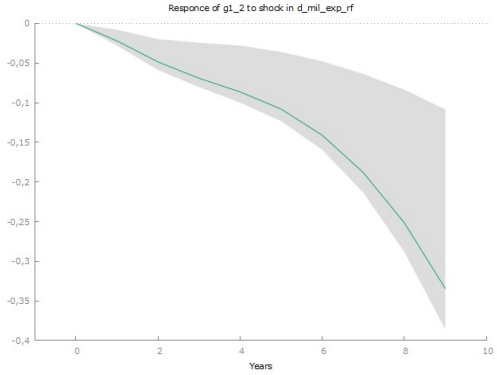

Fig. 1a. Impulse response function of *g1_2* to the shock in *d_mil_exp_rf*

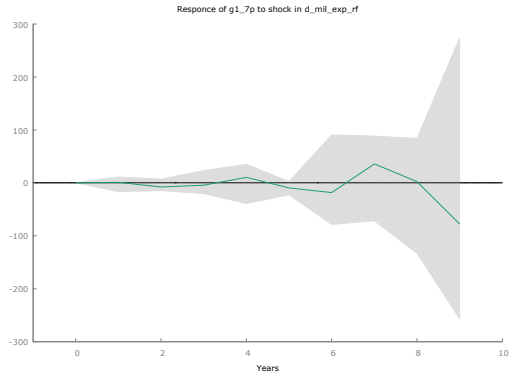

Fig. 1b. Impulse response function of *g1_7p* to the shock in *d_mil_exp_rf*

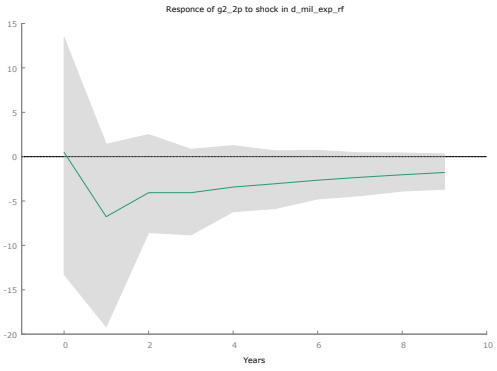

Fig. 1c. Impulse response function of *g2_2p* to the shock in *d_mil_exp_rf*

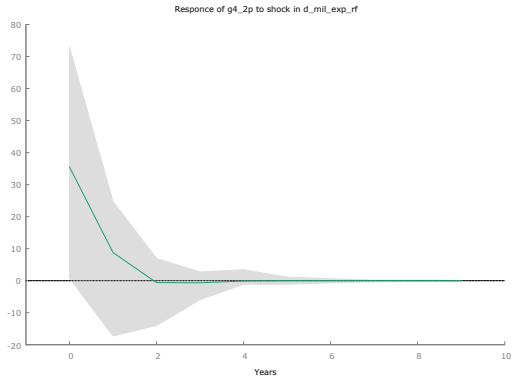

Fig. 1d. Impulse response function of *g4_2p* to the shock in *d_mil_exp_rf*

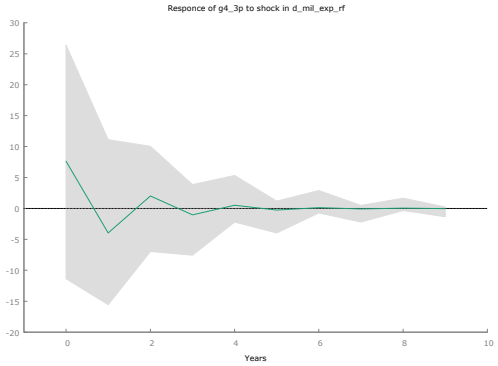

Fig. 1e. Impulse response function of *g4_3p* to the shock in *d_mil_exp_rf*

Source: compiled by authors.

Discussion and conclusions

The behavior of the human social security system in Ukraine is determined by the interaction of external and internal factors that affect its current state and future dynamics. Identifying these factors is key for policymakers in the context of building resilient and responsive social security systems that can ensure the well-being of all citizens. However, the presence of military conflicts has a decisive influence in the context of the stability of the human social security system in Ukraine.

The results of studying the effect of military aggression on human social security in Ukraine proved that the volatility of such indicators as the number of internally displaced persons and new displacements and armed forces personnel in Ukraine are mainly explained by the volatility of military expenditures in russia. At the same time, the influence of fluctuations in russian military expenditure on

indicators characterizing the well-being of the population in Ukraine is much smaller. Nevertheless, for most variables external shock effects are fading.

Thus, these results prove that the protection and self-preservation levels of human social security are more crucial during the war. Additionally, it may be concluded that the system of human social security in Ukraine is relatively stable due to external factors, which in the conditions of war is expressed by military expenditures of the russian federation.

At the same time, in the context of increasing the stability of the human social security system in Ukraine under conditions of war, the efforts of public institutions should be on the aspects of human protection and self-preservation that stipulate the use of appropriate mechanisms and instruments of state policy. This, first of all, should involve an increase in the volume of military expenditure the effective use of public budget funds for military needs, and improvement of the social security system of internally displaced persons and veterans. In the post-war period, the public policy on the restoration and acceleration of economic development should be directed towards increasing life expectancy and well-being of the population and improvement of the education system. Moreover, the impact of measures to stimulate these aspects is interrelated. So, in particular, increasing the effectiveness of measures to expand life expectancy at birth and reducing the level of poverty in the country will result in a rise in well-being. In turn, the increase in the level of education of citizens acts as the main trigger of economic development in the post-war period, which is also reflected in the increase in the life expectancy at birth and the increase in the welfare of society as a whole. That is why, the direction of further research may be the exploration of the impact of human social security on economic development during the post-war recovery.

APPENDIX

Table 3a

Forecast error variance decomposition of the variable g1_2

Period	St.error	d_mil_exp_rf	g1_2
1	0,03	0,70	99,30
2	0,04	31,21	68,79
3	0,05	36,06	63,94
4	0,05	37,08	62,92
5	0,05	37,31	62,69
6	0,05	37,36	62,64
7	0,05	37,37	62,63
8	0,05	37,38	62,62
9	0,05	37,38	62,62
10	0,05	37,38	62,62

Source: compiled by authors.

Table 3b

Forecast error variance decomposition of the variable *g1_7p*

Period	St.error	d_mil_exp_rf	g1_7p
1	0,34	0,16	99,84
2	0,44	32,77	67,23
3	0,49	39,52	60,48
4	0,53	43,30	56,70
5	0,55	45,41	54,59
6	0,57	46,72	53,28
7	0,58	47,57	52,43
8	0,59	48,14	51,86
9	0,59	48,52	51,48
10	0,60	48,79	51,21

Source: compiled by authors.

Table 3c

Forecast error variance decomposition of the variable g2_2p

Period	*St.error*	*d_mil_exp_rf*	*g2_2p*
1	1,24	22,27	77,73
2	1,52	22,18	77,82
3	1,65	22,13	77,87
4	1,70	22,09	77,91
5	1,73	22,08	77,92
6	1,75	22,06	77,94
7	1,76	22,06	77,94
8	1,76	22,06	77,94
9	1,76	22,05	77,95
10	1,76	22,05	77,95

Source: compiled by authors.

Table 3d

Forecast error variance decomposition of the variable g4_2p

Period	*St.error*	*d_mil_exp_rf*	*g4_2p*
1	2,33	95,2164	4,7836
2	2,67	95,0089	4,9911
3	2,82	94,9946	5,0054
4	2,89	94,9937	5,0063
5	2,92	94,9936	5,0064
6	2,94	94,9936	5,0064
7	2,95	94,9936	5,0064
8	2,95	94,9936	5,0064
9	2,95	94,9936	5,0064
10	2,95	94,9936	5,0064

Source: compiled by authors.

Table 3e

Forecast error variance decomposition of the variable g4_3p

Period	*St.error*	*d_mil_exp_rf*	*g4_3p*
1	5,94	89,37	10,63
2	5,71	90,76	9,24
3	5,26	90,98	9,02
4	5,63	91,02	8,98
5	5,04	91,03	8,97
6	5,40	91,03	8,97
7	5,20	91,03	8,97
8	5,05	91,03	8,97
9	5,07	91,03	8,97
10	5,25	91,03	8,97

Source: compiled by authors.

Authors' contribution: Olena Bazhenova – conceptualization, literature review and theoretical framework development, methodology design, writing – original draft and editing, data analysis, formulation of conclusions; Oksana Banna – empirical data collection and validation, visualization, compilation of the bibliography.

References

Bazhenova, O., Varnalii, Z., & Cheberyako O. (2023). Human Social Security Under Military Aggression: Indicators and Evaluation (Case of Ukraine). *Problems of Modern Transformations. Series: Economics and Management*, 8 [in Ukrainian]. [Баженова, О. В., Варналій, З. С., & Чеберяко, О. В. (2023). Соціальна безпека людини в умовах військової агресії: індикатори та оцінювання (на прикладі України). *Проблеми сучасних трансформацій. Серія: економіка та управління*, 8]. https://doi.org/10.54929/2786-5738-2023-8-07-02

Bazhenova, O., Varnalii, Z., & Mykytiuk, O. (2024). Persistence of the human social security system in Ukraine: internal challenges. *Problems of Modern Transformations. Series: Economics and Management,* 13, 03–09 [in Ukrainian]. [Баженова, О. В., Варналій, З. С., & Микитюк, О. П. (2024). Стійкість системи соціальної безпеки людини в Україні: внутрішні виклики. *Проблеми сучасних трансформацій. Серія: економіка та управління*, 13, 03–09.] https://doi.org/10.54929/2786-5738-2024-13-03-09

Bazhenova, O., Varnalii, Z., Cheberyako, O., & Mykytiuk, O. (2023). Modeling human social security during war. *Neuro-Fuzzy Modeling Techniques in Economics,* 12, 111–132. http://doi.org/10.33111/nfmte.2023.111

Chernyak, O. (Ed.). (2014). *Econometrics.* Mykolayiv State Agrarian University [in Ukrainian]. [Черняк, О. (Ред.). (2014). *Економетрика.* Миколаївський національний аграрний університет].

Forni, L. (2005). Social security as Markov equilibrium in OLG models. *Review of Economic Dynamics,* 8(1), 178–194. https://doi.org/10.1016/j.red.2004.10.003

Gechert, S., Paetz, C., & Villanueva, P. (2021). The macroeconomic effects of social security contributions and benefits. *Journal of Monetary Economics,* 117, 571–584. https://doi.org/10.1016/j.jmoneco.2020.03.012

Gonzalez-Eiras, M. (2011). Social security as Markov equilibrium in OLG models: A note. *Review of Economic Dynamics,* 14(3), 549–552. https://doi.org/10.1016/j.red.2010.07.002

Kharazishvili, Yu., Kwilinski, A., Grishnova, O., & Dzwigol, H. (2020). Social Safety of Society for Developing Countries to Meet Sustainable Development Standards: Indicators, Level, Strategic Benchmarks (with Calculations Based on the Case Study of Ukraine). *Sustainability*, 12, 21. https://doi.org/10.3390/su12218953.

Kharazishvili, Yu. M., & Dron', Ye. V. (2014). *Forecasting of indicators, threshold values and level of economic security of Ukraine in the medium term perspective* [in Ukrainian]. [Харазішвілі, Ю. М., & Дронь, Є. В. (2014). *Прогнозування індикаторів, порогових значень та рівня економічної безпеки України у середньостроковій перспективі*. https://niss.gov.ua/sites/default/f iles/2014-12/prognoz-5238c.pdf]

Lopez-Velasco, A. R. (2022). Social Security as Markov Equilibrium in OLG Models: Clarifications and Some New Insights. *Economic Letters*, 217, 110707. https://doi.org/10.1016/j.econlet.2022.110707

Novikova, O. F., Sydorchuk, O. G., & Pankova, O. V. (2018). *State and prospects of social security in Ukraine: expert assessments.* Lviv Regional Institute of Public Administration of NAPA [in Ukrainian]. [Новікова, О. Ф., Сидорчук, О. Г., & Панкова, О. В. (2018). *Стан та перспективи соціальної безпеки в Україні: експертні оцінки.* Львівський регіональний інститут державного управління НАДУ].

Prasad, N., & Gerecke, M. (2010). Social Security Spending in Times of Crisis. *Global Social Policy*, 10, 218. https://doi.org/10.1177/1468018110366627. https://www.issa.int/sites/default/files/external-references/files/Social-Security-Spending-in-Times-of-Crisis-56830.pdf

Rodríguez, S. P. (2018). The dynamic effects of public expenditure shocks in the United States. *Journal of Macroeconomics*, 56, 340–360. https://doi.org/10.1016/j.jmacro.2018.04.005

Sydorchuk, O. (2020). Integral assessment of the level of social security in Ukraine. *Scientific Bulletin of Kherson State University. Series: Economic Sciences,* 38, 62–68 [In Ukrainian]. [Сидорчук, О. (2020). Інтегральне оцінювання соціальної безпеки України. Науковий вісник Херсонського державного університету, 38, 62–68. https://doi.org/10.32999/ksu2307-8030/2020-38-11]

Townsend, P. (Ed.) (2009). *Building Decent Societies. Rethinking the Role of Social Security in Development. Basingstoke*. Palgrave Macmillan/ILO.

Varnalii, Z. S. (2022). Human social security as a research object of economic security science. *Economic Herald of the University*, 52, 90–97 [in Ukrainian]. [Варналій, З. С. (2022). Соціальна безпека людини як об'єкт дослідження економічної безпекології. *Економічний вісник університету.* 52, 90–97. https://doi.org/10.31470/2306-546X-2022-52-90-97]

World Bank. (2025). World Development Indicators. Data set. Retrieved January 22, 2025. https://databank.worldbank.org/source/world-development-indicators

Zavora, T. M., & Chepurnyy, O. V. (2012). Analysis and evaluation of indicators of the state of social security of Ukraine. *Effective Economy*, 9 [in Ukrainian]. [Завора, Т. М., & Чепурний, О. В. (2012). Аналіз та оцінка індикаторів стану соціальної безпеки України. *Ефективна економіка*, 9. http://www.economy.nayka. com.ua/?op=1&z=1365]

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ДОСЛІДЖЕННЯ ВПЛИВУ ВІЙНИ В УКРАЇНІ НА СОЦІАЛЬНУ БЕЗПЕКУ ЛЮДИНИ

В с т у п . ***Досліджено вплив військового конфлікту в Україні на систему соціальної безпеки людини, враховуючи те, що під час війни така система характеризується впливом переважно зовнішніх факторів. Метою цього дослідження виступає емпіричне визначення впливу війни, що обумовлює стійкість соціальної безпеки людини в Україні в умовах гібридного та повномасштабного конфлікту.***

М е т о д и . ***Використано внутрішні чинники, які впливають на соціальну безпеку людини в Україні під час війни. В процесі дослідження впливу військової агресії з боку рф на систему соціальної безпеки людини в Україні застосовано інструментарій векторної моделі авторегресії. Для врахування військової агресії до моделей включено показник військових видатків у рф внаслідок коректної ідентифікації вказаним індикатором найгостріших фаз конфлікту та підготовки до війни.***

Р е з у л ь т а т и . ***Аналіз функцій реакції на імпульси показав, що частка населення, яка витрачає на проживання менше 50 % медіанного доходу, погіршується, особливо через вісім років після настання шоку. Причому коливання цього індикатора майже на 50 % пояснюються зміною військових видатків у рф. Зниження внутрішніх кредитів приватному сектору банками через рік після шоку у військових видатках у рф складає 7 %; в подальшому це падіння нівелюється, проте досягнення рівноважного рівня не прослідковується. Волатильність внутрішнього кредиту приватному сектору банками внаслідок коливання військових видатків у рф становить близько 22 %. Крім того, внаслідок військової агресії спостерігається миттєве зростання кількості внутрішньо переміщених осіб і нових переміщень, пов'язаних із конфліктом і насильством, більш ніж на третину. Водночас волатильність цього індикатора на 95 % пояснюється коливаннями військових видатків у рф. Зростання особового складу Збройних сил в Україні внаслідок шоку становить близько 8 %, а зміна військових витрат у рф пояснює 91 % коливань цього показника.***

В и с н о в к и . ***На основі результатів дослідження можна зробити висновок, що система соціальної безпеки людини в Україні є відносно стійкою внаслідок впливу такого зовнішнього чинника, як військовий конфлікт.***

К л ю ч о в і с л о в а : ***соціальна безпека, система соціальної безпеки людини, загрози, зовнішні шоки, війна в Україні, векторні моделі авторегресії.***

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