Kseniia Bondarevska [1]

MODELING OF THE KEY THREATS AND IDENTIFICATION OF THE PROSPECTS FOR SOCIAL SECURITY SUPPORT IN THE SPHERE OF EMPLOYMENT AND LABOR PAYMENT IN UKRAINE

[1]University of Customs and Finance

Abstract: *As a result of the research, the conceptual foundations of the mechanism for assessing key threats to social security in the sphere of employment and labor payment and prospects for their neutralization in Ukraine were developed. The dynamics of the parameters of employment security and salary security were studied within the framework of factor models of key threats to social security in the labor market of Ukraine, which reflect the impact of each threat on the coefficient of the ratio of labor supply and demand. In the process of analyzing threats to employment security and salary security, the assessment of the influence of such parameters as the level of informal employment, the level of youth unemployment, the average monthly wage, the index of real wages, the ratio of arrears from salary payments and the wage fund was carried out. The distribution of generalized factors of threats to social security in the labor market proved the instability of the dynamics of changes in the analyzed indicators during 2006– 2018, as well as the significant negative severity of the deepening of the crisis phenomena of 2008–2009 and 2014– 2015, which reflects the high level of negative values of the factors. Employment and salary indicators from 2019 were deliberately not taken into account in the modeling process, since the study did not include the assessment of labor market parameters in the context of the exacerbation of risks to social security during the pandemic (2020-2021) and war in Ukraine (2022) due to their low manageability and spontaneity*
Key words: social security, threats to social security, labor market, social security in the labor market, employment, labor payment, modeling of the threats

The processes of economic transformation, in particular in the context of changes in the method of production, the nature of production relations and property relations, reflect the transition to the information society and the knowledge economy, which is characteristic of the current stage of social development. It is they who cause the significant transformations in the labor market, which are expressed in the emergence of new and changes in traditional professions, the emergence of non-standard forms of employment, and the growth of structural unemployment. The relevant processes exert the significant influence on the development of economic systems as a whole and form fundamentally new qualities of social and labor relations, focused on the priority of innovations and the information component.

At the same time, the transformational changes in both the global and national economies carry numerous risks in the sphere of labor and employment of the population, which contribute to the emergence of threats to social security in the labor market. Among them, the threats associated with the spread of the informal employment, the youth unemployment, the exit of the elderly from the labor market, and a decrease in the level of income of the population are of particular relevance. All this, in turn, requires a deep and complex diagnosis, which will include not only the determination of the current state of threats, but also the coverage of their predictive characteristics, taking into account the possibilities of adjusting the received data, which is especially important in the conditions of the variability of the external and internal economic environment.

The results of research of ensuring the social security and neutralizing the threats in the sphere of employment and labor payment were reflected in the scientific works of foreign and domestic authors. Among the publications of foreign researchers, the scientific works of T. Vilhagen, K. Crouch, B. Menihert, and G. Standing should be noted, which highlight the conceptual foundations of security in the context of the development of human potential and the functioning of the labor market [1-3]. Important aspects of the development of the labor market and provision of social security are revealed in their works by domestic researchers O. Grishnova, O. Doronina, L. Lisohor, U. Sadova, O. Sydorchuk, L. Shaulska and others [4-8]. Scientific and practical approaches to the use of tools for economic and mathematical modeling and assessment of the level of well-being of the population, and the migration component of socio-economic relations, have been used by scientists S. Kozlovskyi, D. Bilenko, M. Kuzheliev, L. Nikolenko, O. Peresada and others [9, 10]. At the same time, the need to update the existing threats in the sphere of employment and labor payment, as well as substantiation of ways to neutralize them in modern conditions, is becoming

especially urgent. Taking into account the significant scientific output of domestic and foreign scientists in the sphere of labor market development and social security, as well as the scientific-theoretical and practical significance of the outlined problems, there is the objective need for author's justification of strategic directions for ensuring social security in the labor market, taking into account the key threats to its development on at the stage of transformational changes in the economic environment in conditions of high dynamism and instability of the economic situation.

The important component of the mechanism for assessing the key threats and prospects for overcoming them in the context of ensuring the social security in the labor market of Ukraine is the determination of strategic directions for solving the above-mentioned problematic aspects using the tools of economic and mathematical modeling. The specificity of modeling is that with its help, it becomes possible to reproduce certain properties of the object under study with the help of equations and algorithms, as well as to study changes in the behavior of the object under certain conditions, as close as possible to real ones.

Among the stages of modeling the key threats to social security in the labor market, it is appropriate to identify the following: the formulation of the goal of modeling; the determination of the assessment parameters and their numerical values; the collection of the necessary array of information and its software processing; the implementation of the defined models using the selected software product; checking the models for adequacy and carrying out an assessment of the accuracy of the results; the calculation of the impact of factors and assessment of the significance of each of them in the dynamics of the performance indicator; the characteristics of the modeling results; taking into account the obtained results to determine strategic priorities for ensuring the social security in the labor market.The purpose of economic and mathematical modeling is to assess the key threats to the social security in the labor market under the conditions of changing the dynamics of the main parameters. Taking into account the significant threats that exist in the labor market of Ukraine and hinder the achievement of social security on it, taking into account the results of an expert study, we consider it appropriate for the purpose of building appropriate models to choose parameters that testify to such threats and negative phenomena, such as: the spread of informal employment; the growth of youth unemployment; the low level of the labor payment. That's why the main modeling parameters were defined as: the level of informal employment (%); the unemployment rate of persons aged 15–24 (%); the unemployment rate of persons aged 25-29 (%); the unemployment rate of persons aged 30–34 (%); the average monthly salary (UAH); the real wage index (%); the ratio of arrears from the payment of wages and the wage fund (times). In particular, the above list of indicators provides the assessment of phenomena both in the sphere of the employment security (the level of informal employment, the youth unemployment rate) and the salary security (the average monthly wage, the real wage index, the ratio of arrears from wage payments to the wage fund).

The ratio of labor supply and demand (the ratio of the number of vacancies to the number of registered unemployed) was chosen as the result indicator reflecting the essence of the strategy for ensuring social security in the labor market, which determines the degree of achievement of labor market equilibrium and its corresponding situation at the time of the analysis (Kds). Thus, if the coefficient reaches the level of one, the full correspondence between the demand and supply of labor force and the balanced situation of the labor market is ensured, which, unfortunately, is unattainable in real economic conditions. If the number of vacant jobs exceeds the number of registered unemployed, the labor market situation is labor shortage, which indicates an excess of demand for labor over its supply. At the same time, the excess of the number of unemployed labor over the number of vacancies represents a labor surplus situation in the labor market and determines the excess of the supply of labor over the demand for it. Thus, the maximum possible approximation of the value of Kds to unity is an important condition for balancing the labor market and ensuring the social security of the population in matters of employment. As the time period of the research, the period from 2006 to 2018 inclusive was determined, which makes it possible to specify the existing trends and factors of their change, as well as to develop a further forecast of the development of events in the future, which is provided by the mechanism for assessing threats to social security in the labor market and directions for their neutralization . Threat modeling provides the opportunity to specify trends and factors of their change in the labor market in terms of its economic cyclicality (the period before and after the economic crisis of 2008, as well as the events of 2014 in Ukraine). Employment and wage indicators from 2019 were deliberately not taken into account in the modeling strategies, since the study did not include the assessment of labor market parameters in the context of the exacerbation of social security risks during the pandemic (2020-2021) and war in Ukraine (2022) due to their low manageability and spontaneity.

Thus, there is currently the significant imbalance of supply and demand in the labor market of Ukraine, which is confirmed by statistical data. At the same time, the most significant gap between the number of vacancies and employees who want to find employment was observed during the crisis period of 2008, when there was a significant reduction in the demand for labor and an increase in the number of unemployed. In general, during the studied period, the volume of labor demand decreased by 65.7%, and the volume of supply decreased by 56.2%. Thus, the rate of reduction in the number of vacant jobs significantly exceeds the rate of decrease in the number of registered unemployed, which is evidenced by the decrease in the ratio of demand and supply. The lowest values of the ratio of supply and demand were recorded in the crisis and post-crisis periods (2008 and 2015), which was caused by the simultaneous reduction in the number of vacancies along with the increase in the number of unemployed persons. At the same time, it is worth noting a certain improvement in the dynamics of the studied indicator, starting from 2016, which is confirmed by its positive growth trends, in contrast to the unstable dynamics of previous years [11,12,13,14].

Of particular importance in the process of assessing the key threats to social security in the labor market and substantiating the prospects for their change in order to form strategic directions for improving the situation is the forecasting of relevant trends for each of the simulated threats. The results of the factor analysis of threats proved the instability of the dynamics of their changes during the period 2006–2018 years, which is expressed in a clear reflection of the crisis periods of 2008–2009 and 2014–2015, during which there was the increase in both the employment security threats and the salary security threats. Thus, there is a need to take into account the trends of the spread of youth unemployment, which is a leading factor in increasing threats to employment security, as well as a decrease in real wages, which causes an increase in threats to the salary security, at the current stage of the development of socio-economic relations in Ukraine through the formation of an effective state policy based on strategic priorities of ensuring social security in the labor market.

REFERENCES

1. Hijzen A, Menyhert B (2016) Measuring Labour Market Security and Assessing its Implications for Individual Well-Being. OECD: Social, Employment and Migration Working Papers. No. 175. OECD Publishing, Paris. URL: https://www.oecd-ilibrary.org/docserver/5jm58qvzd6s4-en.pdf?expires=1582033692&id=id&accname=guest&checksum=6A7E7DA3E7903FA4B447A117CF3E5CA7

2. Crouch C (2010) Flexibility and security in the labour market: An analysis of the governance of inequality. ZAF 43:17–38. URL:https://link.springer.com/article/10.1007/s12651-010-0031-9#citeas

3. Wilthagen T (2002) Managing social risks with transitional labour markets. In: Mosley, H., O'Reilly, J., Schömann, K. (eds.) Labour Markets, Gender and Institutional Change: Essays in Honour of Günther Schmid, pp. 264–289.

4. Grishnova OA, Kharazishvili YuM (2018) Quality of life in the social security system of Ukraine: indicators, level, threats. Ukraine economy 11-12: 157-180.

5. Shaulska L, Doronina O, Naumova M, Honcharuk N, Bondarevska K, Tomchuk O (2020) Cross-country clustering of labor and education markets in the system of strategic economic management. REICE: Revista Electrónica De Investigación En Ciencias Económicas 8 (16): 166–196. DOI:10.5377/reice.v8i16.10681

6. Lisohor LS (2012) Forecasting the development of the labor market in Ukraine: problems and prospects. Labor market and population employment 1: 54-56.

7. Sadova UYa, Stepura TM (2018) Jobs as the basis of a new employment policy and reproduction of the quality of human potential in the country. Labor market and population employment 2 (55): 15-22.

8. Sydorchuk OG (2018) Social security: state regulation and organizational and economic support: monograph. Lviv: LRIDU NADU, 492 p.

9. Kozlovskyi S, Bilenko D, Kuzheliev M, Lavrov R, Kozlovskyi V, Mazur H, Taranych A (2020) The system dynamic model of the labor migrant policy in economic growth affected by COVID-19. Global J. Environ. Sci. Manage. 6(SI): 95-106. URL: https://www.gjesm.net/article_40322_9d782b96c1e7cd7c4bef2547b0393905.pdf

10. Kozlovskyi S, Nikolenko L, Peresada O, Pokhyliuk O, Yatchuk O, Bolgarova N, Kulhanik O. (2020) Estimation level of public welfare on the basis of methods of intellectual analysis. Global J. Environ. Sci. Manage. 6(3): 355-372. URL: https://www.gjesm.net/article_38259_b5e58d0c075bd7a9717cd6ab455f76b9.pdf

11. Economic activity of the population of Ukraine 2008:Statistical collection (2009)Kyiv:Derzhkomstat of Ukraine 232p.

12. Economic activity of the population of Ukraine 2018: statistical collection (2019) Kyiv: State Statistics Service of Ukraine 20 p.

13. Economic activity of the population of Ukraine 2009: statistical collection (2010) Kyiv: Derzhkomstat of Ukraine 205p.

14. Economic activity of the population of Ukraine 2014: Statistical collection (2015) Kyiv: State Statistics Service of Ukraine 207p.

Bondarevska Kseniia V. – doctor of economics, Professor of the Department of Social Security and Tax Policy, University of Customs and Finance, Dnipro, e-mail: kseny-8888@i.ua