

ANALYSIS OF CRISIS LEVEL IN REGIONS OF UKRAINE

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Abstract. The purpose of the paper is to identify the crisis level in regions of Ukraine in 2013–2015. The article also determines features, causes, and development of crisis situations in the regions of Ukraine and proposes measures to prevent the emergence and development of crisis situations or their disposal. *Methodology.* The basis for assessing the level of crisis in the socio-economic development of the region is to determine the level of deviation of actual indicators from the threshold values of socio-economic security. Such an assessment needs justification for the deviation of the actual indicators from the threshold values of socioeconomic security, which will correspond to a certain state of the depth of the crisis. The non-crisis zone characterizes the region as a powerful territorial centre of the country in the social and economic aspects. Actual indicators of the socio-economic development of this region are higher than the threshold values. Given the slowdown in the region's development, the lack of innovative mechanisms for increasing economic potential, and the expansion of social programs for the population, this region may become a pre-crisis zone. A quantitative indicator of the zone of pre-crisis state, its threshold is numerical measurements, characterized by a 25-percent deviation from the threshold level of the non-crisis zone, which corresponds to the limits of indicators from 1.0 to 0.75. The growth of the same pace of socio-economic development, the implementation of effective measures of crisis management will lead to the transition of the region into a non-crisis zone. With a further fall in the level of socio-economic development, the region will fall into a zone of moderate crisis. In order to return to a pre-crisis state, regional authorities should develop a reactive anti-crisis strategy and effective rehabilitation programs. A quantitative indicator of this zone, its threshold is numerical measurements, which corresponds to the limits of the indicators from 0.75 to 0.5. The timely implementation of liquidation measures to neutralize the effects of the existing ones and prevent new crises will lead to the transition of the region into a zone of deep crisis. The zone of deep crisis is characterized by a partial destruction of the socio-economic system of the region. Out of such a situation requires the use of systemic measures of anti-crisis state and regional management with the assistance of foreign aid. A quantitative indicator of this zone, its threshold is numerical measure, which is limited to 75 percent deviation from the threshold level of the non-crisis zone, which corresponds to the limits of indicators from 0.5 to 0.25. The zone of bankruptcy involves the complete destruction of the region as a social and economic system. The reasons for such a situation are force majeure circumstances (wars, natural disasters, man-made disasters, etc.). Such a state of the region is characterized by the cessation of the work of enterprises and organizations, the economic and social devastation of the region, the intensification of migration processes. The solution to the current situation is targeted state crisis management. A numerical indicator of this zone, its threshold is considered numerical measurements, characterized by more than 75 percent deviation from the threshold level of the non-crisis zone, which corresponds to the limits of indicators from 0.25 to 0.0. *Results* of the survey showed that there was a moderate level of crisis according to economic parameters with a high risk of transition into a deep crisis in 14 of 27 regions as of 2015. *Practical implications.* Thus, the conducted analysis on the crisis of socio-economic development of Ukraine's regions made it possible to detect the level of its depth according to social and economic parameters and to determine the weakest areas that need the most support and display in anti-crisis regional management. *Value/originality.* The conducted grouping requires the use of a differentiated approach to the selection of strategies for regional crisis management from the standpoint of crisis prevention, the withdrawal of the region from the crisis and management of its consequences.

Key words: crisis, crisis management, region, anti-crisis measures, crisis notification.

JEL Classification: R11, R12, R58

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1. Introduction

The urgency of the research. In recent years, there has been a sharp increase in crisis situations in Ukraine. Inflationary processes enclosed the entire system of credit, financial, and banking activities, business is reducing, the labour migration to countries of near and far abroad is increasing, and the share of the shadow economy is growing. These processes prevent the country and its regions from overcoming the crisis and make it even more protracted and deep, as well as create an unstable economic environment and social tension. It is necessary to make a fundamental restructuring of the economy of state regions, a redistribution of capital from the old forms of economic activity to new ones. If the crisis occurs, it is expected to use it as a method of restructuring the economy of the region. Otherwise, the further aggravation of contradictions will occur in all spheres of life. The depth and nature of crisis could threaten the very existence of the regional socio-economic system. Analysis of studies and publications. Crisis regions are a new problem for the economy of Ukraine that will eventually only become actual. Features of the crisis course in Ukraine led national researchers to an intense and in-depth research of a true phenomenon of the crisis of state development and nature of crisis processes that took place and are still ongoing in the regions of Ukraine. The contribution to the study on the emergence and development of crises at the meso and macro levels was made by the following Ukrainian researchers as O. Baranovskyi (Baranovskyi, 2009), T. Mirzodaieva (Mirzodaieva, 2005), S. Herasymchuk (Herasymchuk, 2010), S. Maiurenko (Maiurenko, 2011), N. Holiad (Holiad, 2004), B. Udovychenko (Udovychenko, 2011), M. Butko (Butko, 2011), T. Honcharova (Honcharova, 2004), and others. Works of these researchers, along with many other prominent scholars, gave the ground to formulate their own vision, which is reflected in this article, based on official data of the State Statistics Service of Ukraine (www.ukrstat.gov.ua). The aim of the study is to identify problems and evaluate the crisis situation of economic and social spheres of Ukraine's regions, examine features of crisis situations in regions of our country.

2. Assessment of crisis level of regions of Ukraine according to the economic parameter

It is proposed to consider indicators to assess the crisis level of regions of Ukraine according to economic parameters for 2001–2015, which are preferential for the support of the socio-economic development of Ukraine. In this context, the list of indicators of crisis-level assessment of the socio-economic development of the region should be as wide as possible, as the crisis is a systemic phenomenon and the more problematic positions would be found, the better. However, indicators of crisis-level assessment of regional

development should reflect the severity of the crisis, resource capabilities of critical regions, the aggravation of basic parameters of life quality, and the concession of social services. As already noted, the assessment of crisis level of the socio-economic development of the region is realized through the indicative method, which is conducted by comparing actual and threshold values of social and economic security of the region.

The calculation of crisis depth of regions of Ukraine according to economic parameters is shown in Table 1.

The analysis showed that there was a moderate level of crisis according to economic parameters with a high risk of transition into a deep crisis in 15 of 27 regions as of 2015. This situation is extremely negative, as it affirms the lack of implementation of anti-crisis measures of a preventive nature into the regional management.

The high level of crisis according to economic parameters is caused by the low level of fixed capital investment, which makes it impossible to fully develop the material and technical potential of the region and to ensure the growth of its economy. Factors of fixed capital investment are economic interests of investors, geopolitical position of the region, the payback period of investment resources, investment appeal of the region, which is not always provided and provokes crisis situations in its economic development. Among the regions of Ukraine, the most indications of the economic crisis are observed in Volyn region. The assessment has shown that there are indicators of crisis processes in Volyn region that characterize the low level of innovative activity of industrial enterprises, a significant amount of transfers in the structure of GRP, low level of GRP, low level of export, high level of import, and a significant share of loss-making enterprises.

This situation is typical for most regions, which are in the area of moderate crisis. The causes of crisis of economic development in these regions are technical and technological backwardness of major industrial assets, low technological structure of the economy with low share of high technology products, the lack of innovative activity, that all determine the high amount of energy and raw materials, physical and moral obsolescence of equipment and technologies, unprofitableness of enterprises and low competitiveness of the products on the world markets. Dnipropetrovsk and Poltava regions, as well as the city of Kyiv, were in the non-crisis area according to economic parameters during 2013–2015. However, these regions have a very low share of innovative products, mainly industrial; the share of loss-making enterprises in the economy of the region is quite high, which creates conditions for their transition to the pre-crisis state. Accordingly, a serious threat of emergence and development of crisis situations is traced in these regions in case of proceeding the policy on neglecting innovations, stimulating the export activity, the absence of measures to upgrade the technical and technological base.

Table 1

Assessment of crisis level of regions of Ukraine according to economic parameters for 2013–2015, %

Region of Ukraine	Regional share of GRP in GDP of the state, %	Export-import coverage ratio	Fixed capital investment, % before GRP	Level of wear and tear, %	Share of sold innovative products in general output, %	Share of loss-making enterprises in all sectors of the economy of region	Share of export in GRP of the region, %	Share of import in GRP of the region, %	The ratio of transfers from the state budget to GRP, %	Average level	Crisis status
Vinnitsia	-39,5	55,3	-3,4	-10,2	-91,7	-38,6	-65,3	107,9	-60,9	-22,2	preceding a crisis
Volyn	-61,8	-46,5	-1,1	30,9	-76,0	-42,6	-49,2	-40,2	-67,7	-46,6	moderate crisis
Dnipropetrovsk	174,3	63,8	-12,3	-3,1	-83,7	-56,3	18,3	-33,7	45,5	6,8	no crisis
Donetsk	233,8	228,9	-22,7	5,9	-68,3	-50,2	-34,7	16,4	24,2	-38,3	moderate crisis
Zhytomyr	-55,7	20,4	-3,0	19,7	-73,3	-44,7	-64,1	58,5	-65,2	-30,2	moderate crisis
Zakarpattia	-60,5	-23,8	-5,8	21,0	-43,7	-22,8	9,2	-64,0	-70,5	-38,0	moderate crisis
Zaporizhzhia	13,2	73,1	-5,9	-0,9	-60,3	-52,7	25,2	-35,7	-11,9	-13,2	preceding a crisis
Ivano-Frankivsk	-47,0	7,6	24,9	22,4	-64,7	-35,3	-45,2	-4,1	-63,5	-31,2	moderate crisis
Kyiv	3,0	-63,9	79,6	47,2	-84,3	-40,6	-52,8	-52,3	-19,8	-29,5	moderate crisis
Kirovohrad	-59,1	73,8	0,0	-5,0	-67,3	-29,4	-68,3	177,0	-58,1	-11,4	preceding a crisis
Luhansk	15,9	186,9	-0,6	10,1	-74,3	-50,8	-19,2	19,8	-25,4	-4,4	preceding a crisis
Lviv	5,4	-46,6	53,5	12,6	-82,0	-43,8	-61,8	-31,3	-51,0	-35,1	moderate crisis
Mykolaiv	-42,6	100,5	12,6	1,5	-66,3	-46,3	-4,1	-3,3	-41,0	-17,3	preceding a crisis
Odesa	31,4	-53,5	12,4	17,4	-73,7	-47,2	-49,8	-45,1	-22,9	-33,0	moderate crisis
Poltava	-0,3	135,8	22,8	-9,5	-46,7	-48,2	-18,2	41,8	-3,1	0,05	no crisis
Rivne	-57,8	1,6	0,5	27,8	-94,3	-45,8	-60,8	27,2	-66,4	-36,1	moderate crisis
Sumy	-52,7	68,1	-17,9	2,5	3,3	-45,9	-35,3	24,6	-50,7	-21,4	preceding a crisis
Ternopil	-67,6	-32,1	-3,6	29,5	-67,7	-35,6	-81,8	89,4	-71,3	-34,5	moderate crisis
Kharkiv	64,2	-33,0	-7,2	-12,7	-49,3	-48,9	-62,6	-2,3	-12,3	-25,6	moderate crisis
Kherson	-62,2	80,4	-9,5	-2,5	-65,0	-42,9	-66,6	156,4	-62,8	-15,3	preceding a crisis
Khmelnyskyi	-52,7	-14,0	8,3	22,2	-79,3	-41,1	-72,2	43,7	-64,9	-35,0	moderate crisis
Cherkasy	-45,6	53,0	7,6	1,3	-91,0	-39,5	-50,4	35,7	-53,1	-26,6	moderate crisis
Chernivtsi	-73,6	-0,4	27,6	40,2	-68,3	-41,1	-78,0	100,8	-74,0	-27,0	moderate crisis
Chernihiv	-55,7	6,1	-21,2	0,3	-82,0	-45,9	-66,3	44,0	-57,3	-36,8	moderate crisis

* Calculated by the author according to the data (www.ukrstat.gov.ua)

3. Assessment of crisis level of regions of Ukraine according to the social parameter

In order to determine the crisis level of regions of Ukraine, it is necessary to analyse the crisis level of regions according to indicators of social development. The calculation of crisis depth of regions of Ukraine according to social parameters is shown in Table 2.

Regions that are in a deep crisis according to social parameters as of 2015 were Dnipropetrovsk, Donetsk, Zaporizhzhia, Luhansk and Mykolaiv, and the Autonomous Republic of Crimea, where the deviation level from the threshold non-crisis state is more than 50%. The social tension in these regions is pretty high, which is the reason that the conflict situations arise as a result of poor quality of life over the last decade.

Table 2

Assessment of crisis level of regions of Ukraine according to social parameters for 2013–2016, %

Region of Ukraine	Housing, m ² per inhabitant	Unemployment rate	Share of employable population in total number of population, %	Mortality rate	Share of population with per capita income below poverty line	Education expenses, % before GRP	Healthcare expenses, % before GRP	Culture and art expenses, % before GRP	Birth rate	Average level	Crisis status
Vinnitsia	31,6	-13,8	14,4	-52,0	-75,9	-30,4	-53,2	-87,1	-39,0	-33,9	moderate crisis
Volyn	1,2	-18,1	15,8	-44,3	-84,4	-20,4	-53,6	-86,1	-18,0	-34,2	moderate crisis
Dnipropetrovsk	15,6	14,3	15,3	-52,2	-67,1	-71,7	-78,0	-95,0	-39,1	-50,2	deep crisis
Donetsk	11,8	-2,1	15,8	-53,4	-64,5	-73,5	-75,0	-94,3	-46,5	-52,4	deep crisis
Zhytomyr	21,2	-26,7	17,6	-54,2	-78,5	-18,9	-49,0	-86,3	-34,3	-34,3	moderate crisis
Zakarpattia	11,3	-12,1	15,4	-36,2	-80,0	-5,9	-48,4	-83,4	-16,9	-28,5	moderate crisis
Zaporizhzhia	10,6	1,6	15,5	-49,7	-71,0	-62,6	-71,5	-93,2	-42,5	-50,3	deep crisis
Ivano-Frankivsk	15,1	-16,2	3,9	-38,1	-78,9	-31,8	-53,6	-85,2	-29,8	-35,0	moderate crisis
Kyiv	51,6	5,9	14,6	-53,2	-73,5	-57,2	-70,6	-90,7	-35,1	-34,3	moderate crisis
Kirovohrad	20,8	-18,8	14,3	-54,8	-78,9	-33,2	-56,1	-87,1	-41,4	-37,3	moderate crisis
Luhansk	18,0	-0,2	11,2	-53,6	-73,3	-63,9	-64,8	-91,0	-47,8	-50,6	deep crisis
Lviv	3,9	-12,4	12,8	-39,0	-77,3	-39,2	-61,7	-87,8	-34,5	-37,2	moderate crisis
Mykolaiv	7,8	-18,5	16,5	-49,5	-69,9	-47,1	-66,7	-89,8	-38,2	-50,1	deep crisis
Odesa	9,2	27,0	10,0	-48,1	-75,7	-60,7	-72,0	-91,5	-32,4	-37,1	moderate crisis
Poltava	21,8	-14,0	15,7	-55,0	-76,4	-64,2	-74,1	-92,7	-46,1	-42,8	moderate crisis
Rivne	4,1	-30,9	14,7	-40,4	-81,2	-22,2	-53,1	-85,3	-15,0	-34,4	moderate crisis
Sumy	14,3	-19,7	15,8	-55,3	-78,1	-40,9	-57,4	-88,8	-48,6	-39,9	moderate crisis
Ternopil	13,2	-27,9	6,7	-44,8	-83,4	-11,9	-45,4	-81,1	-35,7	-34,5	moderate crisis
Kharkiv	12,5	7,5	15,5	-48,7	-68,6	-64,6	-73,0	-92,7	-45,9	-39,8	moderate crisis
Kherson	13,0	-20,1	16,5	-48,6	-78,6	-21,9	-52,3	-86,0	-36,8	-35,0	moderate crisis
Khmelnyskyi	22,6	-18,7	16,4	-51,3	-78,9	-20,3	-51,9	-84,0	-38,1	-33,8	moderate crisis
Cherkasy	30,1	-24,4	16,4	-54,0	-72,3	-38,9	-58,2	-87,6	-45,8	-37,2	moderate crisis
Chernivtsi	11,3	-20,2	12,2	-39,4	-77,9	-7,7	-41,9	-82,2	-29,9	-30,6	moderate crisis
Chernihiv	25,5	-23,6	18,3	-60,5	-76,1	-36,5	-54,2	-85,3	-48,4	-37,9	moderate crisis
Kyiv City	3,9	49,7	21,7	-24,3	-32,0	-84,8	-87,9	-96,5	-35,4	-31,7	moderate crisis
Sevastopol City	2,6	42,9	3,4	-38,3	22,1	-51,4	-64,0	-84,4	-44,6	-33,5	moderate crisis

* Calculated by the author according to the data (www.ukrstat.gov.ua)

4. Conclusions

Therefore, by generalizing the conducted analysis on the crisis level according to economic parameters, it can be argued that the causes of the crisis, in the most of industrial regions of Central and Eastern Ukraine, are the following:

- business contractions in the economy of regions as a whole;
- high levels of corruption and shadow economy;

- the decrease of purchasing capacity of the region population;
- poor engineering and technical equipment of regions over the high level of wear and tear and low level of fixed capital investments;
- low innovation activity of enterprises in the region;
- the high amount of energy and raw materials, the dominance of industries of primary processing, especially in regions oriented to export.

The main causes of crisis situations, in addition to the above mentioned, for a number of regions of Ukraine (as Volyn, Zakarpattia, Ivano-Frankivsk, Ternopil, Khmelnytskyi, Chernivtsi, Cherkasy) that were in the area of moderate crisis according to economic parameters, are the following:

- remoteness from economic centres and raw material bases;
- lack of developed social and industrial infrastructures that makes the region unattractive to qualified labour force;
- historically formed conditions of operation, as a result, regions were not included to those of primary importance, those that are involved in

the implementation of major social and economic programs;

- low efficiency of capital investments.

Thus, the conducted analysis on the crisis of socio-economic development of Ukraine's regions made it possible to detect the level of its depth according to the social and economic parameters and to determine the weakest areas that need the most support and display in anti-crisis regional management. Regional development is made in times of crisis at the state level, so there is an actual need to search and develop new strategies for socio-economic development, the implementation of which will create conditions for improving the quality of life in regions of Ukraine.

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