

QUANTITATIVE ASPECTS OF THE CURRENT ECONOMIC CRISIS IN UKRAINE

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Key words: *economic crisis, cyclicity, Fourier analysis, macroeconomic indicators, coefficient of variation, periodicity of dynamics.*

The article attempts to quantify the main parameters that characterize the economic crisis in Ukraine. Historical and systemic approaches are used as a basis of research methodology. In the course of the research the following methods were used: analysis to determine the comparative dynamics of macroeconomic indicators; Fourier analysis to determine the cyclical nature of the dynamics of macroeconomic indicators, the calculation of the duration and length of cycles; f-statistics to confirm the validity of the performed theoretical approximation of the lines of dynamics; analysis of variance to assess the variability of macroeconomic indicators; synthesis to build a time map of the aggravation of the crisis period of Ukraine's economy.

A comparative analysis of the dynamics of key macroeconomic indicators for the period 2010-2020 in a quarterly manner. The cyclical nature of such dynamics is determined and formalized, with confirmation of reliability by means of f-statistics at the level of not less than 0.95. Two cycles of dynamics of macroeconomic indicators lasting 4 and 48 quarters were revealed. The beginning (IV quarter of 2010 / I quarter of 2011) and the end (IV quarter of 2023 / I quarter of 2024) of the modern period of economic crisis in Ukraine are determined. The variability of macroeconomic indicators according to their empirical values and deviations from the theoretical approximation of time lines is estimated and it is confirmed that the basis of variability of the analyzed indicators is their random fluctuations around the theoretical approximation of time lines. It was found that the greatest variability is inherent in price indices (consumer and industrial producers).

The article further develops the methodological and practical principles of preventing the development of crisis processes in Ukraine by confirming their cyclicity and determining the duration of cycles, which allows to justify the application of countercyclical measures taking into account the specifics of quantitative patterns of crisis processes.

The obtained results will contribute to the improvement of state regulation of economic development of Ukraine, taking into account its cyclical nature and duration of the current socio-economic crisis.

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