NONPARAMETRIC MODELING METHODS IN THE SUBJECTIVE QUALITY OF LIFE ASSESSMENT

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Abstract. The article deals with the non-parametric modeling methods application for assessment the Russians' social moods dynamics according to sociological monitoring data. The monthly population' express surveys results conducted by VTsIOM on a representative all-Russian sample in the period 2017-2022 are analyzed. Two types of models are presented: 1) "hard" models, for which nonparametric methods of mathematical statistics are used, and 2) "soft" models, constructed by the generalized linear model procedure. Due to the strong random component of monitoring indicators, comparable in magnitude to trend changes, as well as non-compliance with the hypothesis of their distribution normality, a non-parametric method was used to identify the difference in the medians of the samples using the Kruskal-Wallis test, followed by pairwise comparisons using the Mann-Whitney test. Along with this, it is proposed to consider dispersion-regression trend models of sociological nature indicators, built using the procedure of a generalized linear model, as "soft" models that reflect the trends in their change dynamics. The problems of the model specification and identification are also indicated in the case of modeling social processes

based on the results of monitoring public opinion. It is concluded that soft but effective models can be a good alternative to hard models.

Key words: sociological measurements; monthly polls; life satisfaction; social optimism; financial situation; the economic situation of the country; political situation; the general vector of the country's development; dynamic series; nonparametric methods of statistical analysis; "soft" models; generalized linear model of dispersion analysis.

JEL codes: C50.

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