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Theoretical and Methodological Approaches to Modeling and Forecasting Social Attitudes

The study raises the question of the possibilities of modeling and forecasting changes in social attitudes in Russian society, reflecting the assessment by the population of the correctness of the direction in which the country is heading, an assessment of the socio-economic and socio-political situation in the country. The analysis based on the time series of WCIOM social attitudes indices,[1] which are modeled using ARIMA models with structural components in the form of dynamic series of (1) socio-economic indicators, (2) indicators of the "reserve" standard/quality of living, and (3) the effect of the "present value" of expected future. This work was supported by the Russian Science Foundation, grant No. 24-28-01892.

An approach to modeling social attitudes based on three explanatory hypotheses:

(1) correlation of social attitudes economic indicators – consumer price index, real wages, real size of assigned pensions, real monetary incomes;

(2) the dependence of social attitudes on the "reserve" level/quality of life, i.e. the standard of living achieved in certain periods or conditions, social groups or countries that the population perceives as reference for comparison;

(3) explaining the shocks of social attitudes (such as "Crimean Spring", the 2018 Elections, the SVO in Ukraine) using the concept of a "present value" of expected future as a way to assess exogenous factors that "restore" faith in a positive picture of the country's future or personal well-being.

ARIMA models make it possible to predict changes in social attitudes, with the exception of shocks caused by special events in the country that mobilize the potential of patriotism. At the same time, there is an effect of a "reserve" level /quality of life, which consists in the fact that in addition to comparison with one's own past (changes in the social and economic situation during periods t-1, t-2, etc.). In addition there is a dependence of social attitudes on the state of the "benchmark of comparison", which can be standards of living in certain eras, social groups, or countries. This effect was measured through the statistics of search queries in Russia for the relevant keywords.

For each reference point (for example, for groups of countries – the "Collective West", the "Global South", or for epochs, for example, the era of the 1970s in the USSR), an index of societal gaps/gaps with a reserve standard of living (or quality of life) is calculated as follows:

$$SGap_j = -WS_j \cdot \sum_{\substack{i=1...n \\ \Delta v < 0}} (v_{i,RUS} - v_{i,j})$$

$SGap_j$ – index of societal gaps

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[1] WCIOM. Ratings / URL: https://wciom.ru/ratings/indeksy-socialnogo-samochuvstvija

WSj – index of interest in an object (country, epoch, social group) *j*, which acts as a comparison standard
$v_{i,j}$ – value of the *i-th* indicator, which is used to calculate the gap between Russia and object *j*
$v_{i,RUS}$ – value of the *i-th* indicator for Russia

The initial evaluation of the ARIMA models showed good accuracy in fitting the model to the actual series of social attitudes dynamics (in particular, for WCIOM index "To what extent do you agree that things are going in the right direction in the country?" It depends on the previous values of the index (time lag) and the interest of Russians in the "reference" countries in the corresponding periods.

At the same time, the model identifies outliers ("shocks") of social attitudes caused by events exogenous to the model (Table 1). For the period 2018-2023, in particular, different specifications of the model are fixed:

— series of additive outliers (+), i.e. a group of strong deviations in social attitudes in a certain time period, which nevertheless do not affect changes in attitudes dynamics in subsequent periods, in the time neighborhood of the 2018 Elections;

— transient outlier (+), i.e. a shift in the level (of social attitudes) followed by attenuation, in March 2022 (the beginning of SVO in Ukraine);

— innovation outlier (–), i.e. outlier affecting the subsequent dynamics of attitudes, in September 2022 (partial mobilization).

In addition, a number of model specifications revealed the opposite effect of the influence of the "reference" countries' factor on social attitudes:

— positive effect (increasing the value of social attitudes index) associated with Russians' interest in the BRICS and SCO countries;

— negative effect (lowering the value of social attitudes index) associated with Russians' interest in the countries of the "Collective West."

At the level of pilot assessments, the question whether the amplitude of shocks generated by patriotic events is stable and how much the potential of the effect of "present value" of expected future is exhausted with its frequent occurrence is considered.

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