

# International Rankings of Macro- Social Dynamics

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**Abstract:** The implementation of the UN Sustainable Development Goals and the Lisbon Strategy sets the task of a comprehensive study of the citizens' well-being, determining the state and trends in the level and quality of life not only by traditional methods of social statistics, but also through comprehensive sociological research. This approach has significant advantages since it allows us to generalize the state of social development of a society based on the population's opinions, to study the emerging social risks that concern the population, to determine the differentiation of countries by indicators of well-being. The foundations of the new approach to the analysis of social processes were laid by the scientific achievements of the 60s of the last century. The dominant paradigm was the economic goals and parameters of statistically measured national income, household income, wages and their differentiation. The environmental risks that threaten the future of civilization were identified and analyzed in the 70s of the XX century. The production contradiction, which raised the question of measuring the quality of life in a new way, was articulated. The economic component (economic growth) was mixed and replaced with the welfare parameter. The sustainable development, including the indicators of well-being, the fight against poverty, and the environment were declared to be the goals of the society. The tasks of monitoring the solution of these problems are solved by sociological research, whose mathematical formalization can become a structural element of economic and mathematical modeling of social processes.

**Keywords:** *sustainable development; well-being; quality of life; standard of living; international rankings.*

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## 1. Introduction

Social practices confirm the need to concentrate research on the impact of the unstable world on people's motivations and success practices of postmodernism. The criteria for the quality of life are socially significant living conditions and overcoming social exclusion (Munck R. 2005). Quality of life ratings are of interest not only to academic science. The criteria and indicators of a number of ratings serve as the basis for forming medium and long-term development goals. At the same time, analytical functions are performed not only by integral, usually index parameters, but also by structural elements of the study and their impact on the final result.

A person's perception of the quality of life and assessment of the level of social exclusion is the basis for identifying trends in postmodernism, new practices of mass society, the ratio of material and non-material factors of social dynamics in a wide range from the problems of the "digital revolution" to the contradictions of public health

The study of social changes in the modern world is actualized by the need for analysis within the Sustainable development program, whose objectives tree is based on three essential foundations of quality of life – welfare, demography and ecology (Transforming, 2015).

The formalization of quality of life indicators takes on a new meaning due to the need to integrate them for forecasting and programming social processes. In this direction, postmodern sociology seriously lags behind the achievements of fellow economists, who have developed a number of economic and mathematical models of company dynamics and macroeconomics. These models also include social components to a certain extent: two-sector (capital, labor) modeling of economic growth based on the Cobb-Douglas production function (Renshaw & Geoff, 2005) includes elements of work activity and education (Solow, 1956) and the total human capital stock (Lucas, 1988). In this regard, the task of including quality of life indicators for predictive activities and modeling of socio-economic dynamics, as well as evaluating national megaprojects, is being updated. Traditional modeling arguments – labor and capital – are complemented by value characteristics and structural elements of the quality of life.

## 2. Evolution of views

Until the 60s of the XX century, the analysis of human life values was based mainly on statistical data and indicators of the economic dynamics levels that reflect the labor participation of a person in creating material

values. First of all, this is the level of income, wages, and consumption. The economy of the consumer society was evaluated by a system of such parameters. Social-domestic and social-cultural goods were derivative, but they were significant for demonstrating the "way of life". At the same time, the economic approach provided an opportunity for sociological research to build a society stratification system according to the criteria of income and professional affiliation. The social parameters that directly affect the position of a person in society did not receive sufficient development. The system of methodological principles and methods of sociological research developed by Gallop (<https://www.gallup.com/home.aspx>) analyzing socio-political processes and marketing research, also did not find application and were not used to identify self-assessments of the population based on values, goals and the socio-cultural context in which a person lives.

The statistical criteria were based on the theoretical propositions of the "welfare economy" [Pigou A.,1920], the "distribution of wealth" (Clark & Bates, 1908), and the principles of the "universal economy", where the economic mechanism develops production for a person (Perroux, 1947).

The formation of the consumer society predetermined the structuring of social standards of life, which determine the goal-setting and motivation of the population, and are socially approved by the subjective assessments of the population. This required the development of technologies and criteria for assessing the quality of life that differ from statistical methods. The deep foundations of such dimensions were the social practices of the nascent information society of the post-industrial era (Bell, 1973). At the same time, socio-economic development required assessing the results of two substantive processes – the results of the impact of scientific and technological progress on the quality of life and the shock impact of the first world energy crisis. The "movement for social indicators" (Bauer, 1966), which introduced the analysis and standardization of social parameters of the quality of life into research, was born on these methodological foundations.

A new interpretation of the economic dynamics and qualitative characteristics of social life was presented in the form of a system of indicators by Forrester (1971). The work was based on a revolutionary method of calculation, which J. Forrester called a "system dynamics. World-1 and World-2 models, aimed at developing scenarios for the development of all mankind in its relationship with the biosphere, could take into account many variables and their interaction in the behavior of a complex system, depending on time, they consisted of more than forty nonlinear equations describing the interdependence of the selected variables.

J. Forrester's system and the subsequent reports of the Roman Club expanded the view of the study of the quality of life (Meadows, 1972). First, statistical data on the quality of life were included in the system of modeling world development, and second, the quality of the environment, ecology, were articulated as the most important component of human life and society. Third, the fundamental principle of economic development - economic growth - was questioned.

Modeling of global dynamics showed that the growth of industrial production worsens the human environment and, therefore, the national product growth cannot be the goal of economic dynamics. These studies and the discourse on the relationship and priorities of the economy and ecology served as the basis for the inclusion of environmental problems as an essential component of the quality of life and the prediction of socio-economic dynamics.

The second half of the 70s gave rise to a new direction of life research-the conceptualization of the "perceived quality of life" (Andrews, & Withey, 1976; Campbell, Converse, & Rodgers, 1976).

This approach was based on the need to study life satisfaction and build systems of indicators that reflect individual needs and subjective feelings of a person, to overcome the limitations of the average statistical data, to move to a dialogue with respondents. The formalization of indicators of human feelings allowed us to analyze life satisfaction from these positions, to compare the current state of the quality of life with a certain desired parameter of this field of research.

A new stage of globalization, which began in the 70-80s of the last century, led to the development of research as the actual globalization processes and its structural elements: the interaction of countries and peoples in the fields of economy, competition, social and political relationships. Studies of the role of global processes in national social and political relations, comparative analysis of the success of the population's life spheres were intensified.

Against this background, in the portfolios of a number of research centers, the "human rights" indicator was used as an aggregated criterion of the quality of life used in international ratings, which has also been used in recent years, but on a decreasing scale. In international comparisons, there is a problem of different interpretations of human rights as the values of a democratic society, there are risks of representativeness of such studies, since the expert analysis is carried out by specialists who do not live in the country of the sociological survey. A certain alternative is the study of social capital, which is based on mutual trust, formed in social relations and

characterizes the quality of life (Bourdieu, 1983). The articulation of this approach in a concentrated form is the ratings of the population's trust in government bodies and individual statesmen.

One of the postmodern society characteristics is the concern of society and each individual with access to the most important social spheres - education and health care. These spheres of social development have a significant impact on the quality of life of a modern person, which is theoretically justified in the studies of "social exclusion" (Silver, 2007) and "human capital" (Becker, 1993).

In the first half of the 2000s, on the basis of significant international organizations, universities and research centers, a network of international ratings was formed, ranking countries according to various criteria of economy, politics and quality of life with well-established indicators of socio-economic statistics and subjective assessments of the population and experts. Many of them have gained a reputation and demand for operational research of threats and challenges of macrodynamics, surpassing the analytical work of sociologists in the field of political processes and marketing of local markets. In practice, we use not only a view of the country's position in a particular rating, but also the presented system of indicators that reflects the system of values in certain areas of activity and a person's feelings at the micro level.

### **3. Sustainable development priorities**

The theoretical ideology of environmental protection and the statement of ecology as the main problem of our time led to a mix of economic indicators of economic dynamics. A number of neo-institutional theory studies, following Weber (1934), state the idea of the primacy of socio-cultural dynamics in economic development itself, dispute the postulate of the economic classics about the desire for profit as a rational goal of economic development, and argue the main dichotomy to be the interaction of production-consumption. In addition, not every increase in industrial production leads to environmental pollution, and an increase in environmental safety requires the production of modern technologies. The current trend of industrial development 4.0, as well as other innovations, increasing the gross domestic product, do not pose a threat to the human environment. Therefore, a balanced approach to sustainable growth priorities is needed. Zero growth is not stable by definition, it can turn out to be negative at any time under the influence of the internal laws of economic development, which is genetically cyclical.

However, in the wake of the priority of ecology over the economy, the statistical indicator of gross domestic product is called into question (Stiglitz, Sen, & Fitousij, 2010). But the presented well-known authors, unlike a number of others, do not reject GDP as a goal of economic development, but see its disadvantage in not reflecting the problems of inequality, the appropriation of sources of non-renewable resources by a narrow social group. This approach is the basis for measuring the problems of well-being, which acts as a structural element of sustainable growth in the modern world and is considered as a criterion for most international "happiness" or "well-being ratings".

Indexing of the economic reality indicators has become a separate complex of studies of individual spheres and types of the economy. The range of such studies is quite significant - from the concentration of industry-specific structures to innovation, digital dynamics, problems of globalization and indicators of exchange activity. The solvency indicators of such international agencies as Standard & Poor's, Moody's Agency and Fitch Agency are considered to be a significant tool for analysis and practical actions. The research of the World Bank's Doing Business ("Country Ranking", n.d.) rating is widely used for the analysis of the business environment and the investment climate. (<https://espanol.doingbusiness.org/>).

Most of the current socio-economic dynamic's rankings are illustrative, provide a comparative description and ranking of countries important for comparative analysis. As a rule, they are based on the use of statistical data from national institutions using methods of sociological analysis (surveys and expert assessments). The final data are presented in the form of indexes, which rank the countries. A number of studies assign weight coefficients to each indicator to calculate the overall index. But structural arguments, when integrated into individual indexes, do not get the corresponding coefficients of specific values for various reasons.

In such representations of the final index, either the individual values are added together in equal parts, or the total value is not defined at all. This approach makes it difficult for operational capabilities to use ratings for social modeling and forecasting purposes.

One of the most widely used international ratings of the level and quality of life is the Human Development Index, which has been developed in a modern format since 2013 (United Nations Development Programme, 2020).

**Table 1.** Structure and methodology for calculating the Human Development Index

**Source:** United Nations Development Programme (2020)

| Indicator/method   | Weight values in the overall index | Indicator (index)   |
|--|------------------------------------|---|
| Health   | 1/3                                | Longevity (L)   |
| Education  | 1/3                                | Literacy and duration of education (E)  |
| Welfare  | 1/3                                | GDP (GNI), measured by the purchasing power parity of the national currency, correlated with the population (I) |
| Index of indicators -<br>$X = \frac{x - \min(x)}{\max(x) - \min(x)}$ |                                    | Overall index -<br>$X = \sqrt[3]{L + E + I}$  |

In general, this rating, together with the associated values of the gender inequality and multidimensional poverty indices, reflects the social development level of the countries studied. The welfare index introduced in the rating rather characterizes the potential for possible receipt of benefits through the distribution system. In fact, this indicator is identical to the real domestic product, cleared of the conjunctural influences of the foreign exchange market and correlated with the productivity of factors of production, not labor.

The Human Development Index indicators show significant values that determine the strategic directions of social dynamics. This rating is not only the subject of academic analysis, but also a reference point for state social policy.

It is widely known that Russia has defined strategic goals for socio-economic development until 2030 (President of the Russian Federation, 2020; Ukaz, 2020). The set goals and indicators of national projects correspond to the UN Agenda 2030 and the human development indices. So, in the field of education, the goal is to move from the 36th to the 10th place of the named index, to increase the life expectancy to 78 years, moving up the ladder of the longevity section ranks.

The transformation of a number of international ratings of happiness or well-being has led to the transfer of the dominant happiness to the study of qualitative characteristics of well-being. This is largely due to the difficulties of conceptualizing and operationalizing the psychological phenomenon of happiness.

The first United Europe Quality of Life (Alber, 2004) rating was published in 2004 under the auspices of the European Foundation for the Improvement of Living and Working Conditions.

The study was conducted according to the classical canons of questionnaire surveys, in 25 countries on a stepwise, probabilistic sample. Conceptually, based on the Lisbon Strategy of 2000, the study was devoted to the analysis of subjective assessments of the quality of life by the population, the main element of which is the living and working conditions of a person, a reflection and criterion of the impact of technological progress on a person.

**Table 2.** Factors and indicators of the study

Source: Alber (2004)

| <b>Factors</b>                    | <b>Main criteria</b>   | <b>Factors</b>                           | <b>Main criteria</b>  |
|-----------------------------------|--|--|---|
| Economic situation                | Median household monthly equivalised (modified OECD) incomes by country; Distribution of income levels across countries; Mean deprivation by income quartile, by country.  | Household structure and family relations | Hours of daily caring for children, by country and employment status of mother; Satisfaction with family life; Support by family and other people |
| Housing and the local environment | Mean number of rooms per person, across countries; Mean satisfaction with accommodation, by country;   | Work-life balance                        | Difficulties reconciling work and family life; Gender differences; Weekly working hours by sex; Children, housework and care;                     |
| Employment, education and skills  | Proportion of persons aged 18-64 living in jobless and job-rich households; Share of respondents in employment who have a second job; English reading ability, by country; Mean satisfaction with own education, by country. | Health and health care                   | Country differences in those reporting health as 'poor'; Health status; Access to health services; Quality of health and social services          |



The list of questions presented in the respondents` survey did not allow us to sum up the integral results for the sections of the study. Besides, a number of questions for the survey were not relevant for the respondents. However, the task of identifying key quality of life problems was solved. The study showed that there are significant cross-country differences in the levels of economic security, correlated with the differentiation of living conditions.

Subsequent studies made it possible to update approaches to the analysis of the quality of life in terms of everyday values, socially approved norms in the context of the Sustainable Development Goals of the 2030 Agenda and the "Better Life Initiative", OECD on improving life, including health, subjective well-being, social connections, natural capital.

In 2020, the fifth well-being measurement report "How is Life? 2020" was published. (Organisation for Economic Co-operation and Development, 2020). The report organically synthesizes data from national statistical organizations and sociological surveys of the population of more than 40 OECD countries on more than 80 updated indicators of the quality of life, including the subjective assessment of well-being, citizens` income, inequality, human and social capital resources. Rating scale is from 0 to 10.

**Table 3.** Factors and main indicators of the study

**Source:** Organisation for Economic Co-operation and Development (2020)

| <b>Factors</b>       | <b>Indicators</b>  | <b>Factors</b>        | <b>Indicators</b>  |
|----------------------|--|-----------------------|--|
| Income and Wealth    | Average net adjusted household income;<br>Relative income poverty;<br>Income and wealth inequality | Subjective Well-being | Satisfaction with life:<br>Balance of negative and positive senses;<br>Subjective inequality in well-being |
| Work and job Quality | Employment rate;<br>Long-term unemployment rate;<br>Earnings;<br>Workplace standard                | Safety                | Homicide rate;<br>Feeling safe when walking alone at night;<br>Road deaths                                 |
| Housing              | Overcrowding level;<br>Housing affordability;<br>Cost of housing                                   | Work-life Balance     | Time disconnected from work;<br>Gender gap in total hours  |

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|                      |   |                    |   |
|----------------------|---|--------------------|---|
|                      |   |                    | worked;<br>Satisfaction with the use of time  |
| Health               | Life expectancy;<br>Perceived Health;<br>Deaths from suicide, acute alcohol abuse, and drug overdose                  | Social Connections | Social support;<br>Time spent in social interactions;<br>Satisfaction with personal relationships;<br>Inequality of social ties |
| Knowledge and Skills | Cognitive skills at the age of 15;<br>Adult cognitive skills;<br>Inequality of knowledge and skills                   | Civil Engagement   | Voter turnout;<br>Influence on the government;<br>Inequality of civic participation   |
| Environment Quality  | Exposure to outdoor air pollution;<br>Access to recreational green spaces in urban areas;<br>Environmental inequality |                    |   |

Comprehensive resulting wealth assessments are presented in four types of capital: natural, economic, human, and social according to their assessment criteria.

The "How is life?" (Organisation for Economic Co-operation and Development, 2020) research, overcoming the limitations of the criteria for the quality of life and well-being of analogous research, is based on the achievements of the modern sociology theory, synthesizes the economic and social factors of well-being felt by respondents.

The comparative analysis of the comparable indicators of 2020 and 2010-2013 allowed the authors to make a conclusion on the growth of longevity, life security, individual income and a number of other well-being factors. However, median well-being, emotional perception of reality, and even despair are increasing or not decreasing. There is a significant

differentiation in the integral criterion of well-being both within countries and in cross-country comparisons.

#### 4. Conclusions

In modern studies of the quality of life, there is a transition to multifactorial studies, including the arguments of both statistical and sociological studies, which allows us to more accurately characterize the processes of social dynamics. The data obtained from the multidimensional analysis become tools for monitoring the implementation of the goals of socio-economic dynamics developed by international and national coordination and government bodies.

Modern social practices are enriched by new phenomena of the postmodern era, which directly affect the material and perceived factors of well-being. These include digital development and COVID-19.

New digital platforms for human-society interaction and the intellectual industry are leading to the transformation of sociological research, the development of not only systems of statistical indicators, but also new approaches to the analysis of social and human capital, and cyber security. The technical capabilities of artificial intelligence, big data, and distributed ledger provide new opportunities for well-being analysis technologies.

During COVID-19 pandemic, along with the problems of human survival, there is a situation of uncertainty that will affect the entire range of indicators of the quality of life. Objective data on economic dynamics show that the economic recession has slowed down. However, the emotional consequences of population mortality, business failures, health consequences, and the effectiveness of measures to combat the pandemic will remain with a person for a long time and will require special research.

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