

# Cross-Country Comparison of the Level and Quality of Life of the Population: Modern Methods and Approaches

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**Abstract.** Cross-country comparison of the level and quality of life at the present stage is implemented using a fairly significant number of indicators. However, certain ratings evaluate only certain parameters of the country's socio-economic development, level and quality of life. In this paper, based on the studies conducted by the authors, the methodological features of various indicators are characterized and their classification is carried out in accordance with four criteria: calculation frequency; measuring scale; coverage of world's economies; time lag. A comprehensive analysis of the socio-economic development of Russia is carried out using the ratings selected by the authors. The shortcomings of the proposed complex approach, as well as the author's vision statement of the influence of these shortcomings on the final result are formulated. A comparison is made between Russia and the leading countries within the framework of the ratings used, as well as in dynamics with previously achieved positions.

## 1. Introduction

The problem of cross-country comparison of the level and quality of life of the population at the present stage consists of multiple aspects. Despite the traditionally established approach, according to which cross-country comparisons are based on assessing the level of socio-economic development by calculation of GDP per capita, there are a number of alternative concepts designed to substantially supplement and expand this approach, as well as to focus on those aspects that are beyond the scope of its application.

According to some researchers, one of the features of using GDP per capita as a key indicator of the socio-economic development level is that only the process of generating gross value added is taken into account when calculating it. Notable, the mechanism of its distribution is not reflected in any way, but this is extremely important for the understanding of the real living standard of the country's population. This problem is of particular importance in the context of growing inequality in a number of countries, which is noted by many experts.

The presence of above-mentioned problems requires the development of complex approach to the analysis and assessment of the level and quality of life of the population.

The mainstay methods for generating indicators characterizing the level and quality of life of the population are described in documents WEF [1], [2], [3], [4], [5] The World Bank [6], [7], [8], UN [9], [10], KOF [11], Legatum Institute [12], BTI [13], Fraser Institute [14], The Heritage Foundation [15], INSEAD Business School, WIPO [16].

The object of this paper is to study and clarify the modern methods for assessing the level and quality of life of the population in cross-country comparisons, to identify similarities and differences in the value generation methodology, to analyze the current state of Russian economy development compared with leading countries by various indicators.

## **2. Overview of current indicators used in cross-country comparisons and features of its calculation methods**

Modern methods in assessing the level and quality of life can be divided into two large groups: general economic indices and industry indices [17]. General economic indices, as their name implies, are mostly used to characterize the economic parameters of the development level of countries. However, the vast majority of these indices contain blocks characterizing social parameters, namely, the level and quality of life.

For the purposes of this research, the following indicators will be used: Global Competitiveness Index; Index of globalization; Inclusive Development Index; Prosperity Index The Bertelsmann's Transformation Index; Economic Freedom of the World; Index of Economic Freedom; Worldwide Governance Indicators; Doing Business; Human Development Index; Global Innovation Index; Logistics Performance Index; Global Enabling Trade Index; The UN Global E-Government Development Index; Networked Readiness Index.

As follows from the analysis, only 3 of the addressed indicators used for calculations have been used for more than 20 years. In our opinion, it is evidence that the search for new approaches to a comprehensive assessment of the level of socio-economic development of territories has intensified significantly over the past two decades in world economic science.

The vast majority of the analyzed indicators are aggregated at two levels: basic indices (the number of which varies from 2 to 9) and subindices (the number of which also varies from 5 to 104). In addition, some indicators are aggregated only at the level of main indices.

The scale of values varies from 7 to 100 points. Moreover, most commonly, the closer to maximum is the value, the closer the country is to achieving the best result for this indicator [18].

Over the past three years, there have been changes to the methods for calculating most of the addressed indicators, and most of them have been very significant. In particular, the methodology for calculating the global competitiveness index has undergone the greatest change: instead of three main indices, four were formed. Accordingly, there was a change in the structure of subindices, some of which were replaced with their number unchanged [18]. In the inclusive development index (which is the newest of all considered, it was first calculated in 2017), changes affected the fact that the indicator values were calculated separately for groups of developed and developing countries. Changes in the methods for calculating the prosperity index are primarily caused by the fact that in 2016 the number of parameters revised in the analysis was significantly expanded.

## **3. Classification of current indicators used in cross-country comparisons**

In the framework of this research, in our opinion, we should distinguish several criteria for classifying indicators:

1. By the frequency of indicators calculation.

1.1 Indicators, which are calculated annually. This group includes 11 indicators: Global Competitiveness Index; Inclusive Development Index; Index of globalization; Prosperity Index Economic Freedom of the World; Index of Economic Freedom; Worldwide Governance Indicators; Doing Business; Human Development Index; Global Innovation Index; Networked Readiness Index.

1.2 Indicators, which are calculated once every two years. This group includes 4 indicators: The Bertelsmann's Transformation Index; Logistics Performance Index; Global Enabling Trade Index; The UN Global E-Government Development Index.

2. By the range of the indicator measuring scale.

2.1 Indicators without a scale. This group includes 1 indicator: Prosperity Index.

2.2 Indicators with a scale range from 0 to 1. This group includes 2 indicators: Human Development Index; The UN Global E-Government Development Index.

2.3 Indicators with a scale range from 0 to 100. This group includes 1 indicator: Global Competitiveness Index.

2.4 Indicators with a scale range from 1 to 5. This group includes 1 indicator: Logistics Performance Index.

2.5 Indicators with a scale range from 1 to 7. This group includes 3 indicators: Inclusive Development Index; Global Enabling Trade Index; Networked Readiness Index.

2.6 Indicators with a scale range from 1 to 10. This group includes 2 indicators: The Bertelsmann's Transformation Index; Economic Freedom of the World.

2.7 Indicators with a scale range from 1 to 100. This group includes 5 indicators: Index of Globalization; Index of Economic Freedom; Worldwide Governance Indicators; Doing Business; Global Innovation Index.

3. By the coverage (number) of countries for which the indicator is calculated.

3.1 Up to 100 countries. This group includes 1 indicator: Inclusive Development Index.

3.2 From 100 to 150 countries. This group includes 6 indicators: Global Competitiveness Index; Prosperity Index The Bertelsmann's Transformation Index; Global Innovation Index; Global Enabling Trade Index; Networked Readiness Index.

3.3 From 150 to 200 countries. This group includes 6 indicators: Economic Freedom of the World; Index of Economic Freedom; Doing Business; Human Development Index; Logistics Performance Index; The UN Global E-Government Development Index.

3.4 Over 200 countries. This group includes 2 indicators: Index of Globalization; Worldwide Governance Indicators;

4. By the time lag value.

4.1 There is no time lag. This group includes 1 indicator: Human Development Index.

4.2 The time lag is 1 year. This group includes 10 indicators: Global Competitiveness Index; Inclusive Development Index; Prosperity Index The Bertelsmann's Transformation Index; Worldwide Governance Indicators; Doing Business; Logistics Performance Index; Global Enabling Trade Index; Networked Readiness Index; The UN Global E-Government Development Index.

4.3 The time lag is 2 years. This group includes 3 indicators: Economic Freedom of the World; Index of Economic Freedom; Global Innovation Index.

4.4 The time lag is 3 years. This group includes 1 indicator: Index of Globalization.

#### **4. The use of various ratings for comprehensive assessment of the socio-economic development level of Russia**

Table 1 presents the analysis results of Russia's position in international rankings compared with leading countries by specific indicator.

Based on data analysis given in table 1, the application of various indices to assess the socio-economic development of the country and the living standard of the population provides an opportunity to comprehensively characterize various development parameters, giving a fairly complete and objective picture. More specifically, this is confirmed by the fact that the leadership in various ratings belongs to different countries [20].

In addition, the analysis of the country's position dynamics in various ratings is of interest. In particular, Russia's position has decreased compared to the previous period in terms of the following indicators: Global Competitiveness Index; Inclusive Development Index; Prosperity Index Global Innovation Index; Global Enabling Trade Index; Worldwide Governance Indicators. At the same time, the country's position has strengthened in terms of the following indicators: Index of Globalization; The Bertelsmann's Transformation Index; Economic Freedom of the World; Index of Economic Freedom; Doing Business; Logistics Performance Index; The UN Global E-Government Development Index. The country's position has remained unchanged compared to the previous period in terms of the following indicators: Human Development Index and Networked Readiness Index.

**Table 1.** Russia's position in international rankings compared with leading countries [19].

Index	Rating/Number of countries	Leading country
Global Competitiveness Index	43/139	USA
Index of Globalization	55/221	Netherlands
Inclusive Development Index	19/74	Lithuania
Prosperity Index	101/149	Norway
The Bertelsmann's Transformation Index	45/129	Estonia
Economic Freedom of the World	87/162	Hong Kong
Index of Economic Freedom	107/186	Hong Kong
Worldwide Governance Indicators	141/214	Hong Kong
Doing Business	31/190	New Zealand
Human Development Index	49/189	Norway
Global Innovation Index	46/126	Switzerland
Logistics Performance Index	75/160	Germany
Global Enabling Trade Index	111/136	Singapore
The UN Global E-Government Development Index	32/193	Denmark
Networked Readiness Index	41/139	Singapore

## 5. Conclusion

The approach proposed in this paper makes it possible to comprehensively assess the socio-economic development of the country and the living standard of the population, taking into account not only the production of goods and services, but also their distribution, the quality of the business environment, the development of innovation and logistics and other important parameters. The main disadvantage of applying this approach is the impossibility of comparing data for a specific year due to the specifics, methodology and compilation frequency of the ratings. In this regard, it is possible to assess the development of the country and conduct cross-country comparisons only over two to three years time period. This disadvantage is not significant, since the country's position in the ratings in this case, as a rule, does not undergo major changes.

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