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COMPARATIVE STUDY ON SUSTAINABLE DEVELOPMENT MONITORING SYSTEMS AT MACRO LEVEL

Abstract:

The main goal of this article is to review the indicators used to determine the sustainable development of the country and consider the experience and prospects for Russia. For this purpose, an analysis of the literature on the subject of sustainable development is carried out: the work of researchers on comparing countries in the intensity of movement towards sustainability, methodological publications of international organizations and recommendations of statistical departments of states. As a result, conclusions about the volume and quality of information contained in the indicators under consideration are formulated.

Keywords:

sustainable development, development indicators, Russia in the global economy.

The global development has led to a serious degradation. Increasing threats to livelihoods have revised the global view of sustainable development.

To manage the processes towards sustainability, it is necessary to combine the available information. A breakthrough step was the adoption of the "Sustainable Development Agenda" by the United Nations in 2015 [1]. To date, they form the foundation macro policy.

In economics, researchers concluded that GDP can grow at the expense of nature degradation and social tensions [2, 3, 4]. To date, there are many indicators that fill in the GDP gaps. They are based on a country's output volume. For correct application, a comparative analysis is carried out. This work offers a layout according to basic categories in picture 1.

The selected criteria are applied based on the analysis tasks. Controversial issue is the possibility of using the calculation.

The first approach is to make an integral indicator, alternative to GDP. It captures two dimensions or three (ecological-socio-economic) [5, 6].

Secondly, the multilevel complementary indicators are widely used in practice. The classic example is the UN SDG [1].

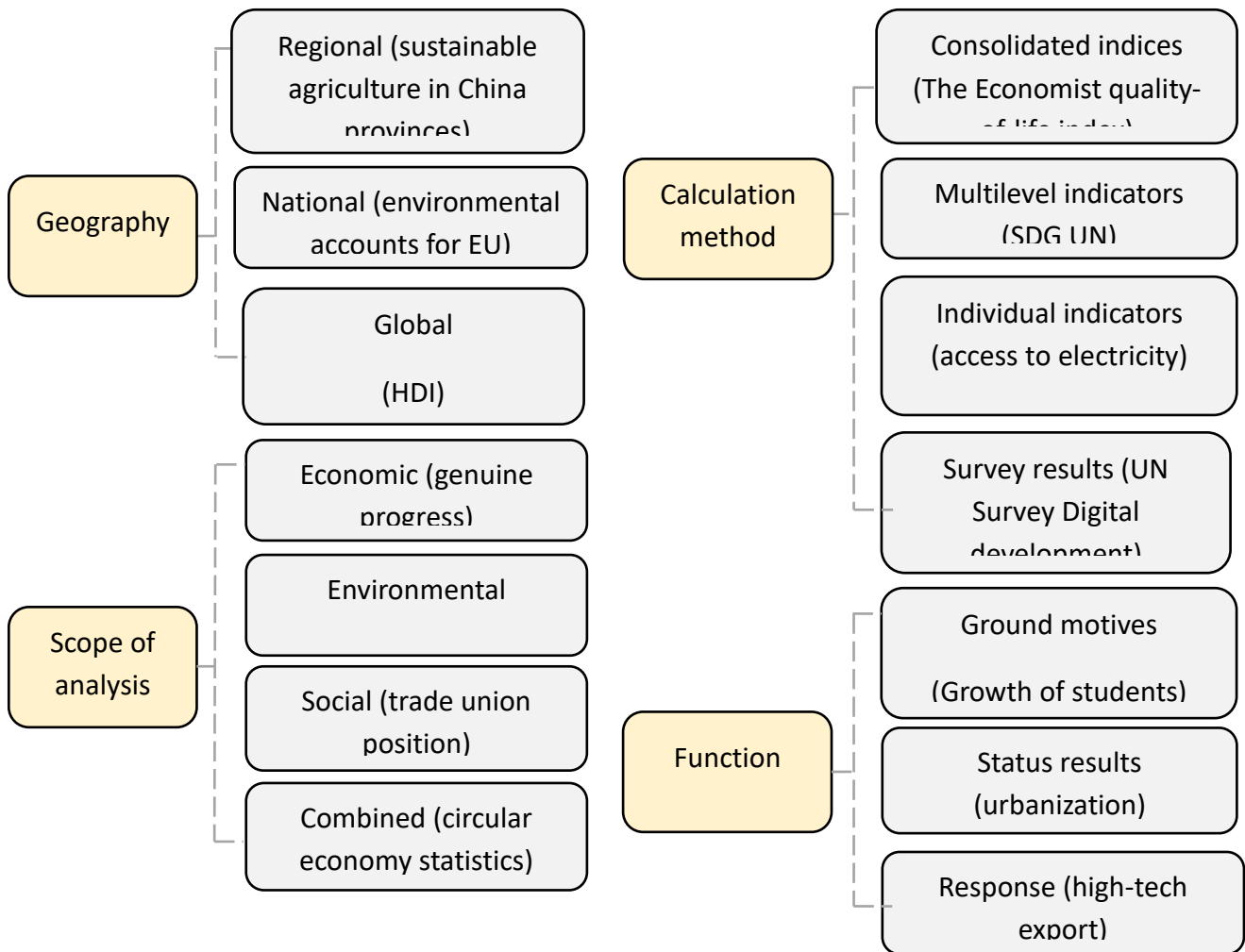
The third approach is specific indicators. The recently discussed is the carbon footprint [11].

And the fourth is the sociological survey. The groups are asked how satisfied they are with standard of living, government solutions. Particularly, the Global Survey [12] collects opinions on matters concerning sustainability.

The examined multiple approaches to sustainability assessment presented in the table 1.

The assessment of SD at macro level leads to the question of difference between them and with GDP. In this paper, the example of Russia is considered from the point of view of various well-known sustainability parameters and some features are highlighted.

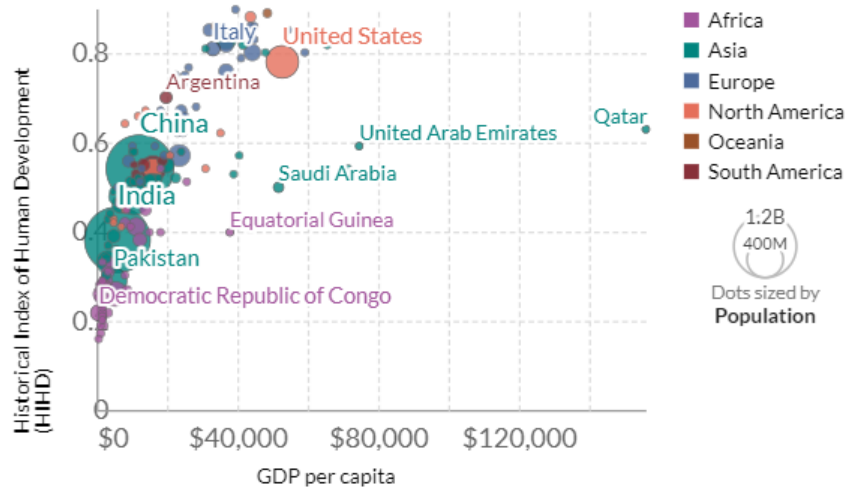
Our analysis began with a comparison of the human development index and GDP in the world. Graphically, there is a positive correlation between the economic and social development, purified from the GNI per capita indicator (picture 2). The same pattern is noted in the literature: the economic prosperity goes along with social welfare [14].



Picture 1 - Types of sustainability measures

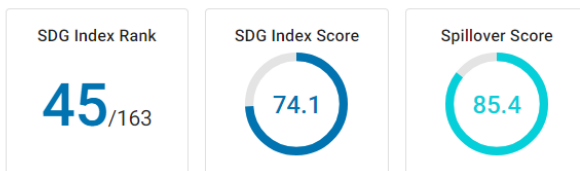
Table 1 - Assessment of SD approaches

Sustainability Assessment	Examples	Pros and cons
Consolidated indices (elementary indicators, assigning weights)	<ul style="list-style-type: none"> UN Environmental Accounting Genuine progress (Daly, H. E., & Cobb, J. B.) Genuine Savings (World Bank) HDI (United Nations Development Program) 	Pros: clarity, usability, integrality Cons: methodology
Multilevel indicators (the separate structures)	<ul style="list-style-type: none"> UN SDGS OECD Environmental System Environmental management in Central America (World Bank, UN, and International Center for Tropical Agriculture) 	Pros: usability, validity Cons: scale for analysis
Individual indicators	<ul style="list-style-type: none"> Ecological Footprints (Gismondi, William Rees: Ecological Footprints). The carbon footprint (Safire, William). Government spending 	Pros: easy to calculate and methodology Cons: lack of integrity
Public opinion polls	<ul style="list-style-type: none"> SD Impact 2021 (WEF) UN Global Survey on Digital and SD World Values Survey (World Values Survey Association) International Social Survey (GESIS – University of Chicago, Social and Community Planning Research London) 	Pros: easy to conduct, ability to address Cons: narrow time-consuming data collection



Picture 2 - GDP per capita and HDI in the world [14]

In terms of the SDG elements, Russia stands out in several positions (picture 3). Of the 17 UN goals, 2 have been achieved, and varying complexity challenges remain for the majority. The dynamic analysis shows that indicators are gradually improving for many goals, both in economic (for example, goals 2, 8, 9), environmental protection (for example, goals 7, 13, 15) and cooperation (goals 17, 26) aspects. The total weighted index reached 74.1 in 2021 (the maximum in Finland 86.5). A comparison with the other macroeconomic regions revealed similarities for developed countries and Russia.



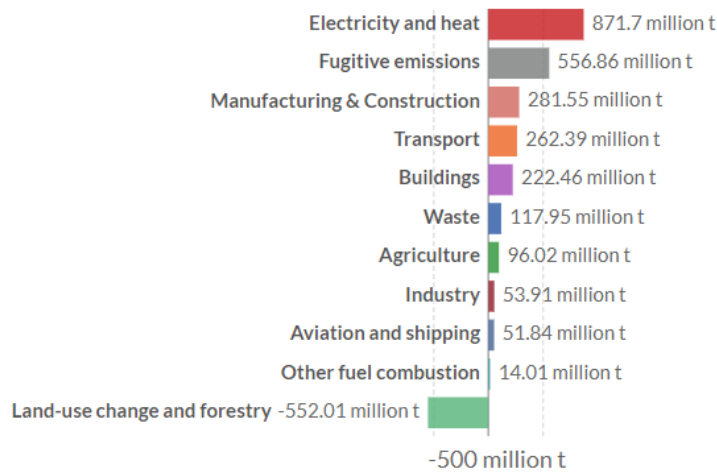
SDG Dashboards and Trends

Click on a goal to view more information.



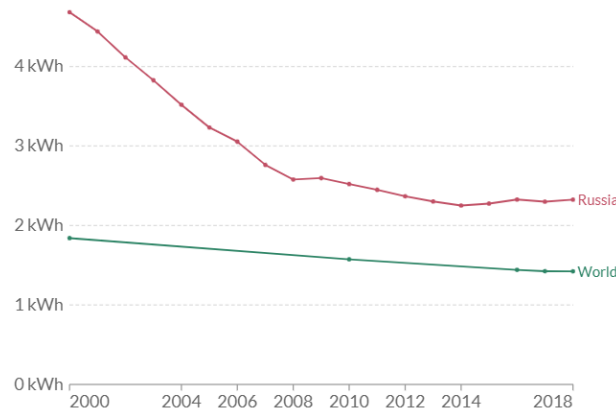
Picture 3 - Russia position in SDG index [15]

Considerable attention of researchers and government organizations is paid to issues of the environmental agenda. The picture 4 shows the structure of greenhouse gases by economic sectors. The largest part of emissions is produced by using electricity and heat, the volume of volatile emissions is comparable. A positive role is played by the absorption of these gases by the ecosphere.



Picture 4 - Russia GHG by sector [16]

Energy intensity is an indicator of the inefficiency. High energy intensity indicates cost of converting energy into GDP. There is a trend towards a gradual slight decrease in energy intensity in the global economy, it is stronger in Russia.



Picture 5 - Energy intensity of Russia [17]

In conclusion, analysis of Russia's achievements in the field of SD has identified several results. Firstly, the level of the SDG is similar to the global trends. Among positive dynamic are that economic problems are steadily being solved, cooperation between governments is getting stronger and attention to the ecological impact of humans is raising. Besides, the set of points to improve exists. For instance, socially vulnerable groups differ highly due to business engagement and local communities. Also, the prevalence of circular economy programs does not cover the whole territories of countries.

Secondly, there is evidence that economic performance of a country is related to the possibilities to provide care for citizens. Although matters of government quality and economic agents' motives can shift the predicted trajectory.

Russia has achieved notable results in sustainability, but there is much to achieve.

Increasing uncertainty, amplifying differences between blocks of countries and technological challenges are rapidly changing the familiar picture of the world. At the same time, these mechanisms have been set for years, so current transformation is the reflection of the needs of humanity.

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