

Assessment of the Well-Being of the Russian Population

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Abstract. Following the paradigm of maximizing economic growth as measured by the GDP does not always provide an increase in wealth when considering the environmental and social consequences of economic development. Over the past decades, there has been some experience in developing alternative approaches to assessing the well-being of the population based on the concept of sustainable development. The present paper proposes to develop a methodology for practical assessment of one of the relatively new indicators of socioecological and economic well-being of the Russian population—the Genuine Progress Indicator (GPI). It is assumed that the development of the methodology for calculating this indicator and the introduction of the practice of statistical accounting will significantly expand the opportunities for analysis of the dynamics of socio-ecological and economic well-being of the population of Russia. The applied importance of the results of such work is emphasized by the possibility of introduction of the GPI in the system of national statistics and the prospect of its use as one of the target indicators for the policy-making.

1. Introduction

The statistical systems of most countries of the world are usually designed to solve narrow problems and describe certain aspects of social and economic life with the help of rather trivial and easily interpreted economic measures. Meanwhile, the issues of comprehensive development monitoring are often not included in the official turnover of the current and strategic activities of the authorities, for which the most important indicators of this kind are economic growth (measured by the Gross Domestic Product), inflation and unemployment rates, average wages and other macroeconomic indicators. This situation is becoming a clear dissonance with the current agenda, both at the global level and from the point of view of individual countries, as environmental and social problems, which are often the result of successful economic policies, are attracting increasing public interest. In other words, humanity has found that economic growth, which has been the primary goal of many governments around the world, is far from being synonymous with societal development in all cases, especially given its environmental consequences. This paradox requires the development of a comprehensive indicator that evaluates economic development with respect to environmental and social constraints.

The problem described above is particularly relevant for Russia due to the above points:

- a) resource abundance and intensive, in many cases irrational, exploitation of natural resource potential;
 - b) environmental problems of large cities caused by intensive industrial development;
 - c) low rates of development of the state statistics system;



d) relatively small amount of academic research on this issue.

Thus, the prerequisites for intensive development of the national statistical system for the most accurate and comprehensive account of all aspects of the development of society, economy, ecology and use of natural resources are quite obvious. The project is devoted to the development and practical testing of a tool for integrated assessment of the socio-ecological and economic well-being of Russia, and the development of recommendations on their basis for the formation of a long-term macroeconomic policy, taking into account the dynamics of environmental and social problems.

2. Hypothesis and method

In this paper, it is proposed to consider the hypothesis that one of the indicators of socio-economic well-being of the Russian population may be the Genuine Progress Indicator. The theoretical ground of this idea is based on the initial methodology of calculation of this indicator, which is based on the works of international teams performed in the last two decades.

3. Literature review

Only a small part of sustainability indicators is applied in the practice of public administration and municipal management [1]. Gross domestic product (GDP) and its adaptation at the regional level still remain the main macroeconomic indicators, based on the dynamics of which decisions are made. There has been a great deal of discussion about the possibility of developing a statistical tool that would allow for a comprehensive assessment of the level of development of countries and their regions, taking into account the social and environmental aspects of development. The development of such an instrument requires overcoming the abovementioned disadvantages of "index" approaches, i.e. building an integrated indicator based on economic theory with appropriate adjustments to take into account social and environmental factors.

Such indicators are, for example, the Genuine Savings (GS), and the Genuine Progress Indicator (GPI) [2, 3]. Both indicators are based on a similar idea: corrections of national savings to the degree of degradation of natural and social capital, but GS have a rather strict and simpler methodology than GPI, nevertheless covering significantly less sustainability aspects. In this context, the Ecologically adjusted GDP, a modification of the traditional GDP calculation taking into account the depletion of natural resources and environmental damage, also deserves a separate mention [4]. Estimates of genuine savings of the world's countries, including Russia, are regularly made by the World Bank. Studies are also conducted at the regional scale [5—7]. At the same time, the Genuine Progress Indicator is practically unknown in Russia, despite the wider potential for its use as a comprehensive measure of sustainability compared to genuine savings. Estimates of environmentally adjusted GDP are known not only for Russia as a whole, but also for its individual regions [4]. A bibliometric metaresearch of the use of 82 different indicators to assess progress in 2000-2015 showed that the greatest increase in the number of uses was accounted for by the Genuine Progress Indicator: the number of references in the literature increased by about 5 times during this period [8]. This success is due to the development of the beyond GDP initiative, which aims to develop ways of assessing well-being that complement traditional macroeconomic indicators, as well as a significant increase in the number of GPI assessments for different countries and their administrative-territorial entities [9, 10].

The predecessor to the GPI, the Index of Sustainable Economic Welfare, was first proposed in 1989. [11]. The main idea behind the assessment of this indicator is to subtract the impairment of social and natural capital from personal consumption expenditure in such a way that the inter-temporal change in the Index shows a true increase (or decrease) in national well-being. This approach follows from the basic triad of sustainable development, which requires harmonious (simultaneous) growth or at least the reduction of three components: economic, environmental and social [12]. In more recent works, this index has become known as the Genuine Progress Indicator. The first attempts to assess ISEW/GPI showed that the formal growth of the U.S. economy in the 1990s did not actually lead to an increase in national wealth, despite the fact that the country's GDP showed steady growth [3]. Over the next two decades, estimates have been made for Europe [13—16], the United States [17, 18], Brazil,



and Chile [19, 20], a number of African countries [21], and countries in Asia and the Pacific [22]. In some cases, estimates of the Genuine Progress Indicator have been obtained at the regional and municipal levels, in particular in the United States of America [23]. However, there are still many States for which the GPI has not been assessed, or the time horizon for such an assessment has been too short. This conclusion, in particular, applies to the countries of the former USSR, where only two studies using the GPI are known: the estimates for Ukraine in 2000-2007 and the estimates for Ukraine in 2000-2007 [24] and for Krasnoyarsk Krai [25—27].

4. Results and discussion

Expansion of the study of the socio-ecological and economic well-being of Russia is possible on the basis of the development of the methodology for assessing the Genine Progress Indicator. The basic methodology of assessment of this indicator is proposed in early works (Daly et al., 1989; Cobb et al., 1995) and is currently considered by many specialists as the basis for a significant modernization of national statistics systems in order to implement a more comprehensive approach to public administration, taking into account current social and environmental problems.

With proper development of studies using GPI, this indicator can become an alternative to GDP as the main macro-indicator of development. The idea of GPI construction is to correct personal consumption expenditures taking into account the actual distribution of incomes of the population by: the value of non-market services; the cost of compensation for individual environmental damage; the cost of depreciation (degradation) of natural resources. Thus, all three components of the sustainable development triad are taken into account: economic, environmental and social.

The GPI components are aggregated by a simple algebraic sum of cost estimates of the relevant indicators included in the calculation. As a rule, the assessment is based on 26 [18, 28]. Since the completeness, structure and quality of statistics differ from country to country, and in many cases quite significantly, there is no uniform and universal methodology that would allow for easy estimation of any objects of measurement (countries, regions, municipalities). For each of them, it is necessary to build their own adaptation taking into account the peculiarities of statistical accounting and the results of research on individual components. Thus, since there are no GPI assessments for Russia, they require not only the collection of necessary data, but also a full development and justification of the methodology for calculating such assessments.

The development of a methodology for assessing GPI will require detailed justification for the selection of proxy variables to calculate individual indicators, taking into account their content as closely as possible to the logic of indicator selection, in line with the approaches used in earlier studies in other countries. This requirement is necessary not only to ensure the internal methodological integrity of the study, but also to enable cross-country (in the long run - interregional) comparisons. Preliminary work on collecting data on available indicators shows that a dynamic series of GPI estimates for Russia will be available at least from 2000 onwards. At the same time, data will be obtained to calculate almost all required indicators. The GPI estimates for the earlier period (starting from 1992) may require more serious work and application of special methods for correction of indicators taking into account the hyperinflation observed in the 1990s and accompanying crisis social and economic factors.

In the present paper approaches to the integrated assessment of socio-economic well-being of the population were considered. It is noted that following the paradigm of maximization of economic growth, measured with the help of the GDP, does not always provide an increase in prosperity, if we consider the environmental and social consequences of economic development. Over the past decades, some experience has been accumulated in the development of alternative approaches to assessing the welfare of the population based on the concept of sustainable development. These developments mainly belong to international teams, taking into account the adaptation of individual indicators to the conditions of statistical accounting of different countries. The article proposes to develop a methodology for practical assessment of one of the relatively new indicators of socio-ecological and economic well-being of the Russian population—the Genuine Progress Indicator. Features and



possibilities of calculation of its separate components and possibility of their calculation taking into account the system of statistical account operating in the country are discussed. It is assumed that the development of the methodology for calculating this indicator and the introduction of the practice of statistical accounting will significantly expand the opportunities for analysis of the dynamics of socioecological and economic well-being of the population of Russia.

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6. References

- [1] Hák T, Janoušková S, Moldan B and Dahl A L 2018 Closing the sustainability gap: 30 years after "Our Common Future", society lacks meaningful stories and relevant indicators to make the right decisions and build public support *Ecol. Indic.* **87** 193
- [2] Pearce D W and Atkinson G D 1993 Capital theory and the measurement of sustainable development: An indicator of "weak" sustainability *Ecol. Econ.* **8** 103
- [3] Cobb C, Halstead T and Rowe J 1995 If the GDP is Up, Why is America Down? *Atlantic Online*
- [4] Ryumina E V 2013 Ecologically adjusted GDP: spheres of use and estimation problems *Economy of the region* **4(36)** 107
- [5] Bobylev S N, Minakov V S, Solovyova S V and Tretyakov V V 2012 Ecological and Economic Index of the Regions of the Russian Federation. Calculation methodology and indicators (WWF Russia, RIA Novosti, Moscow)
- [6] Syrtsova E A, Pyzhev A I and Zander E V 2016 Genuine savings of Siberian regions: new estimates, old problems *ECO* **6(504)** 109
- [7] Pyzhev A I, Syrtsova E A, Pyzheva Y I and Zander E V 2019 Enhancement of Sustainable Development Statistics for the Russian Regions *Voprosy statistiki* **26(5)** 33
- [8] Barrington-Leigh C and Escande A 2018 Measuring Progress and Well-Being: A Comparative Review of Indicators *Soc. Indic. Res.* **135(3)** 893
- [9] Kubiszewski I, Costanza R, Franco C, Lawn P, Talberth J, Jackson T and Aylmer C 2013 Beyond GDP: Measuring and achieving global genuine progress *Ecol. Econ.* **93** 57
- [10] Costanza R, Kubiszewski I, Giovannini E, Lovins H, McGlade J, Pickett K E, Ragnarsdóttir K V, Roberts D, De Vogli R and Wilkinson R 2014 Time to leave GDP behind *Nature* **505(7483)** 283
- [11] Daly H E and Cobb J B 1989 For the Common Good: Redirecting the Economy Toward Community, the Environment, and a Sustainable Future (Beacon Press)
- [12] Hecht A D 1999 The Triad of Sustainable Development: Promoting Sustainable Development in Developing Countries *J. Environ. Dev.* **8(2)** 111
- [13] Gil S and Sleszynski J 2003 An index of sustainable economic welfare for Poland *Sust. Dev.* **11(1)** 47
- [14] Armiento M 2016 The Sustainable Welfare Index for Italy, 1960–2013 Working Papers Series in Economics, Mathematics and Statistics WP-EMS # 2016/01
- [15] Held B, Rodenhäuser D, Diefenbacher H and Zieschank R 2018 The National and Regional Welfare Index (NWI/RWI): Redefining Progress in Germany *Ecol. Econ.* **145** 391
- [16] Nourry M 2008 Measuring sustainable development: Some empirical evidence for France from eight alternative indicators *Ecol. Econ.* **67(3)** 441
- [17] Anielski M and Rowe J 1999 *The Genuine Progress Indicator—1998 Update* **67** (Redefining Progress. San Francisco, CA)
- [18] Talberth J, Cobb C W and Slattery N 2007 *The Genuine Progress Indicator, 2006: Executive Summary* (Redefining progress)
- [19] Andrade D C and Garcia J R 2015 Estimating the Genuine Progress Indicator (GPI) for Brazil



- from 1970 to 2010 Ecol. Econ. 118 49
- [20] Castañeda B E 1999 An index of sustainable economic welfare (ISEW) for Chile *Ecol. Econ.* **28(2)** 231
- [21] Menegaki A N and Tugcu C T 2016 Rethinking the energy-growth nexus: Proposing an index of sustainable economic welfare for Sub-Saharan Africa *Energy Research & Social Science* 17 147
- [22] Lawn P A and Clarke M 2008 Sustainable Welfare in the Asia-Pacific: Studies Using the Genuine Progress Indicator (Edward Elgar Publishing)
- [23] Brown C and Lazarus E 2018 Genuine Progress Indicator for California: 2010–2014 Ecol. Indic. 93 1143
- [24] Danilishin B M and Veklich O A 2010 Genuine progress indicator as an adequate macroeconomic indicator of public welfare *Studies on Russian Economic Development* **21(6)** 644
- [25] Pyzhev A I and Pyzheva Y I 2015 Assessment of the regional socio-ecological and economic well-being of the Krasnoyarsk region: a new approach *Regional economics: theory and practice* **34(409)** 30
- [26] Glazyrina I P, Zabelina I A and Klevakina E A 2010 Level of economic development and distribution of the environmental burden among the regions of the Russian Federation *Journal* of the New Economic Association 7 70
- [27] Pyzhev A I, Pyzheva Yu I and Zander E V 2014 Estimates of the Genuine Progress Indicator of Krasnoyarsk Krai *J. Sib. Fed. Univ. Hum. Soc. Sci.* **10(7)** 1630
- [28] Gorkavyy M A, Gudim A S, Efimov AY, Solovev D B 2018 Algorithmization and Principles of Construction of Information Support of the Automated Module for Energy Outlays Optimization of Technological Processes at Robotized Productions 2018 International Multi-Conference on Industrial Engineering and Modern Technologies (FarEastCon), International Conference on. [Online]. Available: http://dx.doi.org/10.1109/FarEastCon.2018.8602433