

An Approach to Assessing the National Multidimensional Poverty Line in Russia

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ABSTRACT

This study aims to econometrically assess multidimensional poverty in Russia with regard to the quantitative and qualitative parameters of the population's life-sustaining activities. Russia's partial integrated poverty indices were constructed based on a combination of quantitative and qualitative parameters characterizing the possibilities of satisfying needs in the main spheres/sectors of human values. The indicators that affect the poverty level in the country were determined using linear regression models. The available time lag in the regression models enabled us to make a short-term forecast of changes in the poverty level in Russia. The proposed approach to assessing the national poverty level considers monetary indicators related to the level of income of the population, the affordability of services necessary to meet human needs, and the presence of opportunity costs, which imply sacrificing a person's free time to ensure the material wellbeing necessary for life.

Keywords: poverty, Russia, population, multidimensional poverty, assessment, needs

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INTRODUCTION

Global Poverty Trends

When it comes to poverty, in most cases, it means daily malnutrition or, even worse, fasting, which threatens human life and health (Bhuyan et al., 2020), as well as the lack of funds for education and basic social services, which lead to a tendency toward a person's isolated lifestyle and social discrimination, etc. (Pascual-Sáez et al., 2019). According to official figures, before 2020, more than 9% of the global population lived below the international poverty line (The World Bank Group, 2021c). About 1,811 million people in the world live on less than \$ 3.20/day, and 3,271 million people live on less than \$ 5.50/day (Aguilar et al., 2020). While between 1990 and 2015 the extreme poverty level in the world fell by almost half, declining almost by 1% per year, after 2015 the rate of decline slowed down

significantly due to political conflicts and worsening climate changes.

Moreover, with the onset of the pandemic, the trend reversed, and in 2020, for the first time in 20 years, the global level of extreme poverty began to increase. The World Bank estimates that the population classified as extremely poor will grow to about 150 million people by the end of 2021 (The World Bank Group, 2021c), and by the end of 2030, the global poverty level could be about 7% (The World Bank Group, 2020a). Poverty as a social phenomenon carries long-term negative socio-economic consequences for society. Achieving progress in poverty reduction is one of the most pressing global goals, and poverty eradication is the first of the 17 goals set out in the 2030 Agenda for Sustainable Development (United Nations, 2021).

Poverty in Russia and Peculiarities of Its Manifestation

Nowadays, the current situation with poverty in contemporary Russia completely counters with the tasks set by the Government, which was to halve the poverty level in the country by 2024. In Russia, those classified as poor include citizens whose income is below the subsistence level (in 2020, 11,312 rubles) (Federal State Statistics Service, 2021). According to the Federal State Statistics Service, the number of people living on an income below the subsistence level in the Russian Federation as of 2020 was 17.8 million, or 12.1% of the total population (Federal State Statistics Service, 2021). Although, according to official statistics, the poverty level in the country decreased by 0.2%, in the context of the COVID-19 pandemic spread, almost 25% of the Russian population had an income that was 60% lower than the national median (Finexpertiza, 2021). Consequently, one fourth of Russians fall in the category of low-income people, and, according to the international methodology, people with corresponding incomes are at risk of facing poverty (The World Bank Group, 2021b). Today, according to Poverty Rate By Country 2021, Russia ranks 9th in the world in terms of poverty, and while projections into Russia's future population are very difficult, it is estimated that Russia will fall from the 9th most populous country to 17th by 2050 (World Population Review, 2021). Undoubtedly, it is alarming that in the Russian Federation poverty applies to working members of society, young people who must ensure population reproduction and provide economic development. It can be argued that, currently, a poverty self-reproduction factor has formed in Russia, which is a powerful constraint on labor motivation, economic activity, an increase in the population's purchasing power, and, therefore, real GDP growth.

Research Gap

Researchers use different concepts, definitions, data sources, and calculation methods when estimating poverty indicators in countries, which leads to data incompatibility. For example, in Russia a significant discrepancy is observed in the decline of absolute monetary poverty, determined before January 2021 on the basis of the size of the consumer basket, and relative

poverty estimated on the basis of the unsatisfied needs of the population. In addition, such a poverty criterion as median income can certainly be considered a more relevant indicator for monitoring the level of wellbeing of Russian citizens, in contrast to the average income (Spicker, 2012). Since there is a fairly high level of household income inequality (the decile ratio of funds is almost 16 times) in Russia (Federal State Statistics Service, 2021), the average income level is overestimated due to the income level of wealthy citizens. It is not advisable to assess poverty based on only monetary indicators – income and expenses (Spicker, 2012). The problem of measuring poverty itself is quite complicated, however the problem of measuring poverty is of key importance for the development of an effective social policy of the state, as it serves as the basis for improving international comparability and accessibility of poverty statistics and relevant metadata. This discrepancy will be even more pronounced in the long term.

Our research is aimed at determining the level of multidimensional poverty in Russia and considering the monetary factors of the people's standard of living, and the factors of other spheres of human life: health and sports; environment and home; career and finance; self-development; human relations; recreation and entertainment; and the inner world with regard to the current level of the country's socio-economic development.

LITERATURE REVIEW

In general, there are three general concepts for assessing the poverty level. The first concept, absolute poverty, is based on a determination proceeding from the minimum consumption basket, or the basic consumer set of necessary goods and services, the aggregate cost of which makes the poverty line, is economically and scientifically justified and approved by the governments of the countries (Allen, 2017). The absolute poverty concept allows for a country-specific comparison of monetary indicators of people's standard of living.

The second concept reflects relative poverty, the essence of which is manifested in the fact that the category of the poor in a population includes those who cannot provide for themselves the standard of living prevailing in the territory of a particular country (Dunn,

2017). This deviation in the poverty assessment methodology is called *deprivation*; it characterizes the insufficiency of one's own resources to achieve the prevailing consumption standards in society and reflects the non-monetary parameters of household life (Bhuyan et al., 2020). The list of deprivations was determined by the originator of this approach, English scientist P. Townsend, in the 1970s (ReStore, 2021). Because of the complexity of the deprivation model for measuring poverty, however, a more refined combinatorial model of relative monetary poverty was developed based on general household income or expenditure standards (Laderchi et al., 2003). As a rule, the relative poverty threshold is set at 40-60% of the median income of the population or group. The relative poverty line is currently used, for example, by the Organization for Economic Cooperation and Development (OECD). The integrated approach is mainly used by the Statistical Office of the European Communities (Eurostat) to assess and compare poverty indicators in the EU countries. But tracking only monetary indicators of poverty does not provide a complete picture of the level of wellbeing; it is possible financially to be above the poverty line and, nevertheless, be unable to meet basic needs.

According to this concept, the poverty line is established based on an analysis of people's individual perceptions of how much resources are required to meet minimum living needs (Latief et al., 2021). The subjective signs of poverty may include the feeling of difficulty in existence, lack of funds and other resources or access to them, and inability to provide a standard of living perceived as *normal* in a given community. However, it should be noted that this approach does not give a reliable assessment of the poverty level since it is based on perceptions and, as a rule, can be used in practice only for a preliminary assessment of the potential level of poverty and misery.

In 2010, the Oxford Poverty & Human Development Initiative developed the Global Multidimensional Poverty Index, which considers the levels of deprivation of medical and educational needs, the lack of access to electricity and sanitation, the impossibility of cooking, and inaccessibility of drinking water.

Needs are categorized into three equally weighted groups: health, education, and standard of living. The category of people with

deprivation of monitored needs exceeding 33% belongs to the multidimensionally poor. Households with poverty cutoff indicators rated between 20% and 33% are considered vulnerable or being on the verge of multidimensional poverty (Oxford Poverty & Human Development Initiative, 2021).

Poverty definition concepts and measurement tools are constantly being modified under the influence of economic, social, political, and institutional factors (Bhuyan et al., 2020). For example, the problem of poverty in Russia stands out with strong regional differentiation in scale and profile (Federal State Statistics Service, 2021). In addition, the poverty level in the regions varied significantly over the post-Soviet period under the influence of macroeconomic and demographic factors, specific regional labor markets and social protection systems, etc. (Zubarevich, 2019), which requires taking into account the peculiarities of socio-economic development of a particular region in assessing the level of poverty.

In earlier studies, poverty and misery in society were largely understood as the lack of a person's ability to meet basic physiological needs. With the development of the market economy and the processes of its informatization, however, a steady increase in consumer demand and the maximization of consumption are observed since numerous institutions (from family to advertising) began to influence the formation of people's needs. In view of this, the emphasis in understanding poverty is shifted to its multidimensionality since the needs of a higher order become basic to meet (Igwe et al., 2019). An increasing number of scholars tend to understand poverty as the absence of elementary opportunities to really participate in the life of society (Jiao, 2021). Consequently, the concept of poverty goes beyond the material living conditions of people; it is also expressed as poor health (Pascual-Sáez et al., 2019), lack of employment security (Zizzamia, 2020), social isolation, poor nutrition, lack of personal safety (Owasim, 2015) and professional development opportunities (Parker & Huang, 2017), etc. Considering the above, the poverty level should be assessed as a multidimensional phenomenon (multidimensional poverty), reflecting all the spheres of life of a contemporary person and the needs of society,

and formed proceeding from the current conditions of life.

METHODOLOGY

The list of indicators for assessing the poverty level (Table 1) was formed on the basis of (Spicker, 2012; Dunn, 2017; Bhuyan et al.,

2020) subject to the availability of official data from the Federal State Statistics Service (2021); Eurostat (2021); and the Socioeconomic Data and Applications Center (2021). These indicators characterize the level of meeting needs in the main spheres of human values (Healthy Weight Secret, 2017).

Table 1: Indicators of the poverty assessment

Symbols	Indicators (units)
P1	Number of people with monetary incomes below the subsistence level (as a percentage of the total population)
P2	Gini index
P3	Real money income index (in percentage terms relative to 2004)
P4	Real value growth index for personal savings (in percentage terms relative to 2004)
P5	Share of food costs in the structure of consumer expenditures, %
P6	Education level index
P7	Literacy rate
P8	Gross preschool enrollment ratio (in percentage terms relative to the number of children aged 1-6)
P9	Gross primary, basic, and secondary general education enrollment ratio (in percentage terms relative to the number of population)
P10	Gross secondary vocational and higher education enrollment ratio (in percentage terms relative to the number of population)
P11	Energy value growth rate for consumed food products, expressed in kcal per day (in percentage terms relative to 2004)
P12	Medical doctors per 10 000 population
P13	Hospital beds per 10,000 people population
P14	Morbidity in children aged 0-14 years (cases per 1000 children of the corresponding age)
P15	Morbidity in children aged 15 - 17 years (cases per 1000 children of the corresponding age)
P16	Morbidity in the population (cases per 1000 population)
P17	The number of health resort and recreation organizations for 1000 population
P18	The number of sports facilities per 1000 population
P19	The number of swimming pools per 1000 population
P20	The number of cultural and leisure organizations per 1000 population
P21	Environmental Performance Index

Source: Authors' finding

We used the following indicators, which are most often used in assessing the poverty level,

to characterize the satisfaction of needs in the “career and finance” sector: the real income

level; comparison of income with the subsistence minimum; and the level of inequality in income distribution (Spicker, 2012). Also, we used indicators of real savings dynamics and the share of food costs in the structure of consumer spending.

Indicators of education accessibility included in the group of self-development needs were used as the basis for self-development (Cai, 2019). These indicators characterize the extent of the population enrollment with preschool, secondary, higher education, education level, and literacy rate.

Quantitative indicators of health and sports assess the availability of the health care system (the availability of doctors, hospital beds, health resort organizations), the possibility of going in for sports (the availability of gyms, swimming pools), the quality of health (the morbidity rate in children and adults) and one of its factors – nutrition quality (energy value of consumed food products).

One quantitative indicator was used for each value group: Recreation and Entertainment; Environment and Home Space; the number of cultural and leisure organizations; and the Environmental Performance Index, respectively. The limited number of quantitative indicators for these value groups and their absence in the Human Relations and Inner World sectors are caused by their subjectivity.

The assessments of the qualitative characteristics of the standard of living were obtained through a questionnaire survey conducted during 2005-2020 with the participation of between 1052 and 1184 respondents for each year, which indicates the sufficiency of the sample (Taherdoost, 2017). Full-time and remote forms of questioning were combined. The principle of voluntary participation and confidentiality was ensured.

Respondents with different income levels (as one of the basic indicators for assessing the poverty level) participated in the questionnaire survey to ensure the representativeness of the survey results; they were sampled in the percentage ratio in which they are represented throughout Russia for the previous year before the survey.

Geographically, respondents represented the Central, Northwestern, Southern, North Caucasian, Volga, Ural, Siberian, and Far Eastern federal districts of Russia.

The list of the questionnaire indicators was formed by an expert group, which included representatives of the Ministry of Labor and Social Protection, the Department for the Development of the Social Sphere, and the Sector of Non-Profit Organizations of the Ministry of Economic Development of the Russian Federation. The expert group is represented by 53 people, whose competence is confirmed by their higher education (some experts have a scientific degree) and more than five years of experience in these ministries (Table 1).

The questionnaire consists of seven groups of questions aimed at assessing the possibilities of realizing the different needs. (The questionnaire can be found at the link - Google Docs, 2021). According to the questionnaire, the Health and Sports section envisaged the assessment of the respondents' financial capabilities to play sports and the availability of necessary sports facilities in the region of residence; opportunities for normal nutrition; opportunities to receive quality medical care that helps solve or prevent the existing health problems, and the affordability of such care.

During the survey, the respondents rated the level of agreement with the questionnaire statements on a 10-point scale, where "0" means complete disagreement with the questionnaire statement, and "10" means absolute agreement.

Experts estimated the average representativeness indicator of the list of quantitative poverty indices at 8.7 points (87% of the maximum level). The representativeness of the questionnaire, consisting of qualitative indicators that characterize poverty, was estimated on average by the expert group at 8.3-9.4 points, depending on the spheres of life-sustaining activities. These points indicate the representativeness of the proposed list of quantitative and qualitative indicators and the possibility of using it for the poverty level assessment.

The poverty level assessment assumed the calculation of partial integrated poverty indices for the above-described areas/sectors of values (PI_i) by formulas (1) - (4) (Fang et al., 2020) and, on their basis, a comprehensive integrated poverty index (I). The algorithm for calculating the comprehensive integrated index is similar to the following.

$$PI_i = \sum_{j=1}^n (k_j \times X_j) \quad (1)$$

$$k_j = \frac{1 - [-(P_j \times \ln P_j)]}{\sum_{j=1}^n (1 - [-(P_j \times \ln P_j)])} \quad (2)$$

$$P_j = \frac{|v_j|}{\sum_{j=1}^n |v_j|} \quad (3)$$

$$X_j' = \begin{cases} \frac{X_j - X_{j \min}}{X_{j \max} - X_{j \min}}, & \text{for incentive indicators} \\ \frac{X_{j \max} - X_j}{X_{j \max} - X_{j \min}}, & \text{for disincentive indicators} \end{cases} \quad (4)$$

where;

X_j' is the normalized value of the j th indicator characterizing the i th sphere of values, determined by formula (4), depending on the differentiation of indicators into incentive and disincentive indicators. The growth of incentive indicators indicates an increase in the poverty level in the country, while the growth of disincentive indicates an increase in the level of wellbeing;

X_j is the actual value of the j th indicator. The indicator value is calculated as the arithmetic mean for qualitative indicators based on the point estimates of all respondents. The calculation of arithmetic mean values became possible due to the representativeness of the sample population. This is especially true for the percentage of respondents with different income levels in the sample, which corresponds to this ratio in Russia as a whole;

$X_{j \min}$ is the minimum possible value of the j th indicator, and $X_{j \max}$ is its maximum possible value. If the indicator does not have the maximum and minimum possible values, these are the maximum and minimum values, respectively, for the studied period;

k_j is the coefficient of significance of the j th indicator;

P_i is the probability of the indicator information content loss as a result of its variability;

v_i is the variation coefficient of the normalized values of the j th indicator;

n is the number of indicators characterizing the i th sphere-sector of values.

The information entropy indicator was used when calculating the coefficients of indicator significance within the framework of partial integrated poverty indices (PI_i) and comprehensive integrated poverty index (I). This indicator enables us to consider the informativeness of particular poverty indices based on their variability (formula 3). Integrated indices (PI_i , I) are measured in the

range of [0; 1]. The higher the index value, the higher the poverty level.

The Fibonacci sequence was used to determine the qualitative poverty level, according to which the values of the integrated indices [0; 0.38] correspond to the low poverty level; [0.38; 0.62] values align with the medium level, and [0.62; 1] values are associated with the high level.

Poverty level was predicted using the regression analysis method in Statistica 12.0 software. The comprehensive integrated poverty index (I) was a dependent variable, and the following indicators were independent variables (Nguyen & Nguyen, 2019; Megits et al., 2020; Yasmin et al., 2019): unemployment rate, in %; gender wage gap, in %; industrial production index, in % relative to the previous year; labor productivity index, in % relative to the previous year; capital productivity ratio change, in % relative to the previous year; capital-labor ratio change, in % relative to the previous year; the share of high-tech and knowledge-intensive industries products in the gross domestic product, in %; equity investment in GDP, in %; foreign direct investment index, in % relative to the previous year; consumer price index, in % relative to the previous year; the number of highly productive jobs, in thousand units; the level of organizations' innovation activity, in %; share of domestic research and development costs in GDP, in %; size of the shadow economy, in % of GDP (according to Rosstatat and Rosfinmonitoring data); the human development index; the economic freedom index; budget balance to GDP ratio, in %; the fixed capital renewal factor. These indicators characterize economic efficiency, which underlies the country's economic development and the wellbeing of its citizens.

A system of linear regression models was used for poverty level prediction, reflecting the statistically significant effect of independent variables on the comprehensive integrated poverty index. Linear regression models reflecting the mutual influence between the independent variables were also employed. Empirical values of Normality Test Prob ≥ 0.63 , while the normal law is confirmed with a Normality Test Prob > 0.05 . The models, which are based on data for 2005-2009, were built on the basis of normalized values regarding different dimensions of the dependent and independent variables. Normalized values for

independent variables were calculated according to an option of formula (4) intended for incentive indicators.

RESULTS

Although the Russian Federation cannot be classified as a poor country by international standards, there is large-scale and multidimensional poverty of the population (Fig. 1a and 1b).

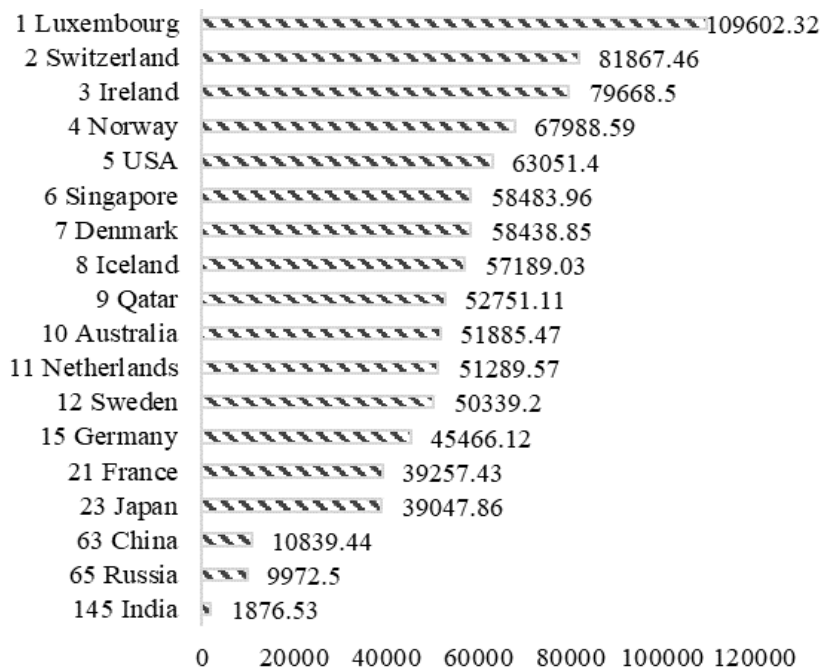


Figure 1a: GDP per capita in 2020, USD

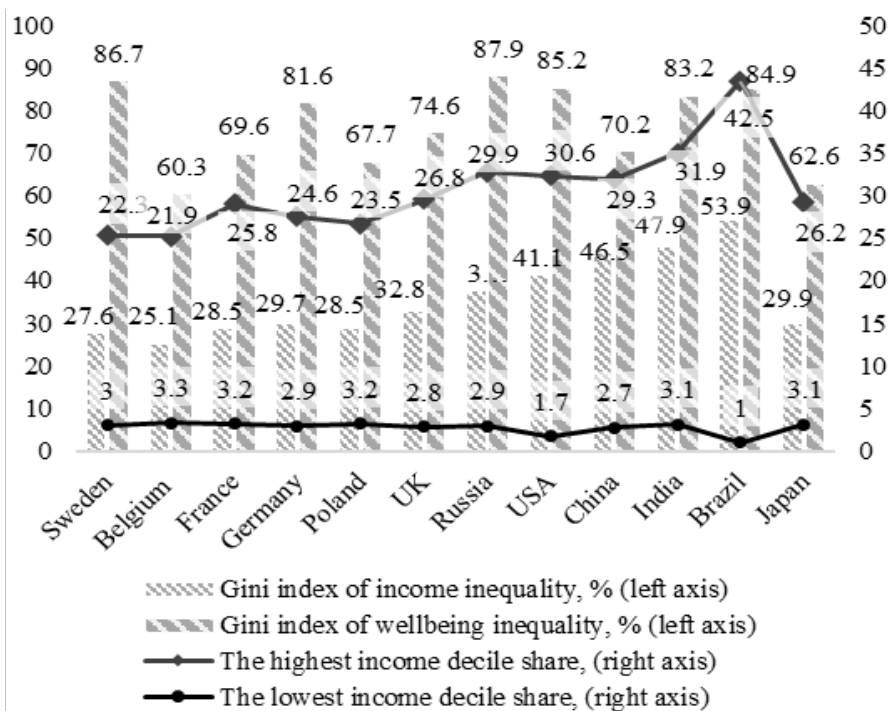


Figure 1b: Level of income differentiation in the world countries in 2019

Figure 1: Russia in international poverty level rankings

Source: The World Bank Group (2021b)

Russia is ranked 65th among 145 countries, only two lines behind China. The Russian Federation occupies stronger positions in the world ranking in terms of national wealth per capita in constant prices (41st out of 141). It is noteworthy that in the structure of the national wealth of the Russian Federation, the largest share is occupied by human, rather than natural, capital (Federal State Statistics Service, 2021). It is known that with qualified management, the profit from human capital investment (expenses on general and special vocational education, health care, ensuring geographical mobility, information retrieval, scientific research in the field of labor organization, working conditions, and remuneration) is almost three times higher than the profit from technology investment (Becker, 2003).

Thus, according to the World Bank, the Gini coefficient of income inequality was about 0.38 in the Russian Federation in 2019, which was lower than in the USA (0.41), but significantly higher than in France (0.285), Norway (0.286), and Germany (about 0.32). According to the World Inequality Database (WID.world), whereas the share of the richest 1% of the population of the USSR did not exceed 3-4% in the national income, over 1989-2016 it was growing steadily and reached 56%; while the share of the lower 50% of the population decreased by 15% (Novokmet et al., 2017).

The values of the partial integrated poverty indices and the comprehensive integrated poverty index are given in Table 2.

Table 2: Poverty level in Russia during 2005-2020

Indicator	Yearly values															
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Partial integrated poverty indices																
PI_h	0.29	0.31	0.39	0.39	0.76	0.43	0.44	0.47	0.56	0.64	0.80	0.73	0.58	0.56	0.56	0.82
PI_e	0.59	0.56	0.50	0.51	0.54	0.43	0.38	0.33	0.37	0.31	0.31	0.28	0.26	0.37	0.50	0.54
PI_f	0.42	0.40	0.39	0.39	0.39	0.39	0.39	0.28	0.28	0.28	0.30	0.30	0.39	0.39	0.43	0.57
PI_d	0.54	0.52	0.51	0.51	0.51	0.51	0.51	0.50	0.50	0.50	0.52	0.52	0.52	0.53	0.57	0.65
PI_{hr}	0.34	0.31	0.29	0.27	0.29	0.26	0.24	0.25	0.24	0.23	0.25	0.23	0.22	0.29	0.31	0.43
PI_r	0.60	0.52	0.40	0.29	0.30	0.26	0.23	0.22	0.27	0.40	0.43	0.44	0.45	0.48	0.51	0.76
PI_i	0.51	0.44	0.31	0.23	0.26	0.27	0.25	0.24	0.26	0.34	0.37	0.45	0.43	0.48	0.56	0.65
Comprehensive integrated poverty index																
I	0.47	0.44	0.40	0.37	0.44	0.37	0.35	0.33	0.36	0.39	0.42	0.42	0.41	0.44	0.49	0.63

PI_h – partial integrated poverty indices in the health and sports sphere; PI_e – in the environment and home space sphere; PI_f – in the carrier and finances sphere; PI_d – in the self-development sphere; PI_{hr} – in the human relations sphere; PI_r – in the recreation and entertainment sphere; PI_i – in the inner world sphere; □ - low poverty level; ▒ - average poverty level; ■ - high poverty level

Source: Authors' finding

The value of the comprehensive integrated poverty index was at a low level (0.33-0.37) during 2008 and from 2010-2013; it took an average position (0.39-0.49) during 2005-2007, 2009, 2014-2019, and a high position (0.63) in 2020. The values of the partial and comprehensive integrated poverty indices increased by 8-46% in 2020 compared to

2019. This increase is primarily caused by the COVID-19 pandemic, which negatively affected the financial situation of the population and the opportunities for satisfying needs due to administrative constraints and congestion in the health care system (Vasiljeva et al., 2020).

The indicators that have a statistically significant effect on the poverty level, determined on the basis of the constructed linear regression models, include the labor productivity index, in % relative to the previous year (X1); the share of high-tech and knowledge-intensive products in the gross domestic product, in % (X2); equity investment in GDP, in % (X3); the number of highly productive jobs, in thousand units (X4); and the size of the shadow economy, in % of GDP (X5). Along with this, the statistically significant relationships between indicators X1-X2, X1-X3, X1-X4, X3-X4 were revealed, and as a result, a system of models was built to consider the mutual influence between these indicators (formulas 5-7):

$$I = -0.1630 \times X1(-4)^* + 1.1943 \times X5(-4) + 0.2263 \quad (5)$$

$$(-2.37)^{**} \quad (5.25)$$

$$X1 = 0.1642 \times X2(-2) + 0.2835 \times X4(-1) + 0.3389 \quad (6)$$

$$(2.51) \quad (3.93)$$

$$X4 = 0.4993 \times X3(-2) + 0.0803 \quad (7)$$

$$(4.81)$$

* - time lag (number of years) in the influence of indicators;

** - empirical values of the t-test at a significance level of $p = 0.05$

The direction of influence between the indicators was established proceeding from the priority of changing one indicator relative to another, as indicated by the time lag. The influence of all independent variables indicated in formulas (5) - (7) on the dependent ones is manifested with a lag of 1-4 years.

The empirical values of the t-test exceed the critical ones (2.16, 2.18) at a significance level of $p = 0.05$. The empirical values of the F-test were 27.62-38.33 with critical values of 3.88, 4.67. The probability of choosing the correct specification of regression models, estimated by the Ramsey Test, was 0.85-0.89. The normal distribution law for the residuals of the models was confirmed with a probability of 0.56-0.72. The indicated criteria, according to which the empirical values exceed the critical ones and the probabilities exceed 5%, testify to the adequacy of the constructed regression models.

The available time lag enables us to make a short-term forecast of changes in the poverty level in Russia. The constructed set of models helped determine that, while maintaining the current level of the shadow economy, the comprehensive integrated poverty index will have increased to 0.55 (by 12% relative to 2019) by 2025 and to 0.57 (by 16% relative to 2019) by 2026. However, the poverty level will decrease by 13% and 10%, respectively, compared to the 2020 index values. The reasons for the increase in the poverty level compared to 2019 are the unstable nature of the development of the equity investment in GDP (a decrease during 2014-2015, 2018-2019) and a decrease in the labor productivity index during 2019-2020.

DISCUSSION

An approach to assessing the poverty level is proposed in this study which involves assessing the level of satisfaction in the main spheres/sectors of human values: health and sports; environment and home space; career and finances; self-development; human relations; recreation and entertainment; and inner world (Healthy Weight Secret, 2017). Thus, the approach is based on assessing the level of income (Spicker, 2012; Dunn, 2017) and the possibilities of satisfying needs based on the value structure (Rahayu et al., 2019).

Expansion of the assessed criteria in determining the poverty level compared to Spicker (2012), Dunn (2017), and Zizzamia (2020) contributes to a comprehensive assessment of the poverty phenomenon based on the level and conditions of life, making it possible to ensure the satisfaction of human needs. The results obtained enable us to determine the share of the poor, deprived, and excluded among the Russian population and households and compare the position of individual socio-economic groups. In addition, this study gives an idea of the convergence of monetary poverty indices (relative and absolute) with the indices of multidimensional poverty, material deprivation, and social exclusion, which together provide complete insight into the problems of Russian families. The implementation approach assumed the calculation of partial integrated indices for each sphere/sector of values and comprehensive integrated index on their basis.

High inequality in a country prevents an even distribution of national wealth among its citizens and leads to an increase in poverty. Official data on the poverty level mainly operate by comparing the income level with the subsistence minimum, the Gini coefficient, the dynamics of income and savings (indicators reflected through partial integrated poverty indices in the career and finances sphere), and is underestimated. The reason the poverty level is underestimated is that, in addition to the monetary factor, the poverty level is influenced by the accessibility of services (excluding financial affordability) and opportunity costs, which implies sacrificing free time to ensure the material wellbeing necessary for life.

The calculated integrated poverty indices evidence that health and sports are the most problematic areas. As a result of the inaccessibility of the health care system and dissatisfaction with its quality, the value of the integrated index for this area ranges within 0.29-0.82, which corresponds mainly to average and high levels of poverty. The average poverty level dominates in the study period, which was observed during 2007-2008, 2010-2013, 2017-2019. The problem of poverty, caused by the need for self-development without appropriate material reinforcement and with a time shortage associated with the need to earn money, is next in importance. The value of the partial integrated poverty index for this area indicates the average poverty level during 2005-2019 and the high poverty level in 2020.

CONCLUSION

The research results indicate that the innovative, high-tech, science-intensive way of economic development and an increase in capital investment are the factors of reducing the poverty level in Russia. Labor productivity growth, increased production of high-tech and knowledge-intensive industries, equity investment, and an increased number of highly productive jobs promote the decrease in the comprehensive integrated poverty index. The increase in the share of the shadow economy is a poverty-level growth factor. Growth in the shadow economy share by one percentage point leads to an increase in the poverty level by 1.62%. These factors should become the basis for a state policy for

overcoming poverty in Russia, which, according to the research results, will maintain positive growth dynamics until 2026 under the existing conditions of socio-economic development.

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