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IDENTIFYING POVERTY TRIGGERS IN RUSSIAN REGIONS

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Abstract

Scientific problem to be solved in this paper is finding main differences of Russian regions in poverty profile by constructing stratification scales and identifying the main triggers of poverty. Distribution of households according to these scales may outline new sub-groups of poor which are not taken into account by official statistics and do not receive support from social programs targeting the most vulnerable groups of society. To create an integral stratification scale, three scales are first constructed. The first scale allows to distribute households according to their equivalent income, the second scale - according to the housing provision, the third scale - according to the assets ownership. The use of an integral stratification scale makes it possible to create groups of regions with different poverty profiles. As a result of the study, the authors revealed a significant inequality of households in the regions of the Russian Federation. All poor households can be divided into three groups: poor by equivalent income and integral assessment, poor by integrated assessment but are not poor by equivalent income and poor by equivalent income but not poor by the integral assessment. Analysis of these groups allowed identifying such poverty triggers as lack of land ownership and, as a consequence, the inability to engage in agriculture, limited mobility due to the lack of a car and the appearance of one or more children in the family leading to the risk of poverty.

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1. Introduction

Market reforms of the 1990s in Russia hit most vulnerable groups of population and contributed to property stratification. During these years in Russia, there were millions of people living on less than \$ 1.9 and \$ 3.2 per day. In the first decade of the 21st century, against the backdrop of rising world prices for oil and gas, Russia had some success in fight against poverty. Even after the 2008-2009 crisis, incomes of most citizens recovered fairly quickly. By 2018, the number of people living on less than \$ 1.9 and \$ 3.2 a day had dropped to near zero. In 2017, the share of the Russian population living on less than \$ 3.2 a day was below 0.1%, while about 1% of Russians lived on less than \$ 5.5 a day, and less than \$ 10 - 6.2%.

The official poverty level in Russia is calculated by proportion of people living below subsistence level. The latter value changes every quarter. So, in 2017, 13% of Russians lived on income below the subsistence level for that year in the amount of 10 thousand rubles (about 150 US dollars) per month. In absolute numbers, it is more than 19 million people. For comparison, smallest share of poor in modern Russian history was recorded in 2012, when it was 10.8 percent or 15.5 million people.

Russian government has ambitious plan to fight poverty within framework of Sustainable Development Goals - 2030. By 2030, poverty in Russia should be halved compared to the 2017 indicator. Consequently, adjusted for change in population (according to demography forecasts, noticeable population growth is not expected) by 2030 there should be less than 10 million officially poor people in the country.

However, since 2014, due to war of sanctions and sharp fall in the Russian currency (ruble), real collapse of household incomes began. The COVID-19 pandemic in 2020 has led to even greater drop in income of Russians who have become poorer for five years in a row. According to the Federal State Statistics Service (Rosstat), in second quarter of 2020, due to quarantine restrictions in fight against COVID-19, real disposable income of Russians fell by 8%. This is a record quarterly drop since the turn of the century.

The scale of real poverty in Russia is likely to exceed Rosstat data. Various think tanks provide data on poverty rates at twice the official estimate. Moreover, poverty is distributed unevenly throughout Russia because of big differentiation in cost of living and income per capita in its regions. The difference in level of median and average income between regions with high and low proportion of poor is about three to four times. The share of Russians living below official poverty line in 11 regions of the country exceeded 20%. In 17 regions, share of the poor is less than 10%. In these conditions, search for triggers of real poverty in Russian regions becomes important and urgent task.

2. Problem Statement

Official poverty estimation in Russian regions has number of limitations. At first, economies of scale in estimating household income or consumption is not taken into account. At second, official poverty line is constructed using absolute concept of poverty on the basis of subsistence minimum. Using concept of relative poverty, equivalence scales for estimating income per capita and additional triggers of household well-being can help to avoid these limitations. Such approach has been already used by author

in measuring equivalent income (Sadyrtdinov, Yurkov, Fakhrutdinova, & Vedikhina, 2017) and chronic poor in Russia (Sadyrtdinov, Rodnyansky, & Makarov, 2019)

There is a set of papers studying poverty on regional level in developing countries and countries in transition. Based on census data at the county level from 2000 to 2010 in China, Li et al. use principal component analysis to establish integrated multidimensional poverty index (IMPI) for geographical identification of poverty-stricken counties using indicators system guided by sustainable livelihoods framework. The results indicate that many poverty-stricken and developed counties are exposed to poor air quality. The accurate identification of geographical and spatiotemporal patterns of poverty in China can lead to implementation of anti-poverty strategies. This paper also offers new insights into poverty measurement for other developing countries. (Li et al., 2019)

Interesting approach based on a new type of remote-sensing data, NPP-VIIRS, was applied by Pan & Hu to locate poverty-stricken areas based on night-time light, taking 2852 Chinese counties as a sample. By improving accuracy of targeting, this method of identifying multidimensional poverty areas could be used as a reference for countries or regions that seek to target poor areas that suffer multidimensional deprivation. (Pan & Hu, 2018)

Micro-econometric models are applied for investigating determinants of household welfare in the Central Highland, Vietnam using recent data from the Vietnam Household Living Standard Survey in 2016. The results on determinants include substantial contribution of nonfarm self-employment and education to household income and poverty eradication, positive association of wage employment and only some types of land with poverty reduction. (Nguyen & Nguyen, 2019)

The dynamics of spatial inequality and poverty, notably for bottom 40 percent of population in Vietnam, during the period of 1993-2014 is verified in another paper. The urban-rural expenditure gap is mainly explained by years of education, job sector, and ethnic minority status of household head, and remittances over the duration. For determinants of poverty of bottom 40 percent of population, years of education, service sector job and remittances, among others, largely and positively explained the dynamics based on quantile regression estimation results. (Takahiro, 2018)

Another research exploits comprehensive data set of 86 up-to-date official extreme and total urban poverty lines across eighteen countries in Latin America, as well as recently updated values of national purchasing power parity conversion factors from the 2011 International Comparison Program and a set of harmonized household surveys. Using US\$ 3.00 and US\$ 6.00 per person a day at 2011 PPP as extreme and total poverty lines, respectively, for Latin America, this paper illustrates sensitivity of poverty rates to changes of values of poverty lines as a result of recent update of PPP values, period of reference, and relative cost of living across countries in the region. (Castañeda, Garriga, Gasparini, Lucchetti, & Valderrama, 2018)

Vacaflares in his research uses new dataset for 18 Latin American countries covering the 2000-2013 period to examine effectiveness of international remittances in reducing poverty and inequality. Dynamic panel data results using number of measures for remittances indicate that increases in remittances have negative and statistically significant impact on overall poverty and inequality in the region, even if it exacerbates moderate poverty. (Vacaflares, 2018)

Bautista constructed multidimensional poverty index for the Philippines using the Alkire-Foster methodology and data from a 2011 annual poverty indicators survey. Study of household poverty using mixed logit analysis at province level finds positive relation between poverty risk and household size. A substantial reduction of risk is observed for households with heads who were able to matriculate high school. The household head's health status has negative impact on household's risk of being poor. (Bautista, 2018)

Therefore, scientific problem to be solved in this paper is finding main differences of Russian regions in poverty profile by constructing stratification scales and identifying main triggers of poverty. Distribution of households according to these stratification scales may outline new sub-groups of poor which are not taken into account by official statistics and do not receive support from social programs targeting most vulnerable groups of society.

3. Research Questions

In this research authors study stratification of households in Russian regions and identify poverty triggers and main differences between these regions in poverty profile. Research questions to be answered are as follows:

1. Do all Russian regions have same poverty triggers?
2. Are all income-poor households at the same time poor in multidimensional deprivation? Are there households that are income-poor but not multidimensional poor and vice versa?

4. Purpose of the Study

While making research on problem of regional poverty different authors study determinants, level of poverty, as well as methods of its measurement. Alkire, Roche & Vaz use the Alkire Foster Adjusted Headcount Ratio and its consistent sub-indices to identify intertemporal changes in multidimensional poverty on global Multidimensional Poverty Index (MPI) in 34 countries and 338 sub-national regions. This extensive empirical analysis illustrates how to assess the extent and patterns of reduction of multidimensional poverty, as well as whether it is inclusive or whether some people or groups are left behind. (Alkire, Roche, & Vaz, 2017)

Pasha analyses consequences of alternative weighting scheme for Multidimensional Poverty Index (MPI), using data-driven approach, as opposed to currently employed equal weighting scheme. Given high correlation between all indicators employed within the MPI, large overlap is found in the information, implying that there might not actually be so much multidimensionality within the dimensions of the MPI. (Pasha, 2017)

Another interesting research investigates issue of measuring proportion of population affected by phenomenon of poverty in Spain on the basis of relationship between severe material deprivation rate and the at-risk-of-poverty rate by regions. The results could serve as base for future studies to provide more detailed information about breakdown of relative poverty within each country and, thereby, to meet relevant information requests, at national and international level, to support implementation of public policies in this area. (Salcedo & Izquierdo, 2017)

Ravallion and Lokshin study determinants of peoples' perceptions of their economic welfare. While income is highly significant predictor, subjective economic welfare is influenced by many other factors including health, education, employment, assets, relative income in area of residence and expectations about future welfare. Insights are obtained into how objective data should be weighted in assessing economic welfare. (Ravallion & Lokshin, 2002)

Buckley and Gurenko show that housing allocation had a progressive effect on distribution of income in Russia. In addition, when imputed value of housing is added to household income, increase in income inequality that occurred in recent years is significantly reduced. The analysis concludes with discussion of how housing policy could be used to address poverty concerns, an important aspect of transition process. (Buckley & Gurenko, 1997)

Malkina obtained estimations of social well-being of Russian regions for 11 years based on simple and advanced functions by Sen and Atkinson. She identified logit-shaped type of inter-regional differences in level of welfare per capita: coexistence of excessive poverty and excessive richness with stable middle. The study also revealed that degree of inter-regional inequality and its rate for the welfare functions is lower than for real income per capita. (Malkina, 2016)

That is why within framework of fundamental scientific problem outlined above, this paper aims to find main differences of Russian regions in poverty profile by constructing stratification scales and identifying main triggers of poverty. Estimation of relative poverty in Russian regions will be made using equivalent income and other important determinants of household welfare. The results will be obtained with prospect of its practical application in further development of anti-poverty strategies and programs in Russian regions.

5. Research Methods

Stratification of households is carried out by ranking households on scales that include five intervals. To create integral stratification scale, three scales are first constructed. The first scale allows to distribute households according to their equivalent income, the second scale - according to housing provision, the third scale - according to assets ownership.

In this paper, poverty is measured based on relative concept. The relative poverty line on first scale is defined as 50% of the median indicator. Such definition is given by the Organization for Economic Cooperation and Development (OECD). Therefore, the border of the first and second intervals is set at 50% of the median value (MI) for every region in the study sample. The median value is considered as the middle of the third interval and all other boundaries except first border are set relative to it with the same step of 40%. There is no maximum limit for the last fifth interval. As a result, the scale is divided into five intervals with four borders:

1. $0.5 * MI$ - border of the first and second intervals;
2. $0.8 * MI$ - border of the second and third intervals;
3. $1.2 * MI$ - border of the third and fourth intervals;
4. $1.6 * MI$ - border of the fourth and fifth intervals.

The equivalent income per capita is estimated for all households in a sample. It is calculated as the ratio of total household income to the equivalence scale. To calculate equivalence scales the Engel law (Engel, 1895) is used. According to it if different households spend on food equal share per capita expenditures, their level of well-being is the same. The most optimal explaining of this law is the common shape of Working-Leser form (Leser, 1963).

The second scale consists of five intervals and is constructed using housing provision indicator – living space per capita. For the border of the first and second intervals, value of the minimum standard established in the Russian Federation is used. After changes in the housing legislation this indicator is currently set at the level of local authorities. Therefore, in order to ensure the comparability of regions the authors use a unified value of 12 square meters per capita for all regions, which was enshrined in the Housing Code of the Russian Federation previously. This indicator was used to identify citizens who need to improve their living conditions. All other borders of the second scale are estimated the same as for the first scale. The median value of total living space per capita is considered as the middle of the third interval and all other boundaries except first border are set relative to it with the same step of 40%.

The third scale is based on the presence / absence of those assets that significantly characterize the inequality of households. One of the main indicators of prosperity in modern Russia is the real estate ownership. Investments in real estate, such as buying own apartment or house and land, are means to preserve and increase the household welfare. Another marker of success and well-being is a car. Thus, following assets were selected as significant: main housing (apartment or house) owned by household, additional housing (apartment or house) owned by household, a car and a land owned by household. The absence of all selected assets corresponds to first interval, the presence of one property asset - to second interval on scale, the presence of two assets – to the third, the presence of three assets – to the fourth and the ownership of all four assets - to the fifth interval on scale.

To construct integral stratification scale, each household is assigned points corresponding to the number of intervals on three scales in which the household fell. Further, these points for each household are summed up, and for every region of the Russian Federation the distribution of households to one of following groups is determined:

- group 1- in extreme poverty (3 points);
- group 2 - needy (4-6 points);
- group 3 - middle (7-9 points);
- group 4 – well-off above average (10-12 points);
- group 5: wealthy (13 points and more).

Each interval turns into social stratum, building a hierarchy from household members in extreme poverty at social bottom (first interval) to wealthy household members at social top (fifth interval). The most vulnerable group on this integral stratification scale are household members with multidimensional deprivation, based not only on income, but also on housing provision and additional property assets. Earlier, group of households below the relative poverty line on first scale was identified. The question arises, to what extent these two groups of households correspond to each other and how their poverty profile differs.

Data from the Budget Survey of Households in the Russian Federation is used for equivalent income estimation. The survey is carried out by state statistics bodies on regular basis and covers entire territory of the Russian Federation. Households sample is regionally representative. For the 2018 year data on 46840 households is taken, because it includes needed for research parameters in the questionnaire.

6. Findings

To construct first scale, the equivalent income per capita for every household in a sample was estimated using equivalence scales. Further, for each Russian region, median equivalent income was found. Then borders of intervals were determined, and all households were distributed over these intervals. The results of ranking using relative poverty line are presented in Table 1.

Table 01. Distribution of household members in Russian regions using relative poverty line, %

Type of region	Name of region	1	2	3	4	5
Leading regions	Moscow, Moskovskaya oblast, St. Petersburg, Leningradskaya oblast, Kalugskaya oblast, Ivanovskaya oblast, Vladimirskaya oblast, Tverskaya oblast, Tulsckaya oblast, Ryazanskaya oblast, Kostromskaya oblast, Orlovskaya oblast, Vologdskaya oblast, Murmanskaya oblast, Chechnya, Ingushetia, Adygea, Chuvashia, North Ossetia, Crimea, Sevastopol, Amurskaya oblast, Rostovskaya oblast, Udmurtia, Samarskaya oblast, Kirovskaya oblast, Volgogradskaya oblast, Chelyabinskaya oblast	2.8-14.5	26.2-41.4	30.1-46.9	9.2-23.7	5.2-10.2
Middle regions	Karelia, Permskiy krai, Arhangelskaya oblast, Yaroslavl'skaya oblast, Belgorodskaya oblast, Ulyanovskaya oblast, Pskovskaya oblast, Sakha (Yakutia), Khabarovskiy krai, Sverdlovskaya oblast, Kemerovskaya oblast, Tyumenskaya oblast, Kurskaya oblast, Kurganskaya oblast, Zabaykalskiy krai, Novgorodskaya oblast, Penzenskaya oblast, Kaliningradskaya oblast, Mordovia, Saratovskaya oblast, Tuva, Krasnodarskiy krai, Altai, Nizhegorodskaya oblast, Tambovskaya oblast, Stavropolskiy krai, Primorskiy krai, Lipetskaya oblast, Khakassia, Tomskaya oblast, Karachay-Cherkessia, Buryatia, Mari El, Kamchatskiy krai, Chukotskiy avtonomnyy okrug, Orenburgskaya oblast, Kalmykia	14.9-28.5	25.1-35.4	20.6-33.8	8.3-15.7	6.3-16.9
Regions-outside	Komi, Novosibirskaya oblast, Tatarstan, Sakhalinskaya oblast, Krasnoyarskiy krai, Omskaya oblast, Astrakhanskaya oblast, Irkutskaya oblast, Evreiskaya avtonomnaya oblast, Dagestan, Altaiskiy krai, Bryanskaya oblast, Magadanskaya oblast, Bashkortostan, Voronezhskaya oblast, Smolenskaya oblast, Kabardino-Balkaria	29.2-93.6	0-29.9	0-24.4	0.4-12.4	6.1-15.3

All regions are grouped into three groups with comparable proportions of distribution of household members on the scale. Comparing the distribution of household members from different groups of regions, it is necessary to note that only in leading regions the society stratification is shaped like lemon, with a small number of upper and lower class at either big number of middle class. In middle regions the largest stratum is shifted to second group with incomes below average. And in 17 regions-outside share of household members in first interval (below the poverty line) is higher than in third

interval (middle income). The second scale was constructed using indicator of living space per capita. The results of distribution by housing provision line are presented in Table 2.

Table 02. Distribution of household members in Russian regions using housing provision line, %

Type of region	Name of region	1	2	3	4	5
Leading regions	Kalmykia, Voronezhskaya oblast, Dagestan, Tambovskaya oblast, Mordovia, St. Petersburg, Bryanskaya oblast, Smolenskaya oblast, Rostovskaya oblast, Chukotsky avtonomny okryg, Kostromskaya oblast, Adygea, Ulyanovskaya oblast, Khabarovskiy krai, Novgorodskaya oblast, Moscow, Vologodskaya oblast, Moscovskaya oblast, Stavropolskiy krai, Ingushetia, Kurskaya oblast, Krasnodarskiy krai, Tverskaya oblast, Novosibirskaya oblast, Tylyskaya oblast, Altaiskiy krai, Astrakhanskaya oblast, Orlovskaya oblast, Vladimirskaya oblast, Ryazanskaya oblast, Magadanskaya oblast, Irkutskaya oblast, Primorskiy krai, Penzenskaya oblast, Kalughskaya oblast, Saratovskaya oblast, Tyumenskaya oblast, Sakhalinskaya oblast, Ivanovskaya oblast, Lipetskaya oblast, Chechnya, Udmurtia, Samarskaya oblast, Kabardino-Balkariya, Nizhegorodskaya oblast, North Ossetia, Murmanskaya oblast, Leningradskaya oblast, Chelyabinskaya oblast, Orenburgskaya oblast, Tatarstan, Volgogradskaya oblast, Kaliningradskaya oblast, Pskovskaya oblast	3.5-14.5	36.3-58.8	17.6-35.9	5.7-13	4.5-8.3
Middle regions	Omskaya oblast, Kamchatskiy krai, Mari El, Belgorodskaya oblast, Komi, Crimea, Yaroslavlskaya oblast, Tomskaya oblast, Amurskaya oblast, Kirovskaya oblast, Khakassia, Sevastopol, Bashkortostan, Karachay-Cherkessia, Chuvashia, Altai, Arhangelskaya oblast, Karelia, Zabaikalskiy krai, Kemerovskaya oblast, Sverdlovskaya oblast, Sakha (Yakutia), Krasnoyarskiy krai, Kurganskaya oblast, Evreiskaya avtonomnaya oblast, Permskiy krai, Buryatia	14.7-24.9	28.5-53	15.1-28.8	5.6-10.4	4.8-8.5
Regions-outside	Tyva	34,5	29,2	24,0	5,6	6,6

Table 2 shows that largest share of household members below the housing provision line is in Tyva (34.5%). The share of households below the housing provision line in leading regions doesn't exceed 15%, in middle regions – within 14.7-24.9%. In leading and middle regions the largest stratum is shifted to second group with the living space per capita below average. At the same time, at other intervals in these two groups of regions, comparable minimum and maximum limits of the share of household members remain.

To create third scale, data on the ownership of such assets housing, car and land were taken from sample. The results of distribution of households using property assets line are presented in Table 3.

Table 03. Distribution of household members in Russian regions using property assets line, %

Type of region	Name of region	1	2	3	4	5
Leading regions	Ingushetia, Kabardino-Balkaria, Voronezhskaya oblast, Kurskaya oblast, Lipetskaya oblast, Mordovia, Chuvashia, Dagestan, Moscow, Kalughskaya oblast, Kalmykia, Penzenskaya oblast, Altaisky krai, Krasnodarsky krai, Bryanskaya oblast, North Ossetia, Astrakhanskaya oblast, Belgorodskaya oblast, Stavropolsky krai, Saratovskaya oblast, Vologodskaya oblast, Mari El, Vladimirskaya oblast, Udmurtia, Nizhegorodskaya oblast, Ryazanskaya oblast, Karachay-Cherkessia, Tambovskaya oblast, Bashkortostan, Volgogradskaya oblast, Tomskaya oblast, Rostovskaya oblast, Primorsky krai, Tulsckaya oblast, Altai, Kemerovskaya oblast, Novgorodskaya oblast, Omskaya oblast, St. Petersburg, Adygea, Crimea, Irkutskaya oblast, Ivanovskaya oblast, Amurskaya oblast, Kurganskaya oblast, Novosibirskaya oblast, Chelyabinskaya oblast, Sevastopol, Khakassia, Evreiskaya avtonomnaya oblast, Tyva, Orlovskaya oblast, Permsky krai, Chechnya, Sverdlovskaya oblast, Murmanskaya oblast, Pskovskaya oblast, Buryatia, Samarskaya oblast, Moscovskaya oblast, Kostromskaya oblast, Yaroslavskaya oblast, Tyumenskaya oblast, Orenburgskaya oblast, Zabaikalsky krai, Smolenskaya oblast, Kirovskaya oblast, Tatarstan, Tverskaya oblast, Khabarovskiy krai, Krasnoyarsky krai, Komi, Sakha (Yakutia), Karelia, Kaliningradskaya oblast, Ulyanovskaya oblast, Leningradskaya oblast, Sakhalinskaya oblast, Magadanskaya oblast	0-12.5	27.7-75.7	16.1-57.5	0-21.4	0-2.8
Middle regions	Kamchatsky krai, Arhangelskaya oblast	14,8-16,8	31,1-38,1	34,2-40,7	10,4-12,5	0,6-1
Regions-outsiders	Chukotsky avtonomny okryg	47,7	46,3	6,0	0	0

As it can be seen on Table 3, maximum share of households lacking the entire set of property assets was found in Chukotsky avtonomny okryg (47.7%). In all other regions share of households on first interval is less than share of households in second or third interval. It indicates that in the majority of regions households own at least one property asset, but no one is able to significantly increase welfare by owning three or more property assets in total. Further, depending on interval in which the households fell, they are assigned corresponding points. By summing them up, integral stratification scale is constructed. The results are presented in Table 4.

Table 04. Distribution of household members in Russian regions on integral stratification scale, %

Type of region	Name of region	1	2	3	4	5
Leading regions	Ryazanskaya oblast, St. Petersburg, Ivanovskaya oblast, Chuvashia, Adygea, Udmurtia, Vologodskaya oblast, Murmanskaya	0-0.4	14.1-19.4	46.2-71.9	15.8-22.8	0-1.7

Type of region	Name of region	1	2	3	4	5
	oblast					
Upper-middle regions	Ingushetia, Novgorodskaya oblast, Pskovskaya oblast, Chelyabinskaya oblast, Kalughskaya oblast, Leningradskaya oblast, Chechnya, Vladimirskaya oblast, Rostovskaya oblast, Tuskaya oblast, Kostromskaya oblast, Volgogradskaya oblast, Moscow, Orlovskaya oblast, Kirovskaya oblast, Moscovskaya oblast, Samarskaya oblast, Khabarovskiy krai, Kurskaya oblast, North Ossetia, Tverskaya oblast, Mordovia, Karelia, Tyumenskaya oblast, Permskiy krai, Krasnodarskiy krai, Ulyanovskaya oblast, Sverdlovskaya oblast, Belgorodskaya oblast, Altai, Nizhegorodskaya oblast, Stavropolskiy krai, Primorskiy krai, Amurskaya oblast, Penzenskaya oblast, Tomskaya oblast, Yaroslavl'skaya oblast	0-2.2	19.8-29.5	29.8-65	14.1-22.3	0-1.4
Lower-middle regions	Kalmykia, Tambovskaya oblast, Kemerovskaya oblast, Karachay-Cherkessia, Khakassia, Novosibirskaya oblast, Sakha (Yakutia), Saratovskaya oblast, Arhangelskaya oblast, Kurganskaya oblast, Kaliningradskaya oblast, Zabaikalskiy krai, Krasnoyarskiy krai, Crimea, Irkutskaya oblast, Kamchatskiy krai, Astrakhanskaya oblast, Lipetskaya oblast, Tatarstan, Orenburgskaya oblast, Sevastopol, Omskaya oblast, Komi	0-1.9	30.1-37.6	41.6-54.3	12.3-21.6	0.2-1.6
Regions-outsiders	Buryatia, Mari El, Evreiskaya avtonomnaya oblast, Altaiskiy krai, Sakhalinskaya oblast, Dagestan, Tyva, Bashkortostan, Magadanskaya oblast, Bryanskaya oblast, Chukotskiy avtonomnyy okrug, Voronezhskaya oblast, Smolenskaya oblast, Kabardino-Balkaria	0-1.7	39.6-68.6	19.9-43.9	5.3-17.5	0-1.7

The data in Table 4 represent four groups of Russian regions. All groups of regions are quite similar to each other in terms of indicators on first and fifth interval. Not more than 2.2 percent of household members are in extreme poverty and not more than 1.7 percent of household members are wealthy. The first three groups of regions have approximately equal orders of distribution of household members in fourth interval. All groups of regions have significant differences in second interval, where needy households are concentrated.

Comparing first scale and integral scale, all poor households can be divided into three groups: poor by equivalent income and integral assessment, poor by integrated assessment but are not poor by equivalent income and poor by equivalent income but not poor by the integral assessment. Analysis of first two groups allowed identifying poverty triggers. So, only 37.9 % of poor households on average live in countryside and average value of land ownership for poor households in all regions equal to 4.3%. It means that majority of poor households don't have opportunity to grow food or keep livestock to feed themselves and have source of income. Only 25.4 % of households on average in all regions can afford car, which also can be source of income. On average, 59.4 % of household members have a job and 62.1 % of households have one child or more. Thus, presence of child as dependent in household can trigger poverty, even if both adults work.

7. Conclusion

The use of an integral stratification scale makes it possible to create groups of regions with different poverty profiles. As a result of study, authors revealed significant inequality of households in regions of the Russian Federation. All poor households can be divided into three groups: poor by equivalent income and integral assessment, poor by integrated assessment but are not poor by equivalent income and poor by equivalent income but not poor by integral assessment. Analysis of these groups allowed identifying such poverty triggers as lack of land ownership and, as a consequence, inability to engage in agriculture, limited mobility due to the lack of car and appearance of one or more children in the family leading to the risk of poverty.

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