

DIFFERENTIATION OF POPULATION INCOME AND POVERTY PROBLEM (based on the data of Tyumen region)¹

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The given article presents the results of analyzing differentiation in cash income of Tyumen region population. The analysis of differentiation has been done with indicators of Foster — Greer — Thorbeck for the territories — members of Tyumen region — KhMAO, YaNAO and South of the region. Social policy conducted in the region during the last decade has been evaluated and set of measures meant to improvement of status of poor population has been suggested.

Transition of Russia to innovative type of development considering consequences of world financial crisis, requires optimal organization of state and regional social protection systems, contributing to lowering the number of poor people, lessening of social differentiation, creation of middle class as a basis for stability and prosperity of the country. The central problem of social-economic policy is the problem of inequality in earnings. High level of property inequalities leads to degradation of the significant part of population, minimizes economic development, creates sensitive areas in the society and interferes with social progress.

It is generally recognized that economic growth is a basis for decrease the number of poor people in the country. According to Rosstat data the cash income growth of population in Russia over the last ten years period stimulated reduction of population size with income less than living wage from 42.3 to 18.5 mln. people. (fig. 1) [1].

In Tyumen region specific weight of people with cash income less than regional living wage in general reduced from 21,3% in 2000 to 9,6% in 2009. The most visible reduction of poverty level occurred in the south of the region (table 1) [2].

At the same time, world and domestic experience show that during the economic growth the problem of poverty is becoming more and more urgent in case income increase is accompanied with inequality in their allocation between different population groups.

To illustrate the values of inter-regional differentiation of people's income we'll analyze average per capita cash income in different territories of Tyumen region over a period of time from 2000 to 2009 [2].

Table 2 shows the significant difference in income per capita between northern autonomous districts and southern territories of the region in spite of slight reduction in breach value in the studied period. Thus, in 2009 average per capita income in Yamalo-Nenets autonomous district (38900 rur.) exceed the same income in the south of the region (1752 rur.) more than twice. In 2000 this indicator was 3.3. High earnings in KhMAO and YaNAO are stipulated by branch character of economics in these territories connected with production of fuel and energy resources, where salary is two times higher than the average in the region. Traditionally the lowest level of salary is monitored in agricultural areas of Tyumen region south.

Alongside with inter-territorial, differentiation of income in all regions is enhanced. Thus, in Tyumen region distributing the total scope of cash income between 20% (quintile) groups, ranked according the growth of cash income, was characterized in 2000–2009 by inequality, tendency to concentrate earnings at certain groups, striking "removing" of middle class and not reducing gap between the rich and the poor. (table 3) [3].

By 2008 the share of the first quintile group of population (with the lowest cash income) on average for the region reduced up to 4.2%. At the same time cash income share in the second, third and fourth 20% groups reduced overall from 45 to 44,4%, that indicates worsening of material welfare in middle class. Insignificant increase of income share appropriated by the first three quintile groups took place in 2009, though general situation of income distribution was not influenced by that fact.

The share of the fifth quintile group of population (with the highest cash income) comprised during this period of time more than a half of total revenue. The difference between amount of income in the first and fifth groups increased from 11.5 times in 2000 up to 122 times in 2008, comprising in 2009 11.5 times.

Such distribution of income was typical for all areas of the region (figure 2). So, in spite of the fact that the processes of rising mobility are observed

¹ This research was partially financed by special-purpose programme of Ural Branch of Russian Academy of Sciences (UB RAS) supporting interdisciplinary research projects in collaboration with scientists of Siberian and Far East Branches of RAS and integrational project entitled "Socio-economic immunity of the region: diagnostics and prognosis of protectability to crisis phenomenon" (project 09-C-6-1001 "Diagnostics of condition, modelling of tendencies and prognosis of Russia's regions development until 2030").

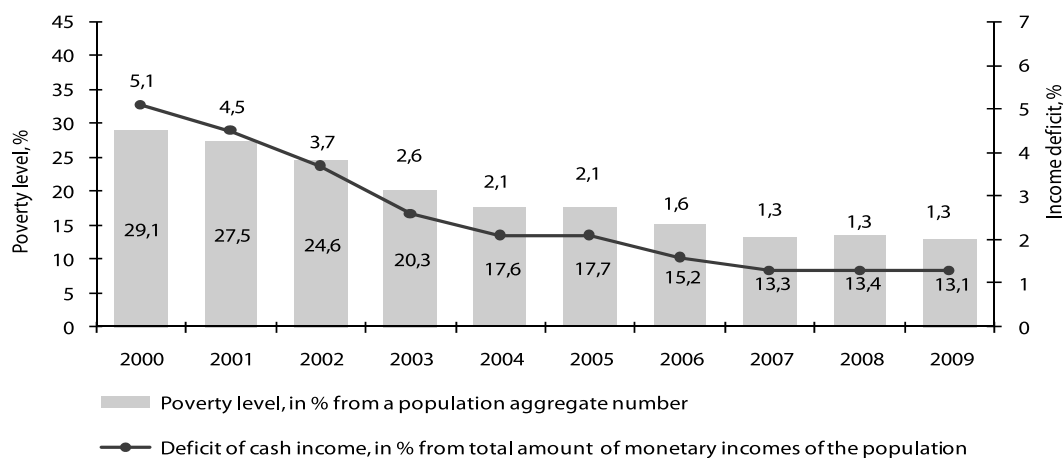


Fig.1. Dynamics of level and depth of poverty in the RF based on macroeconomic data, %

Table 1

Percentage of population with income less than living wage in total population, %

	years									
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Tyumen region (with autonomous districts)	21,3	15,4	15,8	12,7	12,2	11,6	11,2	10,8	10,4	9,6
Tyumen region (South)	29,5	27,5	24	20,5	16,5	15,3	11,7	10,8	9,5	12,2
KhMAO	11,8	9,3	11,6	10,6	10,1	7,7	7,7	7,5	7,4	8,7
YaNAO	11,1	9,3	7,7	8,0	7,3	8,7	7,1	6,8	6,6	7,8
Reference:										
RF	29,0	27,5	24,6	20,3	17,6	17,7	15,2	13,3	13,4	13,1

Table 2

Average per capita money incomes of population in different territories of Tyumen region, RUR

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Tyumen region (with autonomous districts)	4935	7109	8559	10556	12191	14873	18622	22519	27612	27553
Tyumen region (South)	2267	3170	4271	5906	6468	8595	11118	13642	17336	17522
KhMAO	6628	9594	10846	12892	14972	18009	22380	27110	32872	32263
YaNAO	7563	10733	13298	15962	18868	21766	27081	31512	38133	38900
Reference:										
RF	2281	3062	3947	5170	6410	8112	10196	12603	14939	16886

Table 3

Distributing the total scope of population cash income in Tyumen region (including autonomous districts) in 2000-2009 (%)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Cash income- total	100	100	100	100	100	100	100	100	100	100
Including 20% groups of population:										
first (with the lowest income)	4,4	4,6	4,5	4,5	4,5	4,4	4,4	4,3	4,2	4,4
second	8,9	9,2	9,0	9,0	9,0	8,9	8,8	8,7	8,7	8,9
third	14,0	14,2	14,1	14,1	14,1	14,0	13,9	13,8	13,7	13,9
forth	22,1	22,2	22,2	22,2	22,2	22,1	22,0	22,0	22,0	22,1
fifth (with the highest income)	50,6	49,8	50,2	50,2	50,2	50,6	50,9	51,2	51,4	50,7

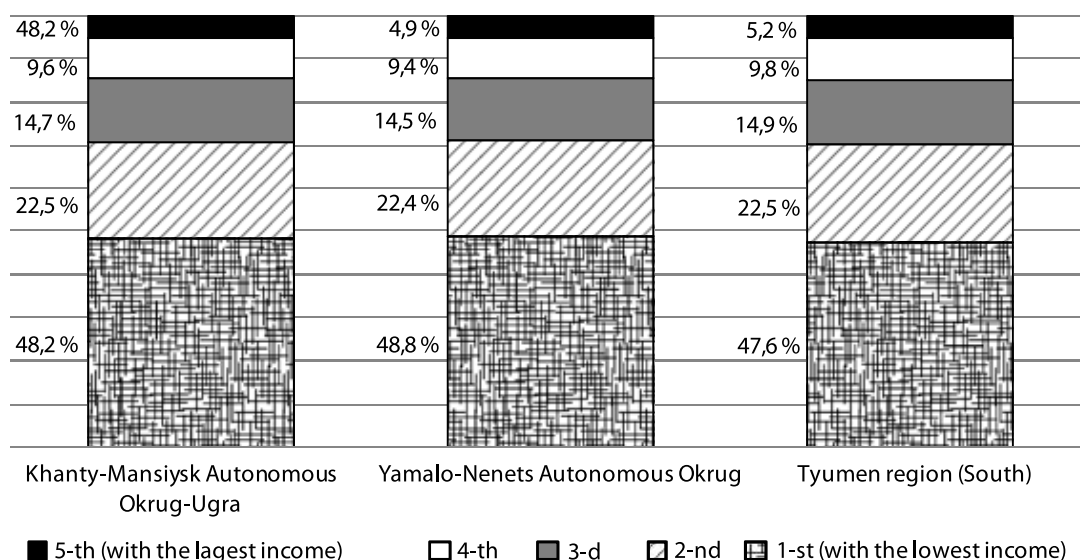


Fig. 2. Cash income according to 20-% groups of population in the areas of Tyumen region in 2009

in material differentiation, they are not of general character, located mainly in groups of population with average income. The upper group still concentrates a significant part of public wealth preserving the gap between it and other social layers.

General level of inequality in incomes reflects Gini coefficient values (index of revenue concentration) and decimal coefficient (funds coefficient). In 2009 index of revenue concentration for the population of the region (Gini coefficient), describing degree of violation for the real volume of income distribution from its regular distribution comprised 0,456 that is higher than All-Russian indicator (0,422). In Khanty-Mansiysk Autonomous Okrug-Ugra Gini coefficient was 0,427; in Yamalo-Nenets Autonomous Okrug — 0,4343, in the south of the region it was 0,419. Comparing Gini coefficient value with the previous year it lowered per 2% [4]. General lowering of the coefficient testifies to partial

leveling of inequality in distribution of total revenue in society.

Inequality growth in distribution of population according to per capita revenue is affirmed by funds coefficient. Dynamics of funds coefficient in the given period was ambiguous (fig. 3). In the whole this coefficient was rather high. The lowest values of inequality indicators in revenue distribution were in 2000–2001. Further they began to grow and beginning with 2006 — they began to stabilize. This means that tendency of differentiation according to revenue still exists.

So, in spite of positive dynamics for average per capita cash income, social polarization in the region remains on the high level, this puts the brakes on solving poverty problems and unacceptable inequality level. Modern scientific investigations of poverty significantly extended approaches to defining and measuring of this social-economic phe-

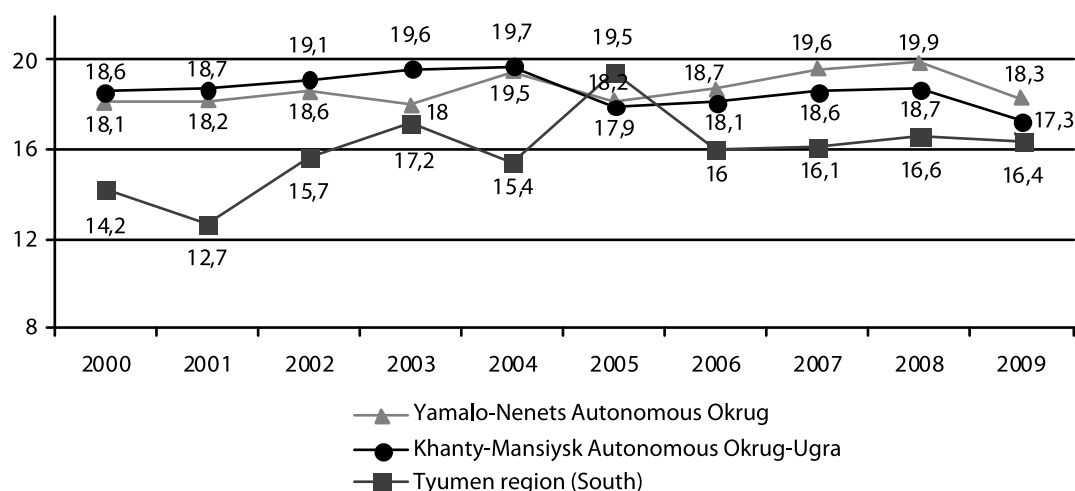


Fig. 3. Funds coefficient in the territories of Tyumen region in 2000–2009, times

nomenon. In practice special indicators Foster-Greer-Thorbecke: index of poverty number, index of poverty deficit P_1 , index of quadratic poverty deficit P_2 , and also Sen index (Sen A. K., 1995) were used to measure poverty of society and poverty of the poor. The necessity to study poverty indicators using the system of the mentioned indices is explained by shortcomings of separate indices. Thus, index of poor people specific weight (P_0) doesn't take into account degree and acuteness of this phenomenon. People with significant differences in income, being though beyond the poverty level are equalized in P_0 index.

Poverty index P_1 Foster-Greer-Thorbecke takes into account data of how low beyond the poverty level are people revenues, so this index defines poverty depth. Index of poverty acuteness (P_2) is calculated as root-mean-square value of relative poverty deficit. With this index poverty depth is measured, that gives more attention to the poorest layers of population. In other words, root-mean-square value of poverty depth takes into account inequality among the poor. Index P_2 is more useful, than simply specific weight of population number with revenues beyond the poverty level, for comparison measures aimed at improvement situation for disadvantaged population in the course of time. Thus indices of poverty depth and acuteness are rather important additional indicators illustrating poverty differentiation.

Common formula for indicators of this class depends on the value of parameter a , which is equal to 0 — for population beyond the poverty level, 1 — for poverty depth and 2 — for poverty acuteness, in the following formula:

$$P_a = \frac{1}{n} \sum_{i=1}^q \left[\frac{z - y_i}{z} \right]^a,$$

where y_i — income of i -person, beyond the poverty level, z — poverty level.

Table 3 presents values of indices P_1 and P_2 and Sen index. These indices have been found using method of simple interpolation. Methods of calculating coefficients has been suggested by professor Kakwani (Kakwani, 1990) [5]. Indicators of revenue inequality for different territories of Tyumen region in 2000–2009 are given in table 4.

Analysis of the values of these coefficients allows to define directivity of social policy in the region serving to reduce poor population. Thus, the most significant reduction of poverty index comparing to other indices indicates that government took measures for growth of wellbeing not for a separate group of people but aimed at creating conditions for the growth of total revenues in the country. Improvement macroeconomic situation in the country and creation of additional working places, increasing people income, reduces first of all the number of “nearly poor” people, i. e. people with income insignificantly being above the poverty level. In case the root-mean-square value of poverty deficit reduces quicker, it means that the government provides selective assistance with the help of transfers and tries to reduce the poorest group of people. Fast reduction of poverty deficit shows that the government takes care of all the groups of poor people.

In 2009 13% of the poor were at the abject poverty level, the share of the poor was 12.2% from the total number of population. Indicator P_2 was 0.021, i. e. 2.1% of the poor had income approximately

Table 4

Indicators of revenue inequality for different territories of Tyumen region

indicator	years										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010*
Tyumen region (South)											
Sen index	0,223	0,170	0,177	0,143	0,137	0,160	0,165	0,160	0,130	0,132	0,126
P_1	0,243	0,210	0,197	0,198	0,176	0,144	0,148	0,157	0,130	0,110	0,10
P_2	0,124	0,110	0,115	0,110	0,074	0,057	0,072	0,024	0,032	0,021	0,009
Khanty-Mansiysk Autonomous Okrug (KhMAO)											
Sen index	0,120	0,103	0,109	0,097	0,089	0,081	0,079	0,071	0,068	0,085	0,063
P_1	0,118	0,093	0,116	0,106	0,101	0,078	0,077	0,075	0,074	0,087	0,068
P_2	0,014	0,009	0,014	0,012	0,011	0,006	0,006	0,006	0,006	0,008	0,004
Yamalo-Netets Autonomous Okrug (YaNAO)											
Sen index	0,120	0,102	0,081	0,083	0,08	0,085	0,069	0,067	0,065	0,080	0,120
P_1	0,111	0,093	0,077	0,080	0,072	0,087	0,0708	0,068	0,066	0,078	0,062
P_2	0,012	0,009	0,006	0,006	0,005	0,008	0,005	0,005	0,004	0,006	0,004

* — calculation based on prognosis

equal to a quarter of living wage and belonged to the category of poor people. Income of an average poor person in Tyumen region south was approximately 11% beyond the poverty level, that is, poverty in the region is not deep.

In the northern autonomous districts the share of the poor in total population was 8.7% in KhMAO and 7.8% in YaNAO, and at the abject poverty level were 8.5 and 8% accordingly. The share of the poor in the northern territories is insignificant (0.6–0.7%). Poverty depth in autonomous districts is also less than in the south of the region.

The root-mean-square value of poverty deficit was reduced at the highest rate. In 2000–2009 in the south of the region it was reduced more than 80%, in KhMAO — 43%, in YaNAO — 67%. Lower rates of reduction showed index of poverty deficit. So, evaluating dynamics of estimate indicators one can conclude that during 2000–2009 the policy conducted at the territory of the whole Tyumen region was directed on the reduction of the poorest population number. But increase of social grants to this group of population at the expense of social benefits doesn't allow to solve the problem of poverty fundamentally because on the one hand, such measures don't influence inequality and relative poverty properly, on the other hand, they may be the reason of inflation increase and at last they don't eliminate reasons for reproduction relative poverty and don't reduce its scale.

Active policy of social protection should be conducted more intensively. New additional stimulating measures are necessary that will increase “self-supporting” benefits of a family. And some positive experience has been accumulated in the region. Thus, in the south of the region the government has lately conducted not only passive policy protecting socially vulnerable people by paying social allowances that increase revenue of low-income families up to the regional living-wage but active policy as well. It is directed to creation of new facilities for processing agricultural products, to render support to low-income families for development personal subsidiary plots, family, private enterprises using budget funds, so the regional government created conditions helping to increase living standards for all population of the region.

Improvement of situation with the poor may take place as a result of complex social policy aimed at reduction of income inequality by elimination of deformations in distribution and bring distribution mechanisms into accord with world standards. The major part of working people's income is salary at a principal working place, additional job, subsidies and benefits are of less importance. Therefore, state measures aimed at poverty reduction should be directed first of all on radical reforming of salary. But these measures don't reduce level of income inequality in the regions. That's why regional authorities have to pay much attention to fulfilling programs that go beyond the narrow definition of social protection, in particular, programs for increase effectiveness of labour market, quality of labour force and education, etc. Besides, efficient policy in health care, environment protection, development of proper living conditions will stipulate decrease in society social polarization.

In conclusion it is necessary to mention that in the process of working out regional programs aimed at poverty reduction and increase of population's living conditions, it is extremely important to analyze situation from the point of view of social-economic inequality and to choose measures that are aimed at reduction of parasitical attitude of mind among able-bodied citizens, increase of human potential quality and also providing conditions for their realization.

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УДК: 316.344.233 (571.12)

keywords: poverty level, social-economic differentiation, funds coefficient, Gini index, number of the poor index, poverty acuteness, poverty depth, social protection, passive and active policy of social protection