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STRATEGIC AND INNOVATIVE ASPECTS OF TRANSITION TO PROGRESSIVE SCALE IN INCOME TAXATION

The article overviews the methods of transition from flat to progressive scales of income taxation. The offered generalized mathematical model of transition to progressive taxation enables the assessment of all possible variants of the suggested reform on the flat scale transformation. The potential future social effect from income taxation changes is also evaluated.

Keywords: *taxation scale; innovations in taxation; income taxation; progressive scale for taxation; social taxation.*

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СТРАТЕГІЧНІ ТА ІННОВАЦІЙНІ АСПЕКТИ ПЕРЕХОДУ НА ПРОГРЕСИВНЕ ОПОДАТКУВАННЯ ПРИБУТКУ ГРОМАДЯН

У статті представлено методи переходу від плоскої до прогресивної шкали оподаткування прибутку. Запропоновано узагальнену математичну модель переходу до прогресивного оподаткування, що дозволяє оцінювати всі можливі варіанти пропонованої реформи трансформації плоскої шкали. Оцінено соціальний ефект від трансформації оподаткування прибутку на майбутнє.

Ключові слова: *податкова політика; інновації в оподаткуванні; оподаткування прибутку; прогресивна шкала прибутку; соціальне оподаткування.*
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СТРАТЕГИЧЕСКИЕ И ИННОВАЦИОННЫЕ АСПЕКТЫ ПЕРЕХОДА НА ПРОГРЕССИВНОЕ ПОДОХОДНОЕ НАЛОГООБЛОЖЕНИЕ ГРАЖДАН

В статье представлены методы перехода от плоской к прогрессивной налоговой шкале подоходного обложения. Предложена обобщенная математическая модель перехода к прогрессивному налогообложению, позволяющая оценивать все возможные варианты предполагаемой реформы трансформации плоской шкалы. Оценен социальный эффект трансформации подоходного налогообложения в будущем.

Ключевые слова: *налоговая политика; инновации в налогообложении; подоходное налогообложение; прогрессивная шкала налога; социальное налогообложение.*

Introduction. In today's Russia the tax on personal income is one of the most important federal level taxes and is among top-3 contributing ones, along with value added tax and corporate income tax. Together they form the major share of contributions to the consolidated budget of the country. Along with corporate income tax, personal income tax is also vital for regional and local budgets. In 2014 the consolidated income in the budgets of Russian Federation subjects was around 6.5 trln RUB, in which more than 40% fell on personal income tax (analitic.nalog.ru). However, the relative share of this tax in consolidated contributions to the state budget is about 21% (gsk.ru). According to some experts, this can be explained by low taxation potential of a larger share of population in the country but also by the use of flat scale in per-

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sonal income taxation. If to compare with world similar practices, in the majority of developed countries progressive scale application is one the most widely spread forms of performing the social mission of taxation policy.

Back in 2001 Russian Federation rejected the idea of implementing the progressive scale in its taxation, and the single rate was introduced being on the level of 13%. The key reasoning behind the decision on flat rate introduction was then the idea that this decision would motivate larger incomes step out of shadow economy.

Recent research publications analysis. A great number of scientists study personal income taxation issues within the general framework of tax theory. Various aspects of income taxation have been considered by D.V. Aseeva (2011), E.A. Ermakova (2010), A.Y. Naletova and S.A. Khalaeva (2013), E.A. Vlasenkova (2012) and some other. While foreign experience in income taxation has been considered in the works of N. Guner et al. (2013), O.I. Izotova (2011), E.V. Lyashenko and N.N. Muravyova (2014), I.N. Maslova and A.G. Kazmina (2013), O.V. Ulezko et al. (2013), N.N. Tyutyuryukov (2013) and some other authors.

Proposals and recommendations on reformation and improvement of income taxation system can be also found in the works by N.S. Beskorovainaya (2012), Z.K. Kagirgadzhieva (2011), V.A. Kashin (2012), A.V. Koren (2014), M.E. Kosov (2014), E.N. Kushch and D.O. Yanakov (2012), O.N. Savina (2010), T.M. Tarasova and L.N. Goncharenko (2015) etc.

Issues related to transition to progressive income taxation have been studied by such researchers as R.G. Akhmadeev and M.E. Kosov (2015), A.V. Bryzgalin (2009), A.A. Ellaryan (2012), S.N. Gaponova and V.A. Solovyova (2014), I.E. Grekov and O.V. Senina (2015), V.G. Panskov (2009), S.O. Polievktova (2014), E.V. Sheveleva and O.Y. Zheryakova (2015) and some others.

Statistical base for this research has been compiled from the data of the Federal Tax Revenue Service of Russian Federation, Federal Office for State Statistics of Russian Federation, Ministry of Finance, and also data and materials of the "Consultant Plus" and Internet site www.tradingeconomics.com.

The revealed features of personal income taxation in developed countries and in Russia, as well as cross-country comparison and analysis have enabled us outline the following key features of personal income taxation in Russian Federation:

- Flat scale is widely used in taxation as opposed to progressive scale applied in leading countries of the world.
- The maximum rate of personal income is among the lowest in the world.
- The share of personal incomes taxes in the consolidated budget of the country and in GDP is significantly lower that the same indicators for developed countries.
- There is no such notion as non-taxed income, and instead of it there is a standard tax deduction; while in developed countries there is normally a non-taxed income which is usually equal to minimal consumer basket.
- The gap between the richest and the poorest groups of population is much larger than in developed countries.
- A range of specific peculiarities in current taxation ways and methods only deepen the social gap.
- Taxation overall is totally anti-social which is especially visible in the mechanisms of social and property tax deductions.

Research objective. All of the stated above allows us claim the flat scale is socially not fair. Therefore, it is of vital importance to develop a novel "social" algorithm and new methods for taxation scales construction, which would move the country from flat to progressive scales. For this matter it is necessary to develop and ground the following methodological principles:

- Which rate of progressive growth is optimal and socially acceptable.
- How to form the first group of population in the case we exclude the poorest class from taxation as such.
- Should the taxation base be the same or different before and after introduction of taxation scale.
- Saving the same level or increasing budget incomes by means of increasing the total tax on personal income.

Key research results.

1. Mechanism formation for taxation scale optimization. Economic studies on the subject widely use various terminology to name taxation scales, depending on the tax rate and income volume to be taxed. In this study we are going to use the following terminology:

The scale is called flat, if the tax rate is single for all taxpayers, regardless the size of their personal income. In case when the rate grows as a result of taxpayer's income growth, the scale is considered to be progressive. Under proportional growth of tax rate the scale is linear progressive, in other case – non-linear. If the tax rate, on the opposite, decreases with the growth of taxpayer's income – the scale is called regressive.

To form a progressive scale for personal income tax it is necessary to divide all taxpayers in groups depending on the volume of their income. Let us consider that the number of such groups is equal to m (the number of gradations in a scale). Let us allocate these groups by the order of average taxpayer income growth within a group and number them accordingly as $i = 1, 2, ..., m$.

Today, according to the data of the Federal Service of State Statistics of Russian Federation, all taxpayers in Russia are divided into 5 gradation groups, 20% each (thus, in quintiles, $m = 5$), and also – into 13 gradations by the volume of average money income ($m = 13$)[3]; the first group has the lowest income, while the fifth (or the 13th) – the highest.

Each group has its own taxation base S_i:

$$\sum_{i=1}^{m} S_i = S_0, \tag{1}$$

where S_0 – the current taxation base.

Under the flat scale of taxation (the single rate of tax being n_0) the total tax on personal income will be equal to:

$$C_0 = S_0 \times n_0 = \sum_{i=1}^{m} S_i \times n_0. \tag{2}$$

For a progressive taxation scale let us introduce the tax rate for each group, marking them accordingly n_i.

[3] Also, Federal Service of State Statistics forms 10% (decile) groups, that is $m = 10$.

Then, the total taxation base would be: $S = \sum_{i=1}^{m} S_i$, and the total summed tax would be:

$$C = \sum_{i=1}^{m} C_i = \sum_{i=1}^{m} S_i \times n_i. \quad (3)$$

2. Constructing a linear progressive scale for taxation: under stability of tax charges. Let us consider the case of flat scale transformation into a progressive one, at which the reform does not have the aim to increase the total income tax, that is, taxation base and the aggregate income tax would not be different before and after the progressive scale introduction:

$$S = \sum_{i=1}^{m} S_i = S_0 \text{ and } C = \sum_{i=1}^{m} n_i \times S_i = C_0. \quad (4)$$

Let us assume that the tax rate is growing linearly with the increase of taxpayer's income; such taxation scales are widely used in developed countries, e.g. USA, Canada, UK, France, Germany and some others (tradingeconomics.com).

The condition for linear growth of tax rate is the constant nature of tax rate growth Δ from one group to another:

$$\Delta = n_{i+1} - n_i = const, \quad (5)$$

while the rate within the group is $n_i = n_1 + \Delta \times (i-1)$, where n_1 is the tax rate for personal income tax in the low-income group of taxpayers.

From the formula (4) it follows:

$$S_1 n_1 + S_2 n_2 + \ldots S_m n_m - S_0 n_0 = 0. \quad (6)$$

Placing formula (5) into the formula (6), we obtain:

$$S_1 n_1 + S_2 (n_1 + \Delta) + S_3 (n_1 + 2\Delta) + S_m [n_1 + (m-1)\Delta] - S_0 n_0 = 0$$

or (7)

$$n_1 (S_1 + S_2 + \ldots S_m) + \Delta [S_2 + 2S_3 + \ldots (m-1) S_m] - S_0 n_0 = 0.$$

Taking into account that the taxation base is kept the same (4), we get:

$$(n_1 - n_0) S_0 + \Delta [S_2 + 2S_3 + \ldots (m-1) S_m] = 0. \quad (8)$$

From this the tax rate growth will be defined by the formula:

$$\Delta = \frac{(n_0 - n_1) S_0}{S_2 + 2S_3 + \ldots (m-1) S_m}. \quad (9)$$

Substituting (9) into (5), we can find the rates for all groups for both linear and progressive scales of taxation:

$$n_i = n_1 + \frac{S_0 (n_0 - n_1)(i-1)}{\sum_{j=2}^{m} (j-1) S_j} = n_1 + \frac{(n_0 - n_1)(i-1)}{\sum_{j=2}^{m} (j-1) \eta_j}, \quad (10)$$

where $\eta_j = \frac{S_j}{S_0}$.

The results of tax rates calculations by the formula (10) are presented in Table 1. The measures of population income distribution η_i are taken from the database of the

Federal Service for State Statistics of Russian Federation for the year 2014 (gks.ru). The range of tax rate for the low-income group n_1 was from 10% till 0%. Noteworthy here, in many countries there is a common practice of no tax for low income population group, thus, considering the variant of $n_1 = 0$ is quite viable.

Table 1 demonstrates the redistribution of tax load from low income group to more well-to-do. Noteworthy, at this the load on the fourth group of taxpayers does not change at all, and for the fifth group it increases by 35%.

Table 1. **Calculation results for tax rates under linear progressive scale,** *author's*

i	**1**	**2**	**3**	**4**	**5**	
η_i / n_1, %	0,052	0,099	0,149	0,225	0,475	
13	13	13	13	13	13	**n_i, %**
10	10	11	12	13	14	
5	5	7.7	10.4	13	15.8	
0	0	4.4	8.7	13	17.5	
13	1.000	1.000	1.000	1.000	1.000	**n_i / n_0**
10	0.769	0.847	0.925	1.000	1.080	
5	0.385	0.592	0.799	1.000	1.213	
0	0.000	0.336	0.673	1.000	1.346	

During the transformation from flat scale to linear progressive scale the key parameter can become the so-called tax rate "for rich" n_m, and not the rate "for poor" n_1, then the formula for calculating all the other rates would be:

$$n_i = n_m - \frac{(n_m - n_0)(m-i)}{\sum_{j=1}^{m-1}(m-j)\eta_j} \qquad (11)$$

This formula above is based on the approach as suggested in the formulae (3–10), and is essentially the "one-parameter dependence": the transformation from the initial flat scale to the progressive one is carried out according to the single parameter – socially significant tax rate n_1 for the poorest population group. The carried out propositions on this transition from the flat to the progressive linear scale shape a certain method which we would be calling "the method of linear transformation" here.

Using the calculations performed we get (Table 1):

1. At the rate of $n_1 = 13\%$ for the first group the method of linear transformation automatically leads to the flat scale of taxation.

2. Decreasing the rate to 10% for low-income group leads to increased tax rate for the group with the largest income by 1%.

3. Decreasing the first rate till 5% will increase the rate for the latter group by 2.8%.

The third variant can be considered the most socially reasonable while constructing a linear progressive scale for personal income tax.

After considering the variants of changing the tax rate $n_1 = 10\%$ and 5% it would be logical to consider the issue of full tax exemption for the low-income group.

According to Russian tax legislation, today there is no such notion as tax exempted income; however, this issue is partially covered by means of granting certain tax deductions which are certain lump sums for certain social categories.

And for calculations of tax rates under progressive linear scale with full exemption for low income group Table 1 shows that the tax rate for the group with the highest income would become 17.5%.

3. Constructing the linear progressive scale for taxation: increasing tax revenues. Let us consider the case when transformation of the flat scale is to be followed by the general increase of income tax as such.

We introduce the ratio of planned increase in tax incomes by means of increased total tax on personal income by τ times: $C = \tau \times C_0$.

At flat taxation scale additional tax load is equally distributed among all population groups; whil under progressive linear scale the tax rate for the tax base $\tau \times S_0$ will be calculalated by the formula:

$$n_i = n_1 + \frac{(\tau \times n_0 - n_1)(i-1)}{\sum_{j=1}^{m}(j-1)\eta_i}. \qquad (12)$$

The results of tax rates calculations using formula (12), used in order to increase the tax revenues for public budget by 20%, are presented in Table 2. Gradation of tax rates n_1 and the distribution of income by population groups η_i are similar to the data in Table 1.

Table 2. **Results of calculating the tax rates for linear progressive scale in the case of increased tax revenues,** *authors'*

τ= 1.2						
i	**1**	**2**	**3**	**4**	**5**	
η_i / n_1, %	0.052	0.099	0.149	0.225	0.475	
13	13	13.9	14.7	15.6	16.5	n_i, %
10	10	11.9	13.8	15.7	17.5	
5	5	8.6	12.1	15.7	19.3	
0	0	5.2	10.5	15.7	21	
13	1.000	1.067	1.135	1.202	1.269	n_i / n_0
10	0.769	0.914	1.059	1.204	1.349	
5	0.385	0.659	0.933	1.208	1.482	
0	0.000	0.404	0.808	1.211	1.615	

The obtained results which are presented in Tables 1 and 2, allow us compare the tax rates under increased tax revenues from the total of personal income tax by 20%.

4. Building the non-linear progressive scale for taxation. Let us consider the mechanism for transformation of progressive non-linear scale in taxation. Due to ambiguity of terminology in economic literature, let us first explain the notions to be used for the description of various taxation scales.

Let us consider the case when tax scale is the continuous function from the income volume W, $n = f(W)$. Figure 1 presents the examples of three types of progressive scales in taxation $n = f(W)$: 1 – flat scale (tax rate does not depend on income

volume); 2 – linear progressive scale, its peculiarities have been considered above; 3 – non-linear progressive scale with the growing tax rate; 4 – non-linear progressive scale with the slowing down growth of tax rate.

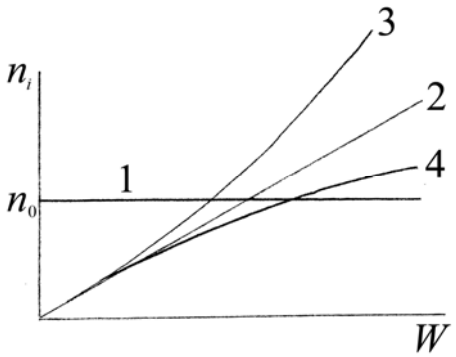

Figure 1. **Various types of tax scales,** *author's*

This terminology will be applied also in the case of population income redistribution by groups under the step-wise changes in tax rate ni from group to group. Considering these scales is of interest for two major reasons: they may help redistributing the tax load on to groups with higher incomes, and they also can be helpful in fighting tax evasion.

Exponential distribution and redistribution of indicators by means of geometrical progression is widely spread for describing economic relations, and the related mathematical models depict well the essence of actual economic processes, and thus enable constructive decision-making, in both analytical and algorithmical forms (Belolipetskiy and Gorelik, 2010). As opposed to traditional methods, let us consider the non-linear scale which is changing according to the law of double arithmetic progression and which is a convenient tool to describe the step-wise tax scale.

In order to build the linear progressive scale we use the relation (5):

$$n_i = n_1 + \Delta \times (i-1); \quad \Delta = n_i - n_{i-1} = const.$$

For the non-linear scale the value of tax rate increase Δ will not be constant; let us assume that Δ itself is changing according to the arithmetic progression:

$$\Delta_i = \Delta_1 + \delta \times (i-1); \quad \delta = \Delta_i - \Delta_{i-1} = const. \tag{13}$$

Substituting (13) into (5), we thus get:

$$n_i = n_1 + [\Delta_1 + \delta(i-1)](i-1), \tag{14}$$

δ is treated as part of Δ_1: $\delta = k \times \Delta_1, \quad -1 < k < 1,$

where k – the ratio of non-linearity.

Then,

$$n_i = n_1 + \Delta_1[1 + k(i-1)] \times (i-1). \tag{15}$$

The suggested method of non-linear scale formation in taxation is explained additionally in Figure 2.

Substituting (15) into (6), we get:

$$S_1 n_1 + S_2\left[n_1 + \Delta_1(1+k)\right] + S_3\left[n_1 + \Delta_1(1+2k)\right] \times 2 + \ldots + \\ + S_m\left[n_1 + \Delta_1(1+(m-1)k)\right](m-1) - S_0 n_0 = 0$$

$$or \qquad (16)$$

$$n_1(S_1 + S_2 + \ldots S_m) + \Delta_1\left\{\begin{matrix} S_2(1+k) + 2S_3(1+2k) + \ldots + \\ + (m-1)S_m\left[1+(m-1)k\right] \end{matrix}\right\} - S_0 n_0 = 0.$$

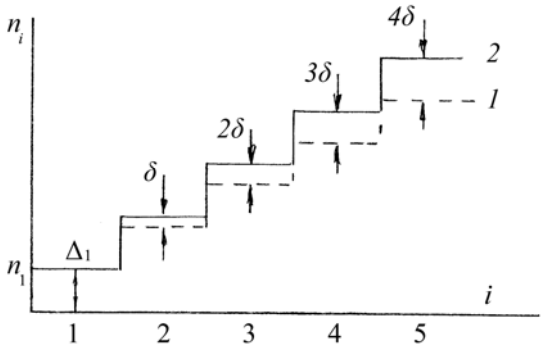

Figure 2. **Non-linear progressive scale of taxation, where 1 (dashed) – linear scale; 2 – non-linear scale ($\delta = k \times \Delta_1$, $k > 0$),** *author's*

Considering that $\sum_{i=1}^{m} S_i = S_0$, we have:

$$\Delta_1 = \frac{(n_0 - n_1)S_0}{\sum_{j=2}^{m} S_j(j-1)\left[1+(j-1)\times k\right]}. \qquad (17)$$

Substituting (17) into (15) in transition to non-dimensional rates η_i, we finally get:

$$n_i = n_1 + \frac{(n_0 - n_1)\times S_0\left[1+k(i-1)\right](i-1)}{\sum_{j=2}^{m} S_j(j-1)\left[1+(j-1)\times k\right]} = n_1 + \frac{(n_0 - n_1)\times\left[1+k(i-1)\right]\times(i-1)}{\sum_{j=2}^{m} \eta_j(j-1)\left[1+(j-1)\times k\right]}. \qquad (18)$$

According to our propositions and obtained math dependencies in transition from linear to non-linear progressive scale for taxation, we can now present the method of non-linear transformation of population personal income taxation.

As a result of our calculation using the method of non-linear transformation we get several variants of non-linear progressive scales with different values of parameter rate n_1 ($n_1 = 10\%$; $n_1 = 5\%$; $n_1 = 0\%$) and the rate of non-linearity k ($k = 0.2$; -0.12) (Tables 3 and 4). The initial parameters are according to Table 1.

5. Social effect calculation and building the generalized model for transition to progressive taxation. Transition from flat scale to linear and non-linear progressive taxation scales demonstrates the social character of taxation load redistribution among population groups. Under the social effect here we understand the difference between

tax rates for border groups (the richest and the poorest) of taxpayers. Thus, for example, in Table the social effect (d) is calculated using the formula $d = n_2 - n_1$.

Table 3. **Calculation results for non-linear progressive scale rate, $k > 0$,** *author's*

k = 0.2						
i	**1**	**2**	**3**	**4**	**5**	
η_i / **n_1, %**	0.052	0.099	0.149	0.225	0.475	
13	13	13	13	13	13	**n_i, %**
10	10	10.7	11.7	12.9	14.3	
5	5	6.9	9.4	12.6	16.4	
0	0	3.1	7.2	12.4	18.6	
13	1.000	1.000	1.000	1.000	1.000	**n_i / n_0**
10	0.769	0.824	0.898	0.989	1.099	
5	0.385	0.531	0.727	0.971	1.264	
0	0.000	0.238	0.556	0.953	1.430	

Table 4. **Tax rates calculations for non-linear progressive scale, $k < 0$,** *author's*

k = -0.12						
i	**1**	**2**	**3**	**4**	**5**	
η_i / **n_1, %**	0.052	0.099	0.149	0.225	0.475	
13	13	13	13	13	13	**n_i, %**
10	10	11.5	12.6	13.3	13.6	
5	5	9.1	12.0	13.9	14.6	
0	0	6.6	11.4	14.4	15.6	
13	1.000	1.000	1.000	1.000	1.000	**n_i / n_0**
10	0.769	0.886	0.972	1.025	1.046	
5	0.385	0.697	0.924	1.066	1.123	
0	0.000	0.508	0.877	1.108	1.200	

Examples of progressive scale constructed using the methods of both linear and non-linear transformation (at $n_1 = 5\%$ and $k = 0$ and 0.2) are demonstrated in Figures 3 and 4.

Comparing the obtained values for the non-linear progressive scale with the tax rates of the linear progressive scale, we can state that:

- More significant social effect is observed for the progressive scale under $k > 0$.
- Second large social effect is observed for the linear progressive scale of personal income tax.
- And the lowest however, still significant social effect is observed for the non-linear progressive scale under $k < 0$.

Noteworthy here that determining the social effect from personal income taxation is an important component of tax policy in any state. Along with public authorities participating in this socially oriented redistribution of financial resources, no less important role should be played by business which is actually supplying these social investments into local and/or national economy (Zaborovskaya et al., 2015).

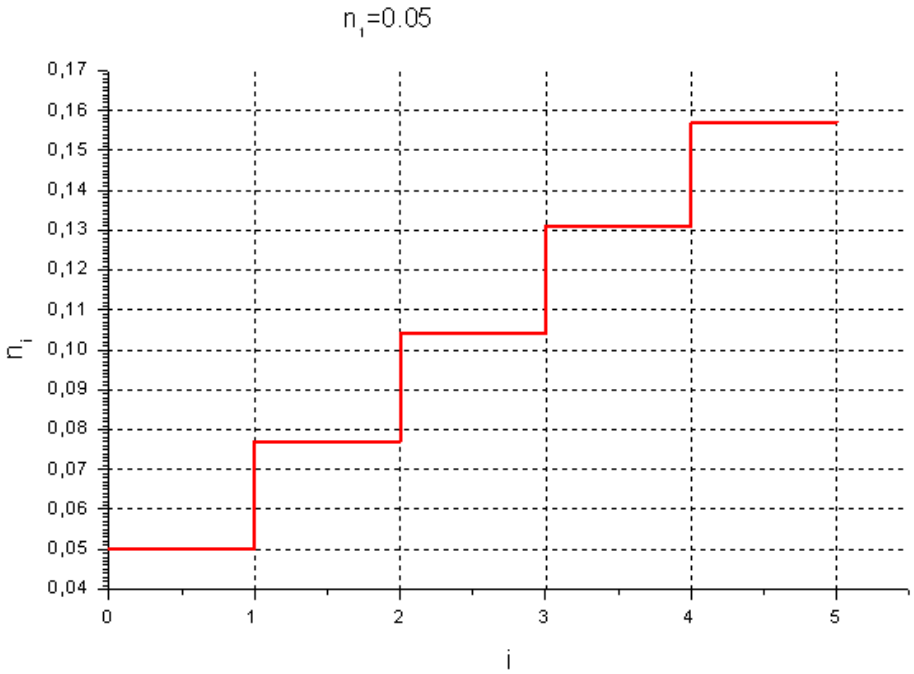

Figure 3. **Method of linear transformation,** k **= 0,** *author's*

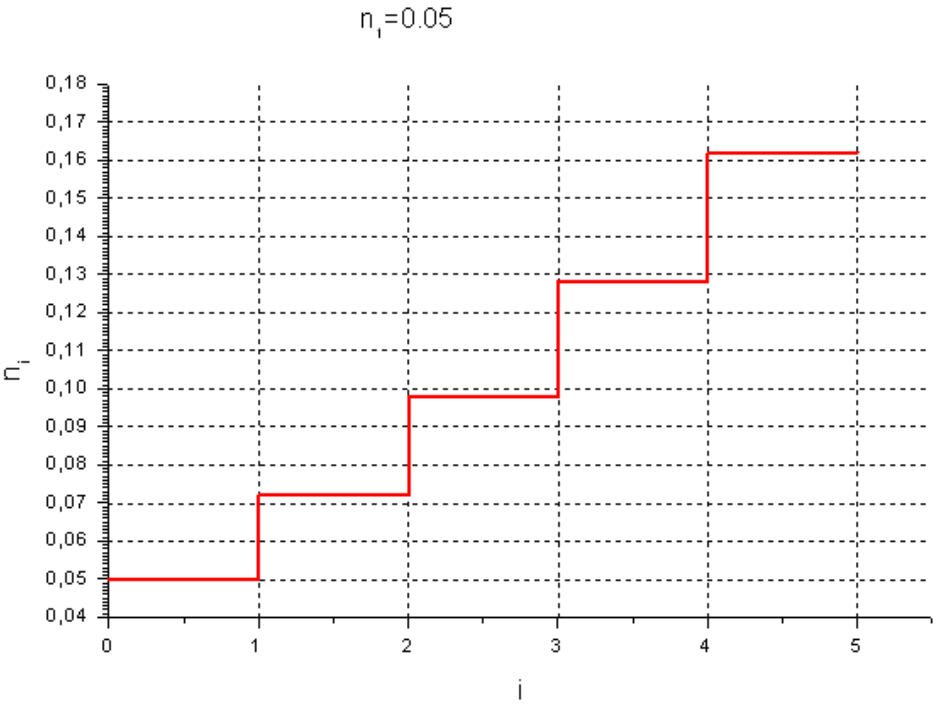

Figure 4. **Method of non-linear transformation,** k **= 0.2,** *author's*

Social effect from taxation can be used for further development of social infrastructure, the very functioning of which serves the formation and further development of human capital, thus creating the preconditions for competitive edges formation and strengthening for the economy as a whole (Zaborovskaya et al., 2015).

Summing up the results, we get the generalized mathematical model for transition to progressive taxation of population income, which is adaptive to changing political, economic and social conditions, and allows calculating taxation rates for various scales:

$$n_i = n_1 + \frac{(\tau \times n_0 - n_1) \times [1 + k(i-1)] \times (i-1)}{\sum_{j=2}^{m} \eta_j (j-1) \times [1 + (j-1) \times k]}, \quad (19)$$

where n_0 – tax rate under flat scale, $n_0 = 13\%$; n_1 – tax rate for the first group, with the lowest income (is set as a basic, socially important measure); n_i – tax rate in the i-th group; $\tau = C / C_0$ – the ratio of planned increase in tax incomes; m – the number of social groups under taxation; k – the ratio of scale non-linearity which takes into account the rate of changes in the progressive scale; $\eta_i = S_i / S_0$ – the ratios of money incomes distribution by population groups as shares of general income S_0; j – the index used to sum up the shares of ratio η_i.

We would need to emphasize here that this model stays valid for various forms of taxpayers distribution into groups, for example, for their distribution by the size of average money income, when the total population sample is divided into 13 gradations ($m = 13$), and the volumes of money incomes are presented in %.

An important problem in taxation scale optimization is maintaining the volume of total income as such. One of possible approaches to this problem is connected with the optimization of taxpayers' distribution by the rate of η_i and also choosing the number of gradations m. Since the rates η_j are included into the formula (19) with their weight coefficients $(j - 1)\ [1 + (j - 1)\ k]$, the possible maximum value of α_{max} depends on distribution of the rates η_i by groups.

Conclusions. In this paper we have considered the two methods for formation of linear and non-linear progressive scales of taxation, which serve as the basis for calculation of social effect arising from redistribution of tax load among population groups. The offered here generalized mathematical model enable taking into consideration various factors of the external environment at transition to progressive taxation.

Noteworthy are the key advantages arising as a result of applying the suggested methods for construction of progressive taxation scales.

1. The method of linear transformation (formula (10) enables the analysis to reveal the peculiarities and offer specific tax rates for the formed progressive linear scale in personal income taxation while using the only incoming basic parameter – the rate for the low income group.

2. The advantage of non-linear transformation method mostly concerns the fact that same to linear transformation, it also takes into account the social important parameter – the taxation rate for the low income group n_1. At this, the obtained results can be used to solve various socioeconomic tasks, in particular, when there is an urgent necessity to transfer to the non-linear progressive taxation scale which can

be done through quick increase of tax rates for upper income population groups. For example, in Australia in the situation of natural disaster (floods on large territories) the state had to transform rather urgently the scale of personal income taxation, and thus, the parliament increased the tax rate for those taxpayers, who income was above 50 ths Australian dollars per annum (Makarychev, 2011).

3. The practical component in the suggested mechanism of transition to progressive tax scales and its social effect evaluation is that the presented taxation coefficients can be used while selecting the strategy for progressive taxation of population income, developed by public authorities in their tax policy implementation.

4. The generalized model enables estimating all possible variants of the suggested reform on the transformation from the flat scale to the progressive one. The described taxation coefficients (formula (19)) change depending on external preconditions, and also on the aims and tasks set by public authorities while developing tax policy for the short and medium terms.

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