IMPLEMENTING THE EQUATION PRINCIPLE OF REGIONAL BUDGETS BY MEANS OF A COMPLEX PROCEDURE OF ESTIMATING TAX REVENUES IN A REGION

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The article shows the implementation of the equation principle of a regional budget and the mechanism of tax administration in conditions of tax debts to the regional budget. The article outlines the procedure of estimating the tax potential by taking into account the effectiveness of the regional population.

One of the urgent problems Russia's governmental bodies face is forming all-level-budgets and consequently allocating budgetary funds between the distressed regional and municipal units of the Russian Federation. These instruments are implemented by means of horizontal and vertical budgetary alignment.

In order to accumulate effectively the internal revenue of the state budget at various levels, it is essential to provide the principles of reliability and equation. Their implementation demands the certain technique of forecasting tax incomes. In economic books the indicator which defines a potential amount of tax revenues, collected in a region, is *"tax potential of the region".*

Nowadays taxation deals with a number of techniques calculating the present indicator. However, a single, unified legislative procedure for all units of the Russian Federation is unavailable.

The comparative analysis of the basic methods of estimating the tax potential of the region (major criteria: object, estimation type and purpose, conditions of method application, source, reliability, completeness of primary data, a number of estimation indicators, properties of the tax system) has concluded that the existing estimation methods do not take into account the distinction in the population structure of the region - a ratio of urban and rural population.

In this connection it is suggested that we use a complex procedure of estimating the tax potential of the region by taking into account the effectiveness of the regional population, which is based on a gross regional product per head (GRP). The given procedure includes the following consecutive stages:

1. The calculation of tax debt gain for all regions of the Russian Federation: debts for the current year minus debts for the last year;

2. The calculation of tax obligations per capita for all regions (TA_i^*):

$TA_i^* = (tax\ income + debt\ gain) / P_i$,

where P_i - the population of i-th region.

Tax obligations are a set of actual tax incomes of the region and the gain of the accumulated debts in the budget (arrears and delayed payments).

3. The definition of coefficients of the regression equation c_0 and c_1 with the method of the least squares:

$$I_{(c_0,c_1)} = \min \sum_{i=1}^{n} (TA_i^* - TA_i^*(GRP_i^*))^2 ;$$

4. The construction of the regression equation in a general view with known coefficients c_0 and c_1; $TA_i^* = c_0 + c_1 \cdot GRP_i^*$;

5. The calculation of coefficients of inflation and unemployment; the construction of the regression equation by taking into account the population structure in the region. Thus the calculation formulas of tax obligations for urban and rural population will look as follows:

$$TA_i^{rur} = (c_0 + c_1 \cdot K_{eff}^{rur} \cdot GRP_i^*) \cdot P_i^{rur} \cdot k_{\text{inf}\,l} \cdot k_{unempl}^{rur},$$

$$TA_i^{urb} = (c_0 + c_1 \cdot K_{eff}^{urb} \cdot GRP_i^*) \cdot P_i^{urb} \cdot k_{\text{inf}\,l} \cdot k_{unempl}^{urb},$$

where TA_i^{rur} - tax obligations of the rural population in i-th region; TA_i^{urb} - tax obligations of the urban population in i-th region; GRP_i^* - a gross regional product per head in i-th region; K_{eff}^{urb} и K_{eff}^{rur} - effectiveness ratio - the coefficients characterizing the effectiveness of urban or rural population in the region, which are calculated by the following formulas:

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$$K_{eff}^{urb} = \frac{GRP_i^{*urb}}{GRP_i^*} \text{ and } K_{eff}^{rur} = \frac{GRP_i^{*rur}}{GRP_i^*},$$

where k_{infl} - the inflation coefficient, which is calculated by the formula:

$$k_{\inf l} = 1 - \frac{h}{100\%},$$

where k_{unempl}^{rur} and k_{unempl}^{urb} - coefficients of unemployment for rural and urban population, which are calculated by the formulas:

$$k_{unempl}^{rur} = 1 - \frac{r^{rur}}{100\%}$$

$$\text{and } k_{umempl}^{urb} = 1 - \frac{r^{urb}}{100\%},$$

where r^{rur} and r^{urb} - rates of unemployment for rural and urban population.

The object which has been chosen for the study is Leningradskaya oblast. After the calculations made in 2006 the effectiveness ratio for the urban population accounted for 1.32; for the rural population - 0.25. With such effectiveness ratios the general tax obligations of Leningradskaya oblast accounted for 15147.1 mln rbl., which exceeded the actual tax levy by 7.2%. This figure is within allowed deviations.

Advantages of the offered procedure are in its capability not only to take into consideration the effectiveness of urban and rural population, but forecast changes in the tax potential of the region in case of internal migration of the population leading to the changes in the proportion between the urban and rural population. Consider the application of the given procedure to two principal types of migratory changes:

1) Migration from the countryside to the town, located in the present region. This type of migration is caused by a significant number of new jobs in the town involved in constructing new industrial and housing units. These regional structural changes will be taken into consideration when calculating the total tax potential of the region: the tax potential of the urban population with high effectiveness ratio will increase, but not in equal proportion to the rate of decrease of rural tax potential. Therefore, as a whole, the region will benefit from tax incomes caused by the inflow of population to the town.

2) Migration from the town to the countryside in the present region. This type of migration results from organizing and establishing farms by major investors; and a rising demand for seasonal workers (sowing and harvesting) in large private farms. As a result, this migration will lead to the increase of a fixed capital per rural worker. Hence GRP of the rural population will rise significantly, which certainly will raise the rural effectiveness ratio. Thus the tax potential of the rural population will increase too, but the tax potential of the urban population will decrease. However, the average tax potential in the region, affected by the inflow of population to the countryside, will increase.

It is necessary to emphasize that it occurs if a migrant to the countryside will produce higher GRP than he did in the town. That is possible if, we assume, he could not realize his potential in urban conditions (unemployment, no regular job, low-paid job etc.).

Thus the offered procedure enables to forecast tax receipts (if the ratio of urban and rural population changes) not only by the structural division of the region into urban and rural zones, but predict the receipts in the region as a whole.

The calculations have shown that deviations in the tax potential from actual tax incomes account for approximately 7-10%. This is the sum of tax incomes which forms tax arrears to the regional budget of Leningradskaya oblast.

According to the current legislation, the debts to regional budgets shall be compensated from federal or regional budgets of regions-donors. As special-purpose financial support, the regions-donors transfer an amount of their budgetary incomes to requiring regions (regions-recipients), thereby providing their equation. According to the Federal Service of the State Statistics of the Russian Federation, in 2006 Leningradskaya oblast received 28.3 mln rbl. as special-purpose financial support.

In accordance with Article 11 of the Tax Code of the Russian Federation *tax arrears* is a legal term to show a sum of tax or tax levy which is overdue within the period fixed by the Tax Law.

It is necessary to emphasize that the concept "tax arrears" has two approaches:

1. *Enterprise's view.* According to this approach, tax arrears are defined as a factor to meet the enterprise's demand for current capital;

2. *Budget's view.* Tax arrears represent a reserve to accumulate a regional budget.

Our work considers tax arrears from the point of regional authorities who are interested in collecting tax incomes.

The analysis of current economic situations in regions has revealed factors of forming tax arrears to the regional budgets and shown the implementation of the equation principle in conditions of tax arrears (fig. 1).

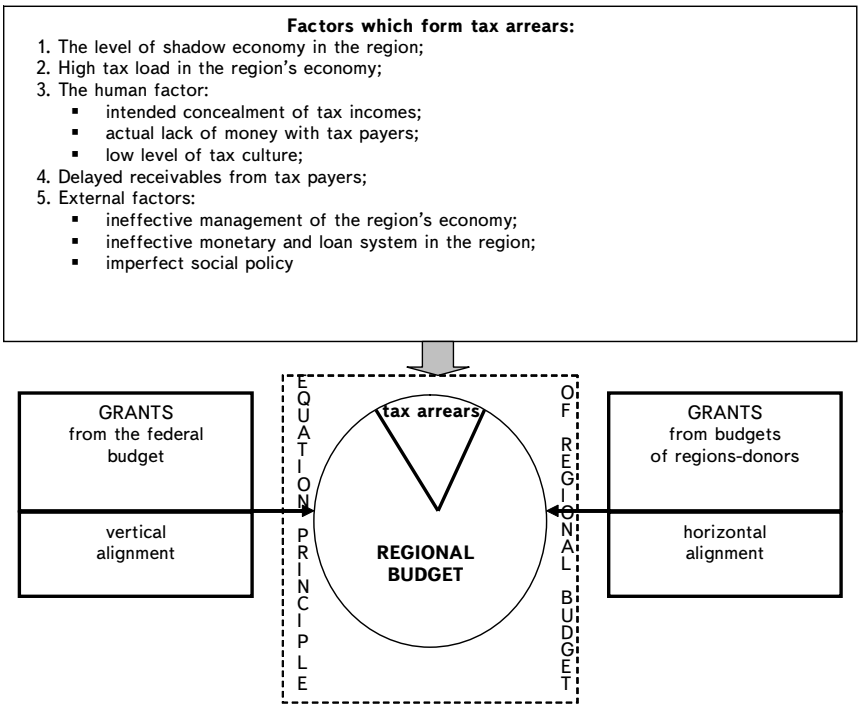

Fig 1. **Implementing the equation principle of the regional budget in the conditions of tax arrears to the regional budget**

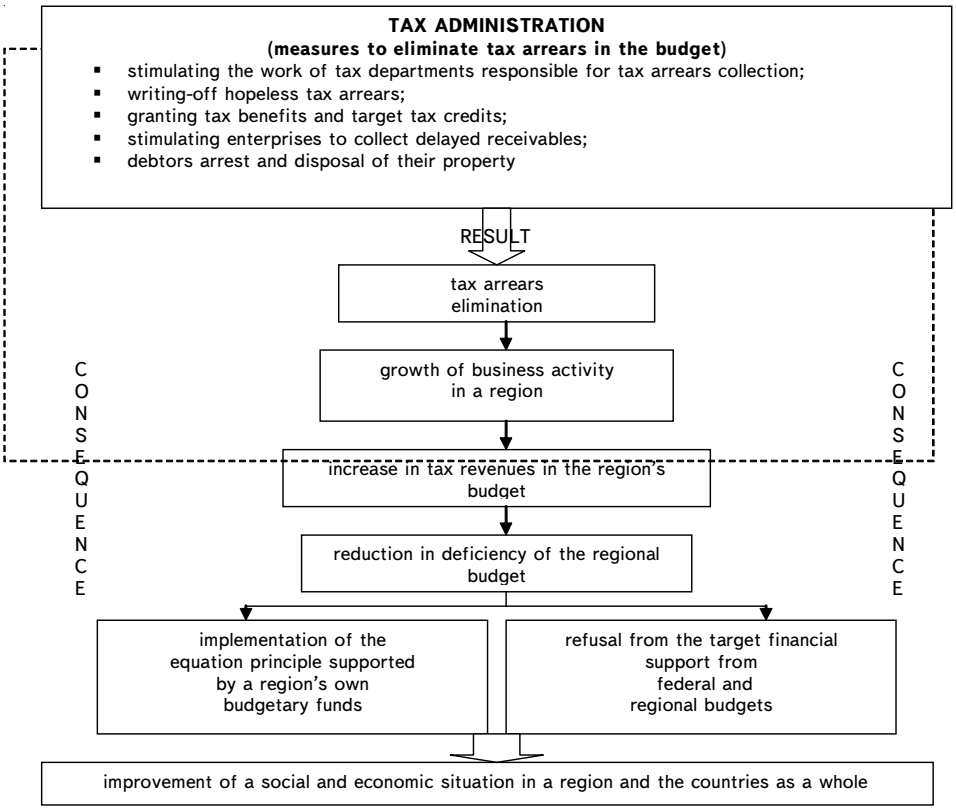

Fig. 2. **The mechanism of tax administration**

In order to reduce the amount of tax arrears to the regional budgets, it is essential for tax departments to use effectively the mechanism of tax administration, which is considered to be a series of measures targeted at complete and timely payment of all taxes to the full amount and with minimum costs.

Tax administration can be considered in a narrow and broad sense. In the narrow sense this concept is defined as a daily activity of tax departments and their officials which provides the budget with timely and full payments from tax payers which are taxes, levies and other compulsory payments. In the broad sense tax administration can be defined as various kinds of tax control and ways of its accomplishment and, moreover, monitoring tax payers and conducting tax checks.

The mechanism of tax administration to eliminate tax arrears to the budget is shown on fig. 2.

The offered procedure of estimating the tax potential of a region allows us to fulfill an objective evaluation of tax possibilities in the regions, to measure the received results and, on their basis, to predict tax revenues all over the country, and also to ensure principles of reliability and equation of state regional budgets.

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