

# **Evaluation of the Regional Budgetary Effect of Reducing the Level of Non-Observed Economy (An Example, Subjects of the Far Eastern Federal District)**

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## **Abstract.**

**Research subject.** The article discusses the concept of the budgetary effect of reducing the level of non-observed economy. The author's approach to assessing the scale of this indicator is given and it is tested on the example of the Amur Region.

**Goal.** The purpose of the study is to develop a method for assessing the regional budgetary effect of reducing the level of non-observed economy.

**Methodology.** The research methodology is based on the economic and statistical method, computational and constructive method, and comparative analysis. To assess the additional costs and potential revenues from reducing the level of non-observed economy, the author's technique is used, the description of which is presented in previously published articles.

**Results.** The author has calculated the budgetary effect of reducing the level of non-observed economy in the Amur Region. It is established that in the period from 2010 to 2015 the budgetary effect is consistently increasing, and the share of additional expenses in the amount of potential revenues, on the contrary, decreases, which is a positive thing.

**Conclusions.** The study has indicated the possibility of applying the presented method at a regional level. At the same time, it is important to understand that the indicator of the budget effect depends on a large number of factors; accordingly, its decrease or growth cannot be assessed unequivocally.

**Directions for further research.** It is planned to develop a model for assessing the impact of reducing the level of non-observed economy on the budget.

## **1. Introduction**

Today, the problem of the impact of a non-observed (shadow) economy on a budget is of particular importance. This is largely due to the crisis state of the Russian economy, a decrease in federal budget revenues due to lower oil prices, as well as the need to find additional reserves to balance the budget of the country and the budget of each region.

The relevance of this study is enhanced by the fact that non-observed economy can have a dual effect on the budget [1], [2]. On the one hand, a non-observed economy can reduce tax revenues of the budget, and on the other hand, ensure the viability of some companies, which without the use of shadow market services, could possibly have ceased to exist [3].

Considering the above, the main goal of this study is to evaluation the budgetary effect of reducing the non-observed economy an example of the Amur Region (one of the regions of the Russian Far East).

## 2. Method

The concept of the budgetary effect is most often used to justify financial support for an investment project at the federal, regional or local levels [4], [5], [6]. In the context of the impact of the non-observed economy on the budget, the budgetary effect is the difference between the potential budget revenues resulting from the withdrawal of a portion of the income from the «shadow» and additional costs (losses) of the budget from the implementation of measures to reduce the non-observed economy:

$$BE_{NE} = R_P - C_A, \quad (1)$$

where  $BE_{NE}$  – budgetary effect of reducing non-observed economy,  $R_P$  – potential budget revenues from a decrease in the level of non-observed economy,  $C_A$  – additional costs from reducing the non-observed economy

Potential budget revenues from a decrease in the level of non-observed economy is calculated as the difference between a theoretically estimated sum of the tax revenue ( $T_t$ ) devoid of the influence of the shadow economy, and the actual revenue earned by the government over the same period ( $T_a$ ) [7]:

$$R_P = T_t - T_a \quad (2)$$

As additional costs from reducing the non-observed economy, we consider the total amount of unemployment benefits for people employed in the informal sector, who, when liquidating the informal sector, will have to go to an employment center for the period of searching for work in the formal sector:

$$C_A = E_{NE} \times B_E, \quad (3)$$

where  $E_{NE}$  – population employed in the non-observed economy,  $B_E$  – unemployment benefits.

At the same time, the population employed in the non-observed economy is determined with the following formula [8]:

$$E_{NE} = W_{ag} / W_{pc} \quad (4)$$

where  $E_{NE}$  – population employed in the non-observed economy;  $W_{ag}$  – total annual wages of the population employed in the shadow economy;  $W_{pc}$  – annual nominal wages of an employee employed in the non-observed economy.

## 3. Results and discussion

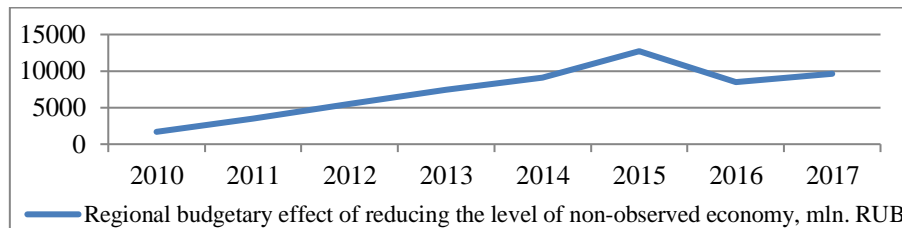
We used the proposed method to evaluation of the regional budgetary effect of reducing the level of non-observed economy in Amur Region.

The choice of this region is justified by the results of previous studies on the spatial distribution of the non-observed economy in the constituent entities of the Russian Federation, according to which the Amur region belongs to regions with high risks of the development of shadow activity [9].

At the same time, the main factors contributing to an increase in the non-observed sector are the degree of depressiveness of the region, the location bordering on China, and the presence in the production structure of activities characterized by a high probability of development of the shadow economy [10].

A significant factor in the growth of the non-observed sector in this area is the high level of poverty due to the predominant employment of the population in low-paid branches of the economy [11].

The estimation results are presented in Fig. 1.



**Figure 1.** Regional budgetary effect of reducing the level of non-observed economy in the Amur Region, mln. RUB.

The figure shows that from 2010 to 2015 the budgetary effect of reducing the level of the non-observed economy consistently increases. It is important to understand that this trend is largely due to an increase in potential budget revenues from the non-observed economy, that is, growth in the non-observed sector in the region (during the period under review, the level of the non-observed economy in the Amur Region increased from 1,801 mln. RUB in 2010 to 1,305 mln. RUB. in 2015).

In turn, the tendency to reduce the budgetary effect in the subsequent period is due to a decrease in the number of people employed in the «shadow», as well as some decrease potential budget revenues (from 13075.4 mln. RUB in 2015 to 8757.7 mln. RUB in 2016).

If we talk about the ratio of additional costs and potential revenues from the implementation of measures to eliminate the shadow economy, it is important to note that this indicator tends to decrease. It is important to understand that an increase in unemployment benefits from 2019 [12] may lead to a decrease in the budgetary effect.

#### 4. Conclusion

Evaluation the regional budgetary effect of reducing the level of non-observed economy is a very important problem for assessing the effectiveness of the implementation of measures to eliminate the non-observed sector. However, the solution of this problem poses a number of difficulties:

- 1) an accurate estimate of the potential income from a reducing the level of non-observed economy is problematic;
- 2) it is impossible to accurately predict the consequences of reducing the non-observed economy of the region, both for the budget and for the economy as a whole;
- 3) the regional budgetary effect is influenced by both economic, and political, social and psychological factors.

Thus, additional research is needed in the field of assessing the effectiveness of measures to reduce the non-observed economy.

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