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## Modernization of the Approach to Usage of Region's Budget Resources in the Conditions of Information Economy Development

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**Abstract:**

*The purpose of the article is to substantiate the necessity and to develop recommendations for modernizing the approach for usage of region's budget resources in the conditions of the information economy creation. The methodological provision of verification of the offered hypothesis includes the specially developed method for evaluating the effectiveness of usage of region's budget resources from the position of the information economy creation.*

*For calculations, the article uses the information and analytical materials of the Russian specialized institutions that study the processes of development of the information economy: "Research Financial Institute", Ministry of Communications and Mass Communications of the Russian Federation, and expert and ranking organizations – the State Management and CNews.*

*It is proved that the traditional approach to usage of region's budget resources, which is applied in modern Russia, contradicts the general national course for development of the information economy, as it does not stimulate the formation of information society and development of information and technological spheres of the regional economy and does not allow for development of interaction and cooperation of all interests parties within the budget process, which confirms the offered hypothesis. To solve the determined problem, the authors develop the modern approach to the usage of region's budget resources in the conditions of the information economy creation and offer practical recommendations for modernizing the existing approach in modern Russia.*

**Keywords:** modernization, region's budget resources, information economy.

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## Introduction

With aggravation of economic crisis, the problem of budget deficit in Russia's regions grows. Ineffectiveness of the traditional approach to the usage of region's budget resources, which supposes the closed discussion of the variants of their usage and directive decision making, becomes more obvious. A working hypothesis of this research consists in the fact that the traditional approach to the usage of region's budget resources hinders the process of the information economy development in the regions of modern Russia.

It should be replaced by a modern approach, which allows involving into the discussion of budget issues all interested parties. The tools for this are provided by the current informatization of the Russian society. The purpose of this article is to substantiate the necessity and to develop recommendations for modernization of the approach to the usage of region's budget resources in the conditions of the information economy development.

## Literature Review

Theoretical approaches to the usage of region's budget resources are viewed in the publications (Ragulina and Kamaev, 2013; Brownlow, 2016). The applied aspects of realization of these approaches are reflected in the studies of such experts as (Miller *et al.*, 2016; Dalyevska, 2016; Sazonov *et al.*, 2013). The concept of the information economy is formulated in the works (Romanenko and Kravets, 2013; Sun *et al.*, 2017). The practical experience of its development is described in the materials (Nalivaychenko and Kirilchuk, 2016; Anic *et al.*, 2016).

## Methodology

Based on the studied literature, information economy is defined as an economic system in which information is the most valuable resource and in which the technologies are used which allow managing the information with high effectiveness for achievement of the maximal profit for the society. Usage of region's budget resources in the conditions of the information economy development supposes that information on the budget process is generally accessible and can be used by all interested parties for participation in this process.

The methodological provision for substantiating the offered hypothesis includes the specially developed method of evaluating the effectiveness of usage of region's budget resources from the positions of the information economy development. Such evaluation is to be performed with the following formula:

$$E_{\text{budg-inf(year)}} = [(I_{\text{is}} + I_{\text{eg}} + I_{\text{in}}) / 3] / E_{\text{dee}} \quad (1)$$

where  $E_{\text{budg-inf(year)}}$  – indicator of effectiveness of usage of region's budget resources from the positions of the information economy development in the set year;

$I_{\text{is}}$  – yearly growth of the index of information society;

$I_{\text{eg}}$  – yearly growth of the index of e-government;

$I_{\text{in}}$  – yearly growth of the index of involvement of society and business into the budget process;

$E_{\text{dee}}$  – yearly growth of the total volume of region's expenditures for development of information economy.

As is seen from Formula (1), to ensure comparability, objectivity, and authenticity of the data used for calculations, relative, not absolute, indicators are used. Evaluation of effectiveness is performed with a classic method, by finding the ratio of the effect, expressed in the direct average of the results of the information economy development, to the expenditures for its achievement – i.e., expenditures for information economy development.

All intermediary indicators are measures in shares of 1. The value of the final indicator of effectiveness of usage of region's budget resources from the positions of the information economy development in the set year is treated in the following way. If it is below or equals 1, it shows low effectiveness; if it is in the interval 0 – 2, it shows medium (acceptable) effectiveness; if it exceeds 2, it means that effectiveness of usage of region's budget resources from the positions of the information economy development is very high.

The calculations are performed with the usage of the information and analytical materials of the Russian specialized institutions that study the processes of development of the information economy: “Research Financial Institute”, Ministry of Communications and Mass Communications of the Russian Federation, and expert and ranking organizations – the State Management and CNews.

Evaluation of effectiveness of usage of budget resources of Russia's regions from the positions of the information economy development is performed on the basis of the rankings compiled by the above organizations – on the level of implementation of e-government, the level of development of information technologies, the level of development of information society, the level of openness of budget data, and budget expenditures in Russia's regions for 2009-2016. The timeframes of the research are set according to the fact that the beginning of the process of the information economy development in Russia was set by the President V.V. Putin's establishing the Strategy of development of information society in the RF on February 7, 2008, Decree No. Pr-212 (Putin, 2008).

The objects for evaluating the effectiveness of usage of budget resources from the positions of the information economy development include such regions of Russia as Moscow Oblast, which is a representative of the regions characterized by the best

indicators of socio-economic development, and Lipetsk Oblast, which is a representative of the regions characterized by medium or low indicators in Russia.

## Results

The received estimates of the intermediary indicators for evaluation of effectiveness of usage of the budget resources of Moscow and Lipetsk Oblasts from the positions of the information economy development in 2009-2016 are presented in Table 1.

**Table 1.** Estimates of the intermediary indicators for evaluating the effectiveness of usage of the budget resources of Moscow and Lipetsk Oblasts from the positions of the information economy development in 2009-2016.

Region	Year	Iis	Ieg	Iin	Edee	E <sub>budget-inf</sub>
Moscow Oblast	2009	1.04	1.04	1.01	1.10	0.94
	2010	1.06	1.06	0.95	1.12	0.91
	2011	1.11	1.02	0.93	1.15	0.89
	2012	1.03	1.03	0.94	1.18	0.85
	2013	1.07	0.98	0.99	1.14	0.89
	2014	1.09	0.94	1.02	1.09	0.93
	2015	1.12	0.96	1.01	1.02	1.01
	2016	1.15	0.98	0.97	0.93	1.11
Lipetsk Oblast	2009	1.01	1.05	1.02	1.04	0.99
	2010	1.02	1.02	1.05	1.07	0.96
	2011	1.04	0.97	1.03	1.09	0.93
	2012	1.05	0.98	0.98	1.11	0.90
	2013	1.03	0.96	0.97	1.13	0.87
	2014	1.04	0.99	0.96	1.08	0.92
	2015	1.06	1.02	0.97	1.05	0.97
	2016	1.05	1.03	0.99	1.03	0.99

*Source:* compiled by the authors.

As is seen from Table 1, the level of effectiveness of usage of the budget resources of Moscow and Lipetsk Oblasts from the positions of the information economy development in 2009-2016 can be characterized as low. In 2016, effectiveness grew in Moscow Oblast, which was caused by reduction of expenditures for development of the information economy with preservation of the tendency of growth of the values of the information society index, e-government, and involvement of society and business into the budget process.

In 2016, expenditures of Moscow Oblast for development of information economy constituted RUB 4,613.9 million. The index of information society constituted 74.4 out of 100 (9<sup>th</sup> position in the Russian national ranking), the index of e-government – 13 out of 100 possible (80<sup>th</sup> position), and the index of involvement of society and business into the budget process – 0.505 out of 1 (11<sup>th</sup> position).

In Lipetsk Oblast, effectiveness was preserved at the low level in 2016 – despite the growth of expenditures for development of information economy, growth of the index of information society, e-government, and involvement of society and business into the budget process. In 2016, expenditures of Lipetsk Oblast for development of information economy constituted RUB 3,816.9 billion. The index of information society constituted 26.2 out of 100 (63<sup>th</sup> position in the Russian national ranking), index of e-government – 67 out of 100 (11<sup>th</sup> position), and index of involvement of society and business into the budget process – 0,431 out of 1 (52<sup>nd</sup> position).

Despite the relatively large expenditures for development of information economy, Moscow Oblast, which represented the regions with the best indicators of socio-economic development, is behind Lipetsk Oblast, which represents the regions with medium or low indicators, according to the level of development of e-government and is ahead of it according to the level of society's informatization.

It should be noted that the level of involvement of society and business into the budget process in modern Russia's regions is very low. Such involvement is usually limited by provision of information on the regional budget in the open access (Internet). That's why the advantage of Moscow Oblast, as compared to Lipetsk Oblast, according to the indicator of openness of the regional budget could be equaled to the similar level of involvement of society and business into the budget process. That's why the choice of directions of usage of budget resources of Russia's regions often contradicts the interests of society and business, which causes the problem of mistrust to regional authorities and reduced the legitimacy of public authorities at the regional level.

The performed comparative analysis of effectiveness of usage of the budget resources from the positions of the information economy development by the example of regions of modern Russia showed that such effectiveness is determined not so much by quantitative efforts (spending the assets of the regional budget for development of the information economy) as by their quality (correctness of choice of direction for spending the assets). Based on this, we offer the following recommendations for modernizing the approach to the usage of region's budget resources in the conditions of the information economy development.

Firstly, in view of the fact that Russia's regions are not characterized by involvement of society and business in the budget process – though it is one of the most important characteristics of the information society in the context of the budget system – it is recommended to ensure the maximum involvement of all interested parties into the process of regional budget management.

For this, it is necessary to create an electronic portal at which the residents and companies of the region will be able to give their ideas regarding the top-priority directions of usage of the budget средств and to implement the system of e-voting

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of citizens and representatives of business society for a certain structure of budget assets distribution. The opinion of interested parties should be taken into account during the regional government's making final decisions on the usage of budget assets of the regions.

Secondly, it is necessary to stimulate further informatization of the Russian society, in order to involve population and business into the process of usage of new information and communication technologies, stimulating successful automatization of business processes, development of e-payments, start of the system of e-government, etc. For this, it is required to conduct a series of free training courses for the usage of information and communication technologies for society and business, as well as their propaganda.

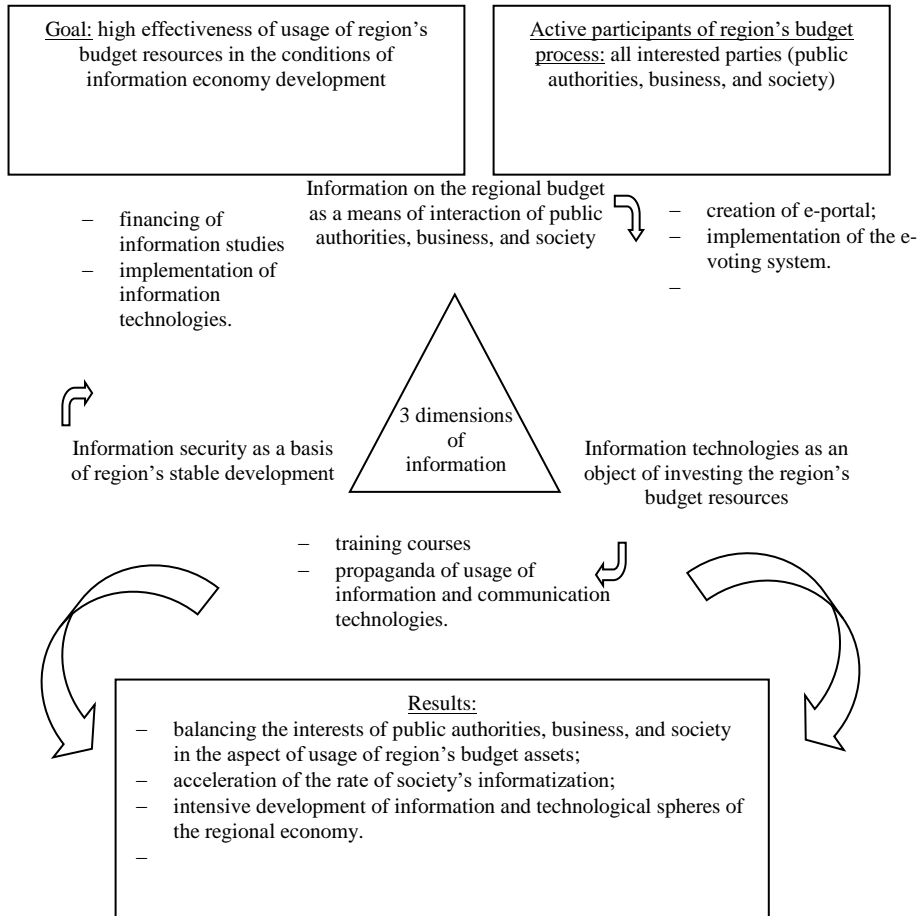
Thirdly, it is necessary to pay more attention to the issues of provision of information security in Russia's regions. The higher the level of development of information economy, the higher the threat of information attacks. That's why the top-priority direction of usage of the region's budget resources from the positions of the information economy development is strengthening of information security. This supposes financing of scientific research in the sphere of its provision and implementation of new technologies and equipment for protecting the information of the regional government.

According to this, the modern approach to the usage of region's budget resources in the conditions of the information economy development could be presented in the following way (Figure 1).

As is seen from Figure 1, as compared to the traditional approach to the usage of region's budget resources, applied in modern Russia – which viewed information as a means of fragmentary informing of interested parties on beneficial aspects of the budget policy in the one-sided manner – the modern approach in the conditions of the information economy development supposes three dimensions of information.

Information on the regional budget is a means of interaction of public authorities, business, and society; information technologies are an object of investing of region's budget resources; information security forms the basis of region's stable development. As a result of realization of this approach, the balance of the interests of public authorities, business, and society is ensuring in the aspect of usage of budget assets of the region, acceleration of the rate of informatization of society, and intensive development of information and technological spheres of regional economy.

**Figure 1.** The modern approach to the usage of region's budget resources in the conditions of the information economy development



### Conclusions

It could be concluded that the traditional approach to the usage of region's budget resources, which is applied in modern Russia, contradicts the general national course for creation of the information economy, as it does not stimulate the formation of the information society, does not stimulate the development of information and technological spheres of the regional economy, and does not allow for development of interaction and cooperation of all interested parties within the budget process, which proves the offered hypothesis.

The modern approach to the usage of region's budget resources in the conditions of the information economy development, proposed in this article, develops and supplements the fundamental provisions of the concept of management of the budget

system, the concept of regional economy, and the concept of information economy. The offered recommendations for modernization of the existing approach in modern Russia have practical value and pose practical interest for the Russian regions.

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