Financial Mechanism for Sustainable Regional Development

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Abstract: The research is devoted to the study of the financial mechanism and its impact on the effectiveness of regional policy, improving the quality of life of the population and the level of sustainable development of the region. It is established, that the solution of the problems influencing social and economic development of the region, needs realization of the basic group of problems, development and realization of strategic directions which influence on perfection of the financial mechanism. Five basic directions of development of the financial mechanism of the region were singled out: 1) anti-crisis direction; 2) direction connected with the restoration of the financial mechanism of sustainable development of the region; 3) direction connected with the formation of the main sources of the financial mechanism of sustainable development of the region; 4) innovation and investment direction; 5) direction connected with the capacity building of the financial mechanism of sustainable development of the region. The presented directions suggest the application of appropriate tools, forming financial flows, contributing to the achievement of sustainable development of the region.

1 INTRODUCTION

Regions showing steady economic growth make a priority goal within social and economic development strategy and are also an indicator of the strong economy of the country. For this reason, the acute problems requiring urgent solution include identifying the regional potential, applying efficient instruments for utilization of such potential, economic effect maximization and meeting regional socio-economic needs, which are expected to result in the steady development of the region.

Lack of financial resources for regional development is explained by a number of factors including the following: the majority of the regions have insufficient tax basis, they are economically unappealing for investors and lack potential and infrastructure to attract financial resources from the international organizations into their project activity. Therefore, such regions are particularly vulnerable, experience lack of financing and, thus, require different financial mechanisms and instruments to support their development.

To a great extent, the efficiency of the financial mechanism in a region affects the efficiency of the regional policy, improves quality of living and rate of sustainable development of a region.

Successful performance and development of the regional economy greatly depend on the conditions in the region and its ability to provide self-sustained budget for its activities, define its own priorities in development and financial stability maintenance and achieve well-balanced financial indices while expanding its economic resources (Verbinenko & Badylevich, 2012).

The purpose of the research is elaboration of practical recommendations on strengthening the financial mechanism in sustainable development of a region.

According to our hypothesis the development of the financial system of the region presupposes optimal, rational and efficient utilization of the financial mechanism in order to meet the social and economic goals.

Advanced financial mechanism of regional development is based on defining a model of the regional financial system development.

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Financial sustainability works as an indicator of efficient regional development as it shows capability of the region to develop socially and economically while effectively involving innovative tools of financial resources management with the purpose of balancing out the disproportions in financing different segments of regional economy (Pande & Pande R., 2007).

Regional development requires efficient economic foundation that would facilitate social, economic and ecological stability. Economic self-reliance of the regions depends on the economic resources available for their independent functioning, meeting the needs of the territory and financing socio-economic development (Golodova, 2011).

According to our reckoning, modeling efficient financial system of the regions remains an issue and originates from the effective combination of federal and local budget financing, financing from the businesses, the population, financial and credit institutions as well as external investments.

Social and economic development certainly results from the mutual efforts of all the subjects capable of accumulating resources by means of building an efficient financial mechanism with the purpose of enhancing its financial sufficiency. For the time being, many researches have been focusing on the model of the country's financial mechanism and its functioning, which is, first of all, explained by the tangled situation in the country in terms of financial security (Farrakhova & Daryakin, 2017).

The leading role in creating efficient mechanism of socio-economic development in the regions belongs to the organization of budgetary relations, forming of stable income base and delimitation of authority between the center and the regions as well as between the government and local authorities, functional gradation of regional expenditures, preferences in economic regulation of local order placement and number of orders, small and medium enterprise development, organization of the market infrastructure, etc.

2 SOLUTIONS AND RECOMMENDATIONS

The financial mechanism characterizes capability of the regions to utilize their financial resources in order to meet social and economic needs of the subjects and defines potential for their development. This provides for the possibility of carrying out its quantitative and qualitative evaluation with regards to its financial sufficiency.

Despite dependence of the capacity and sufficiency of the financial mechanism on the regional financial system, facilitating its ability to promptly and efficiently react to threats and withstand them is one of the priority goals and a factor of steady socio-economic development (Makarova, Zubko, Bestuzheva, Chusov, Surkova, 2016).

We shall make allowance for the formation and utilization of the financial mechanism on the basis of a complex of financial relations, and such systemic approach requires result-oriented processes, i.e. processes directed at achieving a certain set of goals.

The goals of formation and utilization of the financial mechanism include:

optimization of financial resource capacity and its management;

building security system in order to prevent the regional economy from the destructive effects of internal and external factors;

insuring social security and wellbeing of the population;

building up financial stability reserve of the economy.

The algorithm of structuring and utilizing the financial mechanism is based on definitive and scientifically grounded principles providing for its effective functioning and meeting the goals that have been set.

Organizational side in building up and utilization of the financial mechanism of regional development is one of its basic elements providing a link between objects and subjects. This process consists in exploring the object, identifying potential and existing, external and internal factors, their impact, planning and constant monitoring of the decision making efficacy.

These functions shall be performed by the subjects, i.e. governmental and local authorities, businesses, households, financial and credit institutions and external investors supposedly acting to the benefit of the region's socio-economic development. Herewith, governmental and local authorities are obliged to lay the ground for the workability and efficiency of the financial mechanism functioning in the regions and to control compliance with laws.

Among the objects there may be observed , firstly, a certain hierarchy in the national economy within the territory of the regions subject to the implementation of the financial mechanism; secondly, a complex of financial relations facilitating formation and utilization of the financial mechanism of regional development; thirdly, the total of all financial resources.

Financial methods functioning as impact instruments in the process of formation and utilization of the financial mechanism were defined. The impact is achieved through managing the flow of financial resources owned by the subjects, efficacy evaluation, economic stimulation and responsibility for poor utilization of funds (Menshchikova, 2010).

3 METHODOLOGY OF THE STUDY

Financial sufficiency of the regions is directly dependent on the volume of its own financial resources, budget efficacy and autonomy, which is achieved by means of effectively utilizing the financial mechanism that can fully satisfy social and economic needs of the region while leaving out external resources or minimizing their involvement.

Efficacy of the socio-economic development of the region is to a great extent conditioned by successful local budgeting which involves building up a system of financial relations directed at the accumulation, distribution and utilization of financial resources of local authorities to insure financial sufficiency of the regions and their steady development.

When evaluating budgeting, it is reasonable to take into consideration the local incomes of the region as well as inter-budgetary transfers. Hence, the budget structure includes tax revenues (TR), nontax revenues (NTR), income from capital transactions (ICT) and inter-budgetary transfers (IBT). Therefore, the capacity of the budget mechanism of the regions (BM) is calculated according to the following formula:

$$BM = TR + NTR + ICT + IBT \tag{1}$$

Socio-economic development of the regions predetermines growth of the financial mechanism capacity of the businesses, which is consequently expected to improve their financial sufficiency, i.e. to provide for their ability of successful financial resources management in the conditions of continuing disruptions from inside and outside and their ability to develop themselves in the running period and in the long term.

Capacity of the businesses' financial mechanism in the regions (BFM) is defined as a total of their own capital (OC) and borrowed capital (BC):

$$BFM = OC + BC \tag{2}$$

Evaluation of the businesses' financial mechanism has the purpose of on-the-spot correction in management and its adequate functioning and is carried out on the basis of index system combining wealth index, liquidity and financial solvency indices, financial soundness index and profitability index.

In regards to financial and credit institutions, their financial mechanism capacity (FCIFM) is defined by their own capital (OC) and customer deposits (CD), i.e. the funds obtained from legal entities and individuals.

$$FCIFM = OC + CD \tag{3}$$

Evaluation of the financial and credit institutions' financial mechanism involves the indices based on capital structure and capital adequacy, structure of the obtained and borrowed funds, asset quality and dynamics of certain assets and liabilities (Zinisha, Ivanenko, Labanova, 2019).

Adequately selected instruments in the financial and credit institutions' financial mechanism evaluation allow for prompt and efficient detection of their weaknesses and potential as well as for disclosure of hidden reserves in order to enhance their functional efficiency.

External investors' financial mechanism (EIFM) is defined by the direct foreign investments (DFI) attracted into the economy of the regions:

$$EIFM = DFI \tag{4}$$

External investors' financial mechanism evaluation is crucial due to the fact that foreign investments are capable of contributing to the financial stability and economic growth in the regions in the conditions of limited internal funding.

The total financial mechanism of regional development (FMRD) is represented by the formula below:

$$FMRD = BM + BFM + FCIFM + EIFM \tag{5}$$

Defining financial mechanism capacity provides for the possibility of evaluating the economic potential of the regions and their subjects (local authorities, businesses, financial-and-credit institutions, external investors), which is expected to result in better planning of their socio-economic development.

Elaboration and refinement of the financial management mechanism in the regions requires prior analysis of their built up financial mechanism capacity, external and internal factors of its formation and utilization (Stehnei, Irtysheva, Gurina, 2018).

By means of comparing the methods of distinct complex evaluation, taxonometry method was found the most adoptable for the purpose of synthesizing the overall performance index of the financial mechanism of regional development; this method is based on defining the deviation between the objects of the analysis and the reference standard.

The input information matrix is represented below in its standard form:

$$X = \begin{bmatrix} x_{11} & \dots & x_{1j} & \dots & x_{1n} \\ x_{21} & \dots & x_{2j} & \dots & x_{2n} \\ . & . & . & . & . \\ x_{i1} & \dots & x_{ij} & \dots & x_{in} \\ . & . & . & . & . \\ x_{m1} & \dots & x_{mj} & \dots & x_{mn} \end{bmatrix} \tag{6}$$

n – the number of indices (j=1,2,...,n);

m – the number of years (i=1,2,...,m);

Xij – the value of index j which defines the index of year i.

The indices which do not make a significant difference for the final result were excluded from the preliminary list. Doing this required calculation of the coefficient of variation according to the formulae:

$$v_j = \frac{\sigma_j}{\overline{X}_j} \tag{7}$$

$$\sigma_j = \sqrt{\frac{\sum_{i=1}^{m} (X_{ij} - \overline{X}_j)^2}{m}} \tag{8}$$

$$\overline{X}_j = \frac{\sum_{i=1}^{m} X_{ij}}{m} \tag{9}$$

X_{ij} – the value of index j for year i;

$\overline{X}j$ – arithmetical average of index j;

$\left(X_{ij} - \overline{X}_j\right)^2$ – mean-square deviation of index j;

ν_j – coefficient of variation of j.

Such condition shall be taken into account for each j index:

$$\nu_j > e,$$

e – an extreme value.

Thus, in case the coefficient of variation of indices (νj) is less than 0,1, they are semipermanent and are considered equivalent. From the standpoint that the selected indices are varied, their values can be standardized (normalized) according to the formula:

$$Z_{ij} = \frac{X_{ij} - \overline{X}_j}{\sigma_j} \tag{10}$$

The next stage required comparison of the obtained factual data to the value identified as a referenced standard. All the indices were to be divided into two groups: driver indices (their growth facilitates financial mechanism of regional development) and disincentive indices (such deferring growth).

In order to measure the referenced standard point (P_0), it was necessary to select the largest values among the driver indices and the lowest values among the disincentive indices:

$$P_0(z_{01}, \dots, z_{0k}, \dots, z_{0n}) \tag{11}$$

where $z_{ok} = \max_i z_{ik} \quad k \in J$

$$z_{ok} = \min_i z_{ik} \quad k \notin J$$

J – the multitude of driver indices.

The final stage of defining the integral index required a set of operations. First, the deviation between the points (C_{io}) that represent the analyzed elements and the referenced standard point (P_0) was calculated according to the formula:

$$C_{i0} = \sqrt{\sum_{k=1}^{n} (z_{ik} - z_{0k})^2} \tag{12}$$

i =1,2,….,m,

k =1,2,….,n.

Second, the integral index value of the financial mechanism of regional development was calculated according to the formula:

$$S_0 = \sqrt{\frac{1}{m}\sum_{i=1}^{m}(C_{i0} - \overline{C}_0)^2} \tag{13}$$

Hence, the integral index allows for the complex financial mechanism level analysis in relation to the development of a specific region and suggests a set of measures in order to eliminate the problems detected in the process of enhancing the financial mechanism of each subject. The closer the integral index comes to 1, the higher is the level of the financial mechanism and, vice versa, the smaller is the index, the less sufficiency it shows (Storonyanska, 2015).

With the reference to the integral index, we singled out five levels of financial mechanism of regional development: low, above average, average, above average and high; the strategy of enhancing the financial mechanism is selected according to the level. The extreme values of integral index are given in table 1.

Table 1: Characteristic of the financial mechanism levels of regional development.

Interval	Financial mechanism level	Strategy of enhancing financial mechanism
[0;0,2)	low	Anti-recess strategy of regional development
[0,2;0,4)	below average	Financial mechanism recuperation strategy
[0,4;0,6)	average	Resources optimization strategy in building up the financial mechanism capacity
[0,6;0,8)	above average	Innovation and investment strategy of regional development
[0,8;1]	high	Financial mechanism enhancement strategy

Therefore, differentiated approach with applied criterion of financial mechanism level allowed for singling out five groups of regions: regions with low financial mechanism level, regions with below average financial mechanism level, regions with average financial mechanism level, regions with above average financial mechanism level and regions with high financial mechanism level. With regards to the recurrent effect of the diverse internal and external factors of different, either positive or negative nature, on the financial system of the region, the current level of financial mechanism is largely situational and may be subject to change in the next periods. Subsequently, it is of great importance to select the correct strategy, the most efficient model of financial system development and implement it timely and appropriately.

The issues reported in the study suggest necessity of elaboration and implementation of the strategy to enhance the financial mechanism of regional development as a tool providing for the stability of the regional financial system and socio-economic development. The strategy involves a number of measures insuring a greater extent of independence for the local budgets, elaboration of the complex recuperation program for domestic businesses, implementation of the mechanisms withstanding internal and external threats to their economic activity, enhancement of the households' financial mechanism and their involvement in the investment processes, stimulation of bank activity and foreign investments in the regions through economic and administrative support and initiation of cross-border cooperation.

4 DISCUSSION

Dynamic development of regions in an open economy is impossible without determining the system of priorities and ensuring the coherence of actions of all government bodies, enterprises and organizations, along with the population, and financial and credit institutions located on its territory (Ul'janickaja, 2013).

Solving the above-mentioned issues of socio-economic development requires the development and implementation of a regional strategy. The strategy of strengthening the financial mechanism of regional development holds a key place among its components, which is primarily due to the importance of financial support for its functioning and development.

The strategy of strengthening the financial mechanism of regional development is a model for the development of its financial system, which provides for the most rational, optimal, effective use of the mechanism for achieving regional goals. This strategy is one of the main tools for implementing a balanced financial policy of the state, while the financial goals of regional development should be formulated in the form of a certain concept (Tolstova, 2012a).

When implementing the strategy of strengthening the financial mechanism for the regional development, it is important to conduct a strategic analysis, a comprehensive study of external and internal factors and identify their impact in order to develop activities to achieve the goals of regional socio-economic development.

Considering that the strategy is formed on the basis of a conceptual approach, there are five possible options. The most appropriate option is selected according to the existing level of the financial mechanism, which is determined beforehand. Each strategy includes the main objectives that should be aligned with the goals of the regional social and economic development, the mechanisms for its implementation. The institutional environment should be taken into account as well (Tolstova, 2012b). .

Common to all strategies for strengthening the financial mechanism of regional development are the activities aimed to restore the financial stability of the regions, intensify financial flows and ensure further development.

The priority objectives include the following:

building up the region's own financial mechanism;

optimization of inter-budgetary relations;

stimulating business activity of enterprises and organizations, as well as self-employment;

– assistance in attracting investment resources for regional development.

The choice directly depends on the regional financial mechanism level and represents the optimal direction for its financial system operation. The strategy foresees a sequence of actions taken by local and state authorities with the optimal combination of appropriate instruments for strengthening the financial mechanism in order to attain balanced regional development of the financial system (table 2).

Table 2: Strategic directions to strengthen the financial mechanism of regional development.

Direction	Basis for the application	Measures
Anti-crisis direction	The financial system of a region is in crisis (low level of all components of the financial mechanism)	restrictions in the provision of guarantees by local authorities to prevent possible abuse and increase in budgetary debt; stimulating entrepreneurial activity in the region through the creation of an appropriate institutional environment, introduction of a tax incentive system, provision of administrative assistance to local authorities; liquidation of financially weak banks or their joining to more financially stable banking institutions; assistance in financial rehabilitation of unprofitable enterprises in the regions; optimization of the regional sectoral structure and diversification of its economy; financial support to the city-forming enterprises in order to remove economic and social tensions in the region
Restoration of the financial mechanism for regional development	The regional economy is at the stage of recession	balancing the needs in financial resources and the opportunities for their formation (attraction) in the regions; restrictions in financing economic sectors with no or low social and economic effect; improvement of the investment climate in the region to attract external investors to the regional financial system; stimulating the investment activity in the region funded by local business entities and the population, regional financial and credit institutions; establishing a mesoprudential supervision system for effective risk management, aimed at minimizing (avoiding) losses from possible threats of macro, meso, and microlevel
Fostering the sources of financial mechanism formation for regional development	The fall (a significant slowdown in growth) of the main sustainable development indicators in the regional financial system (medium level of the financial mechanism components)	attracting external loans to finance operating expenses and capital expenditures having the maximum economic and/or social effect; assistance in developing the market of local borrowings, which will allow to supply the local budget with funding on innovative projects aimed at social and economic development of the regions; assistance in the formation of a powerful

		regional capital through the mechanism of partnership in financing investment projects by combining the capitals of financial and credit institutions, business entities, local authorities, the population (in various combinations)
Innovation and investment direction	Sustainable development of the regional financial system (high and medium level of the financial mechanism components)	stimulating innovation in the region; creating financial and credit institutions that will specialize in financing investment projects in the region; stimulating innovation and investment activity of local authorities by refusal to use the revenues from the implementation of investment projects for interbudgetary leveling, and allocating these funds for the regional development
Building up financial mechanism capacity for the regional development	The region has a significant financial development mechanism (the highest level of all components of the financial mechanism)	supporting the real economy, especially the export-oriented sectors; promoting the interregional and cross-border cooperation; stimulating the development of clusters in the region

To evaluate the effectiveness of the strategy implementation, a system of relevant indicators is used both by individual financial mechanism components and by an integral indicator. The implementation of the strategy for strengthening the financial mechanism for the regional development is based on an integrated approach and should take into account the financial possibilities of the territory, provide for an alternative development of the financial system, depending on the level of the financial mechanism in order to meet the needs and safeguard the harmonious development of all regions.

5 CONCLUSIONS

The comprehensive study of the financial mechanism of regional development conducted in this study resulted in practical findings that enable to achieve the main objectives according to the stated purpose, namely:

1. Sustainable socio-economic development of the regions requires adequate funding, which is currently limited by the insufficiency and inaccessibility of financial resources. Therefore, strengthening the regional financial mechanism remains an urgent challenge for the country's financial policy. The financial mechanism of regional development is an aggregation of financial resources and opportunities for their formation, their capacity building and effective use in accordance with the internal and external conditions to meet the needs of the regions and ensure their social and economic development.

2. The financial mechanism acts as an object for assessing the financial ability of the regions being a prerequisite for socio-economic development. It is suggested to consider the financial viability of the regions as an ability for socio-economic development based on the effective use of innovative tools for managing the financial resources. This will result in resolved imbalances in financing the needs of the regions, facilitating the formation of a growing volume of the gross regional product and counteracting the permanent destructive influence of external and internal factors in short and long term perspective.

3. The implementation of the financial mechanism for the regional development is carried out with an integrated approach and takes into account the financial possibilities of the territory, provides alternative directions for the financial system development, depending on the level of the financial mechanism to meet the needs and ensure the harmonious development of all subjects. A differentiated approach to the selection of directions made it possible to distinguish five directions: the anti-crisis direction; direction aimed at restoring the financial mechanism; direction aimed at fostering the sources of financial mechanism formation; innovation and investment direction; direction aimed at building up financial mechanism capacity. Each direction involves the use of appropriate instruments to streamline financial flows and achieve sustainable development of the regions.

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