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### **1.5. Mechanism of analysis and control of allocation of financial resources of territorial units**

In recent years, there are tendencies of strengthening of the uneven development of territorial units, which include a number of regions. First of all, it is explained by different potential of regions for adaptation to the changing

functioning conditions. Preservation of such tendencies leads to the expansion of lagging regions, to reducing the stability of the budget system of territorial units in general. Especially acute the consequences of strengthening the unevenness of the regional development occur during a cyclical downturn, which is characterized by a significant slowdown of economic growth of the "supporting" regions. The consequence of budgetary insufficiency is a decline of financial potential of smoothing inter-regional socio-economic differentiation, growth of social and political stresses. These trends have been observed for both Ukraine and the EU countries, which are characterized by considerable heterogeneity of economic space and which include a group of donor regions and of recipient regions. The enhancement factor of interregional differentiation is transformed into the risks that have a negative impact on the socio-economic development of territories. It causes the necessity of searching for new approaches to forming the regional policy.

In this paper (Lukyanenko I.G., 2004) such methods of modeling mechanisms of budgetary regulation on different hierarchical levels are considered as the econometric methods, casual and non-casual approaches, panel data. The studies presented in (Ponomarenko, V.S., Klebanova, T.S., Kizim, N.A., 2011), affect the application of spatial lagged models for testing the presence of spillover effects and the possibility of reducing costs associated with the stimulation of regional development. In (Geyets, V., Kizim, N., Klebanova, T., Chernyak, O. et al., 2006; Ketova, K.V., 2008; Vasiliev, V.A., Suslov V.I., 2011) works, a set of models is proposed, which is based on the methods of multivariate analysis, the method of adaptive Kalman-Bucy filtering, makes it possible to determine the dominant threats of sustainable development of the regions and the priority for the state regulation of the life of regional systems. Work (Lyckina N.N., 2009) describes the general structure of modeling complex of the regional socio-economic development. Despite a rather keen interest in modeling the formation of an effective regional policy, approaches to estimate the consistency of fiscal, monetary policy, the dynamics of the investment processes and their influence on the process of convergence of regional development remain under-researched.

Regional policy includes both socio-economic policy of territorial units and domestic policy of regions that has its own priorities which are not always consilient with global priorities. The consequences of this are the focal nature of economic development, the absence of the coherence and of the hierarchy of programs that facilitate not only leveling of tendencies of polarization of regional development, as their strengthening. The proposed model of managing the development of territorial units requires the development of new mechanisms for strategic planning and management, among them the basic one is the mechanism of analysis and control of allocation of financial resources of territorial units. Leading modeling tool of the balanced fiscal policy is the scenario simulation models, which allow to investigate the cause-and-effect relationships of factors that have an implicit structure; to form the spectrum of

development strategies; to estimate assessment of impacts of various management actions aimed to eliminate the imbalances in the development of regional systems (Klebanova, T.S., 2012; Klebanova, T.S., Kizim, N.A., 2011). Appropriate tool for implementing the scenario approach is simulation modeling which allows to experiment related to the assessment and analysis of different scenarios of socio-economic development of regions. As a basic concept in modeling financial flows of territories the method of system dynamics is considered (Yastrebova, A.S., Nikiforova, O.V., Chagovets, L.A., 2012; Klebanova, T., Yastrebova, A., 2009; Klebanova, T.S., Bogonikolos, N.D., Kononov, O., Bersutsky, A.J., 2006), the advantages of which is the ability to record all structural relationships between variables and the temporal aspects of transformation. The proposed mechanism consists of five main modules.

Target direction of *the first module* is to evaluate the inter-regional socio-economic differentiation. In this module such problems are being solved as: the forming of information space of indicators of socio-economic development of the regions (SEDR); grouping of regions by the level of SED; forecasting and analysis of structural proportions of economic space. The appointment of *the second module* is to analyze the convergence of regional development. In this module the following tasks are being solved: an analysis of absolute and of conditional convergence, of long-term convergence, an evaluation of unevenness of socio-economic development. The matter of the mechanism's *third module* consists in forecasting of the crisis dynamics of development of territorial units. In this module such tasks are being reviewed as: an analysis of the factors of cycles forming; an evaluation of the resonant interaction of economic indicators. The appointment of *the fourth module* is forming of inertial scenarios of changing the characteristics of socio-economic development of territories. The main objectives of this module are: forecasting the indicators of the budget system and of socio-economic development of territories; dynamic analysis of regional development of imbalances; determination of the sources of imbalances in regional development. The matter of *the fifth module* is creation and analysis of alternative scenarios of managing the SEDR. The objectives of this module are: grouping of regions to generate the management decisions for eliminating the imbalances of the territories; forming the alternative options of fiscal policy; forecasting the dynamics of socio-economic development of territories; selecting the exact variant of financial regional policy.

The detailed description of the first three modules is reviewed in the works (Klebanova, T., Guryanova, L., Daradkeh, Y., Kavun, S., 2013; Klebanova, T., Kavun, S., Guryanova, L., 2012; Daradkeh, Y., Guryanova, L., Kavun, S., Klebanova, T., 2012; Klebanova, T.S., Zakharova, O.V., Guryanova, L.S., 2009). In this research the tasks of the fourth and of the fifth modules are realized; these tasks are related to the creation of scenario models of socio-economic development of regions, which make it possible to analyze

the structural imbalances in the development of territories in perspective period and to determine the directions of corrections of financial regional policy aimed at their elimination or prevention.

The proposed conceptual scheme of creation of scenarios of socio-economic development of the regions consists steps:

*At the first stage* the inertial scenario of changes in the characteristics of socio-economic development (SED) of the territories due to the implementation of the adopted fiscal policy is developed. Meeting the challenges of this phase is carried out using the model alignment imbalances using tax instruments and the proposed simulation model of regional financial regulatory (Klebanova T.S. 2012; Brumnik, R., Klebanova, T., Guryanova, L., Kavun, S., Trydid, O., 2014). Model of financial regulation of the territorial development has two main components: 1) the unit of resources allocation, 2) the unit of socio-economic characteristics of the region. The purpose of the first block is to simulate the possible value of the regional investment of transfers, subventions, grants. Targeting of the second block is to simulate the influence of the value of investment transfers, subventions, grants to the regions for the socio-economic development of regional systems. Therefore, simulation model of financial territorial regulation allows conducting multivariate projections of regional economic development and the state, depending on the adopted policy of the state of financial regulation.

Generalized model of state financial regulation of socio-economic development in the regions includes the simulation model of the resources allocation and 25 simulation models of socio-economic characteristics of the region. Outputs of this stage are the inertial scenarios of socio-economic development of the regions as a result of the adopted fiscal policy implementation.

*At the second stage*, the analysis of the formation of imbalances in regional development is performed in the following areas: estimation of the regional socio-economic development, differentiation of the regional social-economic development, estimation of the imbalance of SED in the regions, identifying the sources of structural imbalances. Assessment of the level of socio-economic development is conducted by using the method of construction the reference object - taxonomic indicator of development. The estimation of differentiation of SED is dynamic analysis of regional cluster formations, the analysis of individual propensity to migrate from regions with low levels of socio-economic development in to the group of regions with a high level of development. Evaluation is focused on the analysis of the regional structure of the upward or downward trend of the economic development. To estimate the irregularity the following data is used: coefficient of variation, coefficient of irregularity (differentiation), coefficient of imbalance, Tail index. Identifying the sources of structural imbalances is based on the decomposition of the Tail index. Herewith, the following factors of increasing the regional imbalances are considered: the unbalanced development of the groups of regions with high

level of SED (donor regions) and regions with low SED (recipient regions), the unbalanced development of the regions with high level of socio-economic development, the unbalanced development of the regions of low level of socio-economic development.

*At the third stage* the alternative scenarios of managing the development of the territories are formed, aimed at eliminating or preventing the identified structural imbalances with saving the overall positive trajectory of the national economy development. The objectives of this phase are to generate a management decisions concerning the elimination of imbalances in regional development, the formation of alternative fiscal policy options, forecasting the dynamics of socio-economic development and selecting an options of fiscal policy. Solving the above tasks is performed by grouping the regions considering the following parameters: the level and rate of socio-economic development. Characteristics of groups of regions based on the methods of taxonomy are shown in table 1.

*Table 1*

**Grouping of regions for the aims of regional management**

<i>Name of group of regions</i>	<i>Characteristic</i>
Regions-«leaders»	Regions with high level and pace of socio-economic development
Stagnant regions	Regions with high level and low pace of socio-economic development
Developing regions	Regions with low level and high pace of socio-economic development
"Problematic" regions	Regions with low level and pace of socio-economic development

Formation of alternative fiscal policy options suggests changing the parameters of the distribution of the investment transfers, in particular, the regional development fund, in between the described in table 1 groups of regions. Since the cyclical downturn in the state investment policy is aimed at the increasing of the investment flows' speed, especially in the production of high added value, then adjustment of the parameters of the distribution of investment transfers is based on the research of the asset management ratio of the industrial and economic systems (IES) of the territories. Prediction results of socio-economic development of the regions as a result of implementation of the different options of fiscal policy underlie the formation of alternative management scenarios of SED of the territories, which are described in table 2.

Table 2

**Description of alternative scenarios of socio-economic development of the regions**

<i>Scenario</i>	<i>The content of the scenario</i>
<i>Alternative compensational</i>	Forecasting the dynamics of SED of the regions at the passed tax policy and the adjusted fiscal policy to support the priority regions, producing products with high added value
<i>Alternative antirecessionary</i>	Forecasting the dynamics of SED of the regions at the passed tax policy and the adjusted fiscal policy to support the balanced development of the regions – donors and regions – recipients.

As shown in table 2, the alternative compensational scenario assumes the estimation of aftermaths of the priority investment support of the regions – donors with the implementation of pessimistic scenarios of tax revenues. The main target of the development of this scenario is to evaluate the possibility of forming a "compensatory" effect of reducing the depth of the economic crisis by changing the fiscal policy parameters. Alternative antirecessionary scenario is directed to model the results of the phased financial support of the recipient and donor regions. Financial support of the recipient regions allows reducing their level of subsidization and reducing the depth of the economic crisis at the beginning of the implementation of the state stabilization policy. The financial support of the donor regions is aimed at promoting an inward investment in the production of high added value and preventing the effect of "deferred" cyclical downturn in the forecasting period. Selecting an option of the fiscal policy is based on the analysis of the parameters of the regional financial policy that offers the alignment of the regional socio-economic development while maintaining the positive trend in the economy.

Thus, the above proposed scheme of the socio-economic development scenarios of the regions makes it possible to assess the consistency of fiscal, monetary, investment policies and to increase the quality of information-analytical basis for the decision-making concerning the elimination of imbalances of the territories.

According to the demonstrated scheme at the first stage the formation of the inertial scenarios was performed, which assume the study of the dynamics of changes the characteristics of the socio-economic development of the territories due to the implementation of the adopted fiscal policy. As the control variables were considered the values of intergovernmental transfers.

Optimistic inertial scenario (scenario 1) was developed, which takes into account the positive "feedback" in the economy, the growth in tax revenues by broadening the tax base due to changes in the parameters of tax policy and inertial pessimistic scenario (scenario 2), suggesting the formation of positive "response" in the economy with a time lag, the growth of the budget deficiency, which affects the financial capacity of leveling the socio-economic

development of the territories, offsetting the negative effects of cyclical fluctuations through intergovernmental transfers.

The calculation results of the integral indicator of the level of socio-economic development of the regions, found on the basis of the average values of the indicators of socio-economic development in the Ukrainian regions in a forecast period and characterizing the tendency of the national economy development in general, are shown on fig. 1.

As can be seen on fig. 1, the reduction of the integral index value gives the opportunity to conclude that the downward trend and the emergence of the situation of "deferred" cyclical downturn is formed. The last confirms the necessity to adjust the parameters of the distribution of intergovernmental transfers in order to maintain the positive trends in the economy.

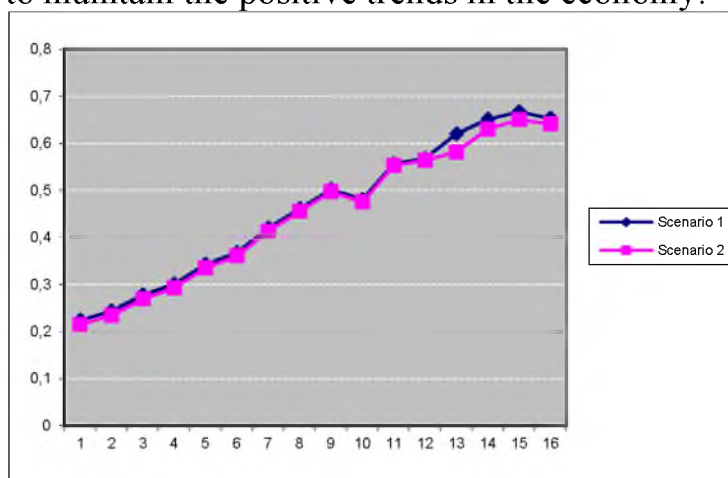


Fig. 1. The dynamics of the integral indicator of the level of socio-economic development of the regions

As the conducted analysis showed, one of the main factors in the formation of the imbalance is the between-group socio-economic differentiation. However, its slight decrease is observed. Unfortunately, for the group of donor regions the divergent processes are typical, which is the source of the effect of "deferred" cyclical decline. The comparison of the rate of economic growth of the regions with high and low level of development in the pre forecast period (fig. 2) shows that if in the pre forecast period outstripping growth rates were typical for the first group of regions, then in the forecast period the level of economic growth is significantly slowed in this group. That is why the donor regions are one of the main sources of regional imbalances.

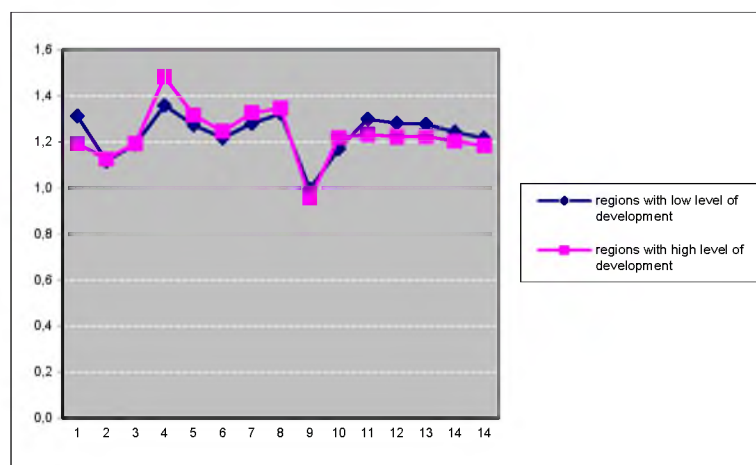


Fig. 2. The comparison of the levels of economic growth of groups of regions

As one of the alternative scenarios of the financial regional policy was considered the compensation scenario (scenario 3), which provides the economic growth stimulation not only for the "problematic" and stagnant regions, but also for the "leaders" regions which have seen a slowdown in the level of economic growth. As the source data for the formation of this scenario was considered the forecast tax revenue, derived due to the model of alignment the imbalances of SED using the tax levers. The analysis was performed according to the pessimistic scenario of the development, since such scenario allows estimating whether the "compensatory" effect by changing the fiscal policy is formed.

Alternatively, in the anti-crisis scenario (scenario 4) was reviewed the gradual financial support of the regions-recipients and donor regions. When simulating the value of investment transfers were taken into account the distribution parameters of the Regional Development Fund adopted by the Budget Code, which are focused on the priority financial support of the "problematic" territories. In order to prevent a cyclical downturn in the dynamics of macroeconomic indicators was carried out the adjustment procedure of the parameters of the distribution of investment transfers aimed at financial support not only "problematic" territories, but also the regions 'leaders' who have seen a significant slowdown in economic growth.

The values of the integral index of socio-economic development of the regions, characterizing the trend of development of the national economy in general, under different scenarios of fiscal policy are shown on fig. 3.



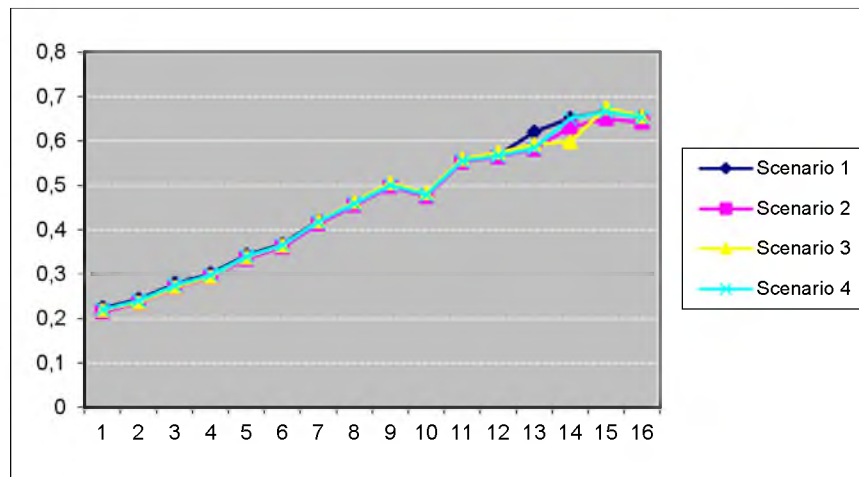


Fig. 3. The values of the integral index of socio-economic development of the regions

As can be seen from fig. 3, during the scenario 3 implementation is formed the predicted phase of stagnation in the dynamics of macroeconomic indicators, which confirms the effectiveness of stabilization policy adopted allowing to prolong the growth phase. Changing the parameters of fiscal policy provides an opportunity to reduce the depth of the crisis in comparison to the basic pessimistic scenario of the budget insufficiency. The dynamics of the integral index during the scenario 4 implementation coincides with the dynamics of the integral indicator for the scenario 1, taking into account the optimistic forecast of the tax revenues.

The developed scenario models of the regional development allow estimating the level of interregional disparities, identifying imbalances in the development of the territories, to determine the sources of structural imbalances and on this basis to provide timely adjustment of the parameters of the regional policy aimed at creating a holistic economic space.

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#### **1.6. Методи кількісної оцінки економічного ризику сільськогосподарських підприємств**

У будь-якому суспільстві як цілісній соціально-економічній системі, його окремих сферах або ланках кожної сфери час від часу відбуваються кризові явища, які загрожують існуванню самої системи. Найбільш істотне значення має подолання кризових станів на підприємствах, які складають первинний ланцюг економіки держави – сільському господарстві. В Україні з переходом до ринку об'єктивно склалися умови порушення діяльності підприємств. Їх кризовий стан відображається в тому, що погіршуються фінансові результати їх діяльності, вони стають нездатним отримувати прибуток, наслідком чого може бути банкрутство. Незважаючи на те, що підприємства поступово виходять з кризи, цей процес потребує прискорення. Основним засобом виживання підприємства у таких умовах виступає антикризове управління та управління ризиком.

Базові теоретичні основи антикризового управління підприємством, висвітлено в наукових працях вітчизняних та зарубіжних вчених, а саме: Ансоффа І., Беляєва С.Г., Бланка І.О., Гриньової В.М., Грязнової А.Г., Іванова Г.П., Майєра Є., Пономаренка В.С., Пушкаря О.І., Саймона Г., Шіма Д., Шредера Г.О. та інших.

Розглядаючи фактори впливу на підприємства, необхідно визначитись з терміном ризикованості їх діяльності. На нашу думку, ризикованість підприємства пов'язана з ефективністю вкладання коштів, що призводить до збільшення вартості капіталу підприємства. Говорячи про ефективність вкладень, слід враховувати такі моменти:

- короткострокове вкладання коштів передбачає терміновість. Воно характеризується незначною величиною ризику і може не мати впливу на фінансову стійкість підприємства;
- довгострокове вкладання коштів передбачає віддачу через певний термін часу (рік та більше), що збільшує ступінь та розмір ризику і впливає на вартість капіталу підприємства. До ризиків, які виникають при