

# Monitoring methodology for socio-economic development of a region (through the example of the South of Russia regions)

## Metodología de seguimiento para el desarrollo socioeconómico de una región (a través del ejemplo de las regiones del sur de Rusia)

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### Content

- [1. Introduction](#)
- [2. Methodology](#)
- [3. Results](#)
- [4. Discussion](#)
- [5. Conclusion](#)
- [References](#)

#### ABSTRACT:

The problem of effective control of territories in the context of regionalization of socio-economic development processes involve optimal forms finding, methods and tools to obtain necessary information for decision-making in the field of public management. There are currently no common technical approaches to monitoring of socio-economic development as an effective tool for identifying the degree of asymmetry of mesoeconomic systems development and assessment of the implemented strategic programs impact. Imperfections of the existing strategy for monitoring in part of its adaptation to the information and analytical needs of various groups of users with different and in some cases diametrically opposite goals and benchmarks have been eliminated in the article. Conceptually, the research justified and proposed theoretical model for monitoring the socio-economic development of the region, based on a set of interrelated basic components: functions, monitoring objects, and requirements for its implementation and main targets. The differentiation depth of the South of Russia regions from the conventional "reference level" has been revealed, which characterizes the balance of social and economic dynamics.

**Keywords:** regional economy, monitoring of socio-economic development, regional management, territorial differentiation, socio-economic asymmetry.

#### RESUMEN:

El problema del control efectivo de los territorios en el contexto de la regionalización de los procesos de desarrollo socioeconómico implica la búsqueda óptima de formas, métodos y herramientas para obtener la información necesaria para la toma de decisiones en el ámbito de la gestión pública. Actualmente no existen enfoques técnicos comunes para monitorear el desarrollo socioeconómico como una herramienta efectiva para identificar el grado de asimetría del desarrollo de sistemas mesoeconómicos y la evaluación del impacto de los programas estratégicos implementados. En el artículo se han eliminado las imperfecciones de la estrategia existente de seguimiento en parte de su adaptación a las necesidades de información y análisis de diversos grupos de usuarios con objetivos y puntos de referencia diferentes y en algunos casos diametralmente opuestos. Conceptualmente, la investigación justificó y propuso un modelo teórico para monitorear el desarrollo socioeconómico de la región, basado en un conjunto de componentes básicos interrelacionados: funciones, objetos de monitoreo y requisitos para su implementación y objetivos principales. Se ha revelado la profundidad de diferenciación de las regiones del sur de Rusia respecto al "nivel de referencia" convencional, que caracteriza el equilibrio de la dinámica social y económica.

**Palabras clave:** economía regional, seguimiento del desarrollo socioeconómico, gestión regional, diferenciación territorial, asimetría socioeconómica.



## 1. Introduction

The current stage of spatial economy development is characterized by the intensification of interregional and interterritorial integration processes both in economic and social spheres. It requires continuous diagnostics of mesoeconomic environment to identify structural imbalances in the development of individual sectors, asymmetry in the functioning of the individual territories and the extent of their participation in the formation of the gross regional product. In addition, the major issue of modern spatial economics is the comparison of the level and quality of population life in certain territories and its accordance with the level of development of those territories economy, which is a key issue not only for governmental institutions, but also for public ones.

Improvement of managerial decision-making mechanisms at the regional level should be done by means of the methodical approaches optimization to the full system-related, qualitative monitoring of socio-economic development of the region, meeting the demands of all interested users.

The leading role of monitoring is that it contributes to the development of relevant information for the implementation of the complex task of development programs in the region, establishing interaction of the Federal Center and the territorial authorities, strengthening of common economic space of the country and withdrawal of its bailout.

## 2. Methodology

### 2.1 General provisions of authors' methodological approach

Large-scale socio-economic and geopolitical transformations in Russia and unstable, multidirectional character of regional economic dynamics processes determine the need to find original and innovative approaches to the organization of economic area at the level of entities (Gerasimov A.N., Y.I. Gromov S.A. Levchenko O.P. 2014); (Erlander S. 1980).

General provisions of authors' research are based on theoretical concepts presented in the works of Russian and foreign researchers in the field of regional economics (Gerasimov A.N., Gromov E.I., Gulay T.A. 2015); (A.N. Gerasimov, Gromov Y.I., Skripnichenko Y.S. 2015); (Bobryshev A.N., Golchenko Y.V., Kazakov M.Y. 2014); (Elchaninova O.V., Tatarinova, M.N. Grishanova S.V. Germanova, V.S., Debelyi R.V. 2014); (Evans, N., Morris, C., Winter, M. 2002); (Taranova I.V., Gunko A.U., Alekseeva O.A., Bunchikov O.N., Kurenaya V.V. 2015); (Eswaran M. Kotwal, A. 1986); (Bobryshev A.N., Uryadova T.N., Lyubenkova E.P., Yakovenko V.S., Alekseeva O.A. 2014); (Acharya S.S. (1997); (Braverman, A., Stiglitz, J.E. 1982); (Lapina E.N., Sobchenko N.V., Kuleshova L.V., Shamrina S.Y. 2015); (Sharma, M., Gupta, S.K., Mondal, A.K. 2012); (Litvin D.B. 2015).

The problems of uneven economic space development of the regions are highlighted in the following works (Armstrong, H., Taylor, J. 2007), (Baldwin, R., Forslid, R., Martin, R., Ottaviano, G., Robert-Nicoud, F. 2005), (Brakman, S., Garretsen, H., Gorter, J., van der Horst, A., Schramm, M. 2005), (Garretsen, H., Martin, R. (2010), (Davis, D.R., Weinstein, D.E. 1999), (Capello, R. 2006), (Combes, P.P., Mayer, T., Thisse, J-F. 2009), (Hanson, G. 2005), (Ersoy, A., Taylor,

**Theoretical and methodological basis of the research** consists of general scientific dialectical methods of economic studies (specification and generalization, analysis and synthesis, consistency and complexity); the concepts and methodological approaches of contemporary scholars and specialists on the regional economy problems, system to monitor their socio-economic development formation. To obtain the results of the research systematic approach to the analysis of the phenomena under consideration has been used, which is based on application of statistics methods, particularly graphics method, computational-constructive, monographic, methods of abstract-logical and morphological analysis. Multivariate statistical analysis methods were also used.

The research aims to form an effective system of socio-economic development of the region monitoring; to do this in theory the authors have examined region's identification as an object of socio-economic development monitoring, with further justification of conceptual model. During the next stage the authors have demarcated information needs of major stakeholders' groups, as well as have justified the necessity and ways of the appropriate demarcation of methodical approaches to monitoring of socio-economic development of the region. Then during the next step, the authors have conducted the analysis of economic and social development of model regions, and the South of Russia regions have been chosen as similar in climatic conditions, socio-economic status and the structure of the economy. As a result, the authors developed methodological approach to the evaluation of spatial differentiation of regions according to the level of socio-economic development; the determinants have been found out and patterns in the socio-economic development of model regions have been identified. In conclusion methodical recommendations for the gradual formation of improved system of socio-economic development monitoring of the region have been formulated.

### 3. Results

#### 3.1 Formation of the conceptual model for monitoring of socio-economic development.

The research considered critical views, positions, and the concepts of leading scientists and specialists in the field of spatial economics (Uglitskikh, O.N., Klishina, J.E. 2013); (Gurnovitch T. 2013); (Aldashev, G., Limardi, M., Verdier, T. 2015); (Shatalova, O. 2012) (Zaitsev V.K., Kurennaya, V.V. 2013); (Hanson G. 2005); (Trukhachev V. I., Kostyukova, E. I., Gromov E. I., Gerasimov A.N. 2014). The authors have noted that the region, acting as a monitoring object and at the same time as a zone of informational interaction, determines specific features of monitoring procedures. In this connection, the authors have theoretically justified and proposed a conceptual model for monitoring of socio-economic development of the region (Figure 1). It has been formed on the basis of the complex of interrelated core components selection and structuring: functions, monitoring objects, implementation requirements and key targets, which have been built on the principle of commitment to the most relevant information for decision making of tactical and strategic nature in the field of public regional management.

The authors consider the monitoring system as totality of regularly recurring analytical and diagnostic actions on development of necessary information base for economic processes management in the region with a view to improve the standard of living and quality of life of the territories inhabitants.

The research has found that for different categories of users of information retrieved through the monitoring, the goals will differ substantially because they have different and sometimes opposite needs and requirements to the nature of the information received. This pattern is also noted in the works: (Bobryshev A.N. Yakovenko V.S. Tunin S.A. Germanova V.S. Glushko A. Ya. 2015), (Bobryshev A.N. et al. 2015), (Litvin D.B. 2015). It is important to highlight that, in accordance with the presence of several groups of target audience, using the results of the socio-economic development monitoring of the region, not only targets, but also the conduction mechanism will be differentiated.

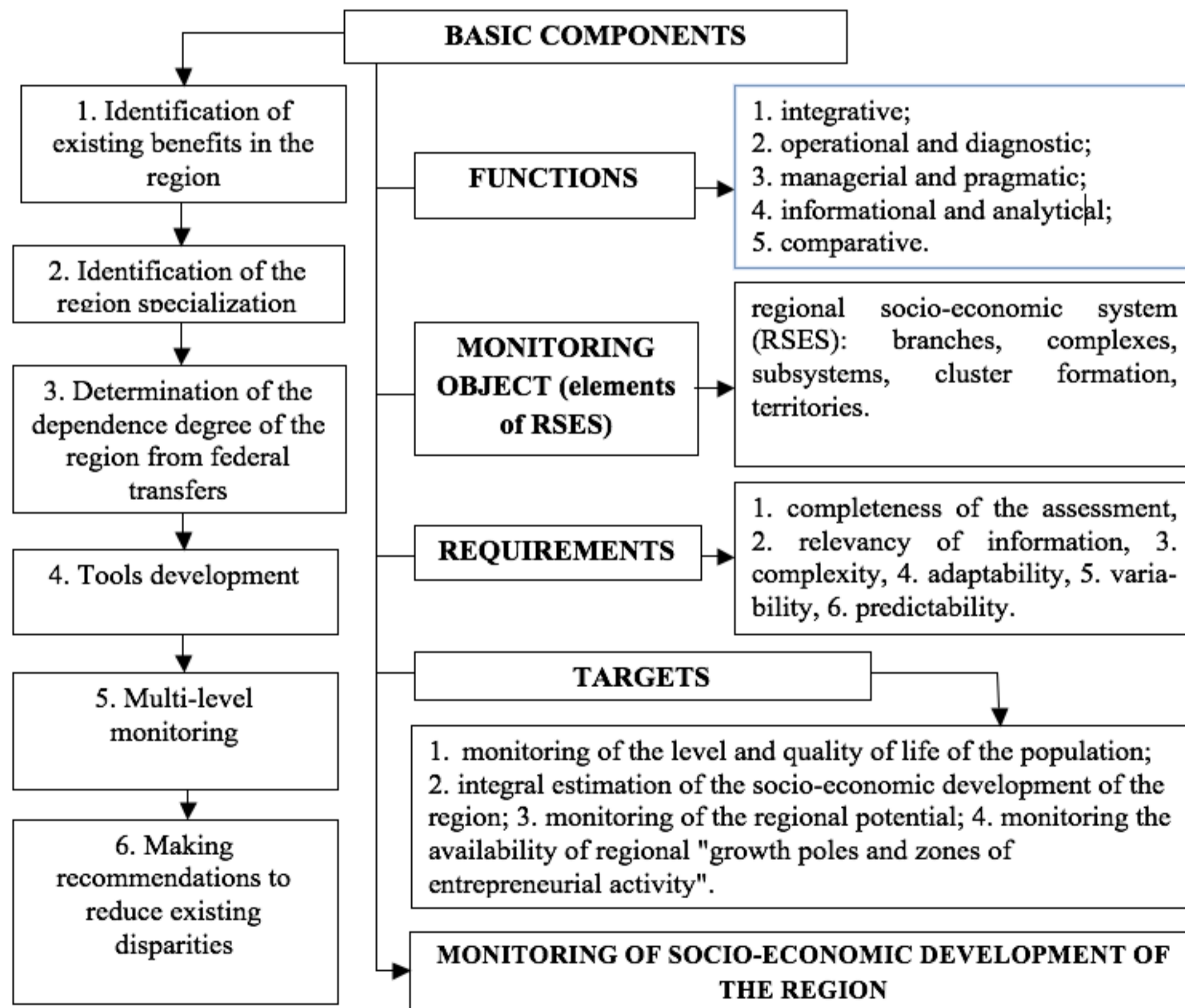


Figure 1 - Conceptual model for the socio-economic development of the region monitoring

#### 3.2 Identification of the degree of differentiation of the regions in the South of Russia according to socio-economic development.

Taking this into account, the imperatives of regional development should be aimed at overcoming of asynchrony of individual territories, their economic, social and institutional contradictions. The regional transformation of the content, forms, extent and nature of activity sectors, units and sub complexes contributes to the consolidated implementation of national interests of Russia, both in economic area of the country and in globalizing world. This has led to the development of methodological approach to the evaluation of spatial differentiation of regions by the level of socio-economic development using multivariate statistical analysis as a tool for processing the information obtained from monitoring of regions in the South of Russia, and profiles of their

competitive advantage.

In the course of the study, proposed and implemented methodological procedures were included into the developed methodical approach of assessing the spatial differentiation of the regions on the level of socio-economic development of the regions.

Implementation of this approach provide consistent study of the parameters of social and economic development of the regions, on the basis of which the profiles of competitive advantages have been built by the authors as a result of a multidimensional ranking of the regions according to 24 essential social and economic parameters. The authors have relied this methodical solutions on dialectical understanding of the need of linkages between timeliness monitoring and conducting interregional comparisons that ultimately allows not only to diagnose the current state of the region, but also to identify structural imbalances of endo-territorial parameters of socio-economic development, through the provision of "inefficiency points" on the parameters and industries which are the "engines of growth".

Thereat the first rank is assigned to their best values (table 1). By calculating the amount of ranking on all the indicators, there is an opportunity to establish ranking of regions according to their level of development.

Table 1 - Ranking of the regions in the South of Russia on the criteria of socio-economic development (fragment)

Factors of economic and social development of the region	Krasnodar Krai	Rostov Region.	Volgograd Region.	Stavropol Krai	Astrakhan Region.	Republic of Dagestan	Republic of Adygeya
1.1 Unemployment level	1	3	6	4	5	9	2
1.2 Employment requirement	1	2	3	4	5	11	8
1.3 Volume of GRP	1	2	3	4	6	5	10
1.4 Capital formation	1	2	3	5	6	4	10
<b>The amount of ranking</b>							
	<b>18</b>	<b>37</b>	<b>49</b>	<b>53</b>	<b>56</b>	<b>79</b>	<b>115</b>
<b>Rank of the region</b>							
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>10</b>
2.1. Income of the population per capita	1	4	5	6	3	2	7
2.2 Population with income below poverty line	8	4	3	9	7	1	10
2.3 Growth of real cash incomes	8	6	12	11	4	3	1
2.4 Number of hospital beds	1	2	3	4	6	5	10
<b>The amount of ranking</b>							
	<b>42</b>	<b>50</b>	<b>65</b>	<b>62</b>	<b>72</b>	<b>55</b>	<b>86</b>
<b>Rank of the region</b>							
	<b>1</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>6</b>	<b>3</b>	<b>9</b>

Taking into account the two-dimensional nature of the monitored parameters of the regions, the indicators of economy development were laid over the ranking results on indicators of living standards and the quality of life of the population with a consequent drawing up of profiles to get a holistic picture of their differentiation ranking. Next, the authors have defined thresholds for ranking the regions by typological groups. Interval restrictions for groups have been obtained by determining the minimum and maximum of possible amount of ranking along the parameters marked by the authors. Then the step interval has been defined and the number of typological groups has been justified. Thereat we proceeded from understanding that the highlighting of less than three groups will lead to the group of heterogeneous territories and does not allow to identify the optimum differentiation (Table 2).

In order to assess the degree of differentiation between regions in levels of socio-economic development and their ranking on opposite zones, we have applied classification model, which has given economic interpretation and linguistic characteristics of obtained interval groups.

Table 2 - Typological groups of the territories according to their socio-economic development

Interval values of typological groups		The name of the typological group	Linguistic characteristics of economic interpretation of typological group
I	From 0 up to 31.2	<b>maximum developed</b>	It is characterized by favorable institutional conditions for creating profiles of economic benefits in the region, resulting in sustainable development of social sphere. Development of the regions of this group is balanced and has leading positions in all socio-economic parameters. The level and quality of life are the most attractive, and the economy is greatly diversified.
II	From 31.2 up to 62.4	<b>developed</b>	There are some deviations in the direction of economic/social parameters. The resources are used slightly unequally. The regions have high set of "competitive advantage profile", but there are some "spikes", i.e. deviations from the leading positions on the parameters of social and economic development among other regions. Upon that developed economy allows improving the social sphere on unsubsidized basis.
			There is mono orientation in economic development within the framework



III	From 62.4 up to 93.6	<b>fastest growing (middle level of development)</b>	of region specialization that gives synergic effect to the development of adjacent territories, however, the "profile of competitive advantages is very limited", and "the point of ineffectiveness" appear mainly in the social sphere, the leveling possibility of which at the expense of own funds is limited. This group of the regions is characterized by imbalances in social and economic development (in one of the sides) that generally reduces the level of development of RSES. There is a sufficient capacity to increase - entrepreneurial activity within the framework of the development of the profile of the existing competitive advantages.
IV	From 93.6 up to 124.8	<b>undeveloped</b>	Social development occurs under conditions of high dependence on federal transfers, the development level of economy is not high, there is a large number of "points of inefficiency" that worsens the investment climate and has negative impact on the level and quality of life of the population, increasing capacity through which the real sector of the economy of the regions of this typological group is strongly hindered. Competitive advantages are almost non-existent. Weak development of the real sector of the economy does not completely realize the natural resource potential that in general affects the rate of formation of GRP.
V	From 124.8 up to 156	<b>depressive</b>	Is characterized by inertia to create own "growth points" in the absence of competitive advantage. The basic indicators of social and economic development of the regions of the typological groups occupy lagging position. The regions are subsidized, and social sphere develops only within the allocated funds. Natural and resource potential is used inefficiently.

## 4. Discussion

General discussion in scientific and expert community of regional economies and their correlation with the results of studies (Fujita Masahisa, Paul Krugman, Anthony J. Venables 1999), (Searle J.R. 2005) (Mary E. Edwards 2007); (Yarkova T.M., Svetlakov A.G. 2013); (Harry Garretsen, Ron Martin 2010); (Head, K., and T. Mayer. 2004) are consistent with the obtained results. The results of this research can be used by regional authorities in improving the system of monitoring of socio-economic development of the territories and the effectiveness of strategic programs of the region development, which confirms the high practical orientation of the research results.

## 5. Conclusion

This research has made it possible to identify 8 regularities and determinants of development of the regions in the South of Russia, hypotheses confirmed by extensive empiric and factual material and described in details. Let us consider the main ones:

1. There is a great demand for workers in the regions, which are the leaders on the level of economic development. So 6 regions which are ranked first on the parameters of economic development, similarly ranked high on indicators of demand for labor force, despite the high percentage of employment of the population, while in the regions with a large number of identified "points of inefficiency" the demand for employees is significantly lower;
2. Among the regions of the South of Russia there has been a significant differentiation of territories in socio-economic development, with the dominance of economic differentiation higher than in the social sphere, so the difference between the regions which are the "engines of growth" of southern Russia and regions with a large number of "points of inefficiency" (lagging regions) is 74 points, while the indicators of economic activity has 122 points.
3. In general, the indicators of social well-being of the territory depends on the level of economic development, however, the research has shown that the gap between lagging regions and regions-leaders in the social sphere is lower than in economic one. This regularity is determined by the fact that the basic social benefits provided to the population of some regions of the South of Russia is not on the earnings of real sector of economy, but on the subsidy of their budgets. Thus, the development of the social sphere is less dependent on income taxes than in other regions and there is a greater dependence on federal transfers.
4. The following regions have been highlighted as the regions with the dominance of economic profile of competitive advantages: Krasnodar Krai, Rostov Region, Stavropol Krai, Volgograd and Astrakhan Regions, in other regions there is a dominance of social profile development. Thus the most asymmetric development has been observed in the Republic of North Ossetia-Alania, the other regions deviate from a symmetric line development to a greater or lesser extent.

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[\[Índice\]](#)

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