

Socio-Economic System Evaluation of Ukrainian Black Sea

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Abstract: The main idea of the paper is to offer a method of effectiveness analysis of regional socio-economic system management in Ukraine. This study develops evaluation criteria for the assessment of intraregional differentiation of Ukrainian Black Sea regions. The goal of the research is to reveal the algorithm of the regional socio-economic system evaluation in order to find out the direction of necessary managerial strategy for a region. This was implemented via such methods as comparative analysis, interpretation of statistical indices of regional effectiveness, and structural analysis. The research results reveal that a chosen system of indicators forms a method to evaluate six levels (four zones) of effectiveness of regional socio-economic system management in Ukraine. Considering agriculture, food industry, pharmaceuticals, light industry, and tourism as the basic industries of the regions, the industrial structure of the regional socio-economic system of Ukrainian Black Sea regions in the context of its modernization according to the offered method was developed.

Keywords: regional differentiation; socio-economic differentiation; regional inequalities; regional socio-economic development; Ukraine

JEL Classification: O18; O47; R11; R14; R15; R58

1. Introduction

Socio-economic regional differentiation has been recognized as an important problem in regional economics nowadays. The primary focus of the paper is effectiveness analysis of the regional socio-economic system management in Ukraine in comparison with the experience of other countries. That was implemented

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via such methods as comparative analysis, interpretation of statistical indices of regional effectiveness, and structural analysis.

2. Literature Overview

The available literature reveals different trends of regional socio-economic differentiation in various countries such as Poland (Kubes & Kebza, 2018; Chrzanowska and Zielińska-Sitkiewicz, 2017; Karwat-Wozniak, 2011; Raszkowski, 2018), the Netherlands (Hoekveld & Bontje, 2015), Sweden (Hjort, 2009), Czechia (Sykora, 1999), Portugal (Alves, 2016), Russia (Shapirova et.al., 2017), Estonia (Ruoppilla, et.al., 2003) and others.

Alves (2016) points out that regions (cities) can be regarded as complex social systems, which can be a source of inequalities because of such differentiation. Kubes and Kebza (2018) analyze socio-economic differentiation of Polish regions, using economic indicators (average monthly wage, employment rate, and newly built flats per 1,000 inhabitants), socio-demographic indicators (share of the economically active population, net migration rate per 1,000 inhabitants, and share of university-educated population), and infrastructure indicators (share of population connected to public water, road network density). At the same time, Hoekveld and Bontje (2015) find out the causes of differentiated levels of decline between municipalities in the same region, whereas Karwat-Wozniak (2011) considers such indicators as a structure of the area of family farms, their equipment to the technical means of production, quality of labour resources, investment activities and performance management as the defining factors of regional socio-economic differentiation. Some of these indicators are relevant for Ukraine, however, Ukrainian background of regional socio-economic differentiation is rather different. Kozyreva et.al. (2017) highlight that it is important to identify factors that represent endogenous growth potential, exogenous factors, and required external actions in order to motivate the development of the weakest Ukrainian regions. So, considering Ukrainian background of regional socio-economic differentiation, Kozyreva et.al. (2017) justify a system of partial indicators and offer the integral and generalizing indicators of economic and social development of Ukrainian regions, whereas Shultts and Tybinka (2015) highlight the factors of intra-regional social and economic differentiation in modern economic theories in the Ukrainian context. Lukianenko and Oliskevych (2017) evaluate the impact of the employment sectoral diversification index of Ukrainian regions, their index of geographic attractiveness,

the initial level of economic integration of a region with EU, and the index of agricultural and industrial development. Klochkovska et.al. (2017) consider the process of socio-economic development of Ukrainian regions as based on the usage of indicative planning methods. Melnyk et.al. (2016) reveal that the economic growth of Ukrainian regions was achieved through sacrificing environmental situations and increased morbidity. Thus, reasons and implications of regional socio-economic differentiation in Ukraine are considered by various studies differently.

3. Ukrainian Background

The necessity of the development of theoretical and practical aspects of intraregional socio-economic differentiation management can be defined by a set of interdependent conditions. The first condition is the significant intraregional differentiation by socio-economic developmental parameters, which was formed during market transformations in Ukraine in the majority of Ukrainian regions. This condition influences negatively on effectiveness of regional economy and standard of living in regions. Such phenomena caused new issues and objectives in the field of management of socio-economic development of territories, including the management of territorial differentiation. The second condition is defined by the absence of a generally recognized system of strategic management of socio-economic development, which should include corresponding managerial tools of intraregional differentiation, as well as the implications of its usage. A current concept of intraregional socio-economic differentiation management in Ukraine lacks systematic interactions between strategic and tactical direction of subjects and objects of managerial process. This does not allow regional and local authorities to use regional resources efficiently and to create necessary conditions for sustainable development of subordinate territories. The absence of strategic direction in regional and municipal authorities' activities influences on dynamics of intraregional socio-economic differentiation, decreasing the efficiency and significance of their attempts to overcome such differentiation.

According to Kutsenko (2008), intraregional differentiation is a pattern of economic development. It influences significantly on the structure and efficiency of regional economy, a strategy and tactics of institutional transformation and a socio-economic policy (Kutsenko, 2008). Therefore, increase or decrease in regional economic differentiation have significant practical importance. Considering regional space as a socio-economic system, intraregional differentiation can be defined as the increase

of discrepancies of its elements, that leads to internal disharmony. This becomes a reason for disbalance, in particular disproportion, irregularity, and imbalance of a system. At the same time, if such disparities are the stable structural elements of the economic system, intraregional differentiation is considered as a process of formation and development of such state of the system, which influences on economic system integrity in the process of its development. Support of the necessary territorial proportions in economy, and avoidance of exceeding territorial differentiation by levels of socio-economic development is a key objective of regional management and a public regional policy in Ukraine.

Increase in intraregional differentiation of Ukrainian regions is the most negative implication of market transformations. This trend is defined not only by structural disparities of regions in resource, geographic, natural, economic, social, ethnic, and political aspects. It was also caused by significant weakening of the regulatory state, uneven adaptability to municipal reforms, and insufficient potential of regional governments to smooth municipal socio-economic differentiations (Cherenko et.al., 2006).

Current state and perspectives of intraregional differentiation in Ukraine are influenced by such factors as the level of accumulated economic potential of a region; the regional market volume; the degree of development of market, industrial, and social infrastructure in the region; availability of qualified labor resources in the region, as well as, a system of their training and education; availability of the most important natural resources in the region, including mineral, energy, forest, water resources, and agricultural grounds; natural and geographical location of the region; the level of ICT-services development; the degree of regional economic structure diversification; the degree of completeness of institutional market reforms in the region; active regulative mechanisms of socio-economic development of the region.

4. The Analysis of Intraregional Differentiation of Ukrainian Regions

A region is a complicated inertial system, so, analysis of intraregional differentiation is necessary to rationale of its perspective dynamics. A goal of such analysis is to evaluate the scale of intraregional differentiation, to reveal tendencies of its transformations, and to systematize the factors (internal and external) that influence significantly on these trends. According to the goal, it is expediently to choose a system of indicators, which should be used in order to evaluate intraregional disparities. A set of such indicators may vary up to several dozens.

The process of intraregional socio-economic differentiation is based on the dynamics of regional economy, in particular, the structural and dynamic characteristics of a region. In addition, key structural factors, that are stable and caused by natural, climatic, geographic, and industrial potential, should be highlighted. There are such factors as a priority of agrarian industry and favorable soil and climatic conditions for its development; a significant tourist and recreational potential; availability of mineral resources; excessive concentration of industrial and economic potential in a regional administrative centre. The solution of this problem is possible only if restricted by long term strategic perspectives, because of the regional economy inertia, a significant scale of intraregional differentiation, and features of available resources based on potential competitive advantages.

While developing a strategy of decrease in intraregional differentiation in Ukraine, the next principles should be taken into consideration:

- public and regional interests should be prioritized in comparison with municipal regional interests;
- decrease in intraregional differentiation is possible only if it is considered as an element of general regional strategy development;
- regional resources for redistribution among municipal institutes should be differentiate according to a special purpose to solve current socio-economic objectives and to provide adjustment through the development;
- the mechanism of regional resources redistribution should not lead to decrease in standard of living in any municipal entity of a region;
- highly effective regional projects save their priority in resource support notwithstanding what administrative municipal territory (donor or recipient) they are to be implemented in.

The Black sea regions, like other Ukrainian regions with similar natural conditions, economic features and tendencies of the future development, have already had a definite level of economic interactions. So, the creation of new enlarged zones of socio-economic interactions, based on traditional ones, is able not only to strengthen existing zones, but also to develop new interactions between municipal entities. New variations of socio-economic zoning, which reflects specific features of a modern state and perspectives of municipal entities, is possible to be developed among other strategic directions of reinforcement of cooperation between regional communities. Such a variant of zoning does not intend to change existing administrative-territorial organization of a region, but allows the defining of the most perspective for that region outlines and directions of cooperation between municipalities.

The development of new Ukrainian regional space assumes a new level of responsibility for making decisions, in particular in the economic field. Administrative subordination, which was historically developed in Ukraine, assumes accountability of inferior economic structures to the superior ones. As a result, necessary managerial rules and skills of rational use of limited industrial resources in the market conditions have not been developed on the local level of the economic policy. At the same time, functional significance of improvements of regional spatial management throughout the different Ukrainian territories is increasing. Particularly, new principles of the territorial development within modernization processes, which correspond the requirements of market communications, should be created. Now, in the important for the Ukrainian regional economy period of adaptation to the new market challenges, a significant part of managerial powers is being given to regional authorities.

In the current conditions Ukraine and its regions deal with a such priority objective as the economic transition to the innovation and social developmental models. In the period of socio-economic transformations caused by the necessity of complex modernization the objective to provide the sustainable and secure development of national and regional socio-economic systems becomes especially relevant (Pashuta, 2005). The completion of market transformation in Ukraine actualizes the issue of defining a direction of the national and regional economies evolution. In the late of the first decade of XXI century post-socialist countries had to deal with the problem of the economic systems restoring, that focused on modernization, in order to overcome their non-competitiveness in comparison with the developed countries. That is the only way to achieve the long-term dynamic development of the country, and ensuring the high level of standards of living.

5. Indicators of Regional Socio-economic System Management Evaluation

The unity of a region as a socio-economic system is based on managerial activities, that provides effective interconnection of industries and localities. It depends on a set of trends, that are being formed on a local level. They integrate functioning of such groups of factors as economic, natural, and demographic ones (Nesterova, 2010). These directions of the regional development would influence on modernization processes. The necessity of modernization of the Ukrainian economic development is considered as a main imperative now. In order to accomplish this,

economic development should get rid of such weaknesses as the predominantly commodity economy, weak innovativeness of industrial, economic, and social technologies, and insufficient industrial energy efficiency.

While developing a system of indicators in order to evaluate the regional socio-economic system management in Ukraine, the next requirements should be considered (Table 1). Taking into account that the priority should be given to final results, quantitative indices should reflect real achievements in the regional development. The indicators also should be cross-cutting, and able to perform the evaluation of regional management effectiveness as a system on the all levels and stages of activities.

Table 1. The Principles of Forming of Regional Economic Systems Development Indicators

A principle	Indicator's influence
Additivity	Non-controversy of the content
Representativeness	The ability of an element to manifest a set of features of a phenomenon
Systemacy	Applicability in a whole system and its particular subsystems
Complexity	The ability to assess an object (phenomenon) on the all levels of forming and management
Emergency	Non-generalization of a set of parameters to properties of a system
Integrity	Interconnection that allows to consider the evaluated system as a organically integrated one
Relevance	The ability to create the relevant indicators
Single-value	Impermissibility of different interpretations of a meaning

Source: authors' own elaboration

The order of effectiveness evaluation of regional socio-economic system management should assume five stages.

I stage. The rationale of the indicators' content.

It is necessary to take into account a set of requirements at this stage such as:

- A system of indicators should contain all the elements of the regional socio-economic system;
- The system of indicators can be added;
- Quantity of the indicators should be limited;
- The indicators should be comparable;

- Information data base for the evaluation of managerial effectiveness should be available.

II stage. The choice of indicators that provide the most in-depth evaluation of managerial effectiveness of a regional socio-economic system.

Taking into account current methods, the indicators should reflect different spheres of life in a region such as the level of social development and the level of economic development (Table 2). The indicators in the table 2 present the interconnected system that allows the evaluation of effectiveness of regional socio-economic system management adequately enough.

Table 2. The Main Indicators Of Effectiveness Of Regional Socio-Economic System Management

Social effectiveness indicators	Economic effectiveness indicators
Population	Gross regional product per capita
Consumer price index	Depreciation rates for fixed assets
Unemployment rate	Retail turnover
Real monetary incomes of a population	Amount of the paid services to a population
Population with the incomes lower than the living wage	Price index of manufactured goods
Morbidity rate per 1000 people	Investment in fixed assets
Residential space	Agricultural price index
Air emissions	Motor vehicles turnover

Source: authors' own elaboration

III stage. Calculation of the indices of economic and social effectiveness of regional socio-economic system management (Iecon, Isoc) via ranking of indicators.

IV stage. Formation of the integrated indicator – the integrated index of effectiveness of regional socio-economic system management. This index can vary from 0 to 1.

V stage. Interpretation of the integrated index of effectiveness of regional socio-economic system management.

In this method we offer to evaluate six levels of effectiveness of regional socio-economic system management in Ukraine, united in four zones (table 3).

Table 3. Interval Values of the Integrated Index of Effectiveness of Regional Socio-Economic System Management

Stability zones	Index interval limits	Levels of effectiveness of regional socio-economic system management
1	$0,9 < \text{Ief. manag.} \leq 1,0$	A high level of effectiveness of management
2	$0,75 < \text{Ief. manag.} \leq 0,9$	Effective management
	$0,5 < \text{Ief. manag.} \leq 0,75$	Management, close to effective one
3	$0,25 < \text{Ief. manag.} \leq 0,5$	Management, close to inefficient one
	$0,1 < \text{Ief. manag.} \leq 0,25$	Inefficient management
4	$0 < \text{Ief. manag.} \leq 0,1$	Completely inefficient (critical) management

Source: authors' own elaboration

Zone 1 has a high degree of effectiveness of regional socio-economic system management. If a system is in this zone no adjustment provided by the subject of management is necessary. Zone 2 corresponds to effective management or close to such. However, it worth noting, that the factors of decrease in effectiveness of regional socio-economic system management may accumulate in this zone. So, the main objective of the subject of management is to reduce the impact of these factors. Integrated index of the zone 3 reflects the negative managerial trends, that have negative impact on a system's balance, creating the threats of its security. A subject of management needs to develop a set of activities in order to eliminate the threats, and to ensure effective management of socio-economic regional system in the long run. Integrated index of the zone 4 is a critical zone, where completely new processes took place that lead to destruction of the system. A set of activities of the subject of management must include urgent managerial activities.

6. Evaluation of Effectiveness of Regional Socio-Economic System Management

The offered method of the effectiveness evaluation of the regional socio-economic system management gives opportunities:

- to measure the actual value of effectiveness of regional socio-economic system management;
- to assess effectiveness of socio-economic system management of different territories in comparison;
- to identify factors that influence negatively on the effectiveness of management of sub-systems and a system in general;
- to evaluate reasonably the perspectives of socio-economic system management;
- to define the effectiveness of usage of methods to manage the regional socio-economic system;
- to assess comprehensively the effectiveness of regional public authorities and local governments.

The method is useful in order to evaluate the stability of the socio-economic development of regional systems. Intensifying differentiation of the regional development, overextended implementation of institutional reforms actualizes the issue of the most effective organizational and economic relations design, that allows Ukrainian authorities to overcome these trends and to start socio-economic modernization of regions in a direction of a new managerial paradigm.

Strategic objectives for Ukraine and its regions is to activate an innovation type of the economic development and to become a technologically dynamic country that able to develop, produce and implement high technologies in order to manufacture competitive goods and services. With the view to providing such a new strategy of the socio-economic development it is necessary to develop effective investment and innovation activities. At the same time, innovation development of the Ukrainian economy is impossible without large innovation transformations on regional levels.

Every Ukrainian region has its specific reproduction, sectoral, and technologic structure of priorities. Any region has to use its own resources while implementing the modernization strategy. However, in the current economic conditions such resources are not enough, so, governmental support for regions becomes necessary in order to provide start funding of technological transformations of regions. That would foster the development of regional modernization potential in Ukraine.

Comprehensive usage of innovations for the regional development is possible only if a purposeful modernization policy on the governmental and regional levels is available.

Institutional deficits of the economic development as the heritage of Ukrainian past (institutional immaturity of the regional modernization policy tools; low standards of living, the innovation infrastructure development and the budget-tax potential; insufficient staff potential; the lack of resources; monostructural configuration of industrial and economic space), significant institutional reserves (significant investment attraction as a result of availability of a wide range of natural resources; proximity of the most important Eurasian international transport corridors with available arrays of goods and services; availability of mesoeconomic segments with the sufficient internal development, including non-ferrous metallurgy, tourism, recreation, and agrarian sector), and strategic priorities as the imperatives of a modern stage of the economic development (innovation-industrial restructuring of the mesoeconomic complex based on the high technologies and forming of public-private partnership with the view to lowering high regional risks). Such premises for modernization economic breakthrough in the South of Ukraine are generalized in the Figure 1 (Figure 1).

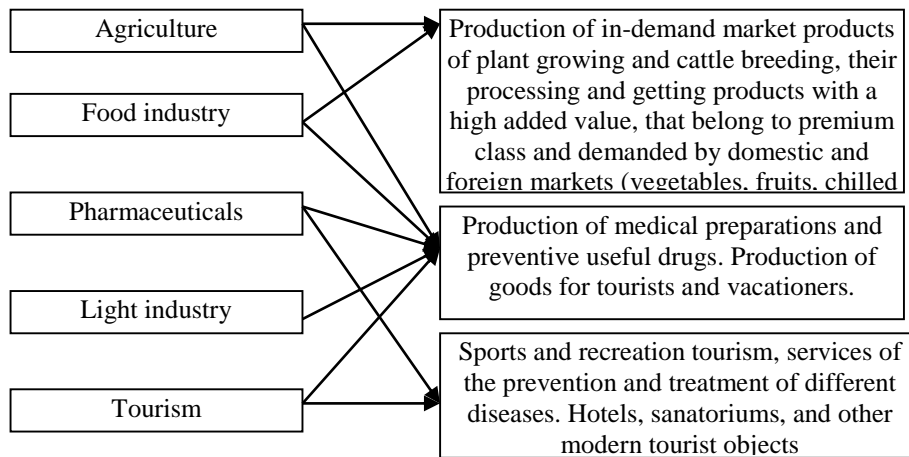


Figure 1. The industrial structure of the regional socio-economic system of the Black sea Ukrainian regions in the context of its modernization

Source: Authors' own elaboration

7. Conclusion

Thus, the economic potential of a region is defined by its level of the industrial development. The most developed sectors on Ukrainian South are food industry, non-ferrous metallurgy, mechanical engineering, ferrous metallurgy. These industries predominantly provide the growth of industrial production. Recently, due to a purposeful public policy of support of agricultural producers, significant structure changes in the agriculture have been implemented. A modernization type of the economic development is the most perspective in the field of regional and national interests implementation. It is able to become the direction that would allow Ukrainian regions to provide a breakthrough in the socio-economic development.

So, the main conclusion to be drawn from this discussion is that the chosen system of indicators allows the development of a method to evaluate six levels of effectiveness of regional socio-economic system management in Ukraine, united in four zones. The method is useful to evaluate the stability of socio-economic development of the regional systems in Ukraine.

That is why migration processes should be under the permanent control of public administration system with the aim to:

- monitoring of the international labor directions in order to provide state protection for labor migrants in the host countries via consular support, and the development of corresponding bilateral legal framework of social and pension support in this area;
- understanding of the reasons and implications of labor migration, determination and adjustment of economic indexes that influence on intensity of migration processes;
- defining of utmost level of labor migration that can lead to irreversible processes in Ukrainian economy;
- forecasting of needs in labor resources in order to adjust to the loss of them as a result of migration;
- optimization of state professional labor trainings that are aimed to provide labor resources for domestic labor market;
- forecasting of indexes for Ukrainian pension system.

Therefore, it is necessary to develop some action plan in order to cope with external and internal migration in Ukraine. Such internal mechanisms of macroeconomic stabilization as job creation, and increase in foreign investments are able to inhibit migration process. At the same time, external mechanisms should provide legal

forms of labor migration abroad, possibilities of free return, remittances, and guarantees to protect labor rights of Ukrainians abroad.

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