Impact of using unique resources of the regions classified by rurality for higher value added and new jobs creation

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This paper aims at analysing impact of using unique resources of the regions classified by rurality for creating higher value added and new jobs in the rural regions. Rapid changes in the world economy required revision of the rural policy paradigm and adaptation to the values of post-industrial society and necessity to find new tools to ensure prosperity of rural regions. Unique cultural, historic and natural resources of the region can be used as a tool to increase regional economic growth by creating higher value added and new jobs.

Typology for classifying regions by rurality and uniqueness index was developed for the assessment of impact of using unique resources of the region as economic advantage. In the next stage value added and jobs creation possibilities were assessed. The results revealed that classification of the regions by rurality using uniqueness index of each rural region can be used for identification of groups of the regions within a country that can serve as a basis for creation regional support strategy that can be applied by various governmental institutions with the aim to create higher value added and new jobs creation using unique cultural, historic and natural resources. This analysis has been conducted at the national level. From a policy perspective, recommendations for the regional policy to define important insights for the programming period 2014–2020 in the EU can be applied.

Keywords

Jobs creation, regional policy, rural policy, rural regions, unique resources, value added.

1. Introduction

Rapid changes in the world economy required revision of the rural policy paradigm and adaptation to the values of post-industrial society. The challenges of the post-industrial development stage of society calls for a shift from rural policy based on the functional-sectoral approach to the integrated policy, which deals with not only agricultural problems, but also with all those relating to the rural territory, specified as the rural region. New paradigm is based on the concept that regional policy should assess new economic and social features of the 21st century that can have a significant influence on the further development of the region's leading to the successful development and reducing disparities of the regions [1], [2], [3], [4]. The new "place-based" paradigm requires important changes for setting rural policy measures that intend to have multi-level approach and orientation towards sustainable development of the entire rural region rather than support to an individual farm or a settlement [5], [6], [7], [8], [3], [4]. This paradigm also emphasizes the importance of "learning region" concept, networking and cluster formation, innovation and the most importantly – to support not the lagging regions but to exploit regions "basic skills" and

to use "competitive advantage of the region" [9]. EU member states also need to do adjustments along new trends in rural policy and administer these policies effectively [10], [11], [12], [13].Traditionally rural policy decisions were based on the regional typologies where the main criterion is population density and/or number of inhabitants in the settlement. The methodology of the OECD was most often applied for the classification of the regions by rurality for governance purposes where regions are divided into three groups to predominantly urban, intermediate and predominantly rural regions [3]. This methodology in the last decade became the subject of criticism. New forms for classifying regions by rurality were developed with the aim to create typologies of the regions not competing internally and with the aim to be complementary than alternative for the needs of public administration.

In recent decades European regions were facing new challenges not only for high demand of new rural paradigm but also for its sustainable social and economic development. European regions were usually affected by different socio-economic situation within the regions, different quality of infrastructure, remoteness of the regions, social and economic changes, social deprivation, high unemployment and other factors. These reasons explained why regional policy in the European Union played very important role from the establishment of the European Union [13]. Additionally to the above mentioned challenges, globalization and also European integration processes influenced development of the regions often leading to loose or decrease economic advantages of the regions on competitiveness side because of convergence of the regions. That is why the delivery of the Europe 2020 relies heavily on the new governance structures and processes that the European Union has been putting in place since 2010. These cover employment, education, research and innovation, social inclusion and poverty reduction, climate and energy [14]. Regions can be listed as very important object influenced by these new social and economic challenges and the results of the globalization and regionalization. This impact is measured by increased significant economic, social and territorial disparities that still exist between Europe's regions. Disparities are apparent not only at the regions within one country but also between the European Union member states regions. These disparities could undermine some of the cornerstones of the European Union and the "Europe 2020" strategy which identifies the European Union to become a smart, sustainable and inclusive economy [14], [15]. Competiveness of regions is one of the most important policies formulating regional policy. The new focus on the specific features of the region and its competiveness encourages using the regional policy measures reflective of broader conception of the rural areas [16].

The following situation encourage to investigate this problem and finding for new solutions that would help to ensure successful development of the regions by helping less developed regions or regions facing structural problems to increase their competitiveness and promote sustainable development of economic activities. The most important possible solutions to increase competitive advantages of the regions are significant use of local resources, increased specialization of the regions and support investment policy. Existing cultural, historical and natural resources of the region can be identified as region's unique resources and their use in economic activities can also contribute to the regions value added, creation of new jobs and other significant results. The role of uniqueness becomes important as it can be named as a new success factor in this period and their use in economic activities can help to increase economic advantages of the region by using unique resources existing in the region, in other words – their strengths or „basic skills" that are unique comparing with other regions. Adding new concept of economic assessment of regional uniqueness to the EU regional policy would increase its effectiveness and could ensure smoother use of existing unique resources of the region, will provide assumptions for new unique features creation and increase value added of the region and jobs growth.

Classification of rural regions by rurality can help to identify groups of the regions with this potential where in the next stage can be used for administrative purposes by the state institutions responsible for regional policy to encourage the following group of the regions to use unique resources to create higher value added and more new jobs. Regions must be

differentiated by the factors that enhance the region's competitiveness, and other important social-economic development criteria. Uniqueness becomes important element for creation of regional prosperity. Use of unique resources of the region can lead to regional economic benefit using new success factors. Unique resources of the region used in the economic activities can make the region very specific and thus reaching its competitive advantage based on sustainable development, cooperation and responsible environment principles [17].

2. Methodology

The typology for classification regions by rurality and uniqueness index methodology were developed for assessment of unique resources of rural regions using uniqueness index and their economic assessment. Theoretical framework of research was based on systemic approach to reveal specifics of each region type based on three aspects of higher order systems:

- Values of post-industrial society.
- New "place-based" rural policy paradigm.
- Economic and social situation and institutional structure within the country.

2.1 Typology for classification regions by rurality

This typology is based on the idea that cities are the primary regional and national economic growth poles and they affect development of the region. Usually, economic and social situation of the regions with no metropolis city in the region is worse than in the region having metropolitan city. Regional distribution by metropolitan and non-metropolitan regions is the most prevalent in most countries. Defining regions with metropolitan cities, the main criteria are population size in the largest city of the region.

Size of population in metropolitan city should be defined by the state situation. For Lithuanian case 50 thousand inhabitants in the city define metropolitan city. In this case region is urban region. City with 50 thousand residents is commonly used in the world practice defining limit for the metropolitan city. In Lithuania cities having 50 thousands residents are considered as large cities and classifies as city municipalities (with exception of Palanga city with about 18 thousands of residents).

Defining the line for rural and semi-rural, according to the population of the largest city within the region, in addition to 50 thousand population criteria, statistical clustering method was used. Size of the city in terms of population, which has become a line between the two groups, was based on the calculation of the length of the interval group by G. Sturges formula by eliminating extremes values of indicators.

$$i = \frac{x_{max} - x_{min}}{1 + 3{,}322 \lg N}$$

Note: i – group interval length; N – number of municipalities; x_{max} – maximum value of indicator; x_{min} – minimum value of indicator.

For the case of Lithuania, line for rural and semi-rural region is city with 15 thousand residents. Any Lithuanian region can belong to the one of the following types:

- rural region, if number of residents in the largest city of the region is less than 15 thousand;
- semi-rural region, if number of residents in the largest city of the region is between 15 and 50 thousand;

    – urban region, if number of residents in the largest city of the region is higher than 50 thousand.

All rural regions classified by rurality in the next stage are divided into 3 groups by G. Sturges formula using results of uniqueness index (more detailed explanation in the next paragraph). Economic results for higher value and new jobs creation is based on region classification by rurality and uniqueness index results using only rural regions grouped into 3 groups by rurality.

2.2 Assessment of unique resources of the regions using uniqueness index and economic assessment of rural regions – higher value added and new jobs creation

The main results of economic assessment of regional uniqueness in the context of the EU integration process are to assess added value and new jobs creation by using unique resources in the region. Changes are evaluated using following functions:

$$\Delta PV_{it}=f(\Delta MI_{it});\ i = 1, \ldots, n;\ t = 1, \ldots, n;$$
$$\Delta DV_{it}=f(\Delta MI_{it});\ i = 1, \ldots, n;\ t = 1, \ldots, n;$$

Note: *PV* – value added, *DV* – jobs creation, *MI* – investments in fixed tangible assets, *i* – regions, *t* – year.

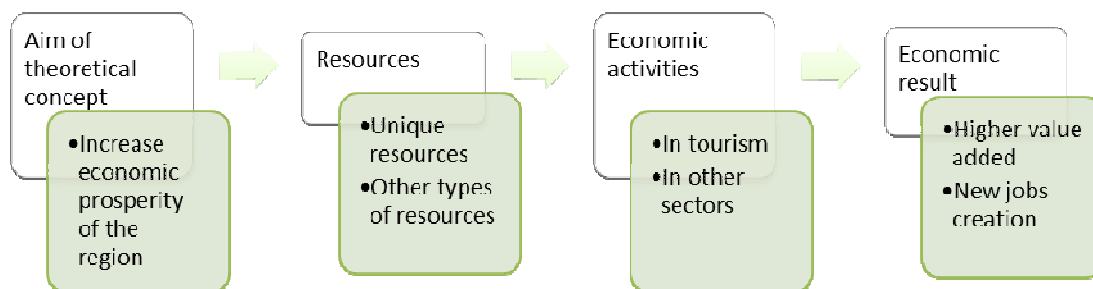The logic of theoretical concept is provided in Figure 1.

Figure 1 The logic of theoretical concept for economic assessment of regional uniqueness

    This part consists of 2 stages. In first stage unique resources of the region is assessed by using uniqueness index. In second stage economic assessment of regional uniqueness is performed analysing economic indicators, added value and jobs creation perspectives. Economic assessment tool by using the uniqueness index is devoted for various types of uniqueness. According to the needs assessment can be implemented by 2 levels: 1) assessment at the country or union level (for example, the European Union level) by ranking regions from the highest to the lowest ranking points; 2) assessment within one region with the aim to rank various uniqueness types by highest to the lowest points.

    Assessment of uniqueness of the regions: groups of indicators are defined including all dimensions needed for the assessment of this type of uniqueness. Developing indicators for the uniqueness index the holistic approach was applied to ensure that all dimensions and indicators would operate as a system rather than a set of its components. Supply and demand side should reflect the set of indicators (see Figure 2).
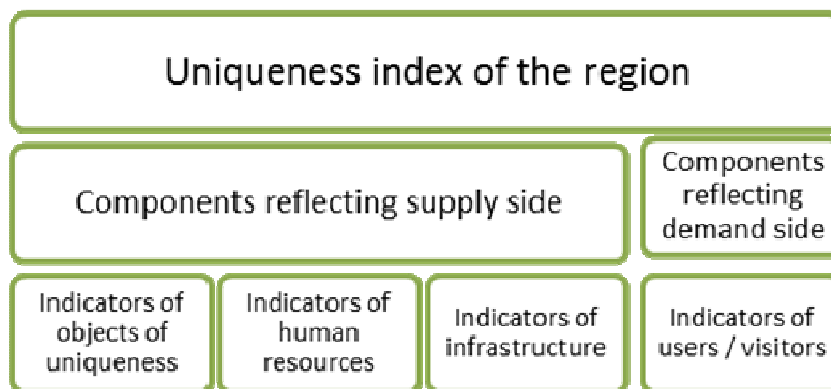
Figure 2 Components of uniqueness index

Indicators of first three components (objects of uniqueness, human resources and infrastructure) reflect to the *supply side* and indicators of the last visitors' component reflect to the *demand side*. Calculation of uniqueness index for each region for the chosen type of uniqueness by using SAW (Simple Additive Weighting) multicriteria evaluation method [18], [19]:

$$S_j = \sum \omega_i \tilde{r}_{ij};$$

Note: S_j – index value for j type of uniqueness; ω_i – weight of component i group; $\tilde{r}_{ij}$ – normalized value of component i for j type of uniqueness.

Economic assessment of the region groups is based on the results of uniqueness index. The logic of grouping regions to the groups by having significant, moderate and insignificant unique resources based on the results of the uniqueness index is confirmed or denied when all region groups' economic assessment is completed. Results of economic assessment enable to compare results of economic indicators between the groups and results in dynamics – changes that have occurred over a period of time. Set of indicators for economic assessment was created in the way that ensure the aim to assess economic advantage of the groups of the regions resulted by using unique resources in economic activity. Finally, value added and jobs creation perspectives are assessed.

3. Empirical results

Empirical investigations were performed at national level for the case of Lithuania. In the first stage all Lithuanian regions were classified by rurality into city, semi-rural and rural regions. In the next stage uniqueness index for all Lithuanian regions were calculated. Based on the uniqueness index results, rural regions were distributed into 3 groups by having significant, moderate and insignificant unique resources. Economic investigations were performed for 3 groups of rural regions.

Lithuanian regions classified by rurality are presented in Figure 3. 11,7 percent of Lithuanian regions are urban regions. 21,7 percent of Lithuanian regions are semi-rural regions. 66,6 percent of Lithuanian regions are rural regions. Data was used for the year of 2011-2013.
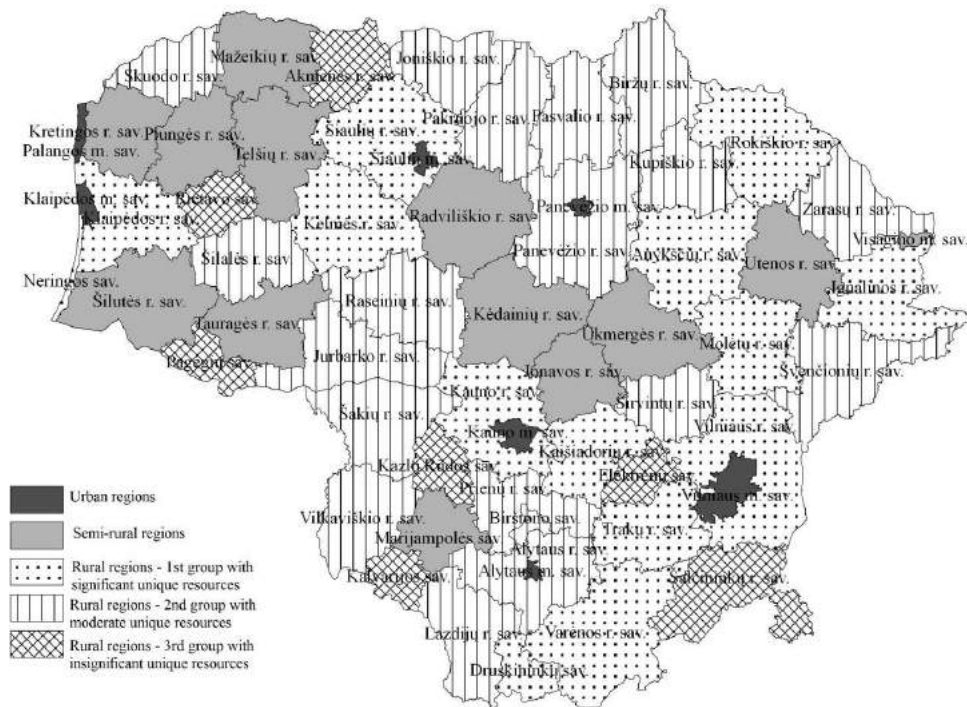
Figure 3 Mapping of Lithuanian regions by rurality

The uniqueness index methodology was applied for the assessment of uniqueness as economic advantage of the regions. This analysis has been conducted at national level to calculate uniqueness index for the Lithuanian regions by its potential in unique resources. In the next step only Lithuanian rural regions classified by rurality were divided into 3 groups by potential of unique resources: in 1st group rural regions with significant unique resources, in 2nd group rural regions with moderate unique resources and 3rd group rural regions with insignificant unique resources. Distribution of Lithuanian rural regions into these 3 groups is shown in Table 1.

Table 1 Grouping of rural regions of Lithuania by unique resources

Lithuanian rural regions by unique resources	Number of Lithuanian rural regions in the group (ranking place and index value)
Significant resources	14 regions Ranking place from 1 to 14 Ranking values from 0.53 to 1.19
Moderate resources	19 regions Ranking place from 15 to 33 Ranking values from 0.27 to 0.50
Insignificant resources	7 regions Ranking place from 34 to 40 Ranking values from 0.06 to 0.24

Significant unique resources that can give economic advantage for the rural regions are placed in regions close to the regions with metropolitan cities or having resort status cities. 35 percent of Lithuanian rural regions have significant unique resources. 47,5 percent of Lithuanian rural regions have moderate unique resources. 17,5 percent of Lithuanian rural regions have insignificant cultural unique resources.

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Economic assessment results of uniqueness of three Lithuanian rural regions groups, having significant, moderate and insignificant resources, are provided in Table 2. In this assessment, the results of the average value of the indicators in the period from 2005 to 2011 for each group of the rural regions were conducted. Results of relative values of indicators are presented in the table with total indicator value in this economic activity.

Table 2 Results of economic assessment of the groups of Lithuanian rural regions

Results of economic assessment	I group of the regions*	II groups of the regions*	III group of the regions*
Proportional part of economic entities in operation ***, from 2009 to 2013, group average, in percent.	5.2	3.5	3.3
Proportional part of employees ***, from 2005 to 2010, group average, in percent.	5.5	3.1	2.8
Proportional part of turnover ***, from 2005 to 2010, group average, in percent.	2.4	0.9	0.6
Proportional part of value added at factor cost ***, from 2005 to 2010, group average, in percent.	3.2	1.4	1.2
Proportional part of investments in fixed tangible assets ***, from 2005 to 2010, group average, in percent	2.4	0.6	0.3
Number of implemented projects from the EU structural funds for the tourism development from 2007 to 2013**	2.3	1.4	1
Support size from the EU structural funds for the tourism development from 2007 to 2013**, million Litas.	7.7	1.8	0.9

 * Lithuanian rural regions having significant unique resources belong to the 1st group of rural regions. Lithuanian rural regions having moderate unique resources belong to the 2nd group. Lithuanian rural regions having insignificant unique resources belong to the 3rd group.
 ** Assessment of the projects for tourism development and support size from the EU structural funds in based on the results from 2007 to 20 March 2013.
 *** <… in accommodation and food service activities comparing with economic entities in operation in all economic activities>.

The results in the table confirms that the highest value of economic indicators and biggest use of the EU support for tourism development is in the first Lithuanian rural region group having significant resources of uniqueness. This group performs highest value added from this activity comparing with other 2 groups of the regions. Lower position belongs to the second group of the regions of Lithuania; in the last place – 3rd group of rural regions of Lithuania.

Results of value added and value added of new jobs creation differs in all three groups of Lithuanian rural regions. First group of Lithuanian rural regions having significant unique resources had no relation between investments and value added. So at the time of assessment it is difficult to make a conclusion if it is efficient to make investments to have higher value added in these regions in the future. Second group of the Lithuanian rural regions having moderate unique resources confirmed highest potential of value added and value added for new jobs creation – 1000 Lt investments gives 1,65 coefficient for value added and 0,08 coefficient for value added of new jobs creation. Third group of the Lithuanian rural regions having insignificant resources have no relation between investments and value added and low impact for value added for new jobs creation – 1000 Lt investments gives 0,01 coefficient for value added of new jobs creation.

4. Conclusions

1. Economic assessment of regional uniqueness should become an important element in the 21st century in the implementation of new regional policy paradigm by using unique features and strengths of the region to achieve competitive advantage rather than supporting lagging activities within the region. Unique resources of the region can be used as a tool to help the region to create economic advantage using local resources, increased specialization of the region and supporting investment policy. Results of economic assessment of regional uniqueness identifying potential of value added of the region and jobs growth are important elements for implementation of the EU regional policy and at member states level, aiming to increase EU policy effectiveness and to deliver the EU 2020 strategy aims.

2. Multilevel process of economic assessment of regional uniqueness helped to identify potential of unique resources of the rural regions to use it for higher value added and more new jobs creation in the case of Lithuania using two assessment stages in the methodology where in the first stage assessment of unique resources of the regions and in the second stage economic assessment of regional uniqueness were performed. Using methodology results in the practice can help to identify regions having similar unique resources that in the next stage can cooperate by implementing common activities aiming to create higher value added, ensuring more effective distributions of EU structural and cohesion funds and purposeful use of resources. The methodology can be applied in different countries with possibility to add new indicators.

3. Results of empirical investigations for the case of Lithuania identify common indications for unique resources of the regions that in the next stage can be used as one of the instrument helping to identify unique resources. Results shows that classification of the regions by uniqueness helps for decision-making process for regional policy that ensure more effective use of unique resources within the region, higher value added and more jobs creation in the regions. Assessment results of Lithuania case can be used as additional support differentiation tool for decision-making process in regional policy.

4. Further research development on economic assessment of regional uniqueness should be continued developing the concept of regional uniqueness and trying to explore new dimensions for economic assessment considering the fact that use of uniqueness becomes one of the solutions, trying to increase competitiveness of the regions, using local resources, increasing specialization of the regions and supporting investment policy.

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