CLUSTER ANALYSIS OF CREATIVE INDUSTRIES IN THE REGIONS AND DISTRICTS OF SLOVAKIA

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Abstract

The main objective of the article is to divide the regions and districts of Slovakia into clusters according to the selected economic indicators of creative industries. The division is important for the recognition of strong regions of high creative potential as well as for revealing disparities for indicators and regions. This is relevant in relation to creating supporting policies on regional and national level. For there is lack of relevant statistical data on creative industries, statistical survey of the creative industry in Slovakia is marginal. For this purpose, we also analyzed regional wage differences in creative industries in Slovakia.

Keywords: cluster analysis, creative industries, creative regions, Slovakia

1. INTRODUCTION

The concept of creative industry is developing rather slowly in Slovakia. In comparison to western countries, the development was influenced by the post-soviet transformation, which required re-establishing traditional cultural values. In Slovakia, the creative industry has not been incorporated in any of economic policies so its benefit to economic development was neither evaluated. However, in 2011 the government of Slovak republic agreed on the Concept of the Creative and Culture Industry Development in Slovak Republic (Ministerstvo kultúry, 2011) aimed to an overhaul of national economy policy in terms of proper inclusion of creative industries.

The understanding and definition of creative industry in Slovakia stems from the European Union's methodology for determination of creative industry. It divides creative industry to the cultural sector and the creative sector (KEA, 2006). According to Ministry of Culture, the creative industry is "aggregation of sectors that make use of products of intellectual creative activity in the field of art, culture and other fields; it creates a whole exploitation chain ranging from creating conditions for creative activity through production to the redesign of its results." (Ministerstvo kultúry, 2011, p.1).

The creative industry in Slovakia falls within the competence of the Ministry of Culture which, in addition to the above-mentioned concept, also prepared the creative industry development strategy in Slovak republic (Ministersto kultúry, 2014). Besides that, a private company Neulogy won the contract to prepare a report on the state and potential benefit of the creative industry in Slovakia. Despite the relatively solid theoretical base today the biggest problem of creative industry in Slovakia is the lack of relevant statistics data. As indicated in the mentioned strategy document, creative companies make up for 6.2 % of all companies in Slovakia and creative industry employs 4 % of all employees (Ministersto kultúry, 2014). However, there is no data on the share of creative industries on GDP or their added value. We consider as a problem a nonexistence of the national account of creative industry which would provide an exact classification of individual sectors comprising the creative industry. Although the Action Plan adopted in 2015 (Ministerstvo kultúry, 2015) promised the application of ESSnet-Culture methodology currently, there are still not any creative industry data available so the continuous mapping of creative industry fields development from the adoption of strategic documents both on the national and the European Union level is not possible.

Besides the quantification of economic indicators, a basis for an empirical research of creative industry also lays in detecting spatial concentration of creative fields (Scott, 2005). Geographical analysis of industry deployment allows for better creation of conditions for development, functioning and more effective allocation of public resources. Recently, the expression "geography of cultural sectors" is being used (Flew, 2010). However, the geography of cultural sector not only offers a view of the spatial distribution of the sector but can monitor and explain the form, growth and development of companies operating in the sector, as well as the creation of clusters (Gong, Hassink, 2016). Creative industries, as in other industries, tend to concentrate in a place, thus creating clusters. Although Alfred Marshall already in 1919 researched industry districts in England, the basic definition of clusters was proposed by Porter in 1990 who defined them as: "geographical concentrations intermutually connected firms and institutions in specific field". The modern definitions describe creative cluster as a place where is the creative class concentrated which allows for stimulating diversity and freedom of word and is characteristic of its uniqueness and exceptionality (Florida, 2002, De Propris et al. 2009). Generally, the literature emphasizes two main approaches to geographic concentration of creative industry both stemming from the basic factor of concentration - economies of scale.

The first approach is focused on location which is considered as a basis for the theory of concentration. The creative industry is according to this approach concentrated in a specific location which allows for creating economies of scale and positively influences other companies in the same region. Thus, the

decisions to choose a specific location are based on several factors such as access to specialized suppliers, local networks, know-how or customers (Branzanti, 2015, Lazzeretti, 2008).

The second approach is focused on urban areas. According to this, the creative sectors are concentrated mostly in cities because they can attract creative class in a larger scale. They offer better infrastructure, greater availability of suppliers and higher concentration of education institutions. Thus, the quality of place factor is superior to the factor of place availability (Florida, 2002, 2005). On the other hand, several studies examining creative clusters argue that traditional factors of industry concentration are not able sufficiently explain some of its aspects (Tschang, F. Vang,V. 2008). New approaches have been proposed which aim to consider other factors influencing comfort or specificity of the location such as cultural infrastructure, natural or cultural heritage or local governments (Selada et al., 2011). Some authors emphasize image, style, branding, openness, diversity and tolerance of the location (Florida, 2002, Pareja et al. 2009, Cuadrado-Rowa, 2013).

While the most influential factors in traditional industries are those which directly influence production and distribution, the creative industry is more affected by the factors related to creative class, i.e. people working in the creative industry (Florida, 2002). In other words, concentration of creative class determines concentration of creative industry. Furthermore, a creative class is largely attracted by quality and diversity of the location (Pareja et al. 2009, van Oort et al. 2003). Quality of the location can be understood as a set of elements that increase the comfort of the population - local gastronomy, the quality of public services, possibilities of cultural, sporting and leisure activities. Diversity represents social aspects such as tolerance of difference, openness, social cohesion, equality. According to Clifton and Cooke (2007), a presence of creative class attracts other members of creative class and further strengthen establishment of other creative sectors which can result in the formation of creative cluster.

The subject of creative clustering has been researched by many authors in European settings. Boix et al., (2013) aimed their research to assessing a concentration of creative industries in the broader European region. More specific studies were conducted in Italy and Spain (Lazzaretti, 2008) or Great Britain (Chapain, 2010). The study of Boix et al. showed there is a strong concentration of creative industries across the European countries while the identified clusters were not even limited by the political boundaries of these countries. Lazzaretti (2008) as well as Chapman (2010) confirmed the Florida's theory which postulates that creative industries have a higher tendency to concentrate in cities and urban areas (Florida, 2002; 2005).

2. CLUSTER ANALYSIS

A cluster analysis was used to identify a concentration of creative industries in Slovakia. The aim of this paper was, based on the available statistical data, to create a spatial representation of creative industry on the regional level as well as identifying the most concentrated creative industry regions. This could serve as a starting point for allocation of fiscal resources available within a current call IROP priority axis 3. The underlying assumption of our analysis is that the concentration of creative industries most likely occurs in urban areas, mostly in cities (Florida, 2002; 2005). We also assume that higher concentration of creative class will influence spatial deployment of creative industries. Spatial deployment of creative class and creative capital in Slovakia was researched by Murgaš and Ševčíková (2012). Based on the Florida's concept they calculated the Creativity Index of Slovak regions. The best position was attained by Bratislava region followed by regions of Prešov, Košice, Trnava, Žilina, Trenčín, Nitra and Banská Bystrica.

In our analysis of spatial deployment of crative industry in regions we assumed that a higher concentration of creative class in a specific area is related to a higher concentration of creative industries in the same area (Florida, 2002). Based on this assumption, if the factor of creative class is the only factor influencing the concentration of creative industries the results of our analysis should be in accordance with the Creativity Index ranking of Slovak regions in the study of Murgaš and Ševčíková (2012), which was done according to Florida´s methodology.

To examine the distribution of creative industries, we used cluster analysis, a method that aims to divide a set of objects into several relatively homogeneous subsets (clusters) so that objects belonging to the same cluster are the most similar, while objects coming from different clusters should differ as much as possible. In our case, we divided the districts and regions of Slovakia into clusters according to the selected available macroeconomic indicators. In European studies (Boix et al., 2011, 2013, ESSnet Culture, 2015), the NACE rev. 2 methodology is standardly used. According to this methodology, creative industries are:

- J.58 Publishing activites
- J.59 Motion picture, video and television program production, sound recording and music publishing activities
- J.60 Programming and broadcasting activities
- J.62 Computer programming, consultancy and related activities
- J.63 Information service activities
- M.71 Architectural and engineering activities; technical testing and analysis

- ▪ M.72 Research and development
- ▪ M.73 Advertising and market research
- ▪ M.74 Other professional, scientific and technical activities
- ▪ R.90 Creative, arts and entertainment activities
- ▪ R.91 Libraries, archives, museums and other cultural activities
- ▪ R.92 Gambling and betting activities
- ▪ R.93 Sports activities and amusement and recreation activities (Baculáková, Grešš,
- ▪ 2015).

However, the Statistical Office of Slovakia does not have such a methodology at the level of two-digit codes for creative industries. So, we used summary data for categories of art, entertainment, recreation and technical, scientific and technical activities. We have decided to include scientific and technical activities in the analysis based on the 3T approach (Florida, 2002), where the creative class is also represented by scientists and technicians. In the analysis, we used the basic economic indicators - number of employees (Boix et al., 2012) the number of companies operating in these sectors (Boix et al., 2011) and the number of self-employed. We used the XL Stat statistical software for our cluster analysis. We have chosen the hierarchical cluster analysis, namely hierarchical agglomeration aggregation. Hierarchical system of clusters is characterized by creating such a decomposition of the original set of objects in which each of the partial decomposition is the refinement of following (i.e. agglomerative aggregation) or previous (i.e. the divisional aggregation) decomposition. In addition, agglomerate clustering is a bottom-up approach. Thus, in this approach, individual clusters are iteratively linked to larger aggregates. We tested also the "k - means" method, used by Boix et al. (2013), which requires the determination of the number of clusters. However, this method only confirmed the optimal results of hierarchical clustering. Therefore, we have excluded it together with a two-step cluster analysis, which is primarily intended for large-scale files. A set of input data consisted of three monitored variables in eight regions of the Slovak Republic and 79 districts in 2016. For cluster analysis, we selected Euclidean distance, which is given as:

$$\sqrt{\sum_{i=1}^{n}(x_i - y_i)^2}$$

x_i – the value of x for the ith object

y_i – the value of y for the ith object

n – the number of attributes

Ward's minimal scattering method was used. In this method, the similarity of objects or clusters is measured as the sum of squares between two clusters, summed over all the attributes of the objects. The results of the analysis are summarized in the tables:

TABLE 1 - DISTANCE BETWEEN CENTERS OF INDIVIDUAL CLUSTERS

Cluster	1	2	3	4
1	0	4,836	5,059	4,556
2	4,836	0	0,368	0,282
3	5,059	0,368	0	0,587
4	4,556	0,282	0,587	0

Source: author´s own calculation

The result of the first cluster analysis is the creation of four clusters:

- Cluster1: Bratislava region;
- Cluster 2: Trnava region, Žilina region, Banská bystrica region and Prešov region;
- Cluster 3: Trenčín region, Košice region;
- Cluster4: The Nitra region.
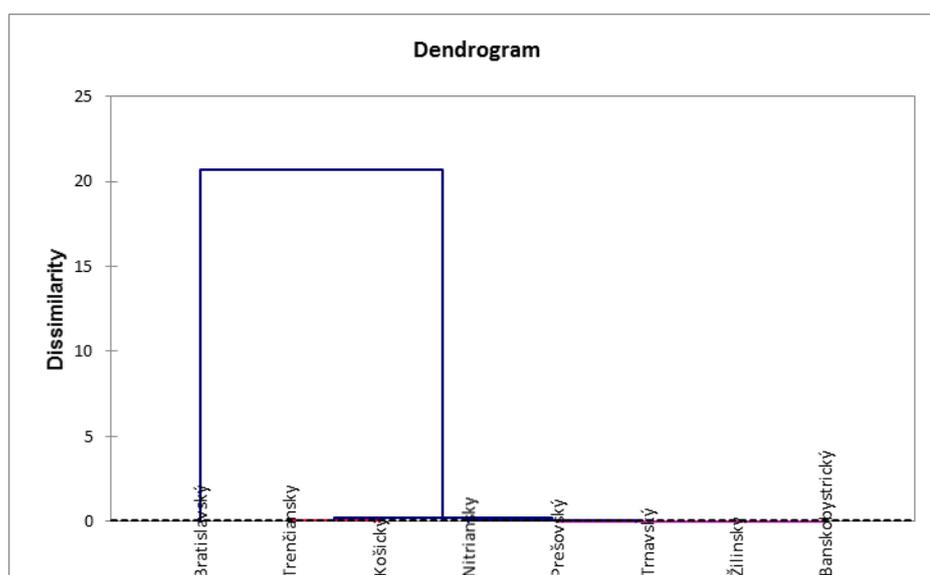
The results are also visualized in dendrogram:

FIGURE 1 - DENDROGRAM OF CLUSTER ANALYSIS IN ART, ENTERTAINMENT AND RECREATION AND IN PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES IN 8 REGIONS OF THE SR
Source: author´s own calculation

Cluster do not automatically indicate the order of the regions; the grouping only corresponds to regions that are the most similar in all indicators. We see a higher number of companies, employees and self-employed as a positive result. The best results were achieved by the Bratislava region. It forms a

separate Cluster 1, which is the most distant from all other clusters. The second-best result is reached by Cluster 4, the Nitra region followed by Cluster 2 - Trnava region, Žilina region, Banská Bystrica region and Prešov region where the results are relatively homogeneous. The last and the most distant is Cluster 3 - Trenčín and Košice region which have very inhomogeneous results. The Košice region, for example, has the third highest number of employees in art, entertainment and recreation, and in technical, scientific and technical activities. Other indicators are lagging, it has the lowest number of companies in selected sectors. Figure 2 visualize the regional clusters on the map of Slovakia:
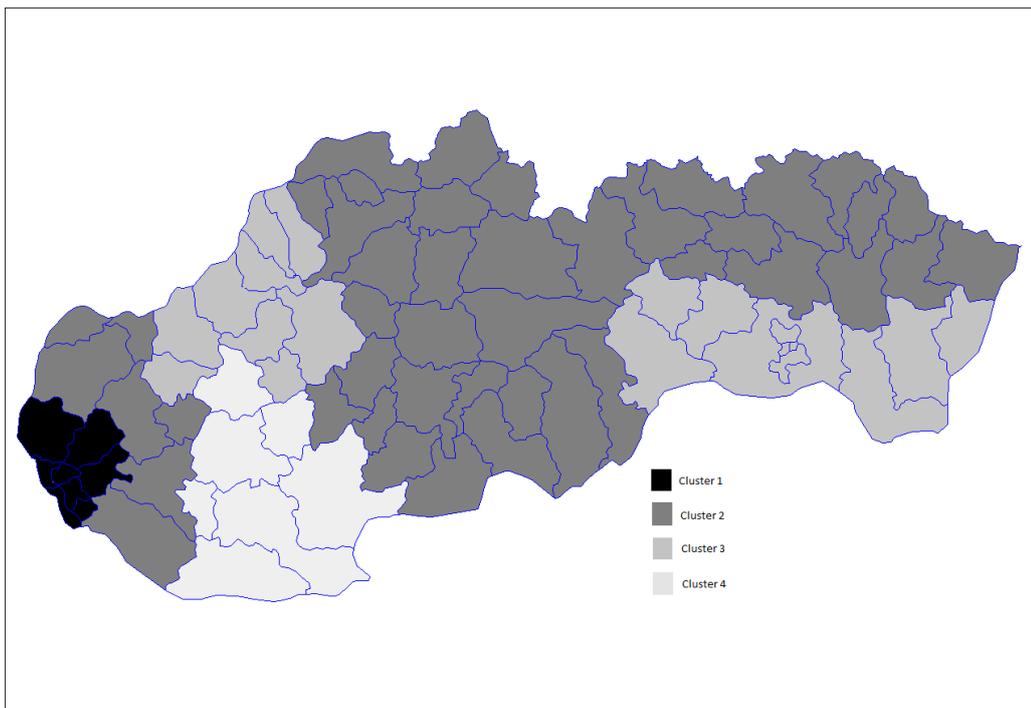

FIGURE 2 - MAP OF CLUSTER ANALYSIS OF CREATIVE INDUSTRIES IN THE SLOVAK REPUBLIC – REGIONAL CLUSTERS
Source: author´s own calculation

Second cluster analysis surveyed the division of all the Slovak districts into clusters according to the same selected indicators and using the same method and setting as in the first analysis. The result of the analysis is the creation of 8 clusters:

- Cluster 1: Bratislava I;
- Cluster 2: Bratislava II;
- Cluster 3: Bratislava III;
- Cluster 4: Bratislava IV, Bratislava V.
- Cluster 5: Malacky, Pezinok, Senec, Galanta, Prievidza, Komarno, Levice, Nové Zámky, Martin, Zvolen, Poprad, Kosice I, Kosice II;

- Cluster 6: Dunajska Streda, Trnava, Trencin, Nitra, Žilina, Banská Bystrica, Prešov;

- Cluster 7: Hlohovec, Piešťany, Senica, Skalica, Bánovce nad Bebravou, Ilava, Nové Mesto nad Váhom, Považská Bystrica, Šaľa, Topoľčany, Čadca, Dolný Kubín, Liptovský Mikuláš, Námestovo, Ružomberok, Brezno, Lučenec, Rimavská Sobota, Veľký Krtíš, Žiar nad Hronom, Bardejov, Humenné, Kezmarok, Vranov nad Topľou, Košice IV, Košice - okolie, Michalovce, Spišská Nová Ves, Trebišov

- Cluster 8: Myjava, Partizánske, Púchov, Zlaté Moravce, Bytča, Kysucké Nové Mesto, Turčianske Teplice, Tvrdošín, Banská Štiavnica, Detva, Krupina, Poltár, Revúca, Žarnovica, Levoča, Svidník, Gelnica, Košice III, Rožňava, Sobrance.

TABLE 2 - DISTANCE BETWEEN CENTERS OF INDIVIDUAL CLUSTERS

Cluster	1	2	3	4	5	6	7	8
1	0	3,298	5,514	6,793	8,465	7,943	9,076	9,377
2	3,298	0	3,666	4,303	6,815	5,914	7,658	8,074
3	5,514	3,666	0	1,852	3,247	2,654	4,024	4,428
4	6,793	4,303	1,852	0	3,050	1,834	4,057	4,562
5	8,465	6,815	3,247	3,050	0	1,348	1,034	1,559
6	7,943	5,914	2,654	1,834	1,348	0	2,379	2,905
7	9,076	7,658	4,024	4,057	1,034	2,379	0	0,527
8	9,377	8,074	4,428	4,562	1,559	2,905	0,527	0

Source: author´s own calculation
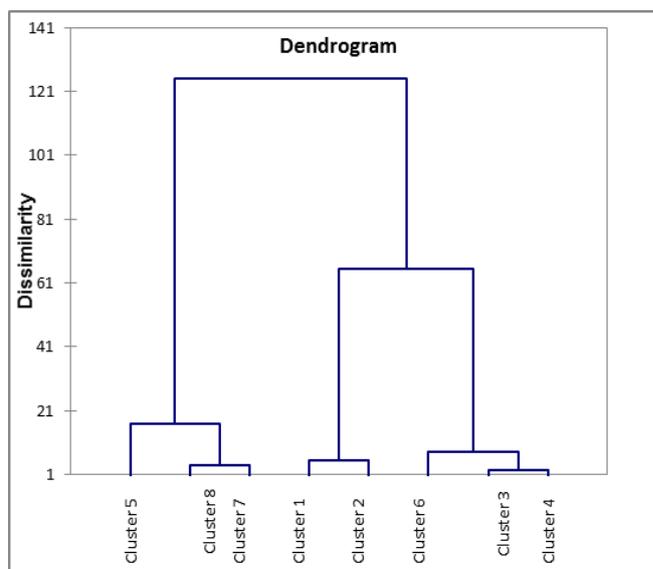
Source: author´s own calculation

FIGURE 3 - DENDROGRAM OF CLUSTER ANALYSIS IN ART, ENTERTAINMENT AND RECREATION AND IN PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES IN DISTRICTS OF THE SR
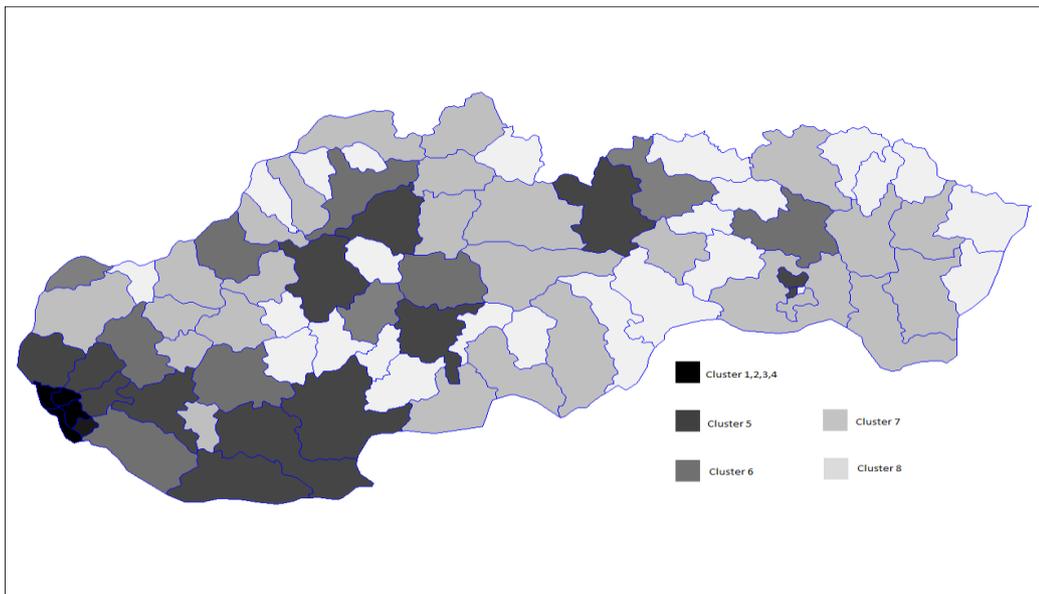
FIGURE 4 - MAP OF CLUSTER ANALYSIS OF CREATIVE INDUSTRIES IN THE SLOVAK REPUBLIC – DISTRICT CLUSTERS
Source: author´s own calculation

The best results achieved the Bratislava I district. The following are the Bratislava II (Cluster 2), Bratislava III (Cluster 3) and Bratislava IV and V districts (together within Cluster 4). Interesting is the fact that within Bratislava as one city, there are large differences in individual urban areas. After Bratislava the most favorable results in selected indicators achieved Cluster 5 and Cluster 6, i.e. the districts of Malacky, Pezinok, Senec, Galanta, Prievidza, Komárno, Levice, Nové Zámky, Martin, Zvolen, Poprad, Košice I, Trenčín, Nitra, Žilina, Banská Bystrica, Prešov. The least favorable results are achieved by Cluster 7 and 8.

The results of the analysis only partially match the results of the calculation of the creative index in Slovakia (Murgas, Ševčíková, 2012). The primacy is confirmed by Bratislava and the Bratislava region. In the cluster analysis it is the best performer within all other cluster, but in the creativity index calculations of Murgaš and Ševčíková, its leadership does not arise from the position of an absolute leader. The position of the Prešov region is the same, on the contrary, the differences are in the position of both Banská Bystrica and Nitra region. While the Nitra region ranked second in our analysis, it has paradoxically one of the lowest creativity indexes. Conformity of clustering according to macro data and creative index results would mean that where there is so-called creative class, respectively creative capital, there is also a strong concentration of creative industries. While this cannot be taken as causality, it is possible to assume this development. However, this was not confirmed in Slovakia. Therefore, we can assume that other factors have had greater influence in some cases. The best

clusters, especially the Bratislava region and some districts of Trnava, Trenčín and Košice region, are characterized by

- urban concentration of creative industries (Bratislava, Trnava, Košice);

- presence of educational institutions (universities);

- good transport accessibility;

- cultural infrastructure;

- in the case of Bratislava, specific factors such as the cosmopolitanism and the European character

- of the city can be considered, which predestines it to the position of the creative center of Slovakia.

3. WAGE DIFFERENCES IN CREATIVE SECTORS IN SLOVAKIA

In the Slovak Republic, there are also wage differences in the creative industries in all the regions, as in other industrial sectors. NESTA, the British Innovation Foundation, recently investigated the wage differentials in the creative industries sectors (NESTA, 2017). We do not have access to such data about Slovakia, so we will use data from the average monthly wage in the aggregate category of art, entertainment, recreation and in professional, scientific and technical activities. Wage is also one of the factors of creative class concentration, so in regions with the higher wages in the industry, we also expect a higher concentration of the creative class. The data is shown in the tables, the source was STATdat.

TABLE 3 - AVERAGE MONTHLY WAGE (EUR) IN ARTS, ENTERTAINMENT AND RECREATION REGIONS FOR 2015

District	Average	Men	Women
Bratislava I	917	1069	814
Senec	545	563	540
Trnava	691	739	664
Hlohovec	507	524	505
Trenčín	691	860	628
Púchov	476	519	464
Nitra	658	703	632
Zlaté Moravce	430	339	449
Žilina	664	805	568
Turčianske Teplice	465	469	463
Banská Bystrica	785	850	739
Žarnovica	429	520	417
Poprad	761	873	682
Stará Ľubovňa	445	370	532
Košice	660	726	610
Rožňava	496	463	532

Source: STATdat

The highest salary in art, entertainment and recreation is paid in the Bratislava region. Only the average salary of men in the Bratislava region exceeds the limit of 1000 euro. This region is also characterized by the highest inequality of average wages of men and women. This difference is 277 euros. On the contrary, the lowest average monthly salary in art, entertainment and recreation is paid the Košice region. Within this, the average monthly salary of women represents the absolute lowest value in these sectors in Slovakia. The status of the other regions is balanced, with a better average wage in the Žilina region.

TABLE 4 - AVERAGE MONTHLY WAGE (EUR) IN REGIONS IN TECHNICAL, SCIENTIFIC AND TECHNICAL ACTIVITIES FOR 2015

District	Average	Men	Women
Bratislavský	1531	1780	1281
Trnavský	1055	1356	733
Nitriansky	989	1133	802
Trenčiansky	839	926	746
Žilinský	873	941	797
Banskobystrický	891	987	766
Prešovský	959	1054	836
Košický	945	1054	811

Source: STATdat

TABLE 5 - AVERAGE MONTHLY WAGE (EUR) IN SELECTED DISTRICTS OF ARTS, ENTERTAINMENT AND RECREATION FOR 2015

District	Average	Men	Women
Bratislava I	917	1069	814
Senec	545	563	540
Trnava	691	739	664
Hlohovec	507	524	505
Trenčín	691	860	628
Púchov	476	519	464
Nitra	658	703	632
Zlaté Moravce	430	339	449
Žilina	664	805	568
Turčianske Teplice	465	469	463
Banská Bystrica	785	850	739
Žarnovica	429	520	417
Poprad	761	873	682
Stará Ľubovňa	445	370	532
Košice	660	726	610
Rožňava	496	463	532

Source: STATdat

As in the first case, even in professional, scientific and technical activities, the highest average monthly wages are in the Bratislava region. Although there is a difference of 499 euro between the average wages of men and women in this region, the highest wage inequality is observed in the Trnava region, where this difference is up to 623 euros. The lowest average monthly wage is observed this time in the Trenčín region, where the average monthly wage of women represents the minimum value of all regions. If we compare the wages of men in the Bratislava region in both selected agreggated sectors, we find that the difference between the average monthly salary in art, entertainment and recreation and the average monthly wage in professional, scientific and technical activities is 686 euros. Differences in other regions are diminishing, but they are not negligible. This clearly confirmed the trend suggested by NESTA in its study - the wage differentials within individual creative industries are in some cases very high.

TABLE 6 AVERAGE MONTHLY WAGE (EUR) IN SELECTED DISTRICTS IN TECHNICAL, SCIENTIFIC AND TECHNICAL ACTIVITIES FOR 2015

District	Average	Men	Women
Bratislava I	1789	2186	1395
Senec	817	1012	689
Trnava	1476	1719	1059
Hlohovec	364	351	374
Trenčín	1037	1104	935
Púchov	864	1818	697
Nitra	1034	1128	910
Zlaté Moravce	764	910	576
Žilina	949	1004	875
Turčianske Teplice	NA	NA	NA
Banská Bystrica	1035	1161	851
Žarnovica	NA	NA	NA
Poprad	1088	1228	898
Stará Ľubovňa	NA	NA	NA
Košice	960	1176	766
Rožňava	709	704	967

Source: STATdat

Interesting is the district overview. In the tables, we included the districts with the highest and lowest average wages for each region. If we compare these wages with average wages in Slovakia (the arithmetic average of all wages in Slovakia) for the year 2015, we will find that only in Bratislava I the average wage in arts, entertainment and recreation exceeded the average wage in Slovakia (EUR 882). (STATdat). On the contrary, in some districts such as Púchov, Turčianske Teplice, Žarnovica or

Rožňava, the average wage in the selected section is closer to the value of the minimum wage in Slovakia (380 euros) (STATdat).

The average monthly wage in professional, scientific and technical activities already exceeds in most cases the overall average wage. In the Bratislava I district, it reaches 2186 euros for men, which is 1304 Euros than the average wage in Slovakia in 2015. The lowest wages in the selected section are paid by the employees in the Rožňava district, which is 709 euros. The difference between the average wage of men in Bratislava I and the Rožňava district is up to 1482 euros. Differences between regions and between districts, especially between the capital and other areas of Slovakia, are striking. Although wages are not the only factor of creative class motivation, in the case of large regional differences, it can be assumed that wage valuation also affects the concentration of the creative class.

4. DISCUSSIONS

The aim of this paper was to identify and highlight the differences in economic performance and employee's salaries in creative industries concentrated in the individual regions of Slovakia. Similarly, as Boix et al. (2013), Lazzaretti (2008) and Florida (2002, 2005) we confirmed the assumption that the creative industry is more concentrated in cities. As can be seen in the individual clusters, district city is likely to be a driving force of the whole region while the rest of the cities in the region achieves only a below-average performance. Moreover, the results of our analysis were not in line with the results of Creativity Index of Slovak regions (Murgaš, Ševčíková, 2012). Bratislava was the only region who attain the strongest position in both studies. However, since this is not a causal study we cannot confirm that the higher concentration of creative class has a direct effect on the creative industry performance in the specific region.

Furthermore, our results brought us to the study of Power and Nielsén (2010) which examined a concentration of creative industry in Europe, however unlike the study of Boix et al. (2013), the authors included Slovakia in their research sample. Although Slovakia has not a significant position in European creative industry, the region of Bratislava belongs to top 15 regions in Europe. In the study, Bratislava was placed among the regions with the highest level of employment in the creative industry (5%).

Bratislava region therefore has not only the most important position in Slovakia, but also belongs to the core of the creative industry in Europe. It creates a cluster with neighboring regions in Austria. This again confirms the fact that creative clusters are not defined by the borders of states. Unfortunately, other regions of Slovakia do not have a more significant position on the European scale.

In connection with the favorable development of the creative industry in the Bratislava region and the relatively good result of the Trnava region (Cluster 2), the question arises about the possible cooperation of these two regions with the creation of an interregional creative cluster. Trnava region builds on its traditional cultural traditions, but it is also influenced by the shift of the creative class to Bratislava. By creating joint initiatives, the Trnava region could draw on the experience and important position of Bratislava.

Košice region probably demonstrates the most important fact that often the regional city is the center of creative industry, which is not surprising; on the other hand, in the case of Košice, the other districts achieve lower average results. In 2013, Košice was awarded the European Capital of Culture title, and that year was used for projects related to the promotion of creative industries (space renovation, organization of professional events, discussions and conferences). It is crucial that the interest in the creative industry in Košice continued, and the city prepared a new call for grants in 2017 to support projects of cultural organizations, cultural operators and individual applicants in creative crafts.

The development of the creative industries in individual regions should be boosted by the most recent call of the Ministry of Culture - the IROP Priority Axis 3, which aims at building at least one creative center in each region (Ministerstvo kultúry, 2016). The question remains whether the promotion of material infrastructure will ensure the development of entrepreneurial creativity. It is important to recognize that most regions lack multifunctional creative centers and co-working spaces, but not all creative industries and activities need and use such spaces. The call is limited to a narrow set of industries, not addressing the issue of local culture. In the past, the creative industry in the form of production companies had a strong presence in Slovakia, but during the transformation of the economy many companies faced a difficult situation and ceased or transformed their production.

At present, the creative industry is most concentrated in the Bratislava region, where mainly new forms of business are concentrated, from the point of view of the city's policy, the already mentioned Košice is more interested in the creative industry.

All regions also expressed an interest in participating in the call of the Ministry of Culture, so it is possible to expect the creation of regional creative centers. When the future shows how effective the centers will work and whether their foundations mitigate regional differences.

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