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Regional diversification of cultural sector potential in Poland

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Abstract. The article presents an assessment of the potential of the cultural sector in Poland from a regional perspective. The author analysed statistical data from 2005–2017 on changes in demand for selected cultural products and services. A conclusion was reached using linear sequencing, which aimed to establish a value for a synthetic indicator showing the situation of the cultural sector in the regions. This indicator was calculated on the basis of characteristics referring to cultural infrastructure resources, cultural activities, cultural expenditure and income in the cultural sector. In the obtained list of regions, the highest places were achieved by the Lubelskie, Zachodniopomorskie and Dolnośląskie voivodships. The weakest result was achieved by the Świętokrzyskie Voivodship. However, the scores obtained were generally low – none of the regions achieved high scores in all partial values. Considering the relatively small differences between the values of the indicator, it is possible that the obtained picture will change due, among others, to the high dynamics of changes in expenditures being incurred in the cultural sector.

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1. Introduction

Presently, culture is one of the main factors of development in such areas as intellectual capital and economic development. It increases the attractiveness of cities for residents, investors and tourists and the importance of cities in spatial, economic and social arrangements, while shaping metropolitan functions (see Evans, 2009; Landry, 2000; O'Connor, 2009; Trip, Romein, 2014). D. Throsby (2010) states that an area rich in cultural institutions may even accelerate the development of surrounding areas. In turn, in social matters, culture can play a role in creating and maintaining the identity of the local community, its creativity, vitality and internal cohesion.

The aim of this article is to assess the potential of the cultural sector in Poland and present its regional diversity. The author selected features referring to infrastructure in terms of culture, activity of the population in the sphere of culture, expenditure on culture and income derived from culture; then, on the basis of these features, a synthetic measure determining the development potential of regions (voivodships) in Poland was constructed. These calculations were preceded by an explanation of the terms used in the article (chapter 2) and an analysis of statistical data from 2005 to 2017 showing the characteristics and directions of development of the cultural sector in Poland (chapter 3).

The article is a part of studies in the field of cultural economics. It is based on the assumption that the cultural potential in Poland in the regional perspective is diversified and it is worth considering what features determine it: the existing infrastructure in the field of culture and national heritage, or perhaps the level of expenditure allocated for purposes related to the cultural sector. This article is devoted solely to the cultural sector, and thus only a certain portion of activities considered part of the creative industries. This choice is justified by the still-too-low prestige of cultural and the too-weak development impulses arising at the junction of culture and business. Therefore, it is worthwhile examining the issues related to culture in a regional perspective in order to observe the regularities occurring here.

2. Cultural sector: definition of the term

The cultural sector is part of the creative sector and it is worthwhile starting the explanation of the terminology used in the study with the definition of this concept. According to the literature on the subject, the creative knowledge sector is considered to be the sector made up of activities based on intellectual property and rooted in culture and science. There are two groups of activities in this sector: creative industries and knowledge-intensive industries. According to the Department for Digital, Culture, Media and Sport (DCMS) of the United Kingdom government, creative industries include advertising, publishing, photography, architecture, radio and television, film and video, music, design, artistic activities, craftsmanship, activities related to software, and video and computer games (Department..., 2013). The cultural sector, on the other hand, includes only some of these activities. Culture consists of activities carried out by museums, galleries, libraries, as well as craftsmanship, visual arts (painting, sculpture, photography), film, radio, performing arts (opera, orchestra, theatre, dance, circus) and literature (see Flew, Cunningham, 2010; ESPON, 2011). The difference between the concepts lies also in the criterion of identification. The cultural sector is made up of traditional fields of art, the result of which has an artistic value, and creative activities include those that use culture as an added value in the production of extra-cultural products such as architecture, advertising or design (see Stryjakiewicz and others, 2014; Towse, 2011).

Cultural activities produce cultural products and services. The purpose of a cultural product is to convey content, symbols or to, in broad terms, influence lifestyle and shape attitudes. Cultural products include books, CDs, magazines, videos, films and craftsmanship products. The promotion of culture, on the other hand, is a task for cultural services such as libraries, museums or audiovisual services such as film or television distribution. The product of traditional cultural industries can be reproduced, is repeatable and can be disseminated (recorded system). This in turn fosters media convergence, i.e. situations in which the same product can be distributed through different media. For example, a film can be watched in the cinema, on TV, tablet, computer or smartphone, or played on a DVD or Blu-Ray disc (Cooke, Porter, 2011; Stachowiak, 2017). In turn, projects such as opera or circus performances are unique goods and are only consumed at a given moment and time (live system). These are situations in which music, sound and image provide specific artistic impressions, which in turn fosters the development of the "economy of experiences" (Pine, Gilmore, 1999; Kacprzak et al., 2015).

The importance of creative activities, including the cultural sector, is growing in the economy. The theoretical and empirical background of cultural economics was described, among others, by R. Towse (2010), S. Cunnigham (2002) and A.C. Pratt (2008). This article deals with the spatial aspects of the cultural sector. The characterisation of this type of activity was carried out in a regional system. The spatial aspects of the development of the cultural sector were presented in works by, among others, R.D. Pintilli et al. (2017) for Romania, by D. Power (2013) for the Scandinavian countries and by O. Slach et al. (2013) for the Czech Republic. Analyses of cities developing their creative activities were carried out by C. Landry (2008) and R. Florida (2002), who presented a number of observed regularities occurring in creative cities. On the other hand, examples of development of the cultural and creative sector in selected urban centres were described by, among others, T. Egedy and Z. Kovács (2009) based on the example of Budapest, by C. Chapain and R. Comunian (2010) describing the example of Birmingham and Newcastle-Gateshead, and by B. Heebels and I. Van Aalst (2010) presenting the development of culture-based clusters in Berlin.

3. Current situation of the cultural sector in Poland

In Poland, the cultural sector is financed primarily from public funds – state and local government. The decentralisation of culture in Poland began in 1990, when municipal authorities took over some cultural institutions. These were mainly libraries, community centres and smaller museums. The beginnings of the transformation are also linked with the privatisation of the publishing and music markets. The second stage of decentralisation took place at the turn of 1999. It was the result of a new administrative division in 1999, introducing 16 voivodships (NUTS 2), 380 poviats (districts) (LAU 1) and 2,500 municipalities (LAU 2). At that time, the majority of institutions that had previously been part of the Ministry of Culture and National Heritage were handed over to newly separated voivodships, and the previously non-existent districts were given authority over some of the entities previously under the responsibility of the voivodship authorities. Currently, nearly all libraries, almost 90% of museums and about 55% of art galleries and salons remain in the public sphere at various levels.

The share of expenditure on culture in the Gross Domestic Product in the years 1995–2017 ranged from 0.41 to 0.89% (in recent years these shares have been increasing – 0.72% in 2016 and 0.89% in 2017). However, the structure of expenditure changed. In 2016, the largest part of state budget expenditures was allocated to investments in and the functioning of museums (45.1%) and protection of historical monuments and other forms of monument care (10.3%), as well as cultural and art centres (8.1%) and theatres (7.1%). This was a continuation of the policy pursued in previous years. On the other hand, in 2017, expenditures on radio and television activities increased significantly (30.1%), which resulted in a reduction of funds allocated for other purposes, including museums (19.1%), cultural and arts centres (7.2%), theatres (6.1%) and monument protection (4.7%) (Kultura, 2016; Kultura, 2017). However, this is not sufficient for all necessary expenses of cultural institutions, of which about three quarters comes from public funds, and only one quarter from household budgets. It is worth mentioning that, in recent years, many cultural projects have been carried out throughout the country, e.g. over 200 in 2012. Priority was given to primary and secondary music schools, art and theatre schools, entities representing high culture in places previously devoid of them (e.g. Podlasie Opera in Białystok) and other innovative projects (e.g. the construction of the Museum of Modern Art in Warsaw). The digitisation of the collections of the National Library, archives and photographs (National Digital Archive), theatre and music (National Audiovisual Institute) and national heritage (National Heritage Institute) remains a major challenge.

The market for individual cultural goods and services is characterised by very different traits. In some cases, a positive trend can be observed, i.e. interest in a given cultural service or product increases every year, while in others – quite the contrary. Comparing Statistics Poland (GUS) data from 2005 to 2017 concerning the cultural sector in Poland, several regularities can be observed, namely:

- the number of book titles published on the Polish market every year is growing;
- the number of libraries with access to the Internet is growing;
- the number of visitors to museums is increasing (although it should be noted that this is largely due to the increase in the number of free entries, e.g. during Night of Museums);
- the number of cinema screens is growing, mainly due to the construction of mini- and multiplexes;
- the number of screenings in cinemas is increasing;
- the number of viewers in cinemas is increasing;
- the number of viewers in theatres is increasing;
- the number of people using cultural centres is also increasing through concerts, exhibitions, dance courses, etc., which are organised there;

but at the same time:

- the number of libraries, mainly the smallest ones, drops by several dozen each year;
- the total circulation of newspapers and magazines has fallen;
- the number of readers in libraries is declining, especially among school and university students;
- the number of theatrical stages is decreasing;
- the number of concerts/artistic performances abroad is decreasing, mainly due to the smaller number of performances by Polish operas and philharmonic orchestras;
- the number of cinemas is decreasing;
- the number of radio and television subscribers paying a subscription fee is decreasing.

These observations lead to the conclusion that interest in the offer of the cultural sector – including cinema, theatre, libraries and cultural centres – is growing. However, the conditions mainly concerning infrastructure resources in this area are changing. Small cinemas, theatres and libraries are being shut down, giving way to large modern buildings. In quantitative terms, there is therefore a decrease, although the new venues have increasing capacity to welcome the public. There has also been a decrease in the circulation of traditionally published newspapers and magazines, which are being replaced by online editions. This process is most likely unstoppable. However, two issues are most worrying. The first is the observed decline in children's and young people's interest in borrowing books and media from increasingly well-equipped libraries. The second is the decreasing number of Polish artists performing on the stages of theatres, concert halls or opera houses abroad.

Every year, Statistics Poland calculates the average value of the home budget that the average Polish citizen spends on culture. In recent years, this has amounted to approx. PLN 350, or about EUR 82. According to EU statistics, this figure includes both licence fees (e.g. cable TV fees account for as much as 30% of total expenditure), the cost of purchasing televisions, DVD players and other audiovisual equipment, as well as the cost of tickets to cultural institutions. The average cost related to the purchase of tickets for theatres, cinemas and music institutions in 2017 amounted to less than PLN 32 *per capita*, which, taking into account the prices on the market, would be sufficient for two tickets to the cinema or one to the theatre. PLN 24 was spent on the purchasing of books (which is not enough to buy one new title on the publishing market), while PLN 29 on average was spent on the purchase of newspapers and magazines throughout the year (this segment is dominated by the entertainment press with television programme times).

As part of the current cultural policy, various measures are being taken to support the cultural sector in Poland. Some of these include initiatives in all EU countries, such as European Heritage Days or Culture 2007–2013 and Creative Europe programmes, intended to help overcome problems such as the fragmentation and underfunding of creative and cultural activities in the market. Networks of creative cities are another form of support for the cultural sector. Examples include the UNESCO Creative Cities Network, which includes Kraków and Katowice, or the Eurocities Culture Forum, which includes Białystok, Bydgoszcz, Gdańsk, Katowice, Lublin, Rzeszów and Warsaw. Another interesting initiative is the competition for the title of European Capital of Culture (Garcia, 2005; Myerscough, 2015; Namyślak, 2014), in which two Polish cities have participated so far: Kraków and Wrocław. The cities also establish direct cooperation on implementing common goals related to creativity and culture, such as the Gdynia Design Days International Baltic States Design Fair. On the other hand, examples of bottom-up activities include the increasingly frequent revitalisation of deteriorating post-industrial facilities for the benefit of the cultural sector (e.g. Murzyn-Kupisz, Plots, 2016) and the establishment of creative clusters in which representatives of various creative environments meet, creating a new configuration of entities not previously linked by economic relations (e.g. Bialic-Davendra et al., 2016; Olko, 2015; Środa-Murawska, Szymańska, 2013). All these activities are intended to increase the importance and improve the condition of the cultural sector.

4. Regional differentiation of cultural sector potential in Poland

4.1. Selection of characteristics and research methodology

The aim of the analysis is to determine the potential of the cultural sector of 16 voivodships (regions) in Poland. In order to achieve this goal, a selection of features was made, followed by the selection of the method of linear ordering, on the basis of which the values of the synthetic indicator were calculated. The features selected for analysis are as follows:

- The first feature (x_1) is the cultural infrastructure resources, calculated as the sum of the number of museums, theatres, operas, philharmonic halls, cinemas and libraries and their branches per 10,000 inhabitants. This feature refers to the basic infrastructure necessary for the functioning of the cultural sector, the condition of which will influence both the level of involvement of the inhabitants of the cultural sector and the improvement of the quality of life or the level of income obtained by entities of this type. On the other hand, on the macro scale, existing infrastructure resources have an impact on shaping metropolitan functions, including facilitating the choice of the city's economic profile and creating a positive image of the city/region, as well as supporting social and educational activities.
- The second feature (x_2) refers to the cultural activity of the population, calculated as the sum of visitors to museums, theatre and opera audiences, philharmonic audiences, viewers of film screenings in cinemas and external borrowings in libraries *per capita*. The value of this feature will indicate the level of interest in culture and the activation and use of human potential. Activity in this area will also be a derivative of the purchasing power of residents and the intensity of tourist traffic, which may significantly model the value of this feature.
- The third feature (x_3) refers to profits obtained in the sphere of culture and national heritage *per capita* expressed in PLN. In this case, the values obtained will reflect the level of spending by residents and tourists on activities related to the cultural sector. Potential high values will contradict the idea of non-profit culture.
- The fourth feature (x_4) defines the total expenditure on culture and national heritage protection *per capita* expressed in PLN. These expenses will include, among others, infrastructure projects, including the construction and revitalisation of cultural sector facilities, purchase of equipment for cultural institutions or computerisation of cultural institutions. All the investments made may have an impact on the creation of new jobs, on the development of complementary sectors indirectly related to culture (e.g. tourism and recreation) and on paying more attention to the need for renovation and revitalisation of post-industrial facilities.

All the above features related to the development of the cultural sector can be supported by a skilfully conducted cultural policy, which should ultimately contribute to an increased interest in creative activities as an important part of the economy.

Statistical data used in the analysis come from Statistics Poland (2017) (Table 1).

The aim of linear ordering methods is to rank objects in order from the most advantageous to the least advantageous results, and the criterion for ordering is the level of the complex phenomenon.

Table 1. Values of features accepted for calculation

Region (voivodship)	Capital City	x_1	x_2	x_3	x_4
Dolnośląskie	Wrocław	2.748	5.226	4,504.393	32,416.173
Kujawsko-Pomorskie	Toruń, Bydgoszcz	2.584	4.300	1,791.892	42,659.687
Lubelskie	Lublin	3.276	4.697	2,470.869	58,646.311
Lubuskie	Gorzów Wielkopolski, Zielona Góra	2.986	4.031	257.866	35,002.958
Łódzkie	Łódź	2.635	4.681	133.091	30,141.837
Małopolskie	Kraków	2.962	7.045	714.816	33,873.976
Mazowieckie	Warsaw	2.483	6.646	251.668	33,825.084
Opolskie	Opole	3.574	4.094	687.939	25,306.783
Podkarpackie	Rzeszów	3.671	4.449	2,617.004	29,929.671
Podlaskie	Białystok	2.599	4.311	2,473.196	45,051.771
Pomorskie	Gdańsk	2.128	5.226	1,519.033	37,790.213
Śląskie	Katowice	2.323	5.234	2,514.211	35,860.129
Świętokrzyskie	Kielce	2.704	4.111	6.728	25,275.202
Warmińsko-Mazurskie	Olsztyn	2.646	4.221	850.982	34,573.491
Wielkopolskie	Poznań	2.613	4.824	162.227	28,237.862
Zachodniopomorskie	Szczecin	2.672	4.214	7,808.374	46,007.318

x_1: total number of museums, theatres, opera houses, philharmonic halls, cinemas and libraries (and branches thereof) per 10,000 inhabitants; x_2: total number of museum goers, theatre and cinema goers, opera and philharmonic goers, and outside borrowings from libraries per inhabitant; x_3: the general income [in thous. of PLN] from the sector of culture and national heritage per inhabitant; x_4: general spending [in thous. of PLN] on culture and national heritage protection per inhabitant.

Source: based on Polish Statistical Office, 2017.

The specificity of the methods of linear ordering a set of objects among the methods of multi-criteria comparative analysis lies in the fact that it is necessary to determine the nature of all variables describing the investigated complex phenomenon. In the growth pattern method it is assumed that the values of variables are normalised and have the character of a stimulant or a destimulant. (In the first stage of research, the nominants should be reduced to the form of a stimulant or a destimulant). In the next stage, the so-called "development pattern" (z_0) is determined, with the best values for each variable; so too is the so-called "anti-pattern", with the worst values for each variable. The similarity of objects is then examined by calculating the distance (e.g. Euclidean) of each object from the development pattern. The measure of development is designed to meet the following properties: (1) the higher the level of the complex phenomenon, the higher the value of the development measure; (2) the values of the development measure are included in the range [0,1], where the development measure calculated for the development formula equals one and for the anti-pattern equals zero.

An important advantage of this method is that it can directly assess several (or more) statistical units, as the same standards and normative factors are introduced. Distances are therefore calculated from the same point and then reduced to the same scale. The results obtained after performing the whole calculation allow for splitting the objects into classes in the tested sample. The advantage of the presented method is therefore the possibility of carrying out a comprehensive assessment of the potential of the cultural sector in regions of Poland and a comparison of the results obtained.

The procedure began with performing zero unitarisation as a normalising transformation according to the formula:

$$z_{ij} = \frac{x_{ij} - \min x_{ij}}{0_j}$$

$$i=1, 2,\dots, 16;\ j=1, 2,\dots, 4.$$

where:
z_{ij} – j-feature value for i-unit after normalisation,
x_{ij} – j-feature value for i-unit,

$min\ x_{ij}$ – minimum j-feature value,
O_j – j-feature range, calculated as the difference between the maximum and minimum values of the feature.

As a result of the application of the normalising procedure, the original values of the features were transformed and were within the interval $0 \leq z_{ij} \leq 1$ (Table 2).

After the normalisation, the ideal object was set – the so-called development pattern of "the best" values for each feature – which looked as follows:

$$z_0 = [z_{01}\ z_{02}\ \dots\ z_{0m}]$$

where: $m = 1, 2, 3, 4$.
$z_{0j} = \max z_{ij}$, when the feature is a stimulant,
$z_{0j} = \min z_{ij}$, when the feature is a destimulant, that is the increase of the explanatory variable effects in the decrease of the variable value (this instance was non-existent, for all the analysed features are stimulants).

Therefore, the vector of the development pattern for the investigated feature set is as follows:

$$z_0 = [1\ \ 1\ \ 1\ \ 1\ ]$$

Next, the similarity of the particular objects to the development pattern was investigated by calculating the distance of each one from the pattern according to the following formula:

$$d_{io} = \sum_{j=1}^{m} (z_{ij} - z_{oj})^2$$

where $i = 1, 2, \dots, n$.

It is the square of the Euclidean distance of vectors representing given objects from the taxonomic development pattern in multi-dimensional space. The shorter the distance d_{i0} is, the higher the degree of development of a given unit, and the more beneficial its situation in regard to the investigated phenomena.

Afterwards, the value of the synthetic measure for each unit (region) was calculated, which is the so-called development measure:

$$m_i = 1 - \frac{d_{i0}}{d_0}$$

where:
m_i – development measure for i-object,
d_0 – calculated as follows: $d_0 = d_{0v} + 2S_0$
where:
d_{0v} and S_0 – appropriate arithmetic mean and standard deviation of the formerly calculated distances from the pattern.

Table 2. Values of features after normalisation

Region (voivodship)	z_1	z_2	z_3	z_4
Dolnośląskie	0.402	0.397	0.577	0.214
Kujawsko-Pomorskie	0.296	0.089	0.229	0.521
Lubelskie	0.744	0.221	0.316	**1.000**
Lubuskie	0.556	**0.000**	0.032	0.292
Łódzkie	0.329	0.216	0.016	0.146
Małopolskie	0.541	**1.000**	0.091	0.258
Mazowieckie	0.230	0.847	0.031	0.256
Opolskie	0.937	0.021	0.087	0.001
Podkarpackie	**1.000**	0.139	0.335	0.139
Podlaskie	0.306	0.093	0.316	0.593
Pomorskie	**0.000**	0.396	0.194	0.375
Śląskie	0.127	0.399	0.321	0.317
Świętokrzyskie	0.374	0.027	**0.000**	**0.000**
Warmińsko-Mazurskie	0.336	0.063	0.108	0.279
Wielkopolskie	0.314	0.263	0.020	0.089
Zachodniopomorskie	0.353	0.061	**1.000**	0.621

Source: own calculations

The final values of the distance between the units and the pattern and the values of development measures are presented in Table 3. A development measure is a standardised quantity and generally takes values from the range [0;1]. In this case, the higher the value, the higher the level of development of the unit. Objects can be divided into classes depending on the size of m_s measures (arithmetic mean of measure m_i plus standard deviation of measure m_i) and m_r (arithmetic mean of measure m_i minus standard deviation of measure m_i). Therefore, the following dependencies may occur:

- objects achieving the best results, for which the relation $m_i \geq m_s$ occurs;
- objects for which the relation $d_{0v} \leq m_i < m_s$ occurs;
- objects for which the relation $m_r \leq m_i < d_{0v}$ occurs;
- objects achieving the worst results, for which the relation $m_i \leq m_r$ occurs.

In this way, four classes can be identified according to the value of the resulting pattern of development index:

- class 1: high level;
- class 2: medium-high level;
- class 3: medium-low level;
- class 4: low level.

In the case under examination, the class ranges reached the following values, which are shown in Fig. 3:

- class 1: $m_i \geq 0.323$;
- class 2: $0.215 \leq m_i < 0.323$;
- class 3: $0.108 \leq m_i < 0.215$;
- class 4: $m_i < 0.108$.

4.2. Analysis of results

In the created list of regions the highest place was taken by the Lubelskie Voivodship. The region achieved the best result in one category – according to the value of feature x_4, i.e. expenditure on culture. It also scored relatively high in the category relating to the number of cultural institutions (3rd place in the country). The next place was taken by the Zachodniopomorskie Voivodship, mainly due to the income obtained from the cultural sector *per capita*. The third place was taken by the Dolnośląskie Voivodship, which achieved relatively good results according to all analysed characteristics.

The second class was created by five voivodships: Podkarpackie, Podlaskie, Śląskie, Mazowieckie and Kujawsko-Pomorskie. For these regions, the obtained synthetic indicator q_i assumed values in the range $0.215 \leq m_i < 0.323$. The third class consisted of the Pomorskie, Warmińsko-Mazurskie, Lubuskie, Łódzkie and Opolskie Voivodships. In this case, the value of the synthetic indicator fell in the range $0.108 \leq m_e < 0.215$. In definite last place was the Świętokrzyskie Voivodship. It should be noted that this region, with a result of $m_i = 0.024$ came close to the minimum value, i.e. to the anti-pattern. According to two out of four values (x_3 and x_4), the region took the last position, and according to another (x_2) – the penultimate position.

Examining the results of all calculations, it is worth mentioning that the values obtained were largely influenced by the level of income in the cultural sector *per capita* (x_3). The coefficient of variation for this feature reached as high as $V_x = 113.4\%$. Therefore, taking a weak position in this category had a significant impact on the final result. For other characteristics, the variation coefficient fluctuated between $15.0\% \leq V_x \leq 24.2\%$. On the other hand, the correlation coefficient assumed negative values in as many as 5 out of 6 cases. Only features x_3

Table 3. Value of the synthetic indicator (m_i)

Region (voivodship)	m_i
Lubelskie	0.430
Zachodniopomorskie	0.358
Dolnośląskie	0.342
Małopolskie	0.327
Podkarpackie	0.259
Podlaskie	0.257
Śląskie	0.236
Mazowieckie	0.225
Kujawsko-Pomorskie	0.217
Pomorskie	0.172
Warmińsko-Mazurskie	0.134
Lubuskie	0.133
Łódzkie	0.113
Opolskie	0.108
Wielkopolskie	0.106
Świętokrzyskie	0.024

Source: own calculations

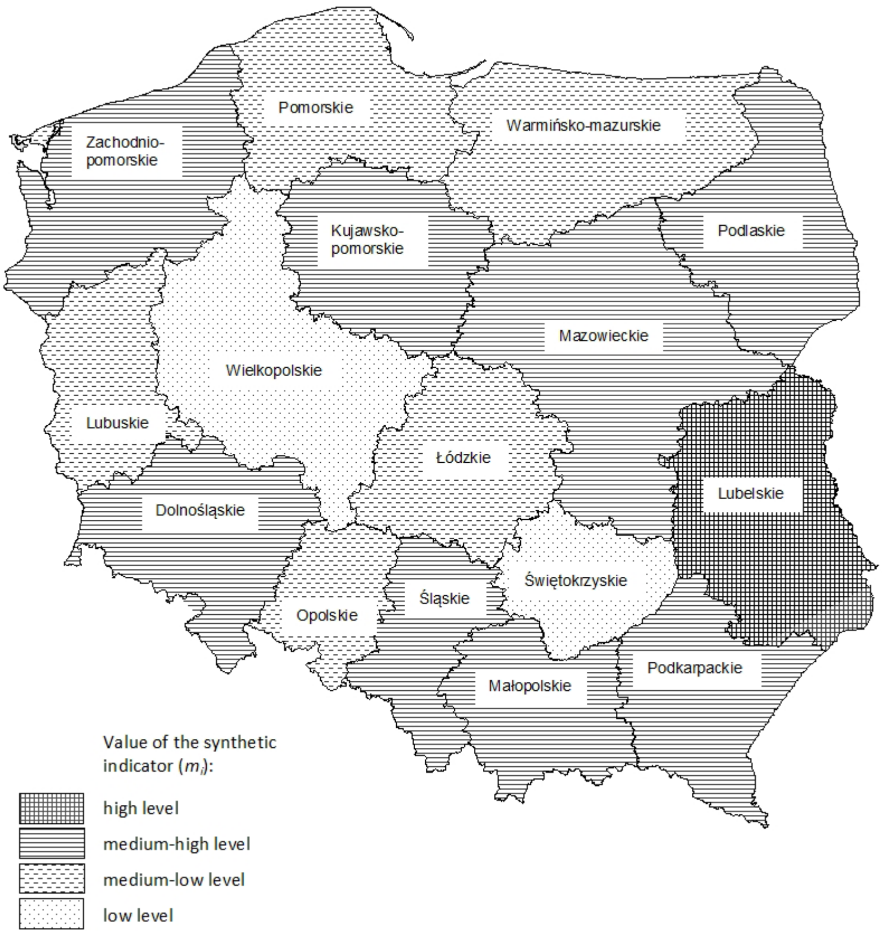

Fig. 1. Value of the synthetic indicator (m_i) as the assessment of the potential of the culture sector in Poland
Source: own calculations

and x_4 (income and expenditure in the cultural sector *per capita*) were positively correlated (+0.484).

5. Discussion

The ranking list of regions that has been created may be surprising to some extent. It turns out that the regions with the most famous international cities such as Krakow or Warsaw did not take the highest positions in comparison. This situation is to some extent a derivative of the nature of the settlement network. In Poland, out of 930 cities, 39 have over 100,000 inhabitants, 5 have over 500,000, and 1 city has over 1 million inhabitants. Changes in the approach to the cultural sector are taking place in many urban centres, not only in the few best-known ones.

The calculations concern one year only. It should be assumed that due to the dynamics of the phenomenon, this order may change in subsequent years. Expenditure in the cultural sector is particularly dynamic. Several large projects worth more than EUR 50 million were carried out in the year under review. These included the construction of the National Forum of Music in Wrocław, the Museum of Contemporary Art in Warsaw and the Podlasie Opera in Białystok – the only venue of its type in north-eastern Poland. After the completion of the largest investments, others are appearing in other regions. Therefore, it is the most time-varying feature among those analysed.

In the period in question, there was no correlation between the GDP *per capita* of regions in Poland and the size of the obtained index. The correlation coefficient was only +0.013. The condition of the cultural sector in the regions measured using the synthetic indicator calculated in the article is therefore not dependent on the dynamics of economic development of the regions.

6. Conclusion

Strategies of Polish cities usually refer to the indirect impact of creative activities, including culture, on the economy, e.g. on tourism or on the image of the city. Other possible forms of impact, such as raising the quality of life, influx of new residents or investors, are discussed less frequently. Over the years, far too little space has been devoted to the cultural sector, due to it being considered a minor component of the economy. This was to a certain extent influenced by the fact that in other areas, such as automotive or IT, civilisational progress is a clear catalyst for change, while the cultural sector, or at least part of it, remains more passive in this respect.

One of the problems in the study of the cultural sector is the immeasurable nature of the results of creative work. Questions such as when and how books read will translate into increased income in the city/region can never be answered accurately. We also cannot determine the relationship between the residence of artists and the effects of their work. Another problem is the question of subsidising culture. A significant part of the cultural sector is by definition non-commercial in nature, which translates into the fact that many cultural institutions would not be able to support themselves using their own resources. This applies not only to theatres, operas and museums, but also to publishers, galleries and libraries. In general, it should be stated that in the Polish conditions, the cultural sector does not have a strong impact on the economy. On the other hand, the influence of culture on society and its identity, on the development of personality or even what is broadly understood as social capital, is important.

A number of cultural changes are currently underway in Poland. New cultural venues are being built, such as museums and community centres. Libraries are becoming interdisciplinary education centres. The process of digitisation of cultural goods and national heritage is in progress. More and more attention is being paid to the place of culture in upbringing and education. Changes are also taking place on the market of cultural products and services. Positive developments include, for example, an increase in the number of titles released each year on the book market, an increasing number of visitors to museums, and a growing interest in the cinema, theatre and community centres measured by the number of viewers/participants in concerts, exhibitions, dance courses, etc. On the other hand, it should be noted that the cultural infrastructure is shrinking in quantitative terms. The number of libraries, theatres and cinemas is decreasing every year. The decrease in the number of concerts/artistic performances abroad is also worrying. On the other hand, the shrinking total circulation of newspapers and magazines and the decline in the number of radio and television subscribers paying the subscription fee are, to some extent, a sign of the times. Newspaper readers increasingly prefer online editions, while television has a strong competitor in the form of online broadcasters.

This article refers to studies of spatial aspects of the functioning of the cultural sector in Poland. The author decided to present the development potential of the cultural sector in a regional perspective, i.e. divided into 16 voivodships (NUTS 2). (This is a less common approach. The literature on the subject is dominated by analyses carried out for urban centres.) In the calculations, four features referring to it were used: infrastructure in terms of culture, population activity in terms of culture, income obtained in the sphere of culture, and expenditure on culture. A synthetic indicator was then calculated using the linear ordering method. The highest places on the resulting list (Table 3) were achieved by: Lubelskie, Zachodniopomorskie and Dolnośląskie voivodships. The weakest result was in the Świętokrzyskie Voivodship. However, the calculated values of the synthetic index (m_i) were generally low and ranged from 0.024 to 0.430, while the possible range covered values from 0 to 1. The obtained scores thus fell within the lower end of this range. This prompts a reflection that none of the regions scored high on all partial values. Infrastructure resources (in relation to the number of inhabitants) were the most favourable in the Opole and Podkarpackie regions. The number of participants in cultural events in the Małopolska and Mazowieckie voivodships attracted attention. In the area of income from culture, Zachodniopomorskie and Dolnośląskie voivodships were more prominent, while in the area of expenditure on culture it was Lubelskie and Zachodniopomorskie. It is also noticeable that the gaps between the index values are generally small, especially according to the value of class 2 and 3. Therefore, the differences between the examined regions were not too large. Only the Świętokrzyskie Voivodship, with the result m_i = 0.024 clearly approached the minimum value, i.e. the anti-pattern. However, taking into account the relatively small differences between the values of the indicator, it is possible that the resulting image shows only a momentary state. It will change in the following years, due to, among other things, the high dynamics of changes in the expenditure incurred in the cultural sector. The analysis therefore showed that none of the 16 regions has yet constructed an optimal image of the potential of the cultural sector, which would be based on rich infrastructure resources, large numbers of eager visitors to cultural venues, as well as significant income and expenditure, and thus investments in this segment. The selected features (at least two) looked unfavourable for practically every region. Even the regions with the most well-known international cities such as Kraków and Warsaw did not occupy the highest positions in the ranking. It should be added that the translation of the creative city concept into creative city building strategies is taking place in Poland, but mainly in the largest cities. The investments and changes made in more than a dozen cities in Poland are lost in the maze of various problems in the scale of the region. In the case of culture, the development of economic specialisation is also limited to the boundaries of the city. All this is a consequence of the insufficiently strong position of the cultural sector and its weak links with business.

All the reflections from the obtained results lead to the conclusion that it is worth repeating this type of study in 2–3 years to check the similarity to the distribution described in this article. In addition, further research on the condition of the cultural sector in Poland and its impact on the economy and entrepreneurship is important. The author has also begun conducting research on creative clusters, including those focused on culture. These studies concern the functioning of such clusters and their internal and external connections.

Notes

1. This method was first applied by J. Hellwig (1968). Later, it was used by Widera, Kuczuk (2007) in research on ecological aspects of agriculture and Krupowicz (2007), Pawlik (2011) and Sobala-Gwosdz (2004), who used the development model method to study the socio-economic potential of selected regions.
2. Especially in the Śląskie Voivodship, where as many as 7 clusters related to the culture sector are located.

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References

Bialic-Davendra, M. Bednář, P. Danko, I. and Matošková, J. (2016), Creative clusters in Visegrad Countries: Factors conditioning cluster establishment and development. *Bulletin of Geography. Socio-economic Series,* 32: 33-47. DOI: https://doi.org/10.1515/bog-2016-0013

Chapain C. and Comunian R. (2010). Enabling and inhibiting the creative economy: The role of the local and regional dimensions in England. *Regional Studies*, 44(6): 717-734. DOI: https://doi.org/10.1080/00343400903107728

Cooke, P. and Porter J. (2011). Media convergence and co-evolution at multiple levels. *City, Culture and Society*, 2(2): 101-119._

Cunningham, S. (2002). From cultural to creative industries: theory, industry, and policy implications. *Media*

International Australia, 102(1): 54–65. DOI: https://doi.org/10.1177/1329878X0210200107

Department for Culture, Media and Sport (2013). Classifying and Measuring the Creative Industries. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/203296/Classifying_and_Measuring_the_Creative_Industries_Consultation_Paper_April_2013-final.pdf, (01.05.2019).

Egedy, T. and Kovács Z. (2009). The capacity and potentials of Budapest to attract creative economy. *Hungarian Geographical Bulletin*, 58(4): 281-294.

ESPON (2011). *Territorial Observation No 5: The Creative Workforce.* European Fund, Luxemburg.

Evans, G. (2009). Creative cities, creative spaces and urban policy. *Urban Studies*, 46(5/6): 1003-1040. DOI: https://doi.org/10.1177/0042098009103853

Flew, T. and Cunningham S. *(*2010). *Creative industries after* the *first decade* of *debate*. *The Information Society,* 26(2): 113-123. DOI: https://doi.org/10.1080/01972240903562753

Florida, R. (2002). *The Rise of the Creative Class.* Basic Books, New York (translation: Florida, R., 2010. Narodziny klasy kreatywnej. Narodowy Instytut Kultury, Warszawa).

Garcia, B. Melville, R. and Cox, T. (2010). *Creating an Impact: Liverpool's Experience as European Capital of Culture*. University of Liverpool, Liverpool JMU, Liverpool.

Heebels, B. and Van Aalst, I. (2010). Creative clusters in Berlin: entrepreneurship and the quality of place in Prenzlauer Berg and Kreuzberg. *Geografiska Annaler*, *Series B - Human Geography*, 92(4): 347-363. DOI: https://doi.org/10.1111/j.1468-0467.2010.00357.x

Hellwig, Z. (1968). Zastosowanie metody taksonomicznej do typologicznego podziału krajów ze względu na poziom rozwoju oraz zasoby i strukturę wykwalifikowanych kadr (Application of taxonomic methods for administrative division according to the level of development and human capital). *Przegląd Statystyczny,* 15(4): 307-327.

Kacprzak, A. Dziewianowska, K. and Skorek, M. (2015). *Gospodarka doświadczeń. Perspektywa polskiego konsumenta (Experience economy. Perspective of the Polish consumer).* PWN, Warszawa.

Krupowicz, J. (2007), Potencjał społeczno-gospodarczy Dolnego Śląska – zróżnicowanie. (Socio-economic potential of the Lower Silesia Region – differentiation). *In:* K. Maik, ed., *Programowanie rozwoju regionu. Instrumentarium rozwoju. Ład społeczny*. Politechnika Opolska, Polska Akademia Nauk, Opole.

Kultura w 2016 roku (Culture in 2016), (2017). Główny Urząd Statystyczny, Warszawa.

Kultura w 2017 roku (Culture in 2017), (2018). Główny Urząd Statystyczny, Warszawa.

Landry, C. (2000). *The Creative City: A Toolkit for Urban Innovators.* London: Earthscan Publishing.

Murzyn-Kupisz, M. and Działek, J. (2013). Cultural heritage in building and enhancing social capital. *Journal of Cultural Heritage Management and Sustainable Development,* 3(1): 35-54. DOI: https://doi.org/0.1108/20441261311317392

Myerscough, J. (2015). *Glasgow Cultural Statistics Digest.* Available at: www.culturesparks.co.uk/intelligence/information/glasgow-cultural-statistics-digest (01.01.2019).

Namyślak, B. (2014). Cooperation and forming networks of creative cities: Polish experiences. *European Planning Studies,* 22(11): 2411-2427. DOI: https://doi.org/10.1080/09654313.2013.843652

O'Connor, J. (2009). Creative industries: a new direction? *European Planning Studies,* 15(4): 387-402. DOI: https://doi.org/10.1080/10286630903049920

Olko, S. (2015). Creative clusters in the regional innovation ecosystem – analysis of the cases in Poland. *In:* I. Gorges, ed., *Global Perspectives on Sustainable Regional Development*. Hamburg.

Pawlik, A. (2011). Zróżnicowanie rozwoju społeczno-gospodarczego województwa świętokrzyskiego (Differentiation of socio-economic development in the Świętokrzyskie Voivodship). *Wiadomości Statystyczne*, 11: 60-69.

Pine, B. J. and Gilmore, J.H. (1998). Welcome to the experience economy. *Harvard Business Review,* 76(4): 97-105.

Pintilii, R.D. Peptenatu, D. Ciobotaru, A.M. Toma, S.G. Grigore, A.M. Drăghici, C.C. Dobrea, R.C. Simion, A.G. Andronache, I. Teodorescu, C. and Diaconu, C.D. (2017). Creative economies in Romania - spatial projections and trends. *Bulletin of Geography. Socio-economic Series*, 37: 95–108. DOI: https://doi.org/10.1515/bog-2017-0027

Power, D. (2003). The Nordic "cultural industries": a cross-national assessment of the place of the cultural industries in Denmark, Finland, Norway and Sweden. *Geografiska Annaler*, *Series B - Human Geography*, 85(3): 167-180. DOI: https://doi.org/10.1111/j.0435-3684.2003.00139.x

Pratt, A.C. (2008). Creative cities: the cultural industries and the creative class. *Geografiska Annaler: Series B - Human Geography*, 90(2): 107–117. DOI: https://doi.org/10.1111/j.1468-0467.2008.00281.x

Slach, O. Koutsky, J. Novotny, J. and Ženka J. (2013). Creative industries in the Czech Republic: a spatial perspective. *Ekonomie*, 16(4): 14-29.

Sobala-Gwosdz, A. (2004). Zmiany poziomu życia i rozwoju gospodarczego w miastach województwa podkarpackiego po 1990 roku (Standard of life and economic development in the Podkarpacie Voivodship' cities after 1990) In: J. Słodczyk, D. Rajchel, ed., *Przemiany demograficzne i jakości życia ludności miast. Miasta w okresie przemian,* Wydawnictwo Uniwersytetu Opolskiego, Opole, 199-209.

Stachowiak, K. (2017). *Gospodarka kreatywna i mechanizmy jej funkcjonowania. Perspektywa geograficzno-ekonomiczna (Creative economy and mechanisms of its functioning. A geo-economic perspective).* Bogucki Wydawnictwo Naukowe, Poznań.

Stryjakiewicz, T. Męczyński, K. and Stachowiak, K. (2014). Role of creative industries in the post-socialist urban transformation. *Quaestiones Geographicae*, 33(2): 19-35. DOI: https://doi.org/10.2478/quageo-2014-0013

Środa-Murawska, S. and Szymańska, D. (2013). The concentration of the creative sector firms as a potential basis for the formation of creative clusters in Poland. *Bulletin of Geography. Socio–economic Series,* 20: 85-93. DOI: https://doi.org/10.1515/bog-2013-0013

Throsby, D. (2001). *Economics and Culture.* University of Cambridge.

Towse, R. (2010). *A Textbook of Cultural Economics*. University of Cambridge.

Trip, J.J. and Romein, A. (2014). Creative city policy and the gap with theory. *European Planning Studies*, 22(12): 2490-2509. DOI: https://doi.org/10.1080/09654313.2013.790592

Widera, K. and Kuczuk, A. (2007). Zróżnicowanie przestrzenne poziomu rozwoju rolnictwa z uwzględnieniem stopnia ekologizacji regionów (Spatial defferentiation in agriculture development with particular emphasis on the ecological level of regions). In: K. Heffner, ed., *Programowanie rozwoju regionu. Ład ekonomiczny i środowiskowo-przestrzenny*, Politechnika Opolska, Polska Akademia Nauk, Opole, 318-326.

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