Abstract. This paper presents, on the basis of selected indicators, regional disparities in Poland and Bulgaria as presented by NUTS 2 regions. Comparisons are made in relation to the ongoing processes and development trends in these regions. Certain common features and differences are indicated regarding the regional development in Poland and Bulgaria based on this and other investigations.

Key words: Poland, Bulgaria, regional disparity.

Introduction

The study of regional disparities is an interesting subject for research across different fields of knowledge. The regional disparities are one of “planes” of territorial differences assessed and compared by individual authors. The researchers point out different causes and factors impacting regional development – natural conditions and resources, economic and political factors, human capital, cities, processes of globalization and integration, etc. „Regional disparities are evident, because of the uneven geographical distribution of development resources” (Enyedi, 2005, c. 18). As emphasized by Kourtit, Nijkamp (2013) regional development is decisively influenced by external mega trends and indigenous knowledge, innovation and creative strategies. Regions, urban agglomerations and cities play a key role as gatekeepers and knowledge transmitters. At the same time regions and cities are not only passive spaces that are subjected to an anonymous global force field, but also actively influence this development.

In the case of countries with transforming economies one needs to stress the importance of the processes of transformation, the inheritance from the planning economy development, European integration, binding common policies, European financial support through the implementation of different programmes, etc. Since the beginning of the EU integration process, CEECs have continually received an increasing amount of foreign direct investment, which, as indicated by Pusterla, Resmini (2007), plays an active and dynamic role in their (re)integration into the world economy.

Scientific research and EU documents show a process of clear convergence of per capita income in the national economies of the EU member states in recent years, whereas within individual
At the regional level, there is an increase in diversity resulting from the concentration of development in metropolitan areas (Rozwijające się regiony… 2007). Poland and Bulgaria are no exception in this situation. On the territory of EU “in order to promote its overall harmonious development, the Community shall develop and pursue its actions leading to the strengthening of its economic and social cohesion. In particular, the Community shall aim at reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions or islands, including rural areas” (Consolidated Versions of the Treaty…, Article 158, 2006). EU cohesion policy has the capacity to alter domestic relations between the center and the periphery and to create a broader scope for regional and local involvement in the economic development policy (Dąbrowski, 2013).

Poland and Bulgaria are CEEs countries from the fifth and sixth enlargements of the EU with different share of EU-28 territory and population (Table 1). Regardless of some common characteristics related to the transition processes, either country took its own development path in the period from 1989 to 2013. The comparison of results of the economic transformation in Bulgaria and Poland at the end of the 20th century and at the beginning of the 21st century on the basis of different indicators shows that “generally, it can be concluded that in Poland the reforms have more favourable effects as compared to Bulgaria. The Polish economy underwent radical modernization. Evidence for the successful reforms is Poland’s integration with the EU. The structural reforms in Bulgaria proceed at slower rates and are associated with a greater number of negative results” (Eberhardt, Ilieva, 2004, p. 29). As pointed out by Alexandrova (2008), the slower reforms in Bulgaria delay the anticipated gains.

In order to assess the development of these two countries, one needs to evaluate the achieved level of reforms. In Michalski’s opinion (2006), the reforms commenced in Poland at the beginning of the 21st century are close to completion. Situation in Czech Republic, Hungary, Slovakia, Slovenia, Estonia, Latvia and Lithuania is similar. Bulgaria, along with Romania and Croatia, is in a group of countries implementing advanced reforms. Kollmorgen (2010), upon studying social transformation in the Central and Eastern Europe, included Poland in the group highly transformed countries, while classifying Bulgaria as a country, where advanced transformations are deferred.

Also, there are numerous differences in terms of economic development between Poland and Bulgaria in the conditions of the EU economy market. Poland features more stable economic development than the economies of other post-communist Central and Eastern European member states of the EU in the 2003-2013 period. Poland avoided recession during the world financial crisis, experiencing a slowdown in growth in 2009. The GDP growth in Poland (4%) in the period of 2007-2012 was much higher than in the European Union –27 (0.4%) (Przegląd Regionalny…, 2013). As a result, the national economy of Poland generated nearly 5% of the EU GDP in 2011 (Table 1). This country gradually reduces the differences to the EU average GDP per

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The development curve of the Bulgarian economy in this period was different. After years of dynamic development (2005-2008), its economy was adversely affected by the world financial crisis. The unfavourable conditions influenced the GDP growth, which in the recent years has settled at 1-2%. Bulgaria, a much smaller country than Poland, generated 0.3 % of total EU-28 GDP in 2011 (Table 1) and remains last among the EU countries in terms of GDP per capita.

Table 1. Some indicators for Poland and Bulgaria

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Poland</th>
<th>Bulgaria</th>
</tr>
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<tbody>
<tr>
<td>Share of EU-28 territory (%)</td>
<td>7,4</td>
<td>2,7</td>
</tr>
<tr>
<td>Share of EU-28 population (% 2012)</td>
<td>7,5</td>
<td>1,4</td>
</tr>
<tr>
<td>Share of total EU GDP in PPS 4,9%</td>
<td>4,9</td>
<td>0,3</td>
</tr>
<tr>
<td>GDP per capita in PPS (EU28=100, 2013)</td>
<td>67</td>
<td>46</td>
</tr>
<tr>
<td>Number of NUTS 1 regions</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Number of NUTS 2 regions</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td>Number of NUTS 3 regions</td>
<td>66</td>
<td>28</td>
</tr>
</tbody>
</table>


The aim of this paper is to present regional disparities in Poland and Bulgaria in relation to the ongoing processes and development trends in the regions.

Research methods and data sources

The analysis of the regional differences between Poland and Bulgaria was based on the NUTS 2 regions of these countries. Many authors used territorial units of regions, defined later as NUTS 2, to research territorial differences in individual countries (Czyż, 1998, Parysek, 1998, Mync, Komornicki, 2000, Horodeński, Sadowska-Snarska, 2001, Hrubi, 2002, Ilieva, 2002, 2012, 2013, Tarkowski, 2008, Horvath, 2009, etc.).

NUTS 2 regions in Poland and Bulgaria were established after the administrative reforms at the end of the 1990s in compliance with the process of their integration into the EU and pursuant to relevant regional policy. The reform carried out in Poland (1999) reduced the number of voivodeships (the highest level units of the administrative division), while increasing their socio-economic potential. These administrative units were later qualified as NUTS 2 regions improving the regional policy and statistics. Meanwhile, in Bulgaria (1999) the number of oblasti (the highest level units of the administrative division) increased. Due to the inadequate potential of these units, they were qualified as NUTS 3.

2 For Bulgaria by 2008 regional scheme.
3 Number of voivodeships decreased from 49 before reforms in Poland to 16 (1999).
4 Number of oblasti increased from 9 to 28 – in fact, the reform of 1999 restored the administrative division from before 1987.
regions. Each NUTS 2 region now includes four or five oblasti (Figure 1). Bulgarian NUTS 2 are also used for programming and monitoring regional development and assessing the regional policy, as well as in statistics. However, these regions lack in administrative power.


Current strategic documents (the “Europe 2020” Strategy and the corresponding national documents in Poland and Bulgaria – Strategia Rozwoju Kraju..., 2012, Koncepcja Przestrzennego Zagospodarowania..., 2012, National Regional Development Strategy..., 2012, National Concept for Spatial Development..., 2012, etc.) focus on the following indicators: GDP per capita, employment rate, R&D expenditures to GDP, percentage of university graduates, etc. The analysis shows that regardless of the number and use of various indicators, most studies on territorial differences are comparative in nature.

This investigation applies different single indicators to measure the regional disparities between Poland and Bulgaria – GDP, coefficient of entrepreneurship, EU co-financing, regional competitiveness index, etc. The regional competitiveness index (RCI) of NUTS 2 regions in the EU shows “the ability to offer an attractive and sustainable environment for firms and residents to live and work” (Annoni, Dijkstra, 2013). It is based on three competitiveness sub-indices\(^5\) – basic, efficiency and innovation. For the purpose of comparison some of the indicators are calculated to a per capita basis.

The study is based on the statistical data from the period of 2000-2013. Data collection proved to be difficult, as the territorial scope and boundaries of regions in Bulgaria changed three times (1999, 2004-partially, 2008), data sets for extended periods were missing, etc. The statistical data were obtained from EUROSTAT, the Central Statistical Office in Poland, National statistical Institute of Bulgaria, national strategic documents of both countries, documents and publications of the European Commission, publications of various authors, as well as author’s own publications.

\(^5\) Basic sub-index (institutions, macroeconomic stability, infrastructure, health, basic education); efficiency sub-index (higher education, labour market efficiency, market size); innovation sub-index (technological readiness, business sophistication, innovation).
Results

The individual NUTS 2 regions in Poland generated very different GDP depending on the degree of their economic development. The analysis of regional GDP during the period of 2000-2012 shows that the percentage share of the most economically developed regions (Mazowieckie, Śląskie, Wielkopolskie, Dolnośląskie) increased from 50.9% (2000) to 53.4% (2012). At the same time, the percentage share of less developed regions (Lubelskie, Podkarpatskie, Podlaskie, Świętokrzyskie, Warmińsko-mazurskie) decreased. The degree of dispersion between the most and the least developed regions also increased (Table 2), however, it was smaller than in the EU-28. The insufficient GDP differences between less developed regions made them change their position in the ranking of regions.

Poland is a country with polycentric spatial development, which is one of the advantages in country’s development according to National Development Strategy 2007-2015 (2006). “In Poland the capital city is not the dominating economic and social center (relation of the number of residents to the total number of residents in Poland is one of the lowest in Europe). At the same time Poland has a number of other large metropolitan areas apart from the capital city, with comparable significance and development opportunities (“Trójmiasto” – Gdańsk, Sopot, Gdynia, Katowice with other Silesia cities, Cracow, Wroclaw, Poznań, Łódź). The existing differences in Poland’s development have a historic justification” (National Development Strategy…., 2006, p. 14). This fact impacts the degree of dispersion between the best and the second (best) developed region (Śląskie voivodeship).

Data analysis of GDP generated in the NUTS 2 regions of Bulgaria indicates significant territorial differences between the regions in the period under study. One region tends to dominate over...
others. The contribution of the best developed Jugozapaden region (south-west) to the national GDP amounted to 47.6% (as of 2012). The analysis of its economic development points at the importance of the capital city of Sofia.

The analysis of the most and the least developed region also confirmed the increase in interregional inequalities between these regions in the 1995-2011 period (Ilieva, 2010, Ilieva, 2012, Ilieva, 2013). The ratio of the best developed Jugozapaden region (south-west) to the least developed Severozapaden region (north-west) in terms of GDP was rising steadily. In comparison to the relationship between the most and the least developed regions in Poland, the degree of dispersion between the Bulgarian regions is lower (Table 2). In contrast, dispersion between the best and the second-best developed region in Bulgaria is higher than in Poland, which confirms the dominance of south-western region and large disproportions between this and the other regions in the country.

The dispersions between NUTS 2 regions in both Poland and Bulgaria in terms of GDP per capita are much lower than in terms of GDP. Differences in terms of this particular indicator are relatively lower in the case of the Polish regions (Table 3).

GDP per capita in the Mazowieckie voivodeship in 2003 was “73% of EU-25 average, i.e. approximately twice as much as the economically poorest voivodeships (lubelskie, podkarpatskie, podlaskie, świętokrzyskie, warmińsko-mazurskie). These differences are predominantly an effect of fast developing local growth poles (mainly urban conurbation)” (National Development Strategy..., 2006, p. 15). Mazowieckie voivodeship exceeded the EU-28 average in 2011 (102%, EU-28=100) and was one of the few NUTS 2 regions in Central Europe displaying such value.

Table 2. Dispersions between NUTS 2 regions in Poland and Bulgaria by GDP

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2005</th>
<th>2012</th>
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<tbody>
<tr>
<td>POLAND</td>
<td></td>
<td></td>
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<tr>
<td>Relation between region on the best position to region on the worst position</td>
<td>8,87</td>
<td>9,26</td>
<td>10,30</td>
</tr>
<tr>
<td>Relation between region on the best position to region on second (best) position</td>
<td>1,52</td>
<td>1,60</td>
<td>1,72</td>
</tr>
<tr>
<td>BULGARIA</td>
<td></td>
<td></td>
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<tr>
<td>Relation between region on the best position to region on the worst position</td>
<td>3,13</td>
<td>4,33</td>
<td>6,73</td>
</tr>
<tr>
<td>Relation between region on the best position to region on second (best) position</td>
<td>2,25</td>
<td>2,62</td>
<td>3,35</td>
</tr>
</tbody>
</table>

Source: author’s own calculations based on the data obtained from www.stat.gov.pl and www.nsi.bg
Table 3. Dispersions between NUTS 2 regions in Poland and Bulgaria by GDP per capita

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<tbody>
<tr>
<td><strong>POLAND</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relation between region on the highest position to region on the lowest position</td>
<td>2.18</td>
<td>2.30</td>
<td>2.28</td>
</tr>
<tr>
<td>Relation between region on the highest position to region on second (highest) position</td>
<td>1.42</td>
<td>1.45</td>
<td>1.41</td>
</tr>
<tr>
<td><strong>BULGARIA</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relation between region on the highest position to region on the lowest position</td>
<td>1.76</td>
<td>1.98</td>
<td>2.62</td>
</tr>
<tr>
<td>Relation between region on the highest position to region on second lowest position</td>
<td>1.29</td>
<td>1.48</td>
<td>1.95</td>
</tr>
</tbody>
</table>

Source: author’s own calculations based on the data obtained from www.stat.gov.pl and www.nsi.bg

Figure 2. Gross Domestic Product per capita by NUTS 2 in Poland (PLN, 2012)

1 – less than 30 000; 2 – 30 001-40 000; 3 – 40 001-50 000; 4 – over 65 000.
Source: Central Statistical Office. www.stat.gov.pl

The NUTS 2 regions in Bulgaria differ in terms of GDP per capita level as well (Fig. 3). The analysis regarding the ratio of the most and the least developed region in the 1996-2007 period showed an increase in interregional inequalities between the Jugozapaden region (south-west) and the other five regions (Ilieva, 2010, Ilieva, 2012). Regional differences tended to grow in the following years as
well. The ratio between the region on the first, the second and the last position increased during the period of 2000-2012 (Table 3). The gap between the south-west region and the remaining five regions widened as a result of highly intensive development of the south-west region. This way two sets of NUTS 2 regions in Bulgaria were established (Ilieva, 2010, 2012, 2013) (Fig. 3). The south-west region and the district of the Sofia capital city constitute territorial units with the highest concentration of economic activity and highest capacity for development in the country. According to experts, “the capital city agglomeration dominates the national arena much more strongly than in the past and exacerbates the centre versus periphery problem in the country” (National Regional..., 2012, p. 58). Only the south-west region in Bulgaria is nowadays among the EU regions with 75-90 % of EU-28 average GDP per capita. The remaining five regions – Severozapaden, Severen Tsentralen, Severoiiztochen, Jugoiztochen and Juzhen Tsentralen (respectively: north-west, north central, north-east, north-west, south-east, south central) constitute the second set of regions (Fig. 3). These five Bulgarian regions, together with five regions in Romania, are considered the poorest regions in the European Union (2005 d.) (Horvath, 2009). In the EU-27 the poorest regions in Bulgaria and Romania replaced the poorest regions of Poland in the EU-25. Data regarding the situation in 2011 indicate the Severozapaden region of Bulgaria (north-west) as the least developed region in the EU-28.

The regional competitiveness is very important in the EU market conditions. According to Annoni, Dijkstra (2013), no region in Poland and Bulgaria had a regional competitiveness index (RCI) above the EU-28 average in 2013. The same situation was in Greece, Croatia, Hungary, Romania, Baltic Member States and Cyprus. In all these countries even the regions neighbouring the capital cities were less competitive.

Mazowieckie voivodship is a NUTS 2 region with the highest competitiveness in Poland. Its RCI (-0.18) is closest to the EU-28 average index (EU-28=0, 2013). The value of RCI for the remaining regions in this country oscillates between -0.41 (Śląskie voivodeship) and -0.87 (Warmińsko-mazurskie voivodeship). Competitiveness of regions in Bulgaria is much lower. Only the Jugozapaden region (RCI of -0,71) exceeds the lowest RCI among the Polish regions (-0.87). The other five Bulgarian regions feature much lower competitiveness (RCI from -1.28 to -1.48). Two regions in Bulgaria – Jugoiztochen and Severozapaden – are among the ten least competitive regions in the EU-28, together with 5 regions from Greece and 3 regions from Romania (data provided by Annoni, Dijkstra, 2013).
Regional disparities in Poland and Bulgaria

Figure 3. Gross Domestic Product per capita by NUTS 2 in Bulgaria (BGN, 2012)
1 – 6000-8000; 2 – 8001-10 000; 3 – over than 17 000\(^6\).
Source: National Statistical Institute. www.nsi.bg

Figure 4. Coefficient of entrepreneurship by NUTS 2 in Poland (2012)
Number of enterprises per 1000 inhabitants: 1 – 72.7-84.8; 2 – 84.8-97.7; 3 – 97.7-105.2; 4 – 105.2-115.7; 5 – 115.7-131.9.
Source: on the basis of map from “Główne przekształcenia społeczne i gospodarcze województwa pomorskiego” (2014)

\(^6\) 1,9558 BGN=1 euro (constant exchange rate)
The entrepreneurship is a characteristic feature of Polish people according to the National Development Strategy 2007-2015. High number of new companies established in the transition period effectively increased the number of economic entities in 1991-2005 almost threefold. Poland displays significant regional differences in terms of the entrepreneurship coefficient (Fig. 4). The mazowieckie region is characterized by the highest entrepreneurship, while certain regions in eastern Poland feature the lowest. Study carried out by Masik and Rzyski (2014) shows that “Pomorskie region is the second entrepreneurial region in Poland after leading Mazowieckie region” (p. 137).

When comparing the number of companies per 1000 inhabitants in Bulgaria, Hungary and Poland – based on the study by Pusterla, Resmini (2007) – it becomes apparent that in the period of 1995-2001 Bulgaria featured the lowest investment rate and unfavourable structure of FDI. Significant regional dispersion exists in the territorial distribution of enterprises and their production. Most of the enterprises are located in the south-west region, where the coefficient of entrepreneurship tends to be highest (Fig. 5). Many small and medium-sized enterprises in Bulgaria are new or relatively new, established after 1989. Development of entrepreneurship favours the development of regional and local economy, its diversification, in particular when utilizing region’s own resources. Entrepreneurship also positively affects the development of private business initiatives, improves competitiveness and leads to more successful economic growth in individual settlements and regions of the country. There is much to be done to improve the entrepreneurial spirit, experience and culture. In consequence of having no private ownership until the end of the 1980s, Bulgaria now lacks in entrepreneurial culture and experience. The last two decades of development proved not enough to bridge the gap. The situation in Poland, Hungary and other countries featuring transforming economy is different – in those countries, due to the development of private activities during the socialist period, entrepreneurial experience and culture were accumulated by generations of people (Ilieva, 2013a). As emphasized by Bosma, Schutjens (2011), „actively stimulating or creating such an entrepreneurial culture is far from easy, and takes time” (p. 739).

The analysis of the European financial support— one of the numerous factors—and its impact on the regional development and regional disparities in Poland underlines its role in the socio-economic development. Poland was the largest recipient of the European funds in the frame of cohesion policy during the programming period of 2007-2013 – 68 billion euro (www.mir.gov.pl). There are considerable regional differences resulting from the implementation of national and operational programs, as well as other region-specific reasons. The biggest concentration of the European funds is observed in the central-eastern zone and in the western part of the country (Przegląd Regionalny…, 2013). The analysis indicates the highest European co-financing per capita in the Warmińsko-mazurskie, Podkarpackie, Mazowieckie, Pomorskie regions (Fig. 6).
Regional disparities in Poland and Bulgaria

Figure 5. Coefficient of entrepreneurship by NUTS 2 in Bulgaria (2011)
Number of enterprises, excl. financial, per 1000 persons of the population: 1 – till 45; 2 – 45-55; 3 – more than 60.
Source: author's own calculations based on the data obtained from National Statistical Institute's data. www.nsi.bg
Source: Ilieva (2013a)

Figure 6. EU co-financing per capita according to concluded agreements by NUTS 2 in Poland (PLN, till 30.06.2013)
Source: on the basis of map from “Przegląd Regionalny Polski 2012” (2013)
Bulgaria, which has been a member of the EU since 2007, was granted approximately 8 billion euro under the Structural funds and Cohesion fund for the programming period of 2007-2013, incl. 6.7 billion euro in European co-financing. These funds were allocated in compliance with the national operational programmes implemented across the regions.

Conclusions

The investigation of regional disparities in Poland and Bulgaria on the basis of the selected indicators shows that their magnitude is significant. While both Poland and Bulgaria display certain regional disparities, one can indicate certain similarities and differences between the countries. The NUTS 2 region with the capital city is considered the most economically developed part in each country but their role in the regional development is different. Mazowieckie voivodship in Poland is the region with the largest economic potential, Jugozapaden (south-west) region has a clearly expressed dominance over other regions in Bulgaria. The comparison of regional disparities in both countries shows that there is a steady tendency towards preserving and widening the gap between regions at this stage regardless of the ongoing regional and cohesion policy.

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