

REGIONAL DISPARITIES IN BULGARIA – AN INSURMOUNTABLE CHALLENGE

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Abstract

The inequalities in economic development have increased in recent years – both at a national level and at the regional and local levels in the EU Member States. Reducing disparities between regions is widely seen as a goal of regional policy. The purpose of the article is to analyse the dynamics of cohesion among the regions in Bulgaria for a period of 10 years (2007 to 2016). The multidimensional scaling method is used as a method for defining possible groupings across regions. The analysis is done at district level that correspond to a NUTS III level of the EU classification, In the particular case of Bulgaria, at the NUTS II level, there is no equivalent administrative territorial unit, but only statistical regions. On the other hand, the district level in Bulgaria is the traditional regional level of government. In addition, a specific emphasis is placed on the analysis of developmental disparities between the capital and the other districts.

Key words: regional disparities, regional policy, multidimensional scaling

Achieving sustainable regional development and reducing disparities between regions is widely seen as the goals of public governance in recent decades. However, defining the concept of 'equitable and sustainable development' is not unambiguous. In fact, adopting a particular understanding of regional development is crucial to the regional policy model that is being developed and implemented.

The inequalities in economic development have increased in recent years – both at a national level and at the regional and local levels. The higher requirements to the quality of life, citizens' welfare, the degradation of the environment and climate change, energy insecurity, demographic changes in the context of globalization, changing governance systems (decentralisation and deregulation, on the one hand, and expectations for more serious interference by the state after the financial crisis of the early 20th century, on the other) pose a number of questions about the need and the ways of implementing a regional policy (Pike, A., Rodríguez-Pose, A., Tomaney, J., 2011, p. 10-15).

It is difficult to come up with a single definition and a unified conceptual and theoretical framework for analysing local and regional development. In fact, the most beneficial approach is to assume that there is no single best way to achieve development, and there is no single governance approach to its implementation. It is more appropriate to adopt the understanding that this is a multi-factor process covering a multitude of social, economic, environmental and governance processes.

The various definitions of 'local and regional development' seek to capture and reflect the geographic differences, the uneven economic, social, political, cultural and environmental conditions. Underlying the understanding of the concept of 'local and regional development' are, of course, the classic economic measures – level of GDP, unemployment rate, employment rate, etc., as well as demographic indicators – population growth, migratory trends, age and educational structure, etc. Adopting the concepts of endogenous development places the focus of scientific and management interest not only on the preservation of the physical environment and the economic resources, but also on the social aspects of development. Thus, regional

development is also defined as a process related to the characteristics of a particular place such as innovation, knowledge and human capital (Riain, S., 2011, p. 26).

The broad adoption of such an understanding of regional development determines to a large extent also the main objectives set by the regional policies of the European countries and of the EU as a whole. Regional policy in the European countries was first implemented in the 1950s. This period is characterized by significant economic growth. Thus, naturally, the main objectives of regional policy are related to the equitable distribution of this growth. The economic crises of the late 1970s and the early 1980s have led to a lag in the development of certain regions. This calls for a shift in regional policy and changes to its objectives. The reduction of unemployment and the development of infrastructure in the lagging regions became its main objectives. In the early 1990s, the regional policy objectives of the European countries were redirected to supporting national and/or regional competitiveness, combined with support for a balanced regional development (OECD, 2010, p. 10-13). However, despite the long-term management efforts, regional disparities in development have remained a problem in most European countries. The problems in regional development that nation states recognize are still largely related to the disparities in regional development. However, intra-regional disparities are also recognized more and more often. Some countries have a constitutional commitment to ensuring a territorial balance (for instance, Germany, Italy and Spain). In other countries, emphasis is placed on overcoming regional disparities (e.g. Finland) and territorial cohesion (e.g. France and Norway). The concept of balancing the development of the regions, apart from the general economic conditions, also includes equal access to collective public services such as education and basic transport infrastructure. In most countries, the territorial balance of development and regional growth are seen as interlinked goals (OECD, 2010, p. 15-17).

The European Union has a heterogeneous structure with significant differences in the socio-economic development of the individual member states and regions. These differences are mainly due to the uneven spatial distribution of economic activities, which results in different levels of the quality of life. The EU's regional policy sets as its main goals stimulating competitiveness and overcoming the disparities in the development of regions. EU's cohesion policy seeks to support economic, territorial and social cohesion (Kyriacou, A., O. Roca-Sagalés, 2012, p. 267-269).

In the preamble to the Treaty of Rome of 1957, we can find the following statement: 'Anxious to strengthen the unity of their economies and ensure their harmonious development by reducing the differences existing between the various regions and the backwardness of the less favoured regions.' Since the establishment of the European Regional Development Fund in 1975 to help correct regional imbalances, EU's regional policy has been constantly expanding both in terms of volume of funds and in terms of content. The Single European Act of 1986, Article 130a, also sets out a clear concept for regional policy objectives – economic and social cohesion. '... 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 various regions and the backwardness of the least-favoured regions.' (Tvrdon, M., 2012, p. 92-93).

Regional differences remain a serious problem for the EU currently as well. A number of studies report convergence in the development of individual Member States, but at a regional level, the disparities in development persist and increase, measured by employment rates and by the level of GDP (see Martin, Martin, 2009; Farole, Rodríguez-Pose and Storper, 2009). Although in the last two programming periods the European Regional Policy has substantially changed its priorities, placing an emphasis on stimulating growth, employment and innovation potential, overcoming regional disparities also remains a key objective. The main arguments for this are

related to the argument that the rather big differences in development are an obstacle to the further economic, social and territorial integration of the Union, that the aggravation of the lag in particular regions is not beneficial for the economic development of all the others, the lagging behind in the development of the a significant number of regions in the EU could lead to an overall lag in the development of the Union, failure to attain reasonable degrees of cohesion undermines confidence in the community as a whole (Tvrdon, M., 2012, p. 89-90).

The size, structure and level of regional disparities measured by selected macroeconomic indicators can be a criterion for a successful or failed cohesion policy.

Methodology

Bulgaria as an EU member state follows a similar model of defining regional problems and choosing regional policy objectives. The Regional Development Act stipulates that regional policy will '... development of a balanced polycentric network and integrated urban rehabilitation and development; territorial connectivity and access to public and private services; sustainable development and preserved natural and cultural heritage; improvement of the condition of specific territories with unfavourable socio-economic, geographic and demographic parameters' (Regional Development Act, promulgated in State Gazette No. 50 dated 30 May 2008, Art. 3). In addition, the EU's regional policy is naturally applied, with the country taking advantage of a considerable amount of funds to overcome the lagging behind of the regions. Regardless of the policies implemented and the continuous growth of GDP reported for the last 10 years at a national level, different social and economic processes take place in the individual regions. Tendencies for concentration and over-concentration of economic activity and population in certain regions stand out. Such a pattern of development could create difficulties in ensuring sustainable development at a national level. This gives us grounds to ask ourselves questions about the development of regional differences in Bulgaria.

The main hypothesis upheld in the present article is that regional development has remained inequitable within the last 10 years (2007 to 2016). It is reported that there is convergence of the regions in terms of some basic economic indicators, but also the disparities between the most developed regions, especially the capital, and the other regions of the country persist.

The purpose of the article is to analyse the dynamics of cohesion among the regions in Bulgaria for a period of 10 years (2007 to 2016). Emphasis is placed on the analysis of the specific model in which the regions in Bulgaria are converging/diverging in their development over the past 10 years.

Analysis design

The analysis is focused on some economic and social aspects of cohesion between the regions. Mainly the deviations among the regions are examined, and not so much the problems of growth. Convergence between regions is analysed through the lens of reduction of disparities between the regions in terms of basic economic and social indicators. The broadly applied approach is followed, to examine the disparities across regions by means of a common statistical indicator showing the overall convergence between regions in a particular country. This classical approach gives a good idea of perhaps the most important issue (from the viewpoint of both practitioners and decision-makers): to what extent the regions are converging towards each other.

Nevertheless, this general statistic does not allow us to get a deeper insight into the details of cohesion. In our capacity of researchers, we need to ask at least two important questions. Is the convergence between regions even or uneven? Are all regions at an equal distance from each

other or, despite the common statistical indicator, clusters can be found among them, grouping several regions with similar characteristics. Even if the convergence between the regions is a fact to date, how has that happened over time? Even supposing that, at some point, the regions are close together, we should ask whether this state is permanent. The answers to these questions require a search for a set of tools to reveal the internal structure of 'relations' between the regions.

The appropriate method for defining possible clusters among the regions is multidimensional scaling. This is a descriptive technique that calculates and results in visualisation of the disparities between the individual observed units in a common conceptual space. Multidimensional scaling shows the discrepancies between the units of the analysis (in this particular case, regions) in a common plane, calculating 'distances' between individual objects based on different variables. A result of the calculations can be visualized in a two-dimensional plane, making it possible to illustrate and describe the distance/proximity of the objects to each other. As a result of the visualization, the different types of clusters among the objects (regions) are clearly visible. Another important advantage of multidimensional scaling is the possibility for clusters among the regions to be traced over time. This can be achieved by calculating the distances between the objects in several different time periods. In this particular case, four time slots (snapshots) were examined, and their comparison could give a clear idea of the dynamics of inter-regional disparities.

Putting the objects in this common space of differences is a matter of multiple iterations in the quest to find the best position of the particular object in relation to the others on the basis of the pre-calculated matrix of differences. The matrix of differences is designed to calculate the distance between objects (in this case, these are districts) based on several different indicators. This is also the great advantage of the method: its ability to estimate the distance between the objects of analysis (districts), by including a number of variables. This statistical model allows to find and visualize the disparities between regions based on selected variables. Accordingly, the comparison of 4 spaces of disparities between the regions (one for each selected year of analysis: 2007, 2010, 2013 and 2016) makes it possible to compare the movement across regions.

When describing the statistical set of tools used, it is important to mention that the matrix of distances between the districts is calculated on the basis of a correlation between the variables (Chi-square). All data is standardized (-1 to + 1) due to the different nature of the scales of each of the variables (ranging from GDP to population). The points in the common space are located by calculating the Euclidean distance.

The following variables are used in the analysis to examine the convergence between regions:

- GDP per capita, in BGN;
- Average annual gross salary of employees under labour and employment relationship (BGN);
- Average annual unemployment rate of the population aged 15 and over, %;
- Foreign direct investment in non-financial enterprises, cumulative by 31 December (thousands of US dollars – till 2006, inclusive; thousands of Euro – after 2007);
- Population as of 31 December – in total;

The selection of the variables is based on two main arguments. Firstly, these indicators are the key ones used to take account of the economic and social cohesion in the EU. Secondly, some of these indicators are also used to monitor and report progress on the implementation of operational programs and are criteria for the regions' access to funding under these programs.

GDP per capita is a classic measure of the disparities in the development of the regions. Despite the reasonable doubts about the extent to which this indicator reflects regional development with full accuracy, it remains central to the regional policy of the EU.

Average annual gross salary is also a measure of economic development therein. It is a kind of a reflection of economic progress, viewed from the perspective of the demand and supply of specialized labour. On the other hand, the salary level should also be seen in the perspective of a factor that determines the movement of labour from one region to another. The salary level is one of the main factors for labour mobility. In turn, migration to the regions with higher salary levels strengthens regional disparities, leaving the regions that are donors of labour without substantial prospects for development.

The average annual unemployment rate also reflects the economic development in the region and, again, like the salary level, it is a factor in labour migration. It differs from the salary due to the fact that unemployment is a negative factor for mobility of labour from a particular region and directing it to another.

The foreign direct investment (FDI) reflects the degree of attractiveness of a region for investment originating outside the nation state. In itself, it is very important as it reflects the complex assessment of foreign investors for the business climate in a particular country, and also the differences in the assessment by foreign investors of the economic environment in the particular regions, respectively. The differences in FDI are also indicative of the differences in the regions' potential for economic growth.

The total population is indicative of the workforce potential in the region (aged 15 and over). On the other hand, considering the total population (including the population beyond the working age), we can draw conclusions about the reproduction of the workforce. The total population is a complex indicator that includes not only the aspect of the workforce (population aged 15-65) but also the social context of its reproduction.

As already noted, one of the main research tasks is to find out whether the model of convergence between the regions is sustainable over time. Examining the issue in more detail involves trying to recognize different clusters across the regions, as well as tracking the movement of these clusters over time. The ability to track historical changes in the clusters across regions (in the common plane that multidimensional scaling calculates) is implemented by making four temporal 'snapshots' of regional differences. The planes of the disparities between regions have been built for four years, and comparing them makes it possible to analyse the changes. The years that are included in the analysis are the following:

- 2007 – this is the year of Bulgaria's accession to the EU and, officially, the implementation of the EU's regional policy in the country started;
- 2010 – this is the year in which the first programming period is in its midst. It is logical to see intermediate results;
- 2013 – this is the last year of the first programming period;
- 2016 – this is the last year for which there are official, final data on the individual indicators.

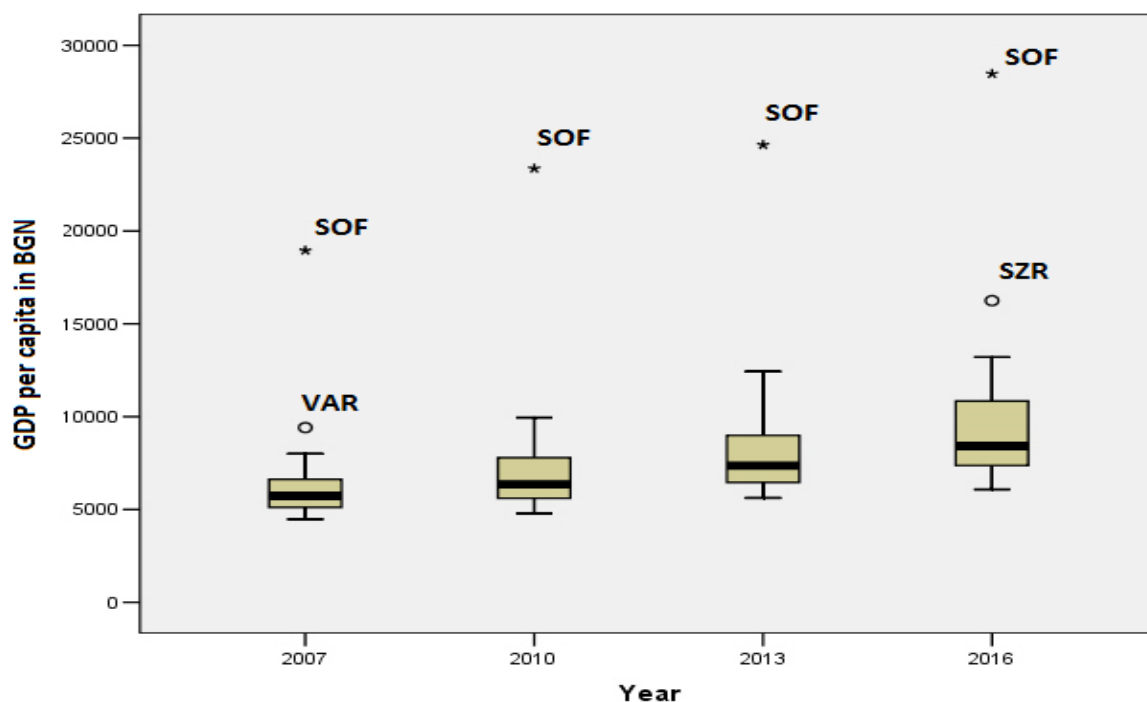
The analysis is done at district level that correspond to a NUTS III level of the EU classification, the capital being assessed separately. There are two reasons for this choice. In the particular case of Bulgaria, at the NUTS II level, there is no equivalent administrative territorial unit, but only statistical regions. Moreover, the negative trends in the demographic development and the concentration of population in several urban centres call for a forthcoming change in the scope of second level regions (NUTS II). On the other hand, the *district level in Bulgaria is the traditional regional level of government. It is based on traditional economic centres* (Kalfova, E., 2015, p. 85-89). This gives us reason to do the analysis precisely at the district level (NUTS III). Secondly, a separate assessment is made for Sofia capital district, as it is characterized by over-concentration of economic activity and population, which reaches almost a quarter of the entire population of the country. These patterns of development of the country

require a specific emphasis in the analysis of the differences in development between the capital and the other districts.

Results

Before we analyse the results of multidimensional scaling, we need to get a more detailed picture of the general development. Thus, we will get an idea of the peculiarities in the development of the individual districts and of the processes of convergence or lack thereof across them in Bulgaria during the period analysed. For this reason, for each of the variables examined, one-dimensional distributions were analysed for each year within the period of the analysis. Another very substantial specific feature is that, during the preliminary analysis, the tendency stood out for one of the objects (Sofia capital) to be placed extremely far away from the other objects, as already noted. This makes it necessary to do an analysis excluding the capital both from the one-dimensional distributions and with multidimensional scaling. The reason is that, if there is a strong deviation of one of the objects (the so-called extremums), this has a strong impact on the average indicators or correlation coefficients that are the basis of the matrix of differences with multidimensional scaling.

GDP per capita (all districts)¹⁴



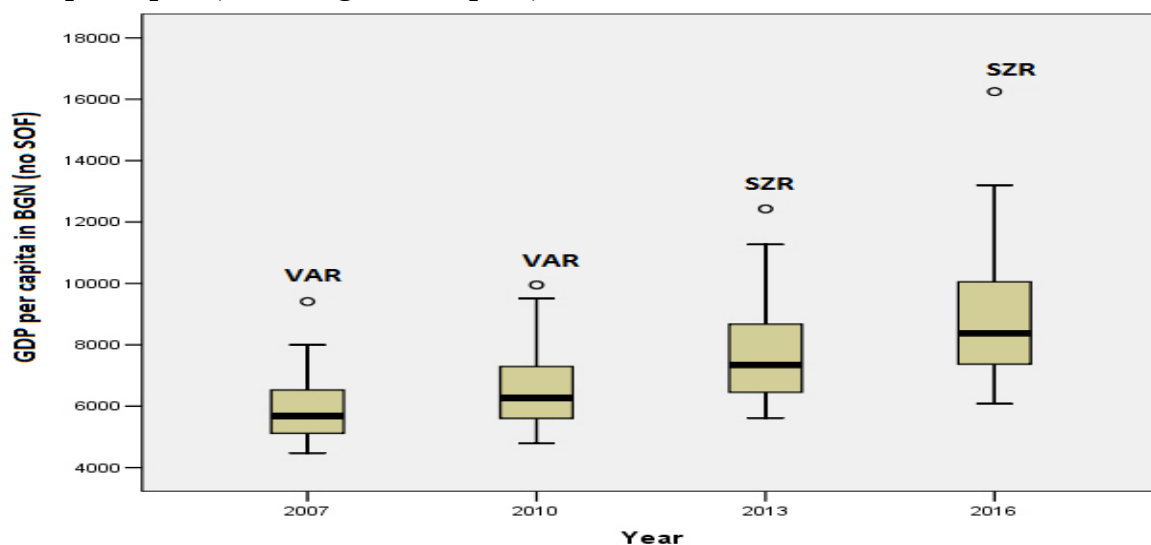
Unceasing growth of GDP per capita is reported during the analysed period. This is a clear sign of positive economic development in all districts of the country. Throughout the analysed period, the level of GDP per capita for Sofia capital is times above the average for the country. In addition, the std. deviation across the individual districts increases. In 2007, the districts had relatively the smallest disparities among each other in terms of GDP. During the analysed period, the disparities across them increased, and the std. deviation the districts was greatest in 2016.

¹⁴ All data used in the article were taken from the National Statistical Institute:

<http://www.nsi.bg/en/content/11252/regional-statistics-and-indicators-monitoring>, last visited in November 2018. The results of all statistical analyses are on the author.

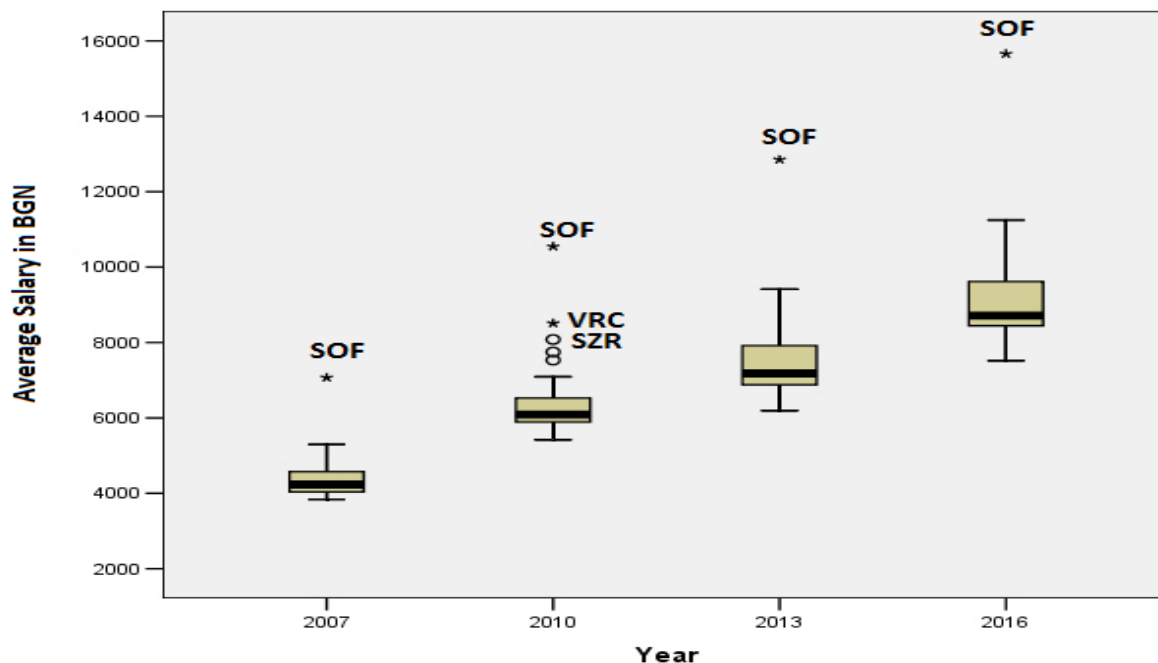
This indicates an increase in the disparities in the level of economic development. Which is a sure sign of greater disparities between more regions.

GDP per capita (excluding Sofia capital)



The analysis of the data for GDP per capita for the 27 districts, excluding Sofia capital, confirms the negative trend towards an increase in the disparities between the districts. The std. deviation across the districts is growing, and a clear difference becomes prominent between 2007 and 2016 – the disparities between the districts are becoming more and more significant. In addition, the Varna district and especially Stara Zagora stand out with a much higher growth of GDP per capita, and the difference between Stara Zagora district and the district with the lowest GDP per capita is more than two times for the year 2016.

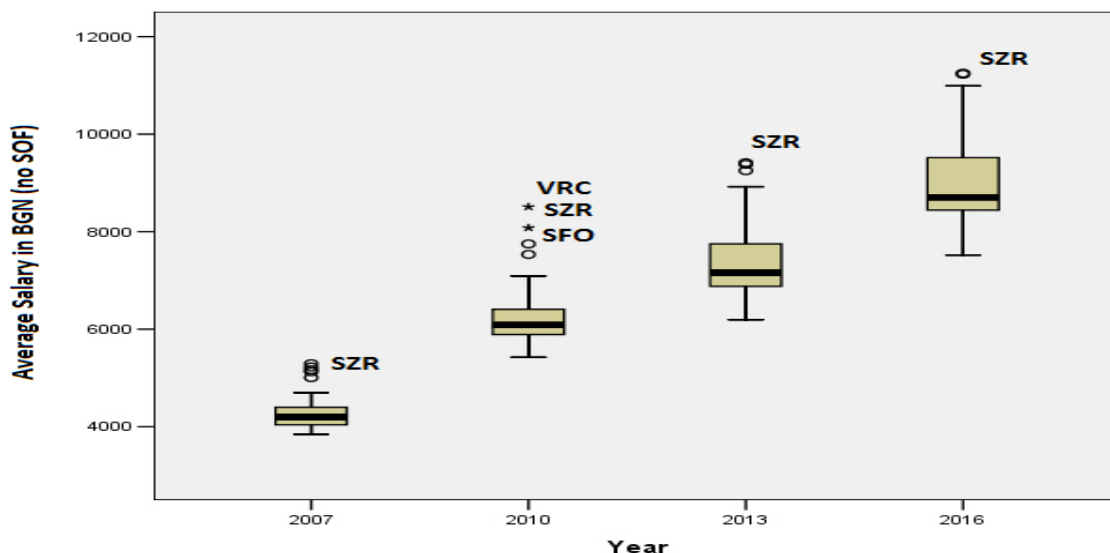
Average annual gross salary (all districts)



The analysis of the data on the ‘average annual gross salary’ indicator shows similar trends with those reported with the previous indicator. The growth of the average gross salary for 10 years is

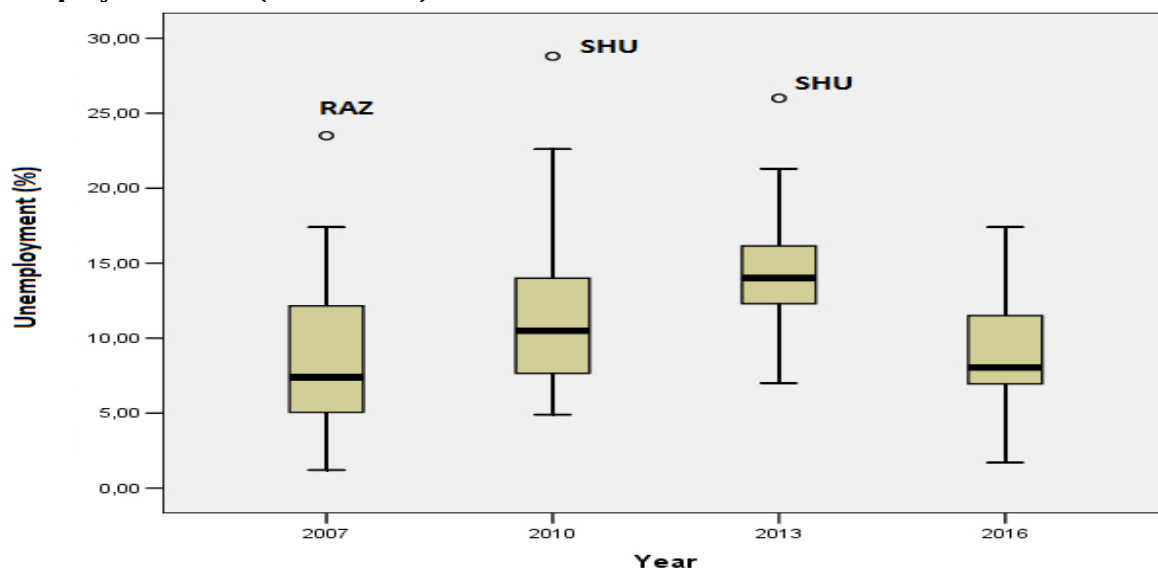
considerable. Practically, it has doubled – from BGN 4,000 in 2007 to more than BGN 8,000 in 2016. Despite the considerable growth, the salary level remains very different in the various districts and the disparities across them are increasing during the analysed period. Again, the average salary level in the capital city is significantly higher compared to other regions.

Average annual gross salary (excluding Sofia capital)



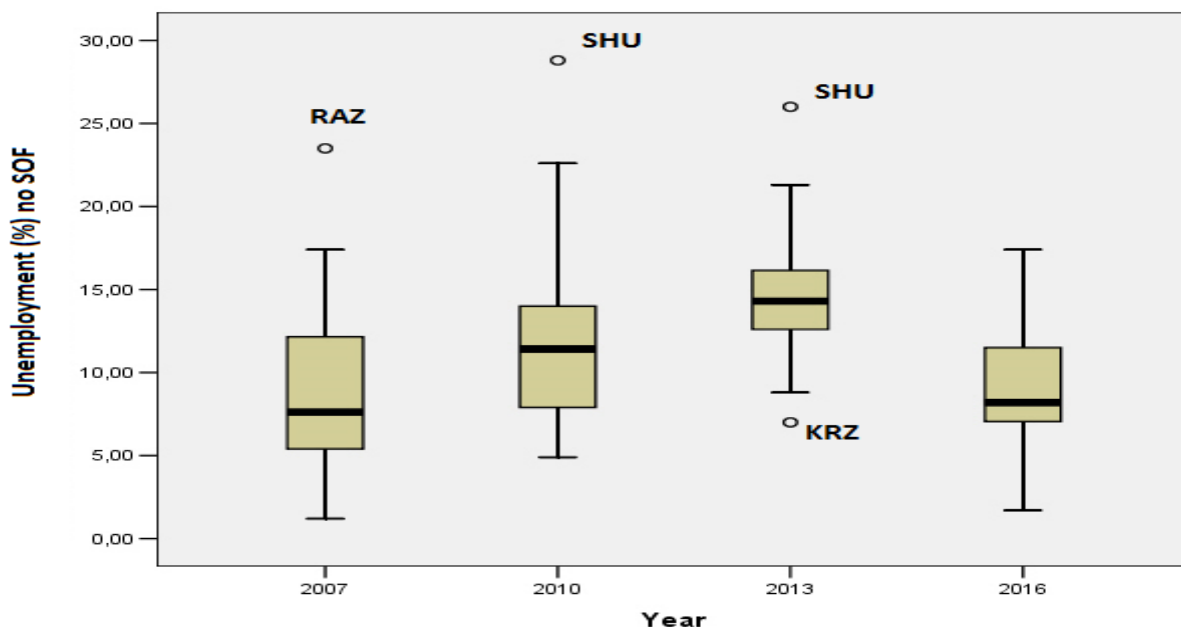
The std. deviation among the districts is significant even with the exclusion of the data on the capital. Again, we are seeing an increase in the salary level disparity across the individual districts. Over the analysed period, a higher salary level for Stara Zagora district compared to the other districts is observed. Only for one year (2010), we report a relatively higher salary level for Sofia district and Vratsa district. We can reasonably assume that this is due to the specifics of the development of one particular sector – energy, and, above all, to the salary level particularly at Kozloduy Nuclear Power Plant. If we have to summarize – the increased std. deviation across the districts under the ‘average annual gross salary’ indicator is a clear evidence that no convergence between the districts can be reported despite the overall growth of the salary level.

Unemployment rate (all districts)



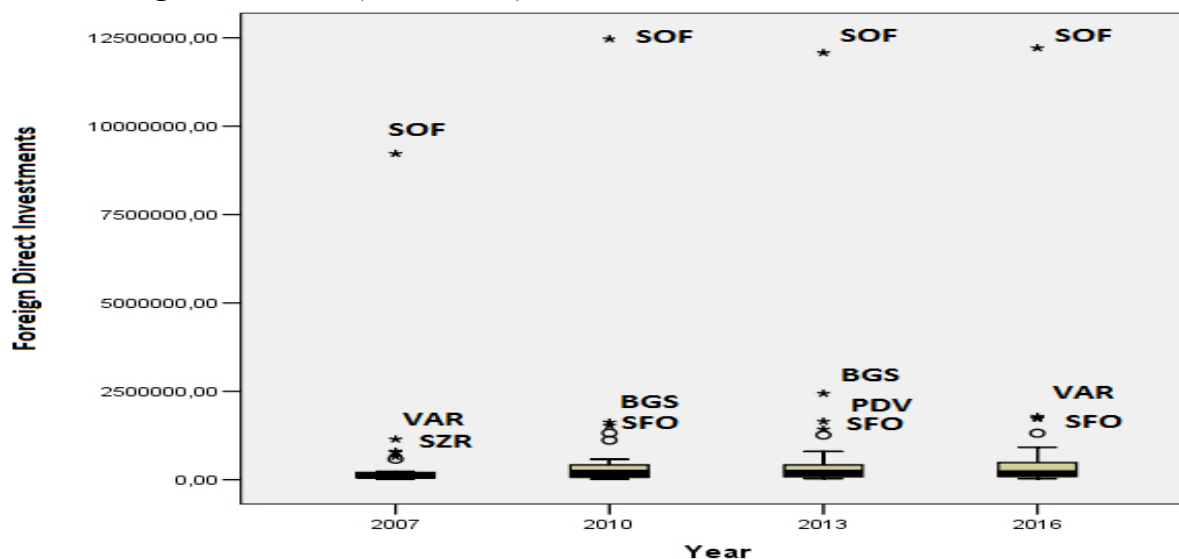
As a result of the overall positive economic development for the analysed period, the unemployment rate is decreasing in all districts. The analysis of the data also shows a significant reduction in the std. deviation across the individual districts. This gives us grounds to uphold that the disparities across the districts under this indicator are decreasing significantly.

Unemployment rate (excluding Sofia capital)



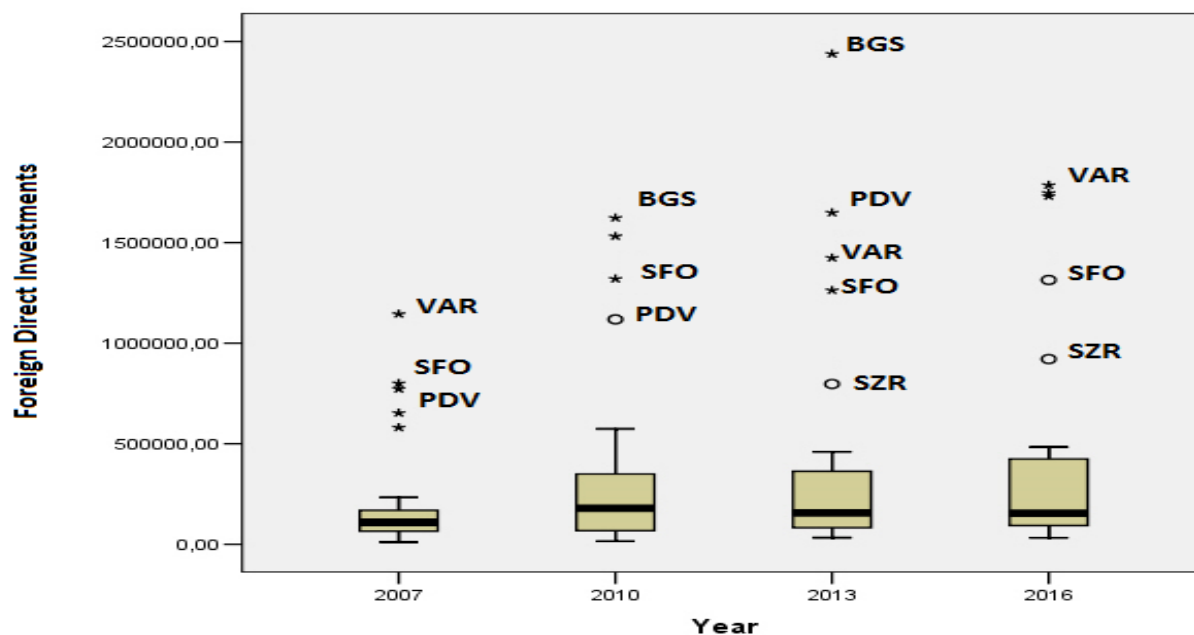
The comparatively low std. deviation across the districts is preserved also when analysing the data excluding those for the capital. The highest drop in the unemployment rate is recorded for Razgrad and Shumen districts. A comparatively small drop (beyond the average values) is reported for Kardzhali districts. The overall decline in the unemployment rate and the decrease in the disparities across the districts under this indicator is undoubtedly a positive trend. It gives us reason to expect a reduction in the salary level as well, due to saturation of the labour market, although no such trend has been reported for the time being, as already noted.

Direct foreign investment (all districts)

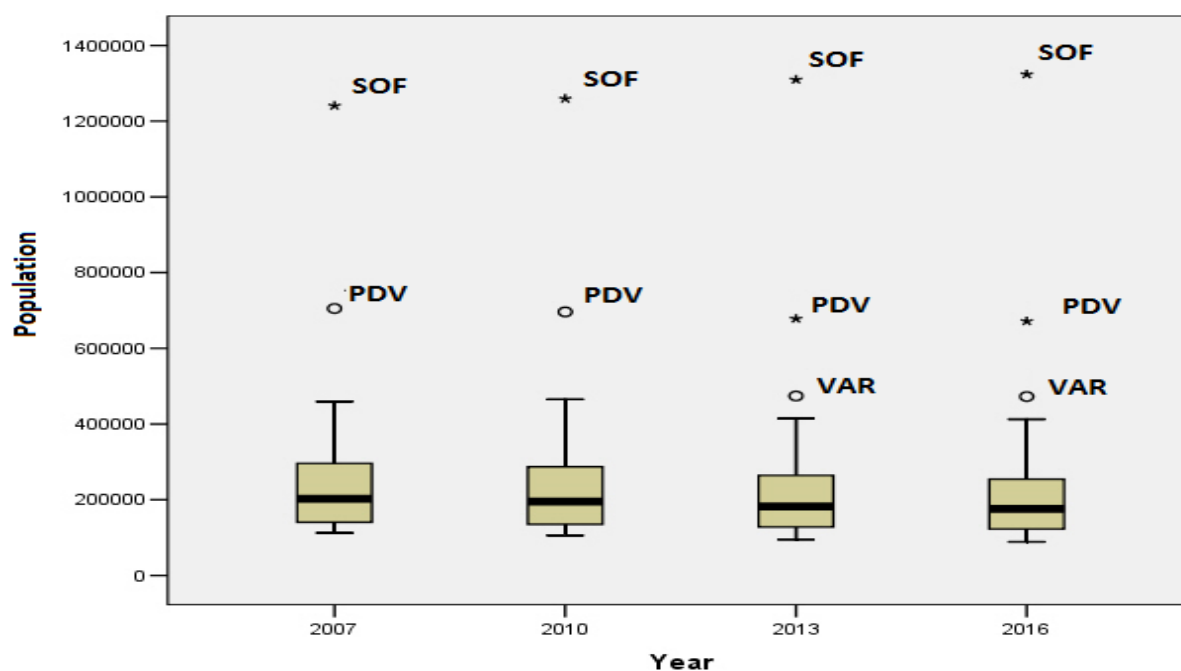


The analysis of the data on the ‘direct foreign investment’ indicator proves a negative and, at this point, insurmountable trend – direct foreign investment is concentrated in the capital. The disparity between the capital and the other regions is dramatic. Direct foreign investment is increasing only for Sofia capital at a subdued rate. This trend in the development greatly limits the opportunities of other districts to accelerate economic development.

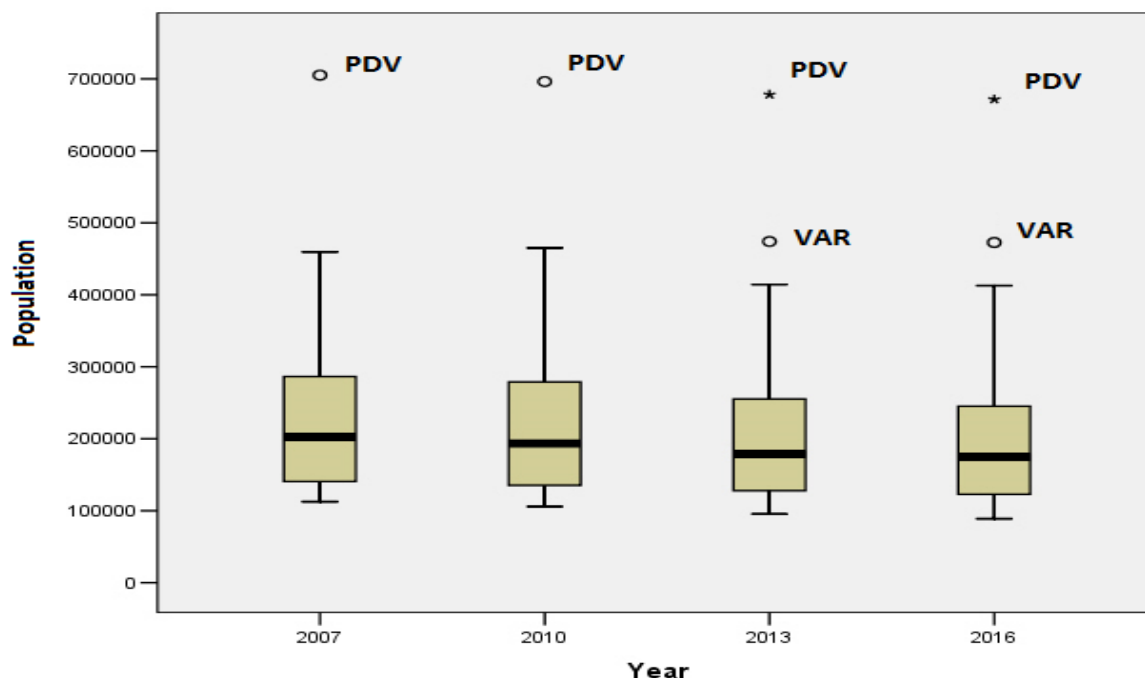
Direct foreign investment (excluding Sofia capital)



The analysis of direct foreign investment data without the ‘Sofia capital’ extremum shows some interesting results. The average values of direct foreign investment did not increase during the period examined. Albeit with minor changes, it remains at the same level. The std. deviation across districts significantly increases after 2010. This leads to the conclusion that only a limited number of districts manage to attract direct foreign investment. On the one hand, these districts begin, albeit insignificantly, to narrow their disparities with the capital, but on the other hand, the disparity between them and all the rest is increasing. This could hardly be interpreted as a positive trend. For the districts of Burgas, Plovdiv, Sofia district, significantly higher levels of direct foreign investment are reported compared to the average level for the other districts (excluding Sofia capital).

Population (all districts)

The population in the country has been decreasing over the whole period studied, and this process affects relatively evenly all districts. A low std. deviation is reported under this indicator compared to the other analysed indicators. A considerably higher population decline is reported for Smolyan and Pleven districts throughout the analysed period.

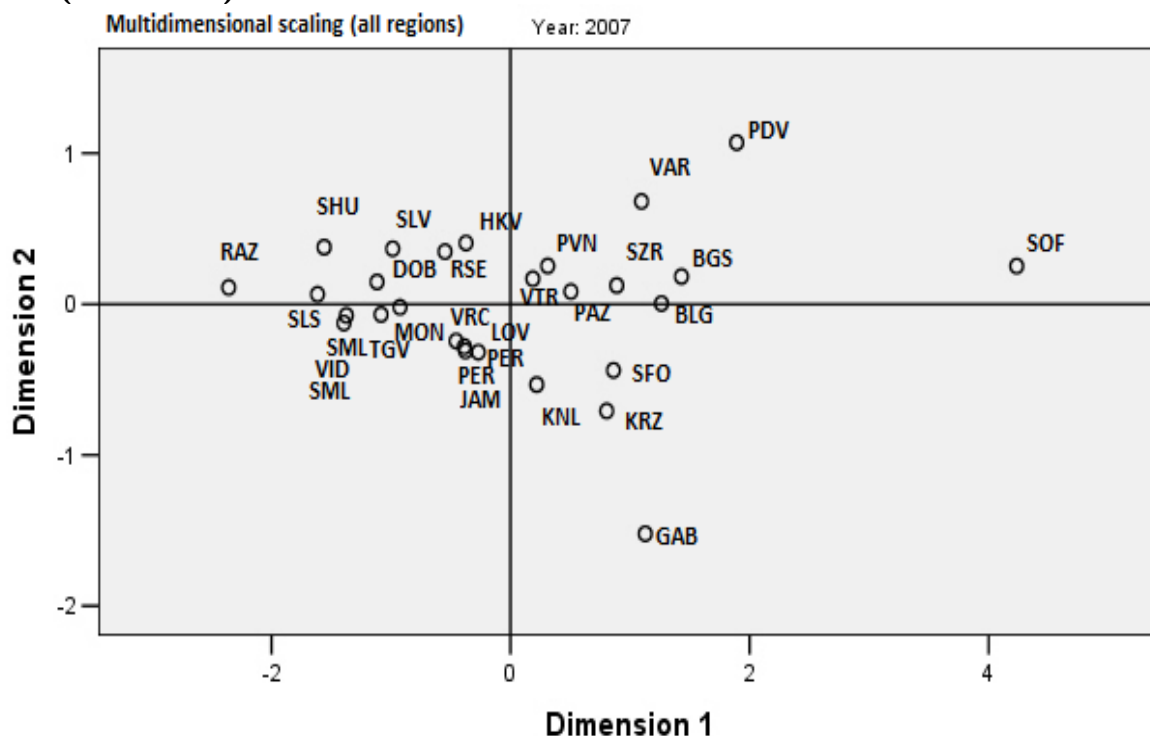
Population (excluding Sofia capital)

A strengthening in the negative trend is recorded for Burgas district as well, for 2013 and 2016. The population decline rates are considerably higher than the average ones. The low std. deviation for this indicator is preserved even without considering the data for Sofia district.

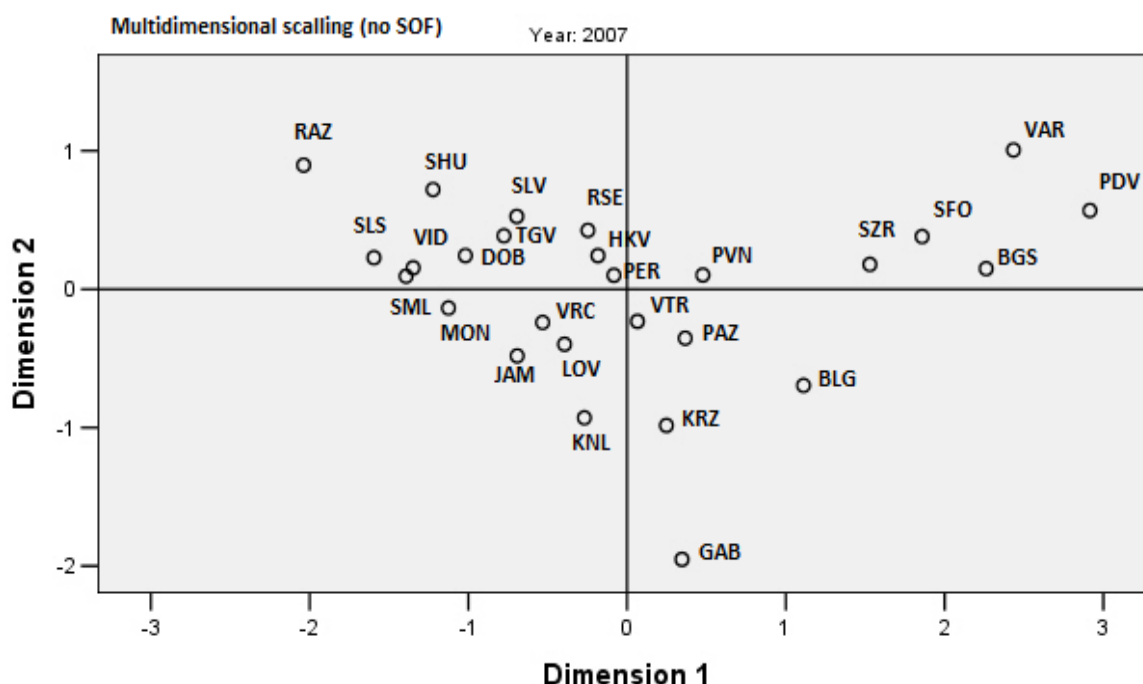
During the analysed period, an overall positive economic development of the country can be observed, despite the constant decline of the population. This economic trend also has a positive impact on the salary level and the level of unemployment. Unfortunately, there is also a strong territorial polarization in development. The level of lagging behind in the development of all districts compared to the capital is dramatic, and no significant catching-up processes can be seen. Reduction of the disparities across the districts is recorded only under the ‘unemployment rate’ indicator.

Analysis of multidimensional scaling results

2007 (all districts)



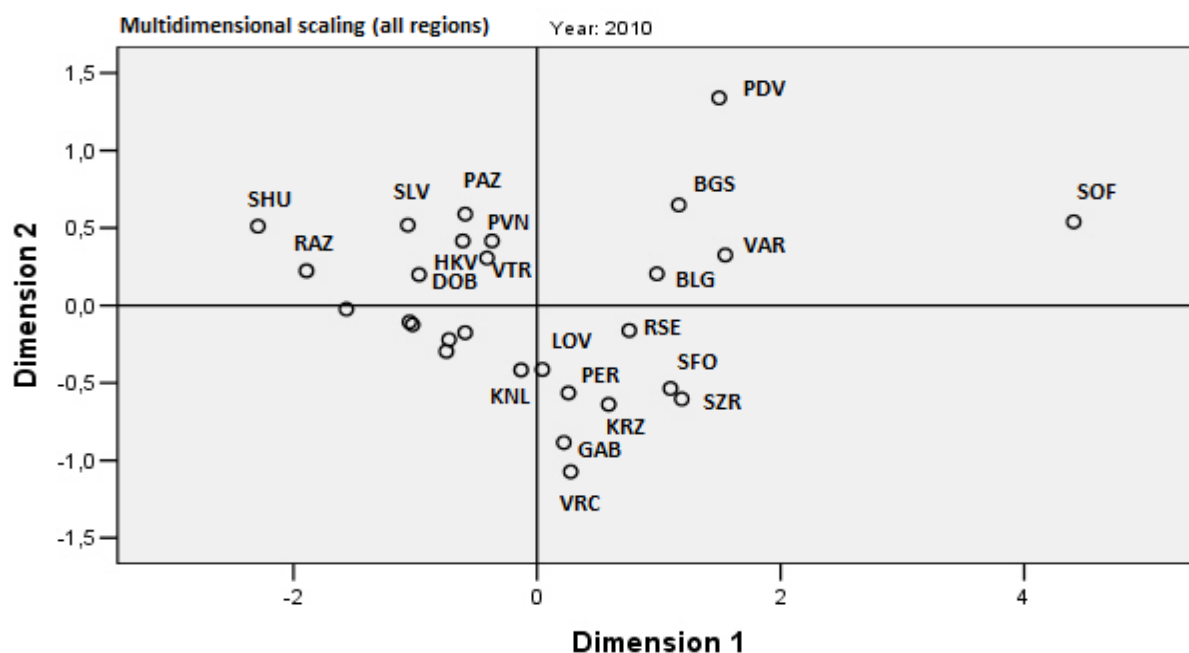
The analysis of the multidimensional scaling data for all indicators clearly outlines the huge disparity between Sofia capital and all other districts in 2007. The districts of Plovdiv, Varna and Burgas are closest to the capital, but the level of difference with it is considerable again. In addition to 2007, these districts cannot stand out significantly compared to all other districts. It is necessary to note that a large group of districts that are in the negative quadrant are standing out and they differ drastically by the studied indicators compared to the other districts (Vidin, Smolyan, Haskovo, Vratsa).

2007 (excluding Sofia capital)

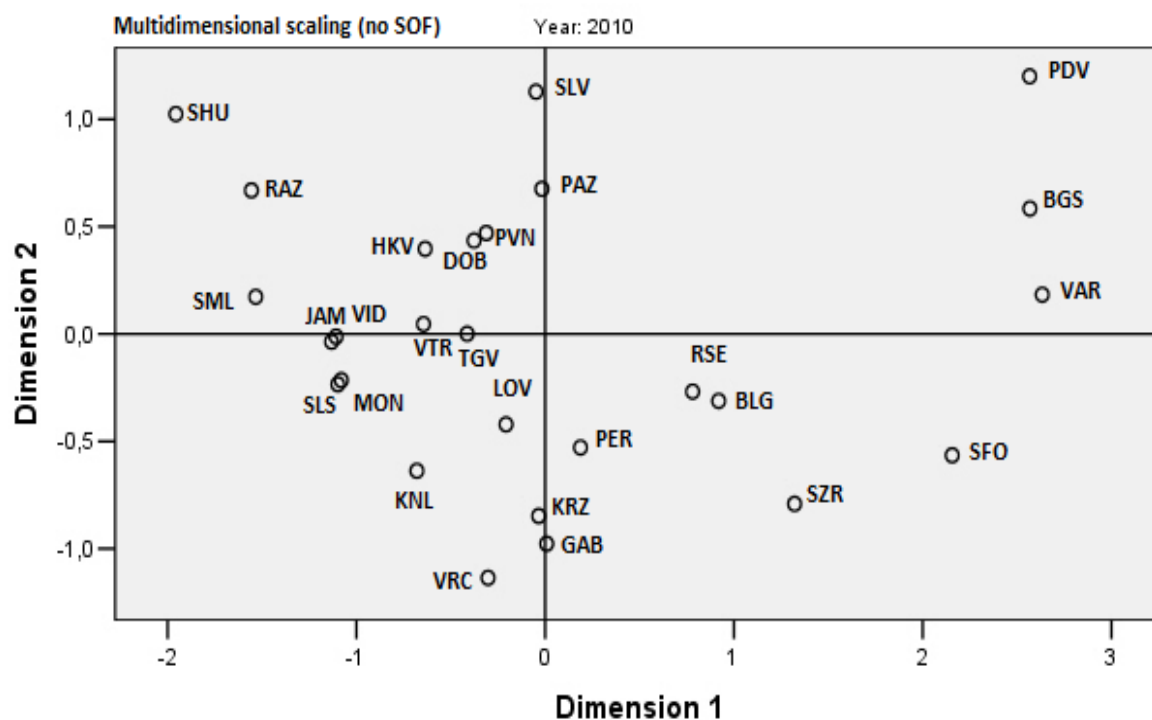
It is necessary to emphasize that, from the viewpoint of the multidimensional space, in which a district with a drastic difference from the others is included (Sofia capital), it is difficult to distinguish an internal division between the other objects of analysis – the other 27 districts. For this reason, it is important to analyse the data without including the capital.

Again, we record significant disparities across the districts in Bulgaria. A small group of districts is formed that are ‘catching up’. The indicators for their development are closer to the capital (although they remain very far from behind it). These are Plovdiv, Burgas, Varna, Sofia district and Stara Zagora. It should be noted that, although with small differences, this group can be divided into two subgroups. On the one hand, these are the districts Plovdiv, Varna and Burgas, which have the best performance compared all other districts. The second subgroup includes the district Stara Zagora and the Sofia district, which, although standing out considerably against the districts lagging behind in their development, have significantly lower indicators than the first three districts.

Unfortunately, there is also a group of districts that differ considerably from the others, in a negative direction. This group includes, besides the ‘usual suspects’ of the Northwest planning region – Vratsa and Montana, the districts Kyustendil, Yambol, Lovech and Smolyan as well.

2010 (all districts)

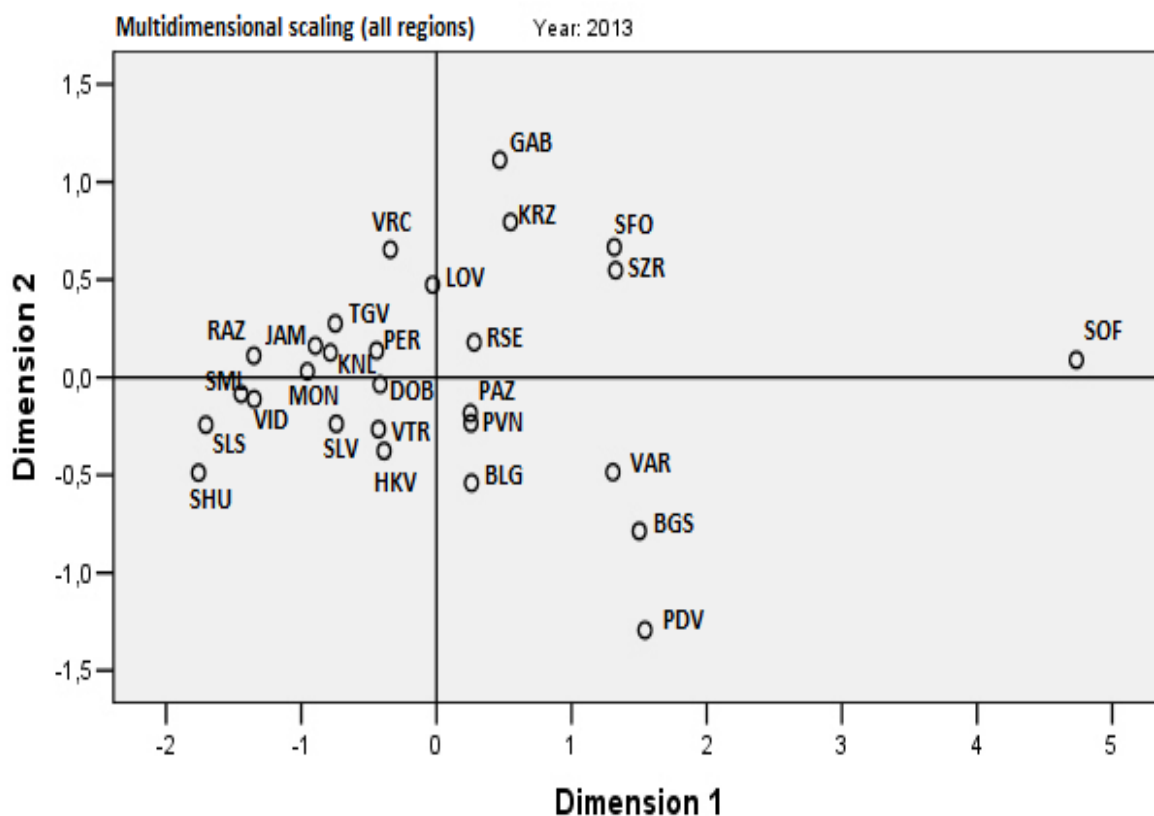
The trends in the development of regional disparities remain the same for 2010 as well. The huge disparity in development of Sofia capital and of all the other districts is preserved in 2010 compared to 2007. The group of districts closest to the capital can still be identified, but the gap is still too great. Again, this group comprises the districts of Plovdiv, Varna and Burgas.

2010 (excluding Sofia capital)

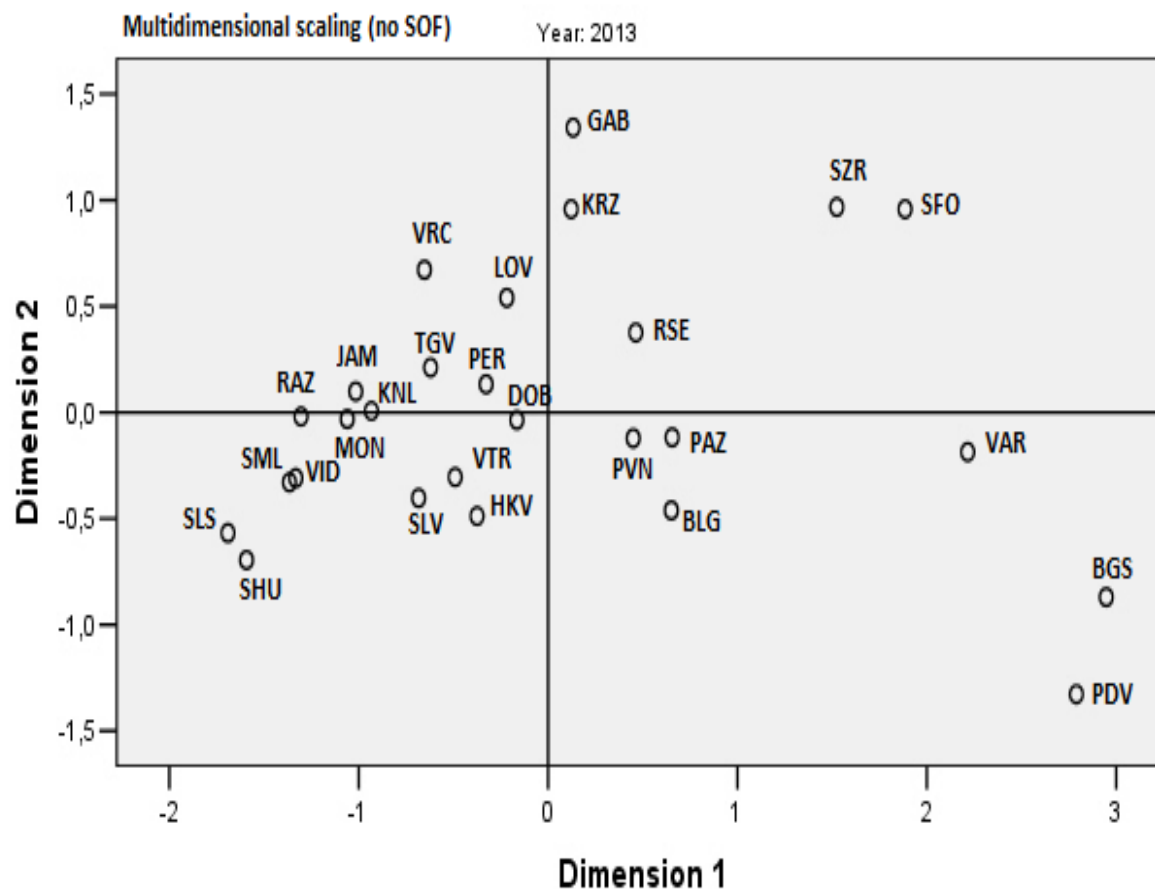
Due to the persisting serious imbalance in the development between the capital and all other districts, it is necessary, for 2010 again, to analyse the data without those for Sofia capital. Unlike the situation in 2007, the disparities across the 27 districts are increasing. The group of three districts (Plovdiv, Varna and Burgas) that are closest to the capital in terms of their development, is preserved, but the disparity between them and the capital remains. It should be noted that the districts of Stara Zagora and Sofia district have significantly reduced their disparity with the districts Plovdiv, Varna and Burgas.

An increase in the disparities within the next group of districts can be observed, compared to the situation in 2007. A group of districts can be identified that succeed in reducing the disparities with the more developed districts – Blagoevgrad, Ruse, Pernik, Gabrovo, Kardzhali. Again, the presence of a group of districts that are significantly lagging behind in their development is recorded – Shumen, Razgrad, Smolyan.

2013 (all districts)

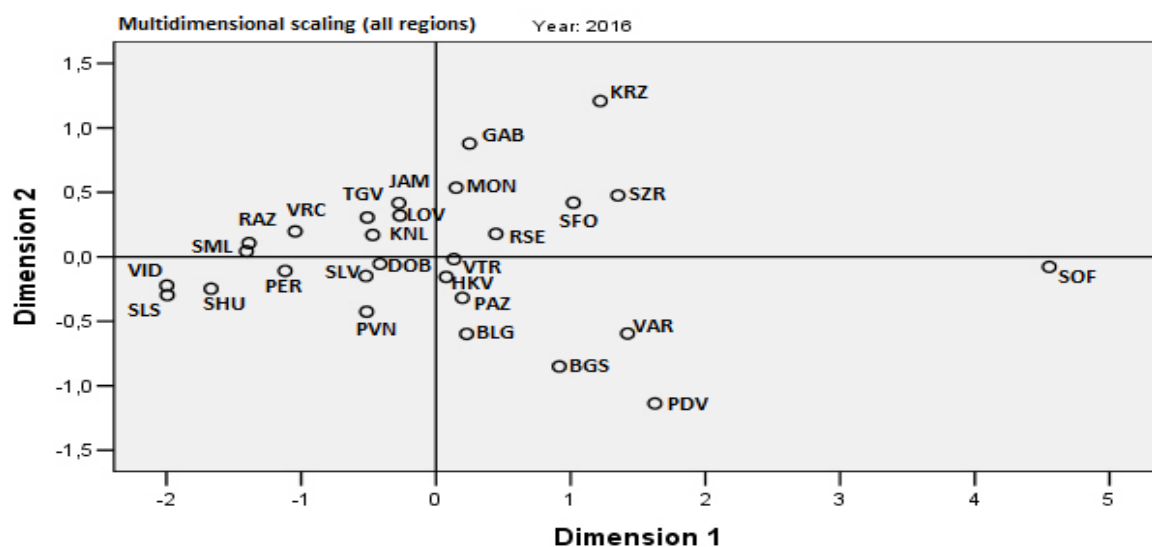


The analysis of the data for 2013 shows several negative trends. The level of divergence in the development across the districts increases in 2013. The disparity between the capital and the other districts is increasing. There is also an increase in the disparities between the already lastingly established group of five districts with the highest performance and all other districts in the country. It should be noted that, within this small group, the disparities between the districts Plovdiv, Varna and Burgas, on the one hand, and Stara Zagora and Sofia district, on the other hand, are more significant. Still, we can note a positive trend for 2013 as well – several regions have managed to reduce the disparities in their development and to come closer to the more developed districts – Gabrovo and Kardzhali.

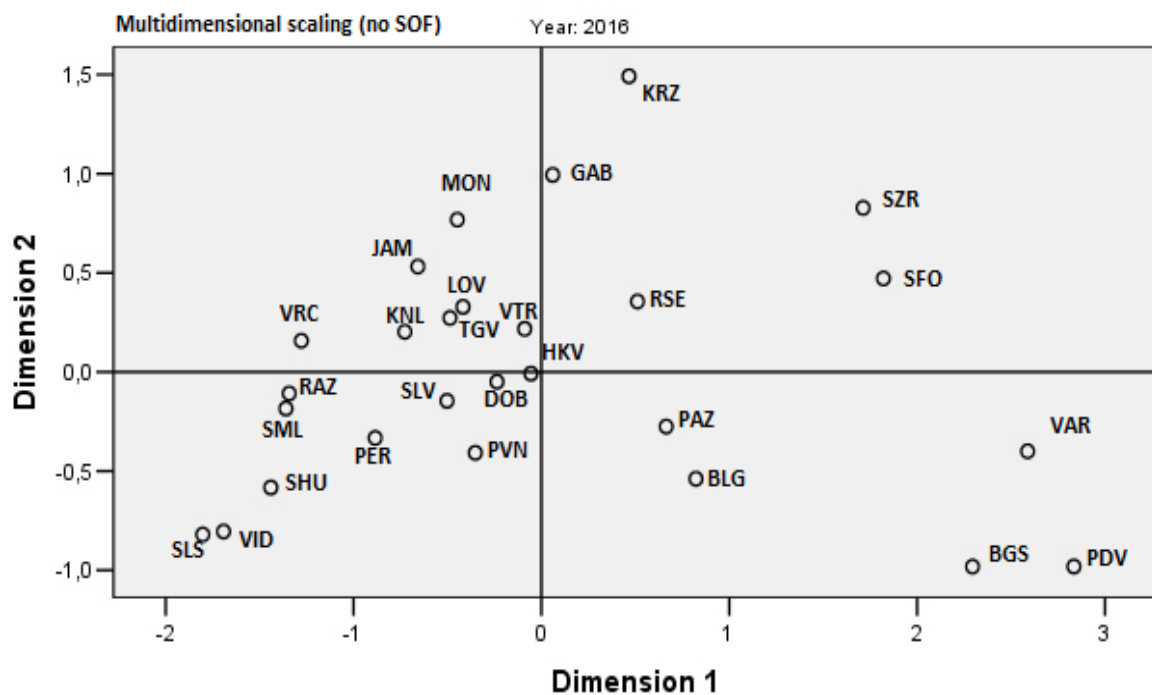
2013 (excluding Sofia capital)

The negative trend toward an increase in the level of disparity between the capital and all other districts again requires that data analysis should be made excluding the data for Sofia capital. The disparities across the districts in Bulgaria remain considerable in 2013. The analysis confirms the presence of a small group of districts which are reported to have significantly higher levels of development than the rest of the country, but they still remain far from the capital, as already noted.

The stratification in the large group of lagging districts persists as well. The districts Blagoevgrad, Ruse, Gabrovo and Kardzhali show slightly better performance (but still distant from the previous group). Only two districts have managed to reduce the disparities compared to the small group of the more developed districts – Pazardzhik and Plevna.

2016 (all districts)

The development of regional disparities in the last year of the period analysed confirms all the negative trends reported so far. The process of extreme polarization in the development and forming of a many times more developed centre is reinforced. The huge disparity in the development of the capital compared to all other districts remains unchanged. The polarization of the five relatively more developed districts – those of Plovdiv, Varna and Burgas, on the one hand, and Sofia district and Stara Zagora, on the other, is also preserved. The disparities among all other districts are also deepening. It should be noted that several districts have managed to accelerate their development in relation to the other districts – Kardzhali, Gabrovo and Ruse.

2016 (excluding Sofia capital)

The analysis of the data for all districts, excluding Sofia capital, shows the occurrence of increasing fragmentation and an increase in the development disparities across the districts as of 2016 compared to 2007. The group of five relatively more developed districts preserve the level of disparity compared to both the other districts and the capital. These districts are failing to catch up with the capital, and the other districts are failing to catch up with them. The internal polarization in this group is also preserved. Two positive trends can also be reported. The districts Blagoevgrad, Ruse, Pazardzhik, Gabrovo and Kardzhali have managed to offset their lagging behind compared to some of the other districts, but their lag is still significant. We also note a tendency for convergence, although not strongly expressed, between the backward districts and the two groups of districts with comparatively better performance. It should also be noted that several districts are lastingly lagging behind in their development compared to all other districts – Shumen, Silistra and Vidin.

Survey summary

This study applies multidimensional scaling as the main method for analysing the disparities in the development across regions. It is a descriptive technique of calculating and subsequently visualizing the differences between the objects of research in a common conceptual space. Multidimensional scaling places the disparities across the individual observed analysis units – districts, in this particular case – within a common plane by calculating ‘distances’ between the individual objects based on different variables. The result of the calculations can be visualized in a two-dimensional plane, which allows to illustrate and describe the distance/proximity of the objects to each other. As a result of the visualization, the different types of clusters among the objects (regions) become clearly visible and these can be traced over time.

The analysis is carried out at the districts level corresponding to a level of NUTS III units of the EU classification. In the particular case of Bulgaria, there is no equivalent administrative territorial unit at NUTS II level, but only statistical regions. Besides, the negative trends in the demographic development and the concentration of population in several urban centres call for a forthcoming change in the scope of regions of the second level (NUTS II). On the other hand, the district level in Bulgaria is the traditional regional level of government based on traditional economic centres. This gives us reason to do the analysis precisely at the district level (NUTS III). Secondly, the differences in the regional development are assessed in two stages – including Sofia capital district and excluding it. This is done because the latter is characterized by overconcentration of economic activity and population. This model of development of the country necessitates a specific emphasis in the analysis on the disparities in the development of the capital compared to the other districts.

The survey has demonstrated the hypothesis that, within the analysed period (2007 to 2016), regional development has remained inequitable. During the analysed period, an overall positive economic development of the country is observed, despite the constant decline of the population. Unfortunately, a strong territorial polarization in the development is also registered. The disparities in the development across the districts have increased during the examined period. Convergence between individual districts in terms of some economic indicators is reported, but the disparities between the most developed districts and the others are preserved. The tendency of overconcentration of economic activity and population in the capital remains insurmountable, and no significant catching-up processes in the other districts can be observed.

Several groups of districts have also been identified in terms of their level of development and the disparities therein. Besides the clear polarization in development centring on capital, a group of five districts (Plovdiv, Varna, Burgas, Stara Zagora and Sofia district) is delineated, increasing

their level of development to a greater extent than all other districts. The disparities between them and the other districts increased during the period under review. However, they fail to catch up with the capital. The districts Blagoevgrad, Ruse, Pazardzhik, Gabrovo and Kardzhali form a further group of districts that are getting ahead of the large group of more backward districts, but again the level of disparity between them and the previous group remains. It should also be noted that several districts are lastingly lagging behind in their development – Shumen, Silistra and Vidin.

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