The Regional Competitiveness in Bulgaria at the Time of Economic Crisis

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Abstract: **In the paper, the results are presented from a research of the competitiveness in the regions in Bulgaria. The influence of the world financial and economic crisis is evaluated by changes of the rank and the score of the index of competitiveness of the regions before and after the beginning of the crisis. The topic is a change of the general competitiveness that is calculated by latest data published by the National Statistical Institute. The index of the competitiveness for the last year is compared with results from previous studies. At the end of the article, conclusions and recommendations are made to confine negative effects and quickly recover the regions.**

Keywords: **Bulgaria, competitiveness, economic crisis, regional development, regional policy.**

I. INTRODUCTION

The last major financial crisis started in 2007 in the USA and quickly spread all over the world. The problems with mortgages in the beginning turned into a financial crisis. Many banks, insurance companies and firms in the USA and Europe have suffered severe losses in the stock markets. This affected the economic activities. The influence of the crisis in Bulgaria is indirect [6], [7], [11], [12], [13], [17], [20] .The final result is a drop of the foreign direct investments in Bulgaria, an increase in the deficit, a decline in the Gross Domestic Product (GDP), etc. This is confirmed by the macroeconomic indicators that are presented in Table 1.

TABLE 1

THE MAIN MACROECONOMIC INDICATORS

Indicators	2006	2007	2008	2009	2010
Gross domestic product (million BGN)	51783	60185	69295	68322	70474
Gross domestic product (annual real growth rate, %)	6.5	6.4	6.2	-5.5	0.2
Unemployment (%)	9.1	6.9	6.3	9.1	9.2
Deficit(-)/surplus(+) (% of GDP)	1.9	1.1	1.7	-4.7	-3.2
Net foreign assets (million BGN)	18634	19130	13944	14711	17086
Base interest rate (%)	2.7	3.9	5.1	2.4	0.2
Net external debt (% of GDP)	24.7	39.0	55.1	55.6	49.4

Source: Bulgarian National Bank, available at: http://www.bnb.bg/Statistics/StMacroeconomicIndicators/index.htm. [accessed on August 29, 2011].

The aim of the paper is to research the influence of the economic crisis on the competitiveness of the regions called "districts" according to the national legislation. Competitiveness is particularly important both at company and regional level [4], [8], [9], [10]. The objects of the study are districts classified as level NUTS 3 according to the EU

legislation [5]. The main tasks are the following: calculation of the index of competitiveness by using the tested methodology from the previous research; comparison with the results from the past studies; classification of the districts by the ability to surmount difficulties.

The scientific thesis is that districts with a high level of the quality of employed persons and with no tendency for a decrease in expenditure on acquisition of tangible fixed assets and expenditure in research and development activities are more competitive, and the economic crisis has less effect on them.

The districts, which correspond to the NUTS 3 level, are called *"oblast"* in Bulgaria. These districts are administrative territorial units for the conduct of regional policy, the implementation of state management on the local level and for ensuring compliance between national and local interests [1]. It consists of one or more neighboring municipalities. A district's governor appointed by the Council of Ministers carries out the governance process. The district's governor shall ensure the implementation of state policy, the protection of national interests, law and public order and exercise administrative control. Its work is supported by the district administration. The districts do not have their own budget. This is the smallest territorial unit for which the National Statistics Institute (NSI) publishes sufficiently reliable information. The territorial location of the districts in Bulgaria is presented in Fig. 1.
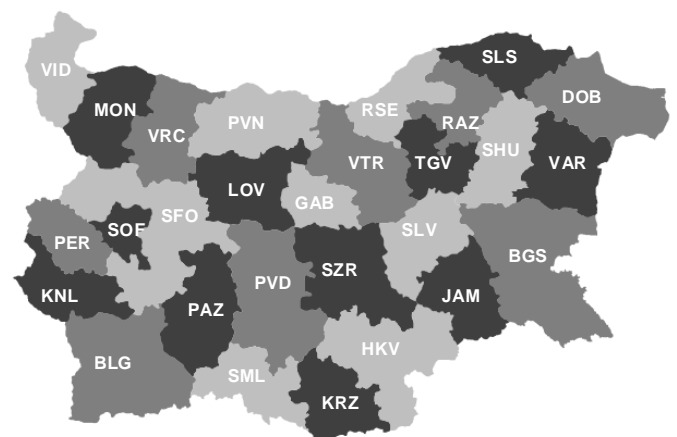

Fig. 1. Map of districts according to the NUTS 3 level

The used methodology is presented in the previous article [2], [3]. The similar methodology is proposed to be used for evaluation of the competitiveness at a company level [19]. In brief, according to the methodology, which is used in this research, the index of the competitiveness is a distance from each district, as a point of N-dimensional space with

coordinates, which are defined by the values of indicators for the studied district, to the hypothetical district, whose coordinates are defined by the best values of the used indicators for all districts. The index is calculated on the basis of 10 indicators published at the website of the NSI in the section for regional statistical data. The indicators concern:

Firstly, the market size, as measured by indicators of population density, natural increase and turnover per capita;

Secondly, the quantity and quality of labour resources, respectively, measured by the rate of employed persons, the share of working-age population with a higher education and the share of population using the Internet;

Thirdly, the competitiveness of the economy, determined by the expenditure on acquisition of tangible fixed assets, foreign direct investment, productivity and gross domestic expenditure on research and development activities per person engaged in research and development.

The indicators are selected according to the level of significance for regional economy. Some of them are very sensible to changes in the economic situation, for example the expenditure on acquisition of tangible fixed assets, foreign direct investment, etc.

For the interpretation of results, the following aspects must be considered: the lowest score, which means the highest competitiveness (the distance from the district to the hypothetical *"the best"* district decreases) and a positive change in the score (with a symbol "+"), which means a decrease in the competitiveness (the score in the current year is higher than in the base year, the distance increases).

II. Results and Comments

Table 2 shows the results of the Index of Competitiveness calculated for the districts in Bulgaria according to the data for 2009. It was the last data that NSI published at the website at the end of August 2011. The first 10 places are occupied by districts, including the largest cities in Bulgaria (over 100 000 population) and the capital. The exceptions are two types of regions. The first one includes medium-sized cities such as Gabrovo, Haskovo and Veliko Tarnovo, which have a high level of competitiveness and take up respectively the 7th, 8th and 10th places. The second type comprises the largest city – Pleven (14th place) and three medium-sized cities in top 10 by population – Sliven (18th), Dobrich (21st place) and Shumen (13th) that have a moderate and low level of competitiveness. According to competitiveness rating, the first 10 districts are the developed regions, which are very attractive for foreign and local investments, with higher educated human resources that frequently use the Internet, as well as headquarters of big companies with potential for research and development activities, etc. The regions at the bottom of the table are border, rural or depressed regions, they have difficulty focusing attention of investors, and the productivity and the turnover per capita are low. Moreover, due to economic, ethnic or both reasons there is a high level of uneducated or less educated people, who use the Internet rarely..

TABLE 2

THE INDEX OF COMPETITIVENESS OF DISTRICTS IN BULGARIA FOR 2009

	Districts		2009	
No	Name	Code	Score	Rank
1	Sofia (Capital)	SOF	1	3.55
2	Varna	VAR	2	10.85
3	Burgas	BGS	3	11.66
4	Plovdiv	PDV	4	11.69
5	Stara Zagora	SZR	5	11.96
6	Ruse	RSE	6	12.15
7	Gabrovo	GAB	7	12.61
8	Haskovo	HKV	8	12.80
9	Sofia	SFO	9	12.86
10	Veliko Tarnovo	VTR	10	12.92
11	Lovech	LOV	11	13.03
12	Yambol	JAM	12	13.06
13	Shumen	SHU	13	13.08
14	Pleven	PVN	14	13.11
15	Blagoevgrad	BLG	15	13.11
16	Pernik	PER	16	13.21
17	Smolyan	SML	17	13.24
18	Sliven	SLV	18	13.26
19	Pazardzik	PAZ	19	13.30
20	Vratsa	VRC	20	13.35
21	Dobrish	DOB	21	13.36
22	Kyustendil	KNL	22	13.55
23	Targovishte	TGV	23	13.59
24	Montana	MON	24	13.88
25	Razgrad	RAZ	25	13.89
26	Silistra	SLS	26	14.33
27	Vidin	VID	27	14.39
28	Kardzhali	KRZ	28	14.57

The dynamics of competitiveness for the period 2006–2009 is shown in Table 3. The results for 2006, 2007 and 2008 are calculated and presented in the previous studies [2], [3]. They are revised because some of the used data at the moment of evaluation is unavailable or preliminary.

The main tendencies, which are observed, are the following:

First, during the whole period there were no changes in ranks of the first two places (Sofia, Varna, Burgas). Also the regions, taking the places from the 3rd to 9th, did not have substantial changes. Unfortunately, during the whole period there were no changes for the last places. The ranks of Targovishte, Montana, Razgrad, Silistra and Vidin were stable from the 23rd to 28th. There were significant variations of ranks, more than 3 places, in all years. For example, in 2009 the place of Yambol was changed from the 21st to 12th and Lovech – from the 18th to 11th place, but the place of Pazardzhik was changed from the 13th to 19th place. In 2008, the regions with substantial changes were Blagoevgrad (10

places up), Smolyan (8 places up), Yambol and Vratsa (8 places down), and Lovech (6 places down).

Second, the large fluctuation of districts from 10th to 20th places shows a strong relation of the competitiveness and chosen indicators. The trends observed in the previous studies concerning a correlation between the final results and used indicators remained the same [2], [3]. The most important indicators are the following: turnover per capita; expenditure on acquisition of tangible fixed assets; foreign direct investment in non-financial enterprises, population density per sq. km and share of population aged between 25 and 64 with a higher education degree. This means the efforts and the attention should be directed to improve these indicators. The less significant indicator is a natural population increase. The decline of the significance of such an indicator as productivity shows a tendency to decreasing the differences between districts.

Third, the gap in the score fluctuated from 10.84 in 2006 to 11.03 in 2009 during the whole period that indicated a widening gap between "rich" and "poor" districts and could be used for another alternative way for assessment of the influence of the economic crisis over the competitiveness of the districts. In 2009, negative changes of the scores were observed in 10 districts. In 2008, these changes concerned 12 districts, in 2007 – 19 districts and in 2006 – no one district, which means deterioration of the competitiveness for these districts. The positive aspect of these results is the decrease in the number of districts. The average variation by absolute meaning of the change of a score in the current year compared to previous is 0.24 in 2009, 0.23 in 2008 and 0.20 in 2007 and 2006. The standard deviation is respectively: 0.28 in 2009, 0.26 in 2008 and 0.21 in 2007 and 2006.

TABLE 3

THE INDEX OF COMPETITIVENESS OF DISTRICTS IN BULGARIA FOR 2006–2009

No	Code of districts	2009		Change 2009-2008		2008		Change 2008-2007		2007		Change 2007-2006		2006		Change 2006-2005	
		Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
1	SOF	1	3.55	=	-0.36	1	3.19	=	0.05	1	3.24	=	0.23	1	3.47	=	-0.07
2	VAR	2	10.85	=	-0.16	2	10.69	=	-0.26	2	10.43	=	0.12	2	10.55	=	-0.18
3	BGS	3	11.66	▲1	0.08	4	11.75	▼1	-0.27	3	11.48	=	-0.26	3	11.21	=	-0.71
4	PDV	4	11.69	▼1	-0.06	3	11.64	▲1	0.00	4	11.63	=	-0.15	4	11.49	=	-0.46
5	SZR	5	11.96	=	-0.02	5	11.94	=	-0.22	5	11.72	=	0.15	5	11.87	▲1	-0.30
6	RSE	6	12.15	▲1	0.04	7	12.20	▲1	0.16	8	12.36	▼1	-0.16	7	12.20	=	-0.48
7	GAB	7	12.61	▲3	-0.09	10	12.52	▼3	-0.22	7	12.30	▲1	-0.08	8	12.22	=	-0.22
8	HKV	8	12.80	▲1	-0.38	9	12.42	▲1	0.28	10	12.70	=	0.19	10	12.89	=	-0.73
9	SFO	9	12.86	▼3	-0.70	6	12.16	=	-0.11	6	12.05	=	-0.13	6	11.92	▼1	-0.52
10	VTR	10	12.92	▼2	-0.53	8	12.39	▲1	0.16	9	12.55	▲4	0.47	13	13.02	▼4	-0.86
11	LOV	11	13.03	▲7	0.21	18	13.24	▼6	-0.46	12	12.78	▼3	0.06	9	12.84	▲8	-0.18
12	JAM	12	13.06	▲9	0.35	21	13.42	▼8	-0.53	13	12.89	▲3	0.31	16	13.20	▼1	-0.61
13	SHU	13	13.08	▲2	0.06	15	13.13	▼4	-0.39	11	12.74	▲3	0.31	14	13.05	▼3	-0.72
14	PVN	14	13.11	▲2	0.08	16	13.19	▲1	-0.06	17	13.13	▼6	-0.22	11	12.91	▲1	-0.55
15	BLG	15	13.11	▼4	-0.30	11	12.81	▲10	0.48	21	13.30	▼3	0.02	18	13.31	▼5	-0.83
16	PER	16	13.21	▼2	-0.12	14	13.09	▲1	-0.09	15	13.00	▲4	0.41	19	13.40	▼5	-0.83
17	SML	17	13.24	▼5	-0.33	12	12.91	▲8	0.38	20	13.29	▲2	0.20	22	13.49	=	-0.57
18	SLV	18	13.26	▲1	0.08	19	13.35	▼3	-0.31	16	13.03	▲1	0.19	17	13.22	▲1	-0.49
19	PAZ	19	13.30	▼6	-0.39	13	12.92	▲5	0.24	18	13.15	▲3	0.32	21	13.47	=	-0.57
20	VRC	20	13.35	▲2	0.14	22	13.48	▼8	-0.54	14	12.94	▲1	0.13	15	13.08	▲5	-0.20
21	DOB	21	13.36	▼4	-0.14	17	13.22	▲2	0.03	19	13.25	▼7	-0.27	12	12.98	▲4	-0.34
22	KNL	22	13.55	▼2	-0.18	20	13.37	▲3	0.08	23	13.45	▼3	-0.03	20	13.42	▲3	-0.47
23	TGV	23	13.59	▲1	0.06	24	13.64	▼2	-0.30	22	13.34	▲2	0.35	24	13.69	▼5	-0.86
24	MON	24	13.88	▲1	-0.19	25	13.69	▼1	-0.14	24	13.55	▼1	0.09	23	13.64	▲2	-0.37
25	RAZ	25	13.89	▲2	0.38	27	14.27	▲1	0.05	28	14.32	▼3	-0.15	25	14.17	▲1	-0.89
26	SLS	26	14.33	▼3	-0.73	23	13.61	▲2	0.28	25	13.89	▲1	0.31	26	14.20	▼2	-1.25
27	VID	27	14.39	▲1	0.00	28	14.39	▼1	-0.12	27	14.27	▲1	0.22	28	14.49	=	-0.60
28	KRZ	28	14.57	▼2	-0.49	26	14.08	=	0.12	26	14.20	▲1	0.11	27	14.32	=	-1.03

The most important reasons for these results are the following:

- The leadership of the capital in the Bulgarian economy. During the whole period, from 2006 to 2007, the best values of the indicators (except natural increase in population and productivity) are achieved in Sofia.
- The concentration of the foreign direct investment in small part of the districts. Less than 1% of the total foreign direct investment was allocated to 9 districts in 2009. In 2008 the number of districts remained the same, but in 2007 there were 10 districts. Five districts attracted 82% of the total foreign direct investment in 2009, and 83% in 2008 and 2007.
- The low level of the expenditure on acquisition of tangible fixed assets. During the period, the average share of the first districts was 72%. 17 – 18 districts have on average 1% or less than 1% of the total expenditure on acquisition of tangible fixed assets per year.
- The low level of the gross domestic expenditure on research and development activities per person engaged in research and development activities. The expenditures are concentrated in a few districts, usually in larger cities. In 15 districts in 2009 the companies did not report for such kind of expenditures or their amount was insignificant. In 2008 these districts were 13, in 2007 – 12 and in 2006 – 15.

To decrease imbalances between districts and increase their competitiveness, an active regional policy should be focused on:

- encouraging the foreign direct investment in districts with a low competitiveness. The role of the government in this case is to create optimum conditions for entrepreneurship by building and improving the infrastructure, tax relief for buying a new and heavy-duty tangible fixed asset, adopting new technologies, etc.
- improving the effectiveness and efficiency of applying the EU funds. One possible approach is to use the EU funds for the projects in 'poor' districts, and the projects in the developed districts are to be funded by public-private partnerships. This, on the one hand, will release financial resources. On the other hand, it will affect the situation at the local level and the business climate.
- stimulating research and inventions. The flexible tax policy in the field of amortisation for districts with a low competitiveness will devote attention to new investors and entrepreneurs. Another government instrument is the grants for training and educating the human resources and the unemployed, for joint elaboration with universities and research institutes, etc.
- increasing the competitiveness of companies. The effort to develop an integrated system for continuous improvement in the business organisation is one of possible methods under conditions of economic and financial crisis [18]. The competitiveness of private and public sectors influences the competitiveness of the districts by evaluating productivity, ability to encourage investors and entrepreneurs, quality and quantity of the human resources, etc. [14], [15], [16], [21]. The increase of this competitiveness is a way to decrease imbalance in the development of the districts.

III. Conclusions

The results of the research have shown a different level of influence of the crisis on the competitiveness of the districts. The observed tendency of decrease of the competitiveness at the beginning of crisis remains. The difference in the index of competitiveness between the developed and the less developed districts increased. The scientific thesis – districts with a high level of the quality of employed persons and with no tendency for a decrease in expenditure on acquisition of tangible fixed assets and expenditure in research and development activities are more competitive, and the economic crisis has less effect on them – is confirmed. The measures of the regional policy should be oriented to human resources, research and development activities, company competitiveness and effectiveness and efficiency of the use of public and private funds.

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Ivailo Ivanov. Reģionu konkurētspēja Bulgārijā ekonomiskās krīzes laikā

Raksta mērķis ir izpētīt ekonomiskās krīzes ietekmi uz novadu konkurētspēju. Pētījuma objekti ir novadi, kas klasificēti ar NUTS 3 līmeni atbilstoši ES likumdošanai. Galvenie raksta uzdevumi ir aprēķināt konkurētspējas indeksu, izmanotojot iepriekšējos pētījumos pārbaudītu metodolģiju, salīdzināt iegūtās indeksu vērtības ar agrākiem pētījumiem un novadu klasifikācija pēc to spējas pārvarēt grūtības. Balstoties uz izmantoto metodoloģiju, konkurētspējas indekss ir attālums no katra novada kā n-dimensionālas telpas punkta ar koordinātēm, kas definētas ar pētāmā novada rādītāju vērtībām, līdz teorētiskam novadam, kura koordinātes ir definētas kā labākās izmantoto rādītāju vērtības no visiem novadiem. Indekss tiek aprēķināts, izmantojot 10 rādītājus, kas publicēti Nacionālā statistikas institūta mājaslapā reģionālo statistikas datu nodaļā. Novada konkurētspējas indeksu vērtības 4 gadu laikā - 2006., 2007., 2008. un 2009. gadā - ir attēlotas divās tabulās. Zinātniskā tēze, ka novadi ar augstu nodarbināto personu kvalitāti un tendenci nesamazināt izdevumus fiksēto aktīvu iegādei un tēriņus izpētei un attīstībai, ir konkurētspējīgāki un, ka ekonomiskās krīzes ietekme uz tiem ir mazāka, tika apstiprināta. Lai samazinātu krīzes efektus, piedāvātie mēri ir reģionālās politikas orientēšana uz cilvēku resursiem, izpētes un attīstības aktivitātēm, uzņēmumu konkurētspēju un efektivitāti, kā arī publisko un privāto fondu izmantošanas efektivitāti.

Ивайло Иванов. Конкурентоспособность регионов Болгарии во время экономического кризиса

Цель статьи – исследовать влияние экономического кризиса на конкурентоспособность регионов (областей). Объект исследования – области, которые классифицированы согласно законодательству ЕС NUTS 3 уровню. Главные задачи статьи – рассчитать индекс конкурентоспособности, используя в предыдущих исследованиях проверенную методологию, сравнить полученные величины индексов с предыдущими исследованиями, классификация областей по их способности преодолеть трудности. Согласно данной методологии, индекс конкурентоспособности, это расстояние от каждой области, как точкой н-дименсионального пространства с координатами, которые определены величинами показателей данной области, до теоретической области, координаты которой определены как самые лучшие из всех областей. Индекс рассчитывают, используя 10 показателей, которые опубликованы на сайте Национального института статистики. Индексы конкурентоспособности областей за 4 года (2006 -2009 г.) приведены в двух таблицах. Научный тезис – области с высоким уровнем качества работоспособного населения и тенденцией не уменьшать издержки на приобретение фиксированных активов, R&D, конкурентоспособнее и менее чувствительны к влиянию экономического кризиса, подтвердился. Чтобы уменьшить негативный эффект экономического кризиса, автор предлагает ориентировать региональную политику на человеческий ресурс, R&D, конкурентоспособность и эффективность предприятий, а также на эффективное использование публичных и частных фондов.