ИКОНОМИЧЕСКИ ИЗСЛЕДВАНИЯ
ECONOMIC STUDIES
ГОДИНА XVIII, 2009, 1

Stoyan Totev [1]
Grigor Sariiski[2]

RELOCATION OF INDUSTRIAL ACTIVITY – CONCENTRATION, SPECIALISATION AND CHANGES OF MANUFACTURE STRUCTURE IN EU COUNTRIES•

This paper analyses the labour intensive industries relocation in EU-27 by exploring the industry concentration, specialization and countries competitiveness. The analysis is based on NACE classification data, Division from 15-37 for EU countries. It has been studied the structural adjustment of the industrial composition and the spatial distribution of the labour intensive industries over time by using various economic indicators and cluster analysis.

It has been found that the relocation process leads to specific spatial location of Labour intensive sector in the EU framework. It is argued that the formed countries clusters concerning employment and trade composition of the manufacture industries is not expected to undergo significant changes in the near future as the observed one in the last decades. The potential benefits for the different participants in the delocalisation process are discussed. Possible future scenarios and prospects are foreseen.

JEL: F14, P52, R12

Introduction

The purpose of this paper is to analyse the processes of concentration, specialisation and manufacture composition changes by sectors in EU countries. These changes can throw more light on the relocation process of certain industrial activities since both sectors' and countries' specificities have an important and interrelated influence on the typical characteristics of these processes, (Kalogeris and Labrianidis, 2007). The first main question that the study puts forward is what the patterns of change of the industrial structure across EU countries are; which are the economic drivers of these changes. The second is to what extent these changes can be attributed to the relocation of the Labour intensive industries (LII).

[1] *Stoyan Totev is PhD, Senior Research Fellow in Institute of Economics at the Bulgarian Academy of Sciences, Department "Regional Economics".*

[2] *Grigor Sariiski is PhD, Research Fellow in Institute of Economics at the Bulgarian Academy of Sciences, Department "Macroeconomics".*

• The research, presented in this paper, is elaborated under the MOVE Project funded by EU 6th Framework Programme, Coordinated by Prof. Lois Labrianidis, University of Macedonia, Thessaloniki.

There is one issue that arose during the research: what will the concept of "Labour intensive industries" be. There is no common understanding of which manufacturing branches can be specified as "labour intensive". This particular study deals mainly with the specific analytical dimensions relating relocation of the industrial activities to the patterns of changing of the manufacture structure by countries; changes that are mainly linked with the distribution of industries traditionally recognised as labour intensive – like textile, clothing, leather and footwear industries. This understanding can be accept as well-founded since the analysis outlines that countries clustered by industrial branches depending on the participation of traditionally recognised LII.

In order to obtain a more distinctive picture of industrial composition changes a specific classification of the manufacture branches by sectors is used. This classification groups the manufacturing branches according to the OECD (1987) classification and uses the categories for the scale return branches proposed by Pratten (1988).[3]

Dynamic, Concentration and Specialisation of LII

The Dynamic of LII

The dynamic of EU-15 employment in the manufacturing sector is showing a steady decline that began in the late 70-ties when a long-lasting tendency of decreasing the share of the secondary (manufacture) sector from the total gross value added (GVA) started, Figure 1. The smoothening of the decline of the GVA in given periods can be attributed to the positive effect of relocation activities with low labour productivity – the decline in those employed in the Labour intensive sector (LI sector) is sharper than for manufacturing as a whole, (see the changes of the shares of the GVA and employed in the Labour intensive sector, Figure 1).

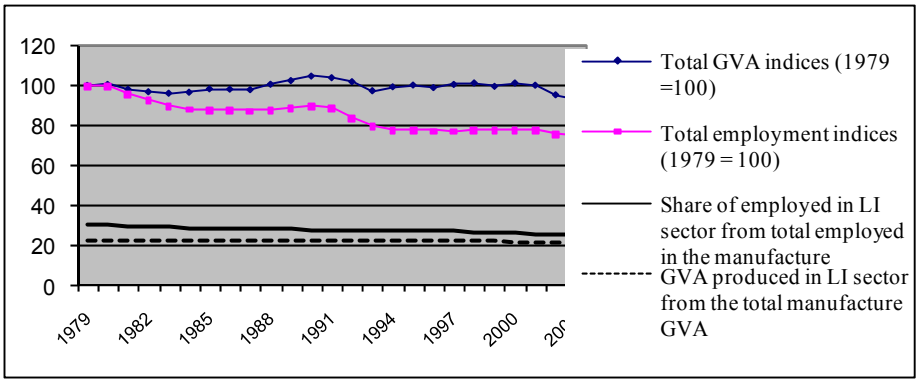
For the period after 1991, the first step of massive relocation of labour intensive activities from the EU-15 started with shifting part of the production processes to Central European Countries. Looking at the most recent data of employment composition in the EU-27, it appears that the Baltic countries as well as Bulgaria and Romania are showing a tendency to increase the share of GVA and employment in the Labour intensive sector in the last several years.[4] However, the decline of those employed in the Labour intensive sector in the Visegrád countries (Central European new member states) for the last several years is even higher than the decline in the EU-15.

[3] See the five groups (sectors) – "Labour intensive"; "Resource intensive"; branches with "Different factor intensity" (different economic of scale); branches related with "Increasing economic of scale" and "Science intensive branches", Table 1.

[4] Eurostat data for manufacture branches NACE classification, Division 15-37 (not included NACE Division /23: Manufacture of coke; refined petroleum). As new member states (NMS) all countries that joined the EU after 2004 are considered (Malta is not included). In the EU-15 Luxemburg is not included.

Figure 1

EU-15 manufacturing dynamic and share of Labour intensive sector *



Sources: Groningen Growth and Development Centre, 60-Industry Database.
* For Labour intensive sector, see Table 1.

The Concentration and Specialization of LII

The employment data analysis revealed a number of important observations with respect to the process of location and specialization as well as to the type of structural adjustment under way, Table 1 and Table 2. The Herfindal indexes measuring absolute concentration and specialization are higher for the LII and less developed countries, mainly the new member states (NMS); the indexes increase in the period 1995-2004.[5]

The most significant increase is in the index of relative concentration of the Labour intensive sector, whose level was also the highest for 2004 (0.26). Next is the Science intensive sector (0.23), Table 1. Concerning the countries' specialization, it can be definitely outlined that the specialization in Labour intensive sector is negatively related with the countries' level of economic development; countries with different shares of this sector have different levels of economic development and specific spatial location within Europe, see Figure 2.

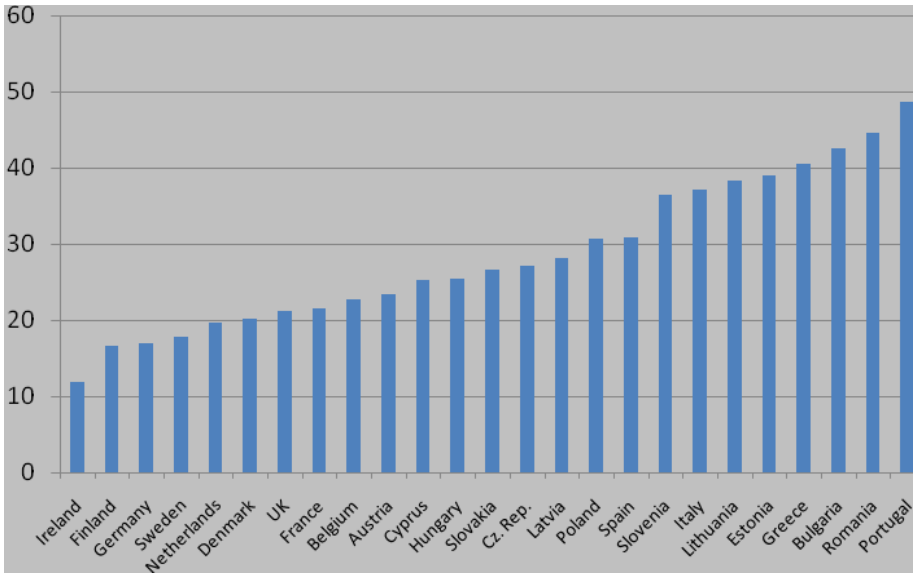
The coefficient of correlation between the specialization in LII and the GDP per capita in PPS is negative and significant. This result proves the validity of the relation between LII specialization and the level of economic development. The analysis also outlined that this relation is stronger for the EU-15 countries. So one can maintain that there is a clearly expressed process of specialisation in the less developed countries due to an increase in the share of the Labour intensive sector, a process that leads to a divergence in the industrial structures of EU countries.

[5] The Herfindal index measures absolute concentration and specialization, while the Krugman index is estimating the relative concentration and specialisation, (Totev, 2008).

The analysis outlined also that the industries concentration geographically clustered, (Krugman, 1991). This is valid specifically for the LII, whose distribution within the EU-15 and later within the EU-27 countries is an example of the concentration in given countries that have a similar geographical location– mainly South and South-Eastern countries, Figure 2.

Figure 2

Share of Labour intensive sector [%]



Sources: Eurostat

Patterns of industrial structural changes

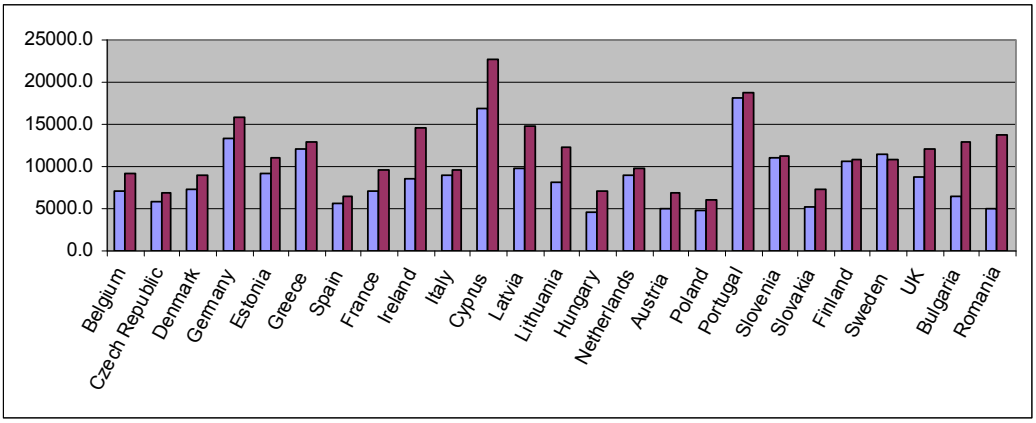
Analysis of the SSD (sum of square differences) indexes

A more detailed picture concerning the industrial changes of the EU countries can be observed by estimating the SSD indexes, Table 3. A number of specific features distinguish the changes in the industrial structure. The first observation is that the NMS have quite a similar structure in 1995, which is close to one of the well-industrialized EU-15 countries, (see Table 3, column 'three countries with closer structure 1995'). Secondly, a well-expressed process of diverging of the industrial structures within countries is observed, Figure 3. This is valid mainly for the less developed NMS.

When using the classification presented in Table 1 it is noticeable that in the last ten years part of the NMS approximate the structure of less developed EU-15 countries, while the other part of the NMS remain close to the structure of the more advanced EU-15 countries, Table 3 (see the columns with the 'three countries with closest structures 2004')**.** The three Central European countries, the Czech Republic,

Hungary and Slovakia, have the closest manufacturing composition to the EU average for 2004. Since the higher changes of the structure are indicative of intensive structural adaptation, it appears that the newcomers Bulgaria and Romania are undergoing such a process, Table 3. This adaptation is realised mainly due to relocation of LII from EU 15 countries to Bulgaria and Romania throw outsourcing (providing subcontracting). The fact that less developed countries like Bulgaria and Romania can realise competitive advantages in LII, lead to an approximation of the structures of Bulgaria and Romania to those of Greece and Portugal, Table 3 (see the columns with the 'three countries with closest structures 2004').

Figure 3
Sum of SSD [6] of given country with all other countries (1995 - blue columns, 2004 - red columns)*



Sources: Own calculation based of SSD results
* When estimating the sum of SSD by countries is used the five group classification, see Table 1.

Cluster analysis

In order to specify the countries distribution by groups with similar industrial structures cluster analysis was applied, (Huberthy, 1994). The following parameters have been used for that purpose: [7]

- Relative concentration measured by using the Herfindal indexes, Table 1 (five sectors);

---

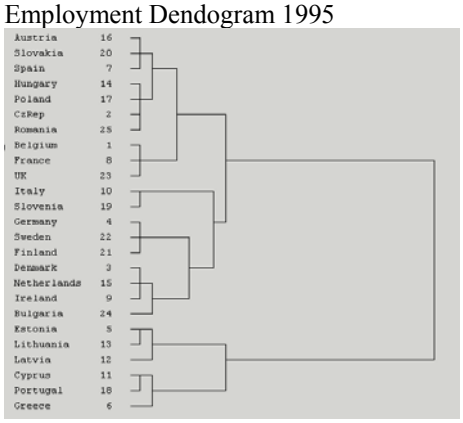
[6] $SSD_t = \sum_{i}^{n} (a_{it} - b_{it})^2$, where [a, b] is a pair of countries, i = 1, … 21 is the number of industries; t are time periods, Table 2.

[7] The Discriminant analysis (Huberthy 1994) shows that higher predictor ability what concerns the industrial composition have the chosen parameters.

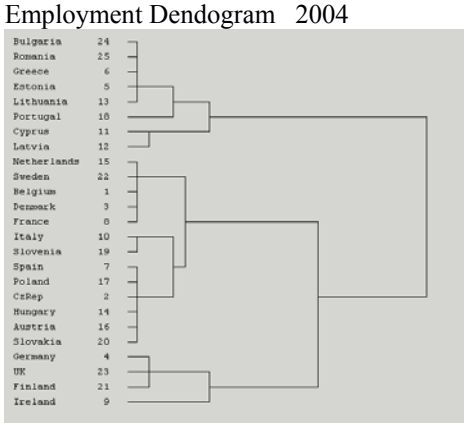
- Share of the Labour intensive sector in the total manufacture employment (see table 2);
- SSD indexes between given country and the EU-27 average (see table 3);
- The ranks of the SSD indexes (see table 3).

Figure 4

Employment Dendogram 1995



Employment Dendogram 2004



Sources: Eurostat and own calculations

The conducted cluster analysis for 1995 divides European countries in two main clusters – see Employment Dendogram 1995, Figure 4. The first includes Greece, Portugal, Latvia, Lithuania and Estonia – countries that mainly undertake subcontracting up until 1995. One can see the results of the structural adaptation in these countries influenced to a certain extent and from the relocation process – they have a much higher industrial specialisation and larger shares of those employed in the Labour intensive sector, Table 2. The Herfindal indexes calculated over the separate LII for this cluster have an average value of 0,6 while for the other cluster it is 0,3. The SSD indexes show that the structure of employment for the countries in this cluster is quite different from the typical composition in EU-15 as well as in EU-27.

The larger cluster (rest of the countries) is far from homogenous. There are countries giving subcontracting as well as countries not actively involved in the relocation process. The differences in this cluster rise significantly with the industrial structural adjustment over time, influenced by the changes of the involvement of the countries in the relocation process in the last decade. This forms a new picture of division in 2004.

The analysis for 2004 specifies three clusters.[8] The group of Greece, Portugal, Latvia, Lithuania and Estonia is joined by Bulgaria and Romania. Bulgaria and Romania have undergone quite serious changes in their industrial structures as can be seen from the SSD indexes for 1995 and 2004, Table 3; changes that in this particular case are the result of relocation processes.

One can see a new cluster formed of the four countries with the lowest shares of LII in 2004 – Germany, Finland, UK, and Ireland. These countries have undergone a moderate structural change mainly by increasing their positive specialisation in the branches with increasing economies of scale and the Science intensive sector (see table 1).

The third cluster positioned between the above two does not have a homogenous structure. On the one hand, there are countries, which do not form a clearly distinctive sub-cluster – Belgium, Denmark, France, Netherlands and Sweden. The share of employment in the Labour intensive sector in these countries did not change much during 1995-2004 (this means no intensive participation in the relocation processes).

On the other side of this cluster, one can find both the EU-15 and NMS. The EU-15 countries from this group are Italy, Spain and Austria. Italy and Spain have high shares of Labour intensive sector and it can be expected that their role as countries providing subcontracting will remain unchanged in the future. Austria also plays a certain role in the relocation processes, which can be attributed to the proximity of the country to the South Eastern European countries. The NMS (Czech Republic, Hungary, Poland, Slovenia and Slovakia) within this group of the cluster had less or more exhausted their relocation potential as countries undertaking subcontracting in the Labour intensive sector. One can maintain that there is a different tendency for the NMS. Some of them approximate the EU-15 average structure, while the others approach the structure of the less developed EU 15 countries, (Table 3).

Intra regional location – enterprise survey results[9]

It is typical to observe higher levels of industrial location in lagging regions for countries featuring a relatively lower stage of economic development; those are usually peripheral, less urbanized regions with relatively low GDP per capita. In these countries, the process of industrial location takes place throw the industrial structural adaptation of the lagging regions, which can realise competitive

[8] In Cyprus, the manufacturing sector does not play the same important role in development as for the economies in the other countries. This is why the conclusions and generalization based on the estimated variables will not have the same validation for Cyprus.

[9] Results from enterprise survey provided under the MOVE Project – 750 respondents from EU enterprises. The survey is provided in five countries: Bulgaria, Estonia, Greece, Poland and UK. The examined enterprises are equally spread in four labour intensive sectors: Clothing, Footwear, Electronics and Software. The results on regional level is analysed mainly for Poland and Bulgaria. The distribution of data for Estonia, Greece and UK is not allowing the regional analysis to make interpretation for all indicators.

advantages mainly in the LII, (Totev, 2008). These areas as a rule feature small industrial diversity; therefore, they are not flexible to the changing economic conditions. The relocation of the LII is distributed mainly in areas, which have low cost competitive advantages (Regional Centre -- NUTS III and Other towns and villages), this is obvious for Bulgaria and even more obvious for Poland.[10]

A different picture is observed of benefiting (profits) after delocalisation by regions. For Bulgaria, we have high figures for the 'Capital' and the 'Other towns and villages'. Similar distribution can be observed in Poland between NUTS II centres and 'Other towns and villages'.[11] The profit progress after delocalisation is in conformity with the observed regional distribution of the FDI, (Totev, 2005). Part of the FDI are attracted more by better communications, infrastructure and market potential of the urbanized regions than the cheaper labour force of the less developed regions – wage-cost competition does not play an important role for regional reallocation of these FDI inflows. Other FDI flows are directed to regions where factor endowments, such as wage-price cost play the main role in attracting them. The regional delocalisation of the LII is following the same patterns.

If we look at the picture for all four investigated branches in the Enterprise survey, we will observe a similar distribution but not so clearly expressed. This distribution is obviously related with the possibility to take advantages of the regional specificity; in other words, delocalisation process is oriented to two different kinds of regions – well-urbanized regions and lagging regions. The process is closely related with the higher possibilities of making profits in these specific areas.

The firms participating in the relocation process feature quite different economic characteristics – those in the urbanized areas and the ones in the lagging regions. Probably, the only matching point is that the profits in these two groups are higher compared to the companies' profits in the other area. The companies in lagging regions are focused mainly in producing labour intensive products because of their competitive advantages. Their production is less diversified what makes them less flexible to the changing conditions and more dependent of their partners.

The share of LII is increasing mainly in the less developed regions; respectfully the increase of the levels of industrial specialization is much higher for them. One cannot speak for forming regional clusters of firms in given branches. However, a number of mainly unskilled LII that were initially spatially distributed have become more concentrated in the lagging regions.

The peripheral regions are facing serious difficulties with the maintaining of their industrial structure. The rising share of the LII in these regions hide serious danger since the competitive advantages of the LII can be loosed and this way these regions will face the problems with so called "no future industry". In branches where it is

[10] The regional analyses is done on four regional levels – Capital, Regional centre (NUTS II); Regional centre (NUTS III) and Other towns and villages.

[11] In Poland, the NUTS II centres as agglomeration are quite bigger than Bulgarian NUTS II centres.

not expected changes of the competitive advantages the specialization can has long run positive economic effect. However, most of the LII cannot be associated as such.

Summary

The relocation processes intensively influence the changing of the industrial structures; the changes are leading to a general divergence of the industrial structures of the EU countries. These changes lead to countries clustering by industrial structure in the EU space. Countries belonging to the same clusters tend to converge their industrial structures.

In the short-term perspective within the EU, some intensification in the relocation activity in the Labour intensive sector cannot be expected. Intensive relocation such as that observed in the last decade in Europe now can be expected to shift to countries outside the EU. There appears to remain some scope for further relocation of the LII, which will be related to the future specialisation and location of LII to a few countries on the EU periphery – mainly Bulgaria and Romania. For most Central European countries, one can maintain that they already are not attractive for the relocating labour intensive activities. The comparison of the industrial structure and export structure reveals that the relocation possibilities are exhausted for these countries. The increase in labour costs in the Central European NMS leads to them losing the position that they gained in the beginning of the 90's.

Specialisation under subcontracting relations, relations as a rule are not stable and long lasting. Convergence processes within the EU will lead to loss of competitiveness of the LII for lagging countries. Faster economic development means increasing labour costs, which means a problem with the competitiveness of the typical LII in the NMS, and especially for the seriously lagging Bulgaria and Romania. That can create problems mainly to lagging regions in these countries where labour intensive activities are mainly relocated.

Following the new geographical economic theory concerning the location after-effects and the results of cluster analysis it can be expected that the relocation processes may have a certain negative impact on a few EU-15 countries. These countries appear to be Portugal and Greece, which have similar industrial structures to Bulgaria and Romania.

Table 1

Relative and absolute concentration indexes

Five groups of branches (sectors)	Concentration index	1995				2004			
		Relative		Absolute		Relative		Absolute	
Labour intensive sector	Man. of textile	0,43	0,20	0,09	0,21	0,45	0,26	0,09	0,20
	Wearing apparel	0,60		0,09		0,86		0,10	
	Footwear	0,71		0,13		0,86		0,15	
	Furniture	0,24		0,09		0,30		0,09	
	Fabricated metals	0,22		0,12		0,18		0,11	
	Recycling	0,51		0,13		0,44		0,12	
Resource intensive sector	Food & beverages	0,23	0,14	0,09	0,20	0,24	0,11	0,09	0,21
	Woods & wood prod.	0,33		0,08		0,37		0,07	
	Paper & paper prod.	0,26		0,10		0,22		0,09	
	Non-metallic production	0,21		0,09		0,25		0,09	
	Man. of basic metals	0,37		0,09		0,25		0,10	
The sector of branches with Different factor intensity	Manuf. of machinery	0,25	0,14	0,12	0,23	0,30	0,18	0,13	0,24
	Electrical mach.	0,26		0,14		0,33		0,13	
	Medical & optical	0,39		0,16		0,37		0,15	
The sector of branches with Increasing Economic of Scale	Publishing; print.	0,35	0,20	0,11	0,24	0,30	0,21	0,11	0,24
	Manuf. of chemicals	0,20		0,11		0,30		0,12	
	Rubber & plastic	0,24		0,13		0,18		0,11	
	Motor vehicle	0,46		0,18		0,47		0,19	
	Transport equip.	0,31		0,10		0,35		0,11	
Science intensive(sector	Office mach; computers	0,50	0,24	0,14	0,24	0,60	0,23	0,13	0,23
	Communication equip.	0,36		0,10		0,41		0,10	

Sources: Eurostat

Table 2

Relative Specialization indexes and share of employment of LII from total manufacture

Country	Relative_95	Relative_G95*	Relative_04	Relative_G04*	Share – 95*	Share – 04*
Belgium	0,30	0,18	0,34	0,21	23,7	22,7
Cz. Rep.	0,30	0,21	0,25	0,11	31,0	27,1
Denmark	0,36	0,12	0,36	0,17	21,5	20,2
Germany	0,39	0,28	0,39	0,29	18,1	16,9
Estonia	0,58	0,40	0,55	0,43	38,2	39,0
Greece	0,57	0,47	0,58	0,49	42,1	40,5
Spain	0,22	0,19	0,21	0,19	29,5	30,8
France	0,24	0,11	0,27	0,15	23,8	21,6
Ireland	0,48	0,21	0,61	0,28	18,2	11,9
Italy	0,28	0,26	0,30	0,26	38,5	37,1
Cyprus	0,69	0,59	0,64	0,54	43,9	25,3
Latvia	0,60	0,34	0,70	0,45	25,6	28,1
Lithuania	0,58	0,38	0,68	0,48	32,1	38,3
Hungary	0,33	0,14	0,27	0,14	28,5	25,4
Netherlands	0,37	0,19	0,36	0,18	19,6	19,6
Austria	0,27	0,16	0,26	0,17	27,2	23,4
Poland	0,29	0,20	0,29	0,24	29,3	30,6
Portugal	0,58	0,47	0,57	0,47	49,2	48,6
Slovenia	0,35	0,26	0,32	0,26	38,8	36,4
Slovakia	0,28	0,14	0,32	0,15	27,1	26,6
Finland	0,45	0,31	0,46	0,31	15,2	16,6
Sweden	0,39	0,24	0,37	0,17	14,7	17,8
UK	0,22	0,14	0,26	0,18	24,1	21,2
Bulgaria	0,43	0,23	0,56	0,40	27,4	42,5
Romania	0,38	0,22	0,56	0,38	31,7	44,5

* Estimated on the bases of the five groups of branches (Labour int.; Resource int.; Branches with different factor intensity; Branches with increasing economic of scale and Science intensive branches – see Table 1)

Table 3

SSD indexes and some derivative indicators estimated on the basis of five groups of branches (see Table 2)

	SSD Same country 1995-2004 *	SSD Same country 1995-2004	SSD 95 Sum Rank	SSD 04 Sum Rank	Country 1995 - EU (1995)	Country 2004 - EU 2004	The three countries with closer structure 1995			The three countries with closer structure 2004		
Belgium	11,7	4,9	16	18	85,3	117,7	France	Netherlands	Spain	France	Netherlands	UK
Czech R.	55,2	47,3	19	22	100,3	34,4	Romania	Slovakia	Austria	Slovakia	Hungary	Austria
Denmark	15,5	7,3	15	19	47,3	82,3	France	Sweden	Netherlands	Sweden	Austria	Check R.
Germany	2,5	3,6	3	3	188,3	219,1	Czech R.	Sweden	UK	Sweden	UK	Denmark
Estonia	74,1	1,1	9	11	348,3	399,4	Greece	Lithuania	Cyprus	Lithuania	Greece	Bulgaria
Greece	6,4	5,9	4	8	478,5	488,7	Cyprus	Estonia	Portugal	Lithuania	Estonia	Bulgaria
Spain	21,4	8,2	20	24	92,4	69,8	Poland	Belgium	Hungary	Poland	Belgium	Check R.
France	9,5	11,5	17	17	39,7	70,5	UK	Netherlands	Belgium	Netherlands	UK	Belgium
Ireland	57,1	54,6	13	5	135,6	307,6	Sweden	Netherlands	Finland	Finland	Sweden	Netherlands
Italy	16,2	5,4	10	15	190,5	167,7	Slovenia	Romania	Czech R.	Slovenia	Romania	Check R.
Cyprus	328,5	574,1	2	1	740,6	985,4	Greece	Estonia	Portugal	Latvia	Lithuania	Poland
Latvia	105,1	28,7	8	4	369,5	602,7	Lithuania	Poland	Bulgaria	Cyprus	Lithuania	Poland
Lithuania	162,2	66,6	14	9	311,8	491,0	Estonia	Bulgaria	Poland	Estonia	Greece	Bulgaria
Hungary	+65,9	35,8	25	21	38,5	54,7	Austria	Poland	Slovakia	Check R.	Slovakia	Austria
Netherlands	4,3	1,0	11	16	106,9	91,5	France	Belgium	UK	France	Sweden	UK
Austria	13,7	25,2	23	23	69,2	72,7	Hungary	Slovakia	Poland	Slovakia	Hungary	Czech R.
Poland	62,8	11,8	24	25	72,9	97,2	Romania	Austria	Hungary	Spain	Austria	Czech R.
Portugal	21,4	1,4	1	2	704,6	690,1	Greece	Estonia	Cyprus	Romania	Bulgaria	Estonia
Slovenia	8,5	10,2	6	12	233,1	181,7	Italy	Czech R.	Hungary	Italy	Check R.	Slovakia
Slovakia	32,8	9,1	21	20	55,4	68,6	Austria	Hungary	Czech R.	Check R.	Austria	Hungary
Finland	33,3	19,5	7	13	252,0	215,3	Ireland	Sweden	Netherlands	Ireland	Denmark	Austria
Sweden	25,5	18,7	5	14	192,0	107,2	Netherlands	Ireland	Denmark	Netherlands	Denmark	France
UK	24,7	29,2	12	10	68,1	123,5	France	Netherlands	Denmark	France	Netherlands	Sweden
Bulgaria	266,7	303,1	18	7	174,9	441,4	Austria	Poland	Slovakia	Romania	Estonia	Portugal
Romania	173,7	222,4	22	6	88,6	434,0	Czech R.	Poland	Hungary	Portugal	Bulgaria	Estonia
EU-27	**6,9**	**1,8**	-	-	**0,0**	**0,0**	**Hungary**	**France**	**Denmark**	**Czech R.**	**Hungary**	**Slovakia**

* Estimated based on NACE classification, Division from 15-37 (not included NACE Division 23: Manufacture of coke; refined petroleum)

Sources: Eurostat

References

Huberty, C. Applied Discriminant Analysis. New York: John Wiley & Sons, 1994.

Kalogeresis, T., L. Labrianidis. Geographies of Delocalisation in Europe: Conceptual issues and empirical findings. Paper presented at the MOVE Conference on Delocalisation of LII, 2007.

Krugman, P. R. Increasing returns and economic geography. – Journal of Political Economy, 1991, 99, pp. 483-499.

OECD. Structural Adjustment and Economic Performance. Paris: OECD, 1987.

Pratten, C. A Survey of the Economies of Scale – Research on the "Cost of Non-Europe". Luxemburg Commission of the European Communities, 1988.

Totev, S. Economic Integration and Structural Change: The Case of Bulgarian Regions. – In: Krieger-Boden, E. M. C., G. Petrakos (ed.) The Impact of European Integration on Regional Structural Change and Cohesion: Publishing House Routledge, 2008.

Totev, S. Foreign Direct Investments in Bulgaria: Advantages and Disadvantages to Invest. – South East European Review 2005, 4, pp. 91-104.