Anna Blajer-Golebiewska[1]

EUROPEAN INTEGRATION AND CHANGES IN THE BRANCH STRUCTURE[2]

There is a wide range of research in convergence theories based mainly on the growth theories. The same process of catching-up with more advanced countries by less developed ones is one of the aims of the EU cohesion policy. The aim of the article is the identification of similarities which occur in epy processes of changes in the real sector, especially in the branch structure. Analyses conducted are based on the data for the EU countries from 2001 to 2010. The research methods adopted are the structure similarity indicator and the statistical description.

Keywords: *branch structure, real sector of economy, comparative country studies, convergence in the EU countries.*

JEL Classification: O10, O57, O52.

Анна Блаєр-Голебевська

ЄВРОПЕЙСЬКА ІНТЕГРАЦІЯ ТА ЗМІНИ У СТРУКТУРІ ЕКОНОМІЧНИХ ГАЛУЗЕЙ

У статті показано, що існує широкий спектр досліджень, в яких теорія конвергенції розглядається в контексті теорії зростання. Той же процес підлаштування економіки менш розвинених країн до більш розвинених є однією з цілей "політики зближення" ЄС. Виявлено подібні процеси, що відбуваються при змінах в реальному секторі, особливо в структурі галузей. Аналіз проведено на основі даних по країнах ЄС з 2001 по 2010 роки. Методи дослідження – індикатор структурної подібності та методи статистичного опису.

Ключові слова: *структура галузей, реальний сектор економіки, порівняльні дослідження країн, конвергенція у країнах ЄС.*

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Анна Блайер-Голебевска

ЕВРОПЕЙСКАЯ ИНТЕГРАЦИЯ И ИЗМЕНЕНИЯ В СТРУКТУРЕ ЭКОНОМИЧЕСКИХ ОТРАСЛЕЙ

В статье показано, что существует широкий спектр исследований, в которых теория конвергенции рассматривается в контексте теории роста. Тот же процесс подстраивания экономики менее развитых стран к более развитым является одной из целей "политики сближения" ЕС. Выявлены сходные процессы, происходящие при изменениях в реальном секторе, особенно в структуре отраслей. Анализ проведен на основе данных по странам ЕС с 2001 по 2010 год. Методы исследования – индикатор структурного сходства и методы статистического описания.

Ключевые слова: *структура отраслей, реальный сектор экономики, сравнительные исследования стран, конвергенция в странах ЕС.*

Introduction

A wide range of research in convergence theories has been conducted based mainly on the growth theories. The same process, in which less developed countries

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are catching-up to more advanced ones is one of the aims of the EU cohesion policy. However, there are others spheres of development which may or may not converge. Moreover, they can influence results of research in the convergence based on growth theories. One of them is the real sector of economy.

According to the optimal currency area theory, countries with similar economic structures tend to face symmetric macroeconomic shocks. More diversified structures reduce the incidence and intensity of shocks (Kenen, 1969; Khamfula, Huizinga, 2004). The higher the structure similarity of analysed economies' is, the greater the synchronicity of business cycles in these countries occurs (Tavlas, 1994).

Structures of economies are evaluating. Some of them are relatively early coming into subsequent stages of the structural changes, others transform more slowly. In XIX century, the productivity growth in agriculture led to a breakthrough and accelerated the development of the European countries challenging the pessimistic theory of Malthus. Next was the stage of the industrial revolution, which led to the rate of growth of the industrial sector significantly exceed the rates of growth in the agricultural and manufacturing sectors. However, analysing the changes in economies that make up the European Union today, it can be stated that there is no country which passed over any stage of development.

The aim of the analysis is to verify if, in the process of structural changes in individual UE economies, any convergence can be observed. We put forward a hypothesis, that there are similarities in economic structures of neighbouring countries, but in the analysed period no equivocal and significant increase in similarities can be determined, even in neighbouring countries.

Transformations in economies' structures

There are several theories on transformations in structures of economies. One of the first and the most popular concepts, called the Fisher's theory of the three sectors, was based on the assumption that the development of economies is characterized by a shift between the three main sectors: agriculture, production and services. Sometimes, the fourth sector is highlighted. That sector is based on acquisition, processing and delivery of information.

On the same basis the 3-sector hypothesis was developed by Clark (1940) and Fourastie (1949). It divides economies into three sectors of activity: extraction of raw materials (primary), manufacturing (secondary), and services (tertiary).

Similarly a concept of post-industrial society in economics developed by Bell (1973) described the transition from an economy based on industrial or manufacturing sectors into one based on the service sector.

In literature, modified classification of economic sectors can be found (e.g. Dasgupta, Chakraborty, 2005), it distinguishes:

– Ricardo sectors – sectors in which natural resources are used intensively; this group includes not only agricultural production, fisheries, forestry and mining of natural resources, but also the food industry, paper, wood, tobacco, and even fuel;

– Heckscher-Ohlin sectors – the so called capital-labour intensive sectors in which standardized commodities are produced; in this group there are such capital-intensive sectors like chemicals, metals (high substantial investment) and also media, banking sector, finance, retail or wholesale, transport and other services;

– high technology sectors in which more research and development is required, e.g. telecommunication, electroengineering and IT.

Each economy has to go through all the stages of the process of development: agriculture-industry-service, which emerges from the above-mentioned theories (Timmer, Akkus, 2008).

In order to analyse similarities in economies' structures and similarities in their changes, various structure similarity indicators are applied. One of them (Z) is the common indicator based on the relation of the sum of the smaller structure indicators $\Sigma_i min(w_i)$ to of the sum of the higher structure indicators $\Sigma_i max(w_i)$ for corresponding branches:

$$Z = \frac{\sum_i \min(w_i)}{\sum_i \max(w_i)}. \quad (1)$$

The range of the coefficient is from 0 to 1. The higher the index value, the greater the similarity of the two analysed structures is.

Another example of an indicator is the divergence index (Div) which was applied by Stattev and Raleva (2006). It is based on the sum of the squared differences between shares of two countries in each branch in relation to the share of the country analysed (j):

$$Div = -\sum_i \frac{(E_{\eta x} - E_{\theta X})^2}{E_{\theta X}}, \quad (2)$$

where $E_{\eta x}$ and $E_{\theta x}$ are shares of branch x in structures of compared countries η and θ. In this case, the lower the value of the divergence indicator, the higher the similarity of the economies' structures analysed, so $Div=0$ means that the structures are identical.

The convergence of each GDP component can be estimated through the traced over time similarity (or divergence) indicator. These indicators are sensitive to the level of aggregation. Its value can differ for different numbers of groups (positions) in the structure. As a result, to achieve comparable results, the same economic structure classification for all countries analysed (in the whole analysed period) should be used.

Structural changes in the EU economies

Structural changes are widely analysed on the basis of inputs, employment or production value in each branch. In the case of this research economic structure was represented by the percentage share of gross value added by each branch in the total gross value added in a given country. In the research NACE classification (Nomenclature statistique des Activites economiques dans la Communaute Europeenne) was used, as data was taken from the Eurostat database. National Accounts were analysed in 18 EU countries (for which data was available) by 38 branches:

1. A – Agriculture, hunting, forestry, fishing;
2. B – Mining and quarrying;
3. CA – C10-C12 – Manufacture of food products; beverages and tobacco products;
4. CB – C13-C15 – Manufacture of textiles, wearing apparel, leather and related products;
5. CC – Manufacture of wood and paper products, and printing;

6. CD – C19 – Manufacture of coke and refined petroleum products;
7. CE – C20 – Manufacture of chemicals and chemical products;
8. CF – C21 – Manufacture of basic pharmaceutical products and pharmaceutical preparations;
9. CG – Manufacture of rubber and plastics products, and other non-metallic mineral products;
10. CH – Manufacture of basic metals and fabricated metal products, except machinery and equipment;
11. CI – C26 – Manufacture of computer, electronic and optical products;
12. CJ – C27 – Manufacture of electrical equipment;
13. CK – C28 – Manufacture of machinery and equipment;
14. CL – Manufacture of transport equipment;
15. CM – Other manufacturing, and repair and installation of machinery and equipment;
16. D – Electricity, gas, steam and air conditioning supply;
17. E – Water supply, sewerage, waste management and remediation;
18. F – Construction;
19. G – Wholesale and retail trade, repair of motor vehicles and motorcycles;
20. H – Transportation and storage;
21. I – Accommodation and food service activities;
22. JA – Publishing, audio-visual and broadcasting activities;
23. JB – J61 – Telecommunications;
24. JC – IT and other information services;
25. K – Financial and insurance activities;
26. L – Real estate activities;
27. MA Legal, accounting, management, architecture, engineering, technical testing and analysis activities;
28. MB – M72 – Scientific research and development;
29. MC – Other professional, scientific and technical activities;
30. N – Administrative and support service activities;
31. O – Public administration and defense; compulsory social security;
32. P – Education;
33. QA – Q86 – Human health activities;
34. QB – Q87_Q88 – Residential care activities and social work activities without accommodation;
35. R – Arts, entertainment and recreation;
36. S – Other services;
37. T – Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use;
38. U – Activities of extraterritorial organisations and bodies.

On the basis of the above-mentioned branches, the structure of gross value added was calculated. Then, structures constructed for 18 EU countries were compared in pairs using structure similarity indicator (Z), which measures similarity on the basis of distributions of value added in 38 branches. Structure similarity indicators were calculated for years from 2001 to 2010. The results for the first and the last year of the analysed period are presented in tables 1 and 2. In the research, as the boundary value

for high similarity of structures to value of 0.75 was assumed. Values between 0.75–1.00, as representing high level of similarity, are highlighted in the Tables 1 and 2.

Table 1. **Structure similarity indicators for the EU countries in 2001 and 2010 (a)**

	Austria		Belgium		Czech Republic		Denmark		Estonia		Finland		France		Germany		Greece	
	2001	2010	2001	2010	2001	2010	2001	2010	2001	2010	2001	2010	2001	2010	2001	2010	2001	2010
Austria			**0.76**	**0.76**	**0.75**	0.73	0.73	0.72	0.67	0.73	0.72	0.75	0.74	**0.75**	0.74	**0.77**	0.68	0.65
Belgium	**0.76**	**0.76**			0.66	0.65	0.74	**0.75**	0.64	0.71	0.68	0.69	**0.77**	**0.77**	**0.78**	0.71	0.62	0.65
Czech Republic	**0.75**	0.73	0.66	0.65			0.66	0.63	0.71	0.74	0.66	0.69	0.64	0.65	0.66	0.70	0.64	0.58
Denmark	0.73	0.72	0.74	**0.75**	0.66	0.63			0.69	0.67	0.74	0.74	**0.76**	**0.75**	0.71	0.71	0.64	0.64
Estonia	0.67	0.73	0.64	0.71	0.71	0.74	0.69	0.67			0.67	**0.76**	0.66	0.74	0.61	0.68	0.69	0.66
Finland	0.72	**0.75**	0.68	0.69	0.66	0.69	0.74	0.74	0.67	**0.76**			0.70	**0.76**	0.70	**0.75**	0.60	0.63
France	0.74	**0.75**	**0.77**	**0.77**	0.64	0.65	**0.76**	**0.75**	0.66	0.74	0.70	**0.76**			**0.78**	**0.75**	0.66	0.69
Germany	0.74	**0.77**	**0.78**	0.71	0.66	0.70	0.71	0.71	0.61	0.68	0.70	**0.75**	**0.78**	**0.75**			0.58	0.60
Greece	0.68	0.65	0.62	0.65	0.64	0.58	0.64	0.64	0.69	0.66	0.60	0.63	0.66	0.69	0.58	0.60		
Hungary	0.72	0.70	0.70	0.69	0.74	**0.75**	0.67	0.66	0.67	0.73	0.69	0.72	0.70	0.67	0.70	**0.75**	0.68	0.66
Lithuania	0.62	0.62	0.58	0.63	0.69	0.65	0.60	0.56	0.71	0.71	0.57	0.61	0.58	0.59	0.51	0.54	0.70	0.60
Luxembourg	0.59	0.55	0.61	0.61	0.52	0.51	0.55	0.55	0.54	0.54	0.56	0.54	0.57	0.57	0.57	0.54	0.52	0.48
Netherlands	0.74	0.70	**0.77**	**0.77**	0.67	0.65	**0.76**	**0.76**	0.64	0.68	0.68	0.69	**0.77**	**0.77**	0.72	0.69	0.63	0.60
Poland	0.70	0.67	0.62	0.61	0.69	0.74	0.65	0.59	0.67	0.68	0.60	0.65	0.62	0.58	0.59	0.60	0.70	0.57
Slovakia	0.71	0.68	0.65	0.61	**0.83**	**0.76**	0.64	0.58	0.73	0.69	0.66	0.64	0.63	0.60	0.63	0.63	0.67	0.55
Slovenia	**0.82**	**0.82**	0.73	**0.75**	**0.75**	**0.78**	0.73	0.71	0.70	0.74	0.71	0.73	0.73	0.72	0.71	0.72	0.64	0.64
Spain	**0.76**	**0.75**	0.69	0.70	0.70	0.66	0.65	0.65	0.63	0.67	0.65	0.67	0.68	0.69	0.66	0.63	0.70	0.68
Sweden	0.73	0.73	**0.75**	0.73	0.63	0.68	**0.77**	0.74	0.62	0.68	**0.76**	**0.77**	0.74	0.72	**0.78**	0.74	0.57	0.58

Source: Author's compilation on the basis of Eurostat: National Accounts detailed breakdowns (by industry, by product, by consumption purpose), National accounts aggregates and employment by branch (NACE Rev. 2) (nama_nace2), http://epp.eurostat.ec.europa.eu/portal/page/portal/national_accounts/data/database (as of 10.12.2012).

In the case of Luxembourg, Greece and Lithuania the structure similarity indicators are at very low levels. For Luxembourg it was from 0.45 (comparing to Lithuania) to 0.66 (comparing to Belgium) in 2001. In 2010 the similarities were even smaller: from 0.45 (comparing to Lithuania) to 0.61 (comparing to Belgium). In the period analysed, the differences between Luxembourg and other European countries either stayed the same level or worsened.

The structure of Luxembourg economy differs significantly in the group of the EU countries. On the one hand, there was an exceptionally high share of financial and insurance activities (averagely about 25%) and real estate activities (average share of about 16%) in the global value added in Luxembourg. On the other hand, the share of agriculture, hunting, forestry, fishing was extremely small and diminished from 0.57% in 2001 to 0.29% in 2010.

The economic structure similarity coefficients for Greece were higher: both in 2001 and 2010 the highest difference in structures occurred with comparison to Luxembourg (0.52 and 0.48 respectively). In 2001 the structure of Greece was the most similar to Spain, Poland and Lithuania. In each of these cases, the value of indicators was 0.70, so it was quite high, but certainly not at a very high level. In 2010,

some differences between Greece and other European countries became greater (for example comparing to Luxembourg), some stayed at the same level (e.g. Slovenia) and some became lower (e.g. France). In the Greece economy there is relatively high share of real estate activities which is still increasing (from 10.71% in 2001 to 13.58% in 2010). The share of manufacturing of computer, electronic and optical products in the economy's structure in Greece is at the a very low level which is rather characteristic for small countries such as Luxembourg and Belgium. Moreover, it even declined from 0.46% to 0.07% (which is an exceptionally low level of share for these activities). In 2010 there was the highest share of public administration and defence and compulsory social security in the global value added in Greece. It was 10.61% and that was a really huge increase from 7.95% in 2001. In other European countries the share of these activities in value added was mostly between 6 and 8%.

Table 2. **Structure similarity indicators for the EU countries in 2001 and 2010 (b)**

	Hungary		Lithuania		Luxem-bourg		Nether-lands		Poland		Slovakia		Slovenia		Spain		Sweden	
	2001	2010	2001	2010	2001	2010	2001	2010	2001	2010	2001	2010	2001	2010	2001	2010	2001	2010
Austria	0.72	0.70	0.62	0.62	0.59	0.55	0.74	0.70	0.70	0.67	0.71	0.68	*0.82*	*0.82*	*0.76*	*0.75*	0.73	0.73
Belgium	0.70	0.69	0.58	0.63	0.66	0.61	*0.77*	*0.77*	0.62	0.61	0.65	0.61	0.73	*0.75*	0.69	0.70	*0.75*	0.73
Czech Republic	0.74	*0.75*	0.69	0.65	0.52	0.51	0.67	0.65	0.69	0.74	*0.83*	*0.76*	*0.75*	*0.78*	0.70	0.66	0.63	0.68
Denmark	0.67	0.66	0.60	0.56	0.55	0.55	*0.76*	*0.76*	0.65	0.59	0.64	0.58	0.73	0.71	0.65	0.65	*0.77*	0.74
Estonia	0.67	0.73	0.71	0.71	0.54	0.54	0.64	0.68	0.67	0.68	0.73	0.69	0.70	0.74	0.63	0.67	0.62	0.68
Finland	0.69	0.72	0.57	0.61	0.56	0.54	0.68	0.69	0.60	0.65	0.66	0.64	0.71	0.73	0.65	0.67	*0.76*	*0.77*
France	0.70	0.67	0.58	0.59	0.57	0.57	*0.77*	*0.77*	0.62	0.58	0.63	0.60	0.73	0.72	0.68	0.69	0.74	0.72
Germany	0.70	*0.75*	0.51	0.54	0.57	0.54	0.72	0.69	0.59	0.60	0.63	0.63	0.71	0.72	0.66	0.63	*0.78*	0.74
Greece	0.68	0.66	0.70	0.60	0.52	0.48	0.63	0.60	0.70	0.57	0.67	0.55	0.64	0.64	0.70	0.68	0.57	0.58
Hungary			0.66	0.62	0.55	0.52	0.65	0.65	0.66	0.66	0.74	0.68	0.74	0.73	0.69	0.64	0.67	0.70
Lithuania	0.66	0.62			0.45	0.45	0.59	0.62	0.71	0.71	0.73	0.68	0.63	0.67	0.58	0.62	0.53	0.59
Luxem-bourg	0.55	0.52	0.45	0.45			0.57	0.56	0.50	0.46	0.52	0.47	0.58	0.55	0.55	0.53	0.56	0.53
Nether-lands	0.65	0.65	0.59	0.62	0.57	0.56			0.68	0.63	0.66	0.63	0.71	0.69	0.66	0.70	0.70	0.72
Poland	0.66	0.66	0.71	0.71	0.50	0.46	0.68	0.63			0.69	*0.76*	0.69	0.72	0.69	0.65	0.57	0.63
Slovakia	0.74	0.68	0.73	0.68	0.52	0.47	0.66	0.63	0.69	*0.76*			0.74	0.73	0.67	0.67	0.61	0.62
Slovenia	0.74	0.73	0.63	0.67	0.58	0.55	0.71	0.69	0.69	0.72	0.74	0.73			*0.75*	0.72	0.70	0.73
Spain	0.69	0.64	0.58	0.62	0.55	0.53	0.66	0.70	0.69	0.65	0.67	0.67	*0.75*	0.72			0.63	0.63
Sweden	0.67	0.70	0.53	0.59	0.56	0.53	0.70	0.72	0.57	0.63	0.61	0.62	0.70	0.73	0.63	0.63		

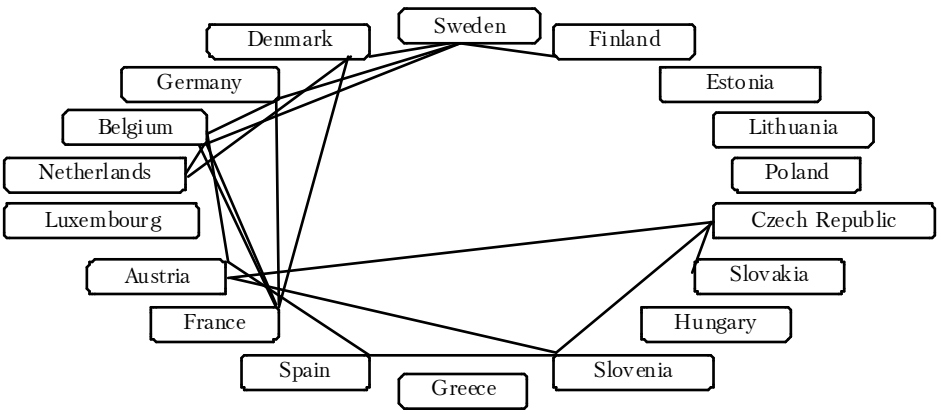
Source: Author's compilation on the basis of Eurostat: National Accounts detailed breakdowns (by industry, by product, by consumption purpose), National accounts aggregates and employment by branch (NACE Rev. 2) (nama_nace2), http://epp.eurostat.ec.europa.eu/portal/page/portal/national_accounts/data/database (as of 10.12.2012).

Comparing the economic structure of Lithuania with other EU countries, there were many considerably different structures. They occurred mostly in the cases of the Northern Europe Countries: Sweden, Finland, Denmark and the Western Europe Countries: Austria, Belgium, France, Germany, Netherlands and Luxembourg (with the lowest structure similarity indicator at the level of 0.45 in both 2001 and 2010). In the case of the Lithuanian economy the share of manufacture of food products, beverages and tobacco products was the highest and it went down slightly from 4.50% in

2001 to 4.41% in 2010. This activities' share in the total value added of Northern Europe Countries valued averagely from 2.15% in 2001 to 1.97% in 2010 and similarly in the total value added of Western Europe Countries was from 2.01% to 1.89%.

Even in the group of Central and Eastern Europe Countries (in which Lithuania is included) manufacture of food products, beverages and tobacco products' share was lower: on average from 3.15% in 2001 to 2.66% in 2010.

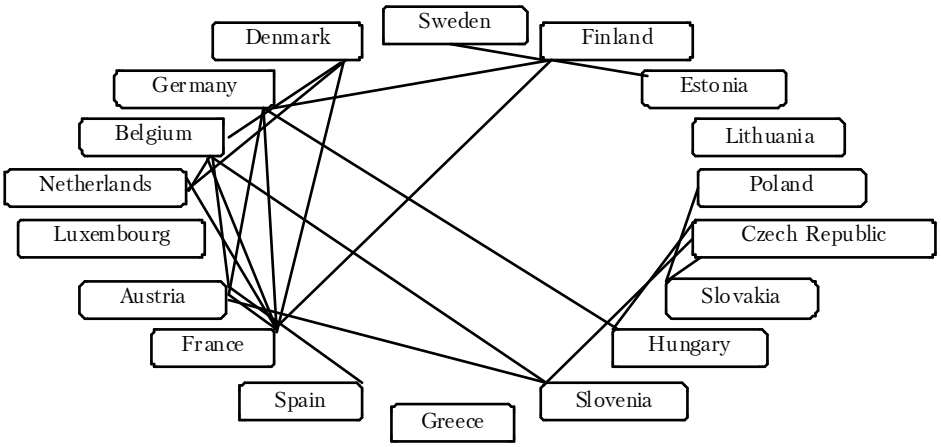
On the basis of the structure similarity indices a diagram was constructed. It shows the net of similarities among the structures of the EU countries (for the indicator value from 0.75–1.00). In the diagram it can be seen that there are many similarities in the group of Western Countries. Moreover, Czech Republic's economic structure is very similar to the structures of Slovakia, Slovenia and Austria which are their neighbours (Figure 1). There is a similarity between the structures of Slovenia and Spain which confirms the fact that these countries are often classified together in one group as Southern European Countries or Mediterranean European Countries. In this group there should also be Greece and Italy (for which the data was unavailable).



Source: Author's compilation.

Figure 1. **Net of structure similarities for the EU countries in 2001**

In Figure 2 the net of structure similarities in 2010 was graphed. The graph shows an increasing similarity among Western and Southern Countries. In 2001, there were 19 pairs of European countries which, with accordance to the structure similarity coefficient, could be called similar, in 2010 there were 22 of them. Not only did the range of the similarities' net spread southwards, but also there was an increase in similarities among Central and Eastern European Countries (Poland, Czech Republic, Slovakia, Hungary). The only one exception was Lithuania's economic structure which became more distinct from the structures of other countries in the region. Estonia, which is often also considered to be one of the Central and Eastern European Countries, in 2010 became more similar to Finland. However, comparing Estonia' structure to other European countries' structures, quite high similarities can be found in cases of some Central and Eastern European Countries, e.g. Czech Republic (0.74), Slovenia (0.74), Hungary (0.73). Estonia's economic structure is also fairly similar to the structure of Austria (0.73).



Source: Author's compilation.

Figure 2. **Net of structure similarities for EU countries in 2010**

Nevertheless, the average structure similarity indicator for all analysed countries did not change significantly. It valued 0.6669% in 2001 and 0.6688% 2010. As a result, the general increase in similarities was rather slight. As a result, no significant convergence in economic structures in the whole group of EU countries can be proven.

Western Countries constitute one of the most coherent groups for which the average similarity in the whole analysed period was almost stable at the level of about 0.75 (without the extreme structure of Luxembourg). The second of the groups with the most similar economic structures was the group of Northern Countries for which high economic structure similarities (0.75–0.76) could be seen in each year from 2001–2010. In the case of Central and Eastern European Countries, there was an increase of economic structure similarities for some countries. However, the value of the structure similarity indicator did not change significantly, and it ranged from 0.70 to 0.71 in 2001–2010. This means that the increase in similarities of some countries was compensated by the decrease in similarities in others. The most incoherent group, regarding the economic structure, was the group of European Southern Countries for which the average structure similarity indicator equalled 0.70 in 2001. In 2010 it even decreased to the value of 0.68. That means that differences in this group become greater.

Conclusions

Regarding the research conducted, in the first decade of XIX century, there was an increase in similarities between some European countries and a decrease in similarities between others. As a result, the average similarity indicator did not change significantly in the analysed period. The most coherent were the two groups: Western European Countries and Southern European Countries. In each of these groups economic structure similarities were at a high level. Furthermore, similarities did not change significantly from 2001 to 2010.

In the case of Central and Eastern Europe similarities increased for some pairs such as: Poland-Slovakia, Hungary-Czech Republic Poland Czech Republic and Estonia-Czech Republic; and decreased for other pairs such as: Slovakia-Czech Republic, Slovakia Estonia and Slovakia-Hungary.

The Southtrn European Countries became more similar to the countries in other groups, but not to their neighbours. For example, Slovenia's structure became more similar to the structures of the Czech Republic and Belgium, but the divergence between Slovenia and Spain increased.

Concluding, the hypotheses, that (1) there are similarities in economic structures of neighbouring countries, and (2) no equivocal and significant increase in economic structure's similarities can be determined in the analysed period even in neighbouring countries, cannot be rejected.

References:

Bell, D. (1973). The Coming of Post-Industrial Society. A Venture in Social Forecasting, Basic Books, New York.

Clark, C.A. (1940). The conditions of economic progress, Macmillan, London.

Dasgupta, P., Chakraborty, D. (2005). The Structure Of The Indian Economy, http://www.iioa.org/pdf/15th%20Conf/dasguptachak raborty.pdf.

Fisher, A.G. (1935). The clash of progress and security, Macmillan, London.

Fourastie, J. (1949). Le Grand Espoir du XXe Siccle, Presses Universitaires de France, Paris. (Reprinted as "Moderne Techniek en Economische Ontwikkeling" (1965), Het Spectrum, Amsterdam).

Kenen, P.B. (1969). The optimum currency area: An eclectic view, [in] Monetary problems of the international economy, edited by R.A. Mundell, A.K. Swoboda, University of Chicago Press, Chicago 1969.

Khamfula, Y., Huizinga, H. (2004). The Southern African Development Community: Suitable for a Monetary Union? Journal of Development Economics, 73(2): 699–714.

Memedovic, O., Iapadre, L. (2010). Structural Change in the World Economy: Main Features and Trends, United Nations Industrial Development Organization, Research And Statistics Branch (working paper 24/2009), Vienna.

Stattev, S., Raleva, S. (2006). Bulgarian GDP structures – convergence with the EU. South-Eastern Europe Journal of Economics, 2: 193–207.

Tavlas, G.S. (1994). The theory of monetary integration. Open Economies Review, 5(2): 211–230.

Timmer, P.C., Akkus, S. (2008). The Structural Transformation as a Pathway Out of Poverty: Analytics, Empirics and Politics, Working Papers 150 (July). Centre for Global Development.

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