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THE CONVERGENCE PROCESS AND THE EFFECTS OF THE ECONOMIC CRISIS IN CENTRAL-EASTERN EUROPE

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ABSTRACT – The economic convergence and the effects of the economic crisis is a very popular research question. In this paper I propose to examine the convergence process in Central and Eastern Europe by testing the Williamson hypothesis form a multiscalar perspective: at national and at different regional levels as well. By using time series for the GDP per capita, I will try to answer three basic issues: firstly, the trends in convergence/divergence in Central and Eastern Europe, secondly, which convergence clubs have evolved in the analysed space, and, finally, the effects of the financial and economic crisis on the convergence process.

Keywords: convergence club, economic crisis, Central-Eastern Europe, Williamson hypothesis

INTRODUCTION

In economy, territorial differences and convergence processes are very important research questions. My main research field is the convergence processes of the integrating countries and its helping or hindering economic and social relations. Convergence is a concept that has gained popularity among economists and means a tendency for the poorer countries to grow more rapidly than the richer countries, and so they can converge in living standards. In this recent research, the convergence process of the Central-Eastern member states of the European Union will be analysed, as well as, the effect of the economic and financial crisis on this territory. Therefore, a convergence club analysis of Central and Eastern Europe will be represented and the Williamson hypothesis will be tested form a regional perspective. By using time series for the GDP per capita, three basic issues will be addressed: firstly, the effects of the financial and economic crisis on the convergence process of the EU, secondly, which convergence clubs have evolved in the analysed space, and, finally, if the Williamson hypothesis can be verified in the region.

ACCORDING TO THEORIES: BIG AND INCREASING INEQUALITIES IN EUROPE SINCE 2000

Trends in regional disparities have been a major issue in regional science. Several researchers have examined the convergence process in Europe. The main results of these researches are presented in the following. According to Daniyar Akhmetov (2009), all of the new member states have bigger spatial inequality than the "core" states. The greatest dominance of the capital region is observed in Slovakia. The lowest difference in the deviation of the central region is in Poland. The growth of regional disparities for the Czech and the Polish regions is caused by more significant growth of GDP per capita in the central region compared to other regions.

Gyula Horváth's research (2009) on regional inequalities in Europe reveals several important findings. Regional diversity in the European Union has increased sharply with the enlargement. The emerging market economy brought about the strengthening of regional inequalities. The development of the diverse economic potentials of the Central and Eastern European countries is hindered by cohesion problems. Although the gap between the best performing region and the worst one (Prague

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and the Romanian and Bulgarian regions) is not greater than in Western Europe (5.5-fold), there are big inequalities in Europe. On the whole, disregarding national inequalities, the Central and Eastern European economic space is relatively homogenous, with the majority of the regions performing below the European average; in Romania and Bulgaria, even the capital cities are quite under-developed.

These theories examine the convergence process in Europe and they state that there are big and increasing inequalities in Europe between Western and Central-Eastern Europe. But theories show that there are also big within-country inequalities in the region.

UNEQUAL EFFECTS OF THE ECONOMIC CRISIS ON THE MORE AND THE LESS DEVELOPED REGIONS IN CEE

There were three main questions in my recent research. First, I wanted to know the effects of the economic and financial crisis of 2008 on the convergence of Central-Eastern Europe. The second research question was focused on the convergence clubs that can be made of the new member states of the EU, from 2000 to 2009. The third question was if the Williamson hypothesis can be verified in this region.

To answer the first question, the factor of the GDP per capita in PPS in Central-Eastern Europe was analysed at three territorial levels (NUTS levels 1, 2 and 3). The main goal was to see what kind of changes took place in this indicator as result of the economic and financial crisis of 2008. The analysed countries were Hungary, Romania, Bulgaria, the Baltic countries: Estonia, Latvia, and Lithuania, the Czech Republic, Slovakia, Slovenia, and Poland, namely the new Central and Eastern European member states of the EU.

The analysis began with NUTS level 1. At this territorial level, the countries were examined in two groups. The first group included regions with relative higher GDP per capita and the second included regions with relative lower GDP per capita. The results can be seen in the following (Figure 1).

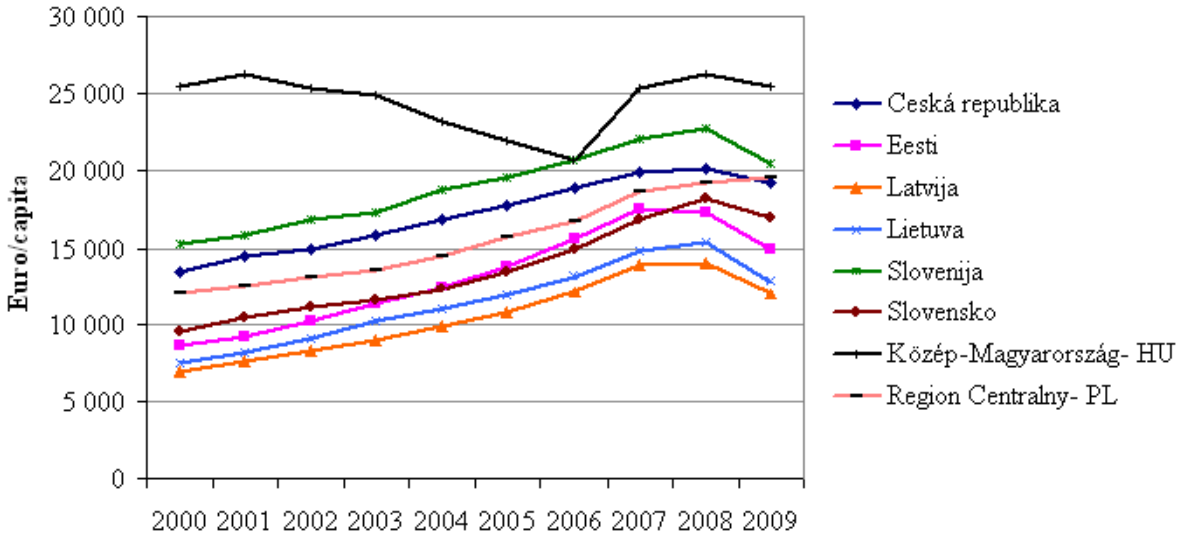

Figure 1. *The changes of the GDP per capita in the more developed regions (NUTS 1)*
Source: Compiled by the author based on Eurostat data

According to Figure 1, the effects of the crisis were not equal among the more developed regions. Almost all of the analysed territories had high decreases in the GDP per capita during the crisis (from 2008 to 2009). During this period, the Baltic states had the biggest problems. But it is remarkable that the central region of Poland (which is the capital region of the country) recorded an increase in the GDP per capita also between 2008 and 2009.

If the less developed regions are examined, the results are the following (Figure 2.):

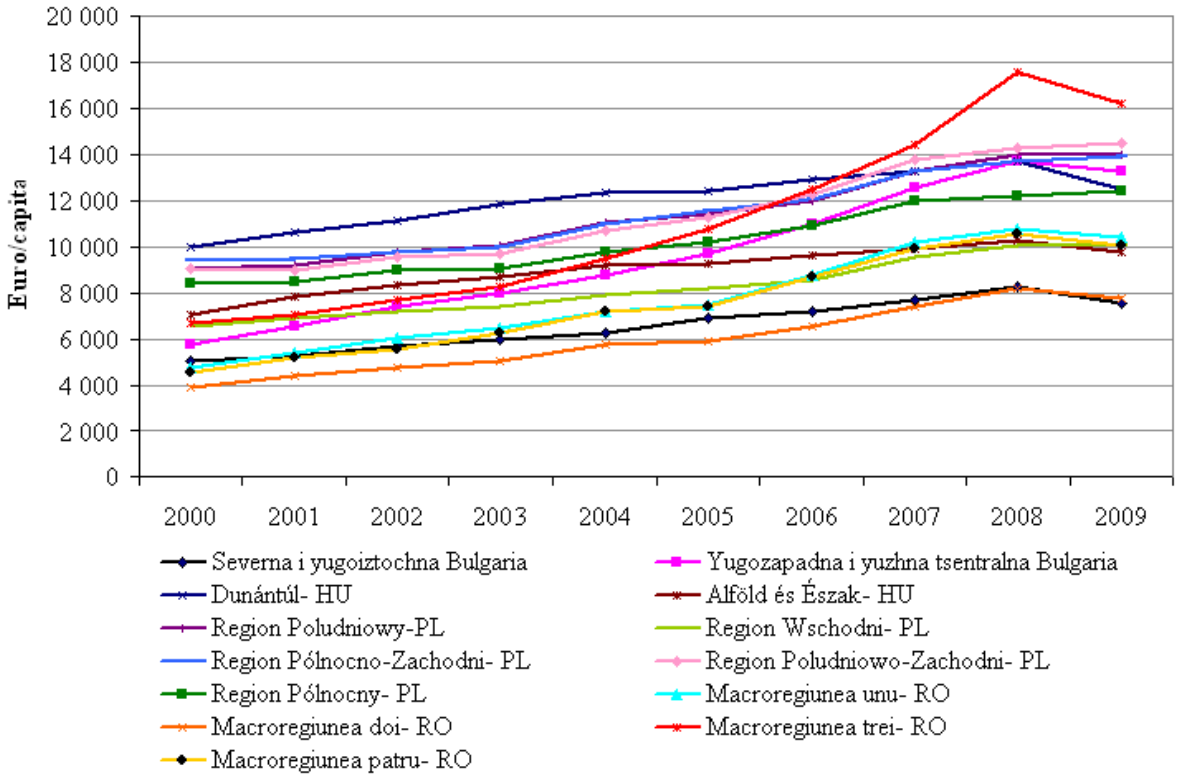

Figure 2. *The changes of the GDP per capita in the less developed regions (NUTS 1)*
Source: Compiled by the author based on Eurostat data

In the less developed territories, the crisis made an almost equal effect because the GDP per capita recorded a low decrease in almost every region from 2008 to 2009. There are two exceptions: Transdanubia in Hungary and Macroregiunea trei in Romania. In these regions, the economic problems were more striking.

At NUTS levels 2 and 3, because of the huge number of data, the graphical analysis was very difficult. At these two levels, regions were assessed in groups, namely the capital regions, the first five most developed regions (with the highest GDP per capita, PPS, in 2000, without the capital regions) and the last five least developed regions (with the lowest GDP per capita, PPS, in 2000). The results are very similar to the territorial level NUTS 1.

In conclusion, the more developed territories experienced bigger problems (higher decreases in the GDP per capita as result of the crisis) than the least developed regions, in the case of all the analysed territorial levels (especially at levels NUTS 1 and 2). However, in Poland, the crisis did not have the same effects at all NUTS levels (in some regions, there was an increase in the GDP per capita from 2008 to 2009). Perhaps the biggest problems could be found in Slovenia and in the Baltic states, where the GDP per capita underwent important changes.

INCREASING REGIONAL DISPARITIES

To analyse regional disparities thoroughly, some basic statistical analysis of the GDP per capita was made in order to know how the mean, median, maximum, minimum, and standard deviation of the data changed from 2000 to 2009. The results can be seen in Table 1.

Table 1. *The basic statistical analysis of the GDP per capita in 2000, 2005 and 2009*

	2000			2005			2009		
	EU	**The old Member states**	**The New Member states**	**EU**	**The old Member states**	**The New Member states**	**EU**	**The old Member states**	**The New Member states**
mean	18 316	20 691	9 239,2	21 790	24 251	12 385.6	22 583	24 707	14 464.3
median	18 250	20 221	8 150	21 900	23 300	10 650	21 900	23 400	12 550
maximum	58 000	58 000	26 400	74 000	74 000	37 400	78 000	78 000	41 800
minimum	3 400	10 100	3 400	5 200	11 800	5 200	6 400	12 400	6 400
Standard deviation	7 435.9	6 121.2	4 410.7	8 412.6	7 104,4	6 063.4	8 447.7	7 459.3	6 948.6

Source: Compiled by author based on Eurostat data

From the data in Table 1 it can be seen that the mean of the GDP per capita increased in the analysed period, both in West and in Central and Eastern Europe. The increase in this indicator was more rapid from 2000 to 2005 than from 2005 to 2009. The reason for it can be found in the effect of the economic crisis in 2008. From Table 1 it can be seen that there are big differences in the median, maximum and minimum data between the so called old and new member states of the EU. In the old member states the median and maximum data are two times higher than in the new member states, but the difference decreased in 2009. The standard deviation of the GDP per capita is also important. From Table 1 it results that the standard deviation of the data is relative high, which shows big regional disparities. But it is remarkable that in the Central and Eastern European member states the standard deviation of the data is smaller. However, it increased from 2000 to 2009, showing a convergence to the data of the Western European member states. It means that the regional differences were increasing also in Central and Eastern Europe.

In order to assess how big the differences inside the CEE countries were, an analysis on the within-country regional disparities was also carried out in 2008 and in 2009. The basic question was what kind of influence crisis could have on these differences. There were big differences in the GDP per capita also inside countries, the biggest in Slovakia and Romania (in 2008). The smallest difference could be found in Slovenia. From the 2009 data it can be seen that out of the 29% of the analysed countries the GDP disparities decreased from 2008 to 2009. It is necessary to emphasize that this convergence was not always the result of a good process as the GDP per capita could decrease because of the crisis of 2008 both in the most and in the least developed territory, but not equally in the two regions. Therefore, the GDP per capita could decrease in a lesser degree in one region than in the other, which shows also a convergence, but in the conditions in which both regions had problems.

THREE CONVERGENCE CLUBS IN CENTRAL AND EASTERN EUROPE: BIG DIFFERENCES BETWEEN THE NEW MEMBER STATES

The analysis of the convergence clubs is an interesting issue of regional economy and regional inequalities. This analysis is a good method to examine unequal regional development by grouping similar regions according to the GDP growth rate. In order to find out which convergence clubs can be made in Central-Eastern Europe, I made the analysis also at NUTS 1, 2 and 3 levels from 2000 to 2009. There were two analysed factors: the logarithmical GDP per capita in 2000 (PPS) and its average growth from 2000 to 2009. The analysed countries were the same as in the first case: Hungary, Romania, Bulgaria, the Baltic countries (Estonia, Latvia, and Lithuania), the Czech Republic, Slovakia, Slovenia, and Poland. The convergence clubs at NUTS level 1 can be seen in Figure 3.

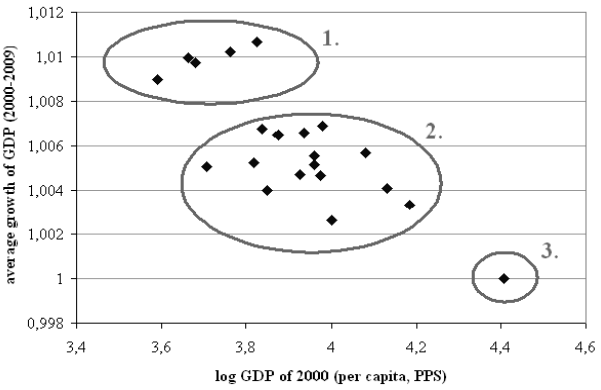

Figure 3. *The convergence clubs of Central and Eastern Europe (NUTS 1)*
Source: Compiled by the author based on Eurostat data

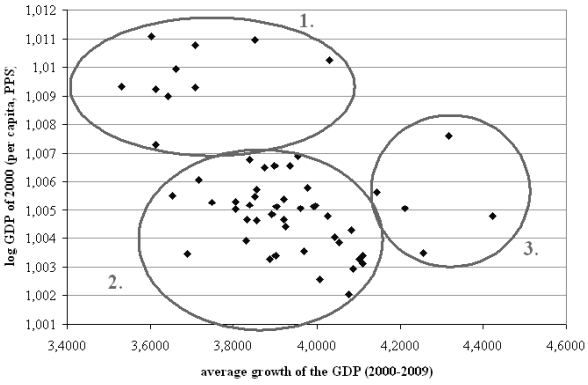

Figure 4. *The convergence clubs of Central and Eastern Europe (NUTS 2)*
Source: Compiled by the author based on Eurostat data

According to Figure 3, the first convergence club, where the GDP in 2000 was relatively low, but the GDP growth was very high, includes territories from Romania and Bulgaria *(Yugozapadna i yuzhna tsentralna Bulgaria, Macroregiunea unu Romania, Macroregiunea doi Romania, Macroregiunea trei Romania, Macroregiunea patru Romania)*. Macroregiunea trei in Romania had the biggest GDP growth in the whole Central-Eastern European region from 2000 to 2009.

The second convergence club includes 15 regions at NUTS level 1, namely the Baltic states, Slovakia, Slovenia, Czech Republic, regions of Poland, one territory of Bulgaria: Severna i yugoiztochna, some territories of Hungary: Transdanubia, the Great Plain and the North. In this club, the GDP in 2000 was medium high and the growth rate of the GDP per capita was also medium high along the analysed period. The problem of Hungary must be noted because the GDP in 2000 was only medium high in the two Hungarian regions and the GDP growth was relative lower than in the other regions of CEE. The Baltic states had the highest growth rate.

The last convergence club at NUTS level 1 comprises only one territory: Central Hungary. The status of this region is very special in CEE because, at NUTS level 1, it had the biggest GDP in the whole analysed region (in 2000), but the GDP growth rate was the lowest. This can be a big problem because the development of this territory can be slowed down in comparison to the other CEE regions.

The convergence clubs at NUTS level 2 can be seen in Figure 4. At this territorial level three convergence clubs could be also identified, grouping the regions of Central and Eastern Europe. The first club groups all the Romanian territories and two Bulgarian territories. This group is characterized by a relative low GDP in 2000, but a very high GDP growth rate, as we could also see at NUTS level 1. Sud–Muntenia Region in Romania had the highest GDP growth rate from 2000 to 2009. Bucharest and Yugozapaden, the two capital regions, had higher GDP in 2000 than the others, as well as a very high GDP growth.

Most regions were included into the second club: territories of Poland, the rest of Bulgaria, the Czech Republic, regions of Slovakia, Slovenia, Hungary, and the Baltic states. In this group, the GDP in 2000 was medium high and the GDP growth rate was medium and low (the lowest in West and Central Transdanubia- Hungary). The Bulgarian regions in this club had almost the same GDP in 2000 as the Romanian regions in club 1 (very low), but their GDP growth was lower. That is why they were included into the second group.

The capital regions (Bratislavský kraj, Praha, Central Hungary, Mazowieckie, Zahodna Slovenija) belong to the last convergence club. In this case, the GDP in 2000 was relative high and the GDP growth rate was medium.

At NUTS level 3, it was very difficult to make convergence clubs because the regions were too close to each other. However, several comments can be made. Giurgiu County in Romania recorded the lowest GDP in 2000, but the GDP growth was very high in this territory. The highest growth in this period was reached by Ilfov in Romania. The first club comprises only Romanian and Bulgarian territories, while the capital regions are mostly in the third (most developed) club.

When analysing convergence clubs, it could be noted that the least developed countries *(Romania, Bulgaria, some parts of Poland, and the Baltic states)* had higher GDP growth from 2000 to 2009 than the more developed countries *(Czech Republic, Slovakia, Slovenia, and some parts of Hungary).* In my opinion, these regions could a little bit converge to each other. Hungary is a special case because there were only middle or low values of the GDP in 2000 in most of its regions and the GDP growth was not high either. Therefore, it can be inferred that the country faces some big difficulties. As a conclusion, in most of the countries the Williamson hypothesis could be verified.

FURTHER ANALYSIS

This recent research was focused on the convergence process in Central-Eastern Europe, but, in my opinion, it is necessary to compare it to the Western European territories in order to apprehend the whole convergence in Europe. It would be interesting to see whether the CEE regions can converge to the Western part of the EU. This is the reason for which the research should be extended also to the Western European member states of the EU.

CONCLUSION

According to the analysis results, the economic and financial crisis had different effects in Central-Eastern Europe, but it could not reduce significantly the GDP disparities. In Central and Eastern Europe, at all of the analysed NUTS levels (1, 2 and 3), the most developed territories had bigger problems during the crisis than the least developed regions in this area. Some Polish territories could increase the GDP per capita during the crisis, too. In addition, the within-country differences increased in the Central and Eastern European member states from 2000 to 2009.

Consequently, three convergence clubs comprising the new member states of the EU were detected. One of the most important findings is that the development of Central-Eastern Europe is not homogeneous. The least developed countries had higher GDP growth rates from 2000 to 2009 (effect of the European Union membership) than the more developed countries. There was a small convergence among the regions of CEE.

It results that the economic crisis made unequal effects on the convergence process of CEE. In some of the cases, regional disparities decreased, but not significantly and not always due to a good convergence process. In consequence, the whole convergence process may last for a long time.

REFERENCES

AKHMETOV, D. (2009-2010), *Regional Disparities in the European Union* [Essay for the Advanced Economics of European Integration – Microeconomic Aspects].

ARBIA, G., DE DOMINICI, LAURA, PIRAS, G. (2009.), *Regional Growth and Regional Inequality in Europe: A Spatial Econometric Approach*, European Commission, Seville, Spain.

DEUTSCHE BANK RESEARCH (2002), *Konvergenz schreitet weiter voran*, Monitor EU-Erweiterung, retrieved 14 October 2012 from http://www.dbresearch.com/PROD/DBR_INTERNET_DE-PROD/PROD0000000000046120.PDF

HORVÁTH, G. (2009), *Cohesion Deficiencies in Eastern and Central Europe – Inequalities of Regional Research Area*, Centre for Regional Studies of Hungarian Academy of Sciences, Discussion Papers, No. 72, Pécs.

KORNAI, J. (2006), *The great transformation of Central Eastern Europe: Success and Disappointment*, In: Economics of Transition, pp. 2, 14, pp. 207-244.