

Per capita Income Convergence in Central Europe:

Does the 2004 Accession to the European Union matter?

Andrzej Cieřlik¹, Tomasz Misiak²

Abstract

The main objective of this paper is to study regional income convergence in Central Europe from 1993 to 2024 using an innovative approach proposed by Phillips and Sul (2007). We divide the study period into two sub-periods: 1993-2004 and 2005-2024, which allows us to compare income convergence before and after accession to the European Union. Our study uses data at different NUTS levels ranging from NUTS1 to NUTS3. Our results show that the hypothesis of income convergence between all regions of Central Europe is rejected at each NUTS level for both the pre- and post-accession periods. At the same time our results indicate the existence of different convergence clubs between regions of Central Europe. In particular, the number of convergence clubs depends on both the NUTS level used and the period of the study. The number of convergence clubs increases with the level of spatial data aggregation. Moreover, our results show that after joining the European Union, the number of identified convergence clubs at each NUTS level is lower than before joining the European Union. Therefore, our results suggest growing per capital income cohesion within Central Europe and effectiveness of the EU cohesion policy.

Keywords: club convergence, catch-up effect, log(t) convergence test, economic growth, time-varying factor model

JEL classification: C33, R11.

The financial support of the National Science Centre under the grant number 2024/53/B/HS4/02331 is gratefully acknowledged.

¹ University of Warsaw, Faculty of Economic Sciences, Department of Macroeconomics and International Trade Theory, ul. Długa 44/50, Warszawa, PL-00241, Poland, email: cieslik@wne.uw.edu.pl

² Rzeszów University of Technology, Faculty of Management, Department of Economics, al. Powstańców Warszawy 8, PL-35959 Rzeszów, Poland; e-mail: tmisiak@prz.edu.pl, the corresponding author.

1. Introduction

Central Europe (CE) is a geographical region of Europe that is located between Eastern, Southern, Western, and Northern Europe. The region is composed of several countries that share some historical, political and cultural similarities as the former members of Austro-Hungarian and German Empires that existed until the end of the First World War and gained independence after their collapse. However, their independence was relatively short lived as after the end of the Second World War the majority of countries in this region were forced to join the Soviet-bloc and remained isolated from the rest of Europe for almost 45 years following the Soviet-style industrialization and the model of economic development based on central planning and import-substitution. After the collapse of the communist bloc in the late 1980s, the countries in Central Europe, focused on their integration with the European Union (EU) and signed in the early 1990s a number of association agreements. In addition, to counteract further declines in international trade due to the initial transition shock, the Central European Free Trade Agreement (CEFTA) was signed in 1992 by the three original signatories that included former Czechoslovakia, Poland, and Hungary. Central European countries are united not only by their close neighbourhood and similar geopolitical conditions and the level of economic development, but above all by their common history ties, tradition, culture, religion and values. As Eva et al. (2022) emphasise, entrenched and persistent spatial disparities are difficult to overlook.

In 2004, the Eastern enlargement of the EU took place with the accession of five CE countries, including Czechia, Hungary, Poland, Slovakia and Slovenia. This event played a very important political role in understanding that CE is fact a heart of Europe and not a post-Soviet or Eurasian space. Moreover, it also contributed to acceleration of economic development of the entire region. The CE countries can benefit from the EU funds in which the cohesion policy plays an important role. Given their common history, neighbourhood, comparable initial levels of economic development, and the cohesion policy expressed through access to the EU funds, it is worth examining whether income convergence is occurring between the regions of CE countries. Therefore, the main objective of this paper is to study regional income convergence in Central Europe from 1993 to 2024 using a novel approach proposed by Phillips and Sul (2007). We divide the study period into two sub-periods: 1993-2004 and 2005-2024, which allows us to compare income convergence before and after accession to the European Union. Our study uses data at different NUTS levels ranging from NUTS1 to NUTS3.

There are three main advantages that distinguish our study from the previous studies on income convergence in these countries. Firstly, we employ an innovative analytical framework of convergence testing proposed by Phillips and Sul (2007a) that accounts for heterogeneity in technological progress across regions and enables to build a more realistic model of economic growth compared to those employed in prior studies. As this method is still relatively new compared to the previous approaches, it has not been previously applied to testing regional convergence in CE countries. Secondly, our empirical study on income convergence is based on the most recently available dataset and includes the lower level of spatial data aggregation compared to prior studies. Hence, this allows us to investigate convergence patterns in CE more closely using data for NUTS 3 regions. Finally, our empirical analysis of income convergence is extended to identify the regional convergence clubs. To the best of our knowledge our study is the first empirical analysis of regional convergence clubs at NUTS 3 level in the context of CE countries.

Our results show that the hypothesis of income convergence between all regions of Central Europe is rejected at each NUTS level for both the pre- and post-accession periods. At

the same time our results indicate the existence of different convergence clubs between regions of Central Europe. In particular, the number of convergence clubs depends on both the NUTS level used and the period of the study. The number of convergence clubs increases with the level of spatial data aggregation. Moreover, our results show that after joining the European Union, the number of identified convergence clubs at each NUTS level is lower than before joining the European Union. Therefore, our results suggest growing per capital income cohesion within Central Europe and effectiveness of the EU cohesion policy.

The paper is structured as follows. In Section 2 we survey the previous empirical studies on regional income convergence with the special focus on Central European countries. In Section 3 we describe our empirical methodology and the dataset. In particular, we explain the novel approach to testing regional income convergence research and discuss the properties of statistical data. The estimation results are reported and interpreted in Section 4. Finally, Section 5 summarizes and concludes.

2. Literature review

In the economic literature various theoretical and empirical approaches to studying the effects of economic integration on growth and income convergence can be identified. The earliest neoclassical growth models, based on the assumptions of perfect competition and constant returns to scale, predict that economic integration could promote per capita income convergence through increased mobility of factors of production and knowledge diffusion. However, more realistic models of the new growth theory and the new economic geography are much less optimistic and predict that in reality the lack of convergence might occur (Aghion and Howitt, 1998; Fujita et al, 1999). Regardless of the ways in which the significance of integration for convergence can be approached, the question of whether poorer regions tend to catch up with richer ones remains important. In this section we discuss theoretical concepts and empirical studies related to testing for income convergence in the EU with the special focus on new member states countries located in Central Europe.

The convergence hypothesis originally relates to the neoclassical Solow-Swan growth model (Solow, 1956; Swan, 1956). Then, it was further refined by Sala-i-Martin (1990), Barro (1991) and Barro and Sala-i-Martin (1992). The key component of neoclassical models is the production function that assumes the decreasing marginal product of capital. This means that in the long run the economy converges to a steady-state where income per capita grows at the rate of exogenously given technological progress. Given the same constant rates of technological change, saving and population growth it can be expected that all economies in the long run should converge to the same steady-state, even if their starting levels of capital per worker might vary across countries or regions. The convergence hypothesis predicts that less developed countries or regions should grow faster than more developed ones and thus should become more similar to each other in terms of income per capita.

Per capita income convergence can be studied from various perspectives. The most widely known are the concepts of β - and σ -convergence introduced by Sala-i-Martin (1990). β -convergence refers to the relationship between the growth rate of income *per capita* and its initial level that may occur in two versions: conditional and unconditional. Unconditional or absolute convergence implies that countries or regions in the long run converge to the same steady-state regardless of their initial characteristics. In contrast, conditional convergence postulates that poorer countries or regions may grow faster than richer ones but only when they converge to the same steady-state and all their individual characteristics that affect the steady

state are exactly the same. Otherwise, countries or regions with different values of their characteristics will converge to different steady states. On the other hand, σ -convergence, occurs when inequalities in incomes per capita between countries or regions decrease over time. β -convergence is a necessary but not sufficient condition for the existence of σ -convergence (Barro and Sala-i-Martin, 1992). The occurrence of σ -convergence is tested using various measures of dispersion in GDP per capita such as standard deviations, coefficients of variation or variance of GDP per capita from the trend, and test whether the selected dispersion measures decrease over time.

An alternative, analytical framework for studying convergence is a time-varying factor model proposed by Phillips and Sul (2007a,b; 2009) that enables the endogenous determination of convergence clubs at regional or country levels.³ This approach was previously used by Bratkowska and Riedl (2009) to study per capita income convergence from 1990 to 2005 for NUTS-2 regions of the old EU-15 member states and the regions of Norway and Switzerland. Their results strongly supported the existence of convergence clubs, indicating that European regions form five separate groups were converging to their individual steady state paths. In a follow up study von Lyncker and Thoennessen (2017) investigated per capita income convergence in European NUTS-2 regions during the longer period 1980–2011. However, their sample was again limited only to regions of all old member states as of 2003 (the so-called EU-15) and excluded Luxembourg. Their results demonstrated the existence of four convergence clubs in the EU-14 countries. In addition to a traditional North-to-South division of the EU, they also detected high income clusters for capital cities.

At about the same time Borsi and Metiu (2015) studied per capita income convergence at the country level in the enlarged European Union during the 1970-2010 period also using the time-varying factor model. Their study clearly showed the lack of convergence between the new and old EU member states and identified several clubs that converged to their own steady-states. In a more recent study Cieřlik and Wciřlik (2021) investigated GDP per capita convergence between the new CEE-8 countries and their catch-up towards the old EU-15 members during the more recent period 1995-2017. Their results indicated no convergence within the group of the old EU-15 members but they found convergence among the new CEE-8 countries. Their results were generally consistent with the earlier findings reported by Borsi and Metiu (2015). In addition, according to Cieřlik and Wciřlik (2021) the CEE-8 were converging towards the two largest old EU member states: Germany and France.

Regional income convergence among the old and the new member states was also studied in a number of different articles using various methodologies. In particular, there is a number of studies that document within-country divergence combined with between-country convergence both for the member states and for the EU as a whole. For example, Chapman and Meliciani (2012) employed a non-parametric method to investigate per capita regional income convergence in the enlarged EU during the period 1998–2005. They found overall convergence but at the same time also growing within country disparities. In order to explain these disparities they considered the role of various socio-economic features, specialisation patterns and geographical factors. They found that specialisation and socio-economic features exhibited a strong explanatory power while geographical factors were less important in explaining within country divergence. In addition, Meliciani (2016) found evidence of increasing importance of innovation and of socio-economic factors in explaining regional disparities both in the EU as a whole and in the new member states.

³ One of the first mentions of the concept of convergence clubs can be found in the work of Baumol and Wolff (1986). Also worth mentioning is the seminal works of Quah (1996; 1997), which discusses the issue of club convergence both theoretically and empirically at the regional level.

Chapman and Meliciani (2017) studied the determinants of regional income inequalities in the enlarged EU and their evolution during the period of 2004–2011. They classified EU regions using three different factors: specialisation, socio-economic features and innovation and studied EU-relative and country-relative differences in per capita GDP across these groups using both non-parametric tools and traditional regression analysis with spatial effects. They reported that EU-wide convergence concealed increasing divergence across regions of old member states and within the new member states. They found that socio-economic factors and innovation become increasingly important for all areas while specialisation appeared to be much less important. In particular, they showed that socio-economic factors were responsible for within-country differences while innovation better explained differences in regional EU-relative per capita GDP.

In a companion paper Chapman and Meliciani (2018) studied the determinants of within country regional income inequalities and their evolution in CEE countries between 1991 and 2011. They evaluated the relevance of various geo-sectoral groups such as urban areas, old industrialised areas and peripheral areas for regions of CEE countries that were previously used to investigate convergence with the old EU members. In addition, they proposed a new category, that of “successful Foreign Direct Investment (FDI)-based restructuring”, for better understanding the processes of catching-up in CEE countries. Subsequently, they tested the relevance of the aforementioned groups in explaining the rise in within countries’ regional inequalities using non-parametric and spatial methods. They found that the overall explanatory power of these geo-sectoral categories increased over time. Hence, they rejected the general idea that economic growth was bound to ‘trickle down’ from the fastest growing places to the rest of the country.

More recently, Cutrini and Mendez (2023) studied the role of structural change and spatial dependence as key conditioning factors of the club convergence process in selected NUTS2 regions of the European Union during the period 2003–2016. They demonstrated that the spatial distribution of the convergence clubs showed a strong degree of spatial dependence. In addition, they evaluated the role of structural changes and spatial dependence in the formation of convergence clubs using a spatial ordered-logit model. They found that the structural change appears to play a major role in the evolution of regional disparities in the EU. Oleš and Hudcovský (2024) estimated the effects of the European Structural and Investment Funds (ESIF) on economic growth across European NUTS2 regions. They implemented the data-driven Phillips and Sul test to classify EU regions into endogenously identified convergence clubs that converge to different steady-state equilibria. They found three substantially different convergence clubs in terms of both per capita output and spatial location: capital cities and metropolitan areas, EU core countries, and the periphery. They observed a persistent core-periphery pattern in terms of output per capita among European regions with different rates of convergence. The convergence club comprising capital cities and metropolitan areas converged almost four times faster than the rest of the EU. They also estimated club-specific growth regressions to study the effect of ESIF expenditures on short-run economic growth. Their results indicated a positive effect of ESIF expenditures-to-GDP on short-run economic growth in the second (core) and third (periphery) convergence clubs, with the impact being twice as large in the latter compared to the former.

3. Research methodology and statistical data

In order to study regional income convergence in CE countries we employ an analytical framework of convergence testing proposed by Phillips and Sul (2007a) that was not previously employed in the context of these countries. Following Howitt and Mayer-Foulkes (2005), and Phillips and Sul (2007a,b) in our study we account for heterogeneity in technological progress across regions which enables us to come up with a realistic model of economic growth. The

specific details concerning the employed analytical framework are extensively discussed in the prior literature including seminal studies of Phillips and Sul (2007a, b), Borsi and Metiu (2015), Du (2017), and Cieřlik and Wciřlik (2020). In addition to providing a sound basis for testing regional income convergence, this method also allows us to identify possible convergence clubs. To investigate the existence of possible convergence clubs, Phillips and Sul (2007b) developed a data-driven algorithm that was subsequently modified by Schnurbus et al. (2017). This methodology is the most comprehensive approach to the study of income convergence, particularly at the regional level. The rejection of the convergence hypothesis for all regions does not, however, preclude the existence of convergence clubs. Due to this reason, we believe that this methodology is the most appropriate for our study of regional income convergence in CE countries.

Our research is based on GDP per capita data for regions at different NUTS levels, ranging from NUTS1 to NUTS3, in seven CE countries: Austria and Germany, that represent the old EU, and Czechia, Hungary, Poland, Slovakia and Slovenia, that represent the new EU. The period of the study covers years 1993–2024. The sample period is determined by data availability.⁴ We test for regional income convergence over the full period and two sub-periods: 1993–2004 (before the accession) and 2005–2024 (after the accession). This division into sub-periods enables us to compare convergence processes before and after the accession of the five CE countries to the EU in 2004. We obtain per capita GDP data from the Annual Regional Database of the European Commission (ARDECO) which we adjust for inflation and express in constant 2015 prices.⁵

4. Empirical results

In this section we report the results of tests of regional income convergence based on an econometric $\log(t)$ regression test for regions of Central European countries at different levels of the NUTS classification before and after their accession to the EU in 2004. This test, proposed by Phillips and Sul (2007a), is very restrictive, requiring strong trends in the data and designed to reject weak patterns of convergence. We start with examining the convergence of all regions of CE countries at the NUTS1, NUTS2 and NUTS3 levels over the entire sample period. This means that if the convergence hypothesis is supported, then all regions are moving towards a common steady state. Then, we test the convergence hypothesis for two sub-periods: 1993–2004 and 2005–2024. This enables us to determine whether the 20-year period following the accession of five CE countries to the EU has had any visible effects on regional convergence patterns among the CE-7 countries. However, rejecting the hypothesis of convergence of all regions to a common steady state does not rule out the existence of regional convergence clubs. The proposal of Phillips and Sul developed by Schnurbus et al. (2017) allows, based on an appropriate algorithm, to identify convergence clubs at each NUTS level for both the entire period and the pre- and post-accession periods.

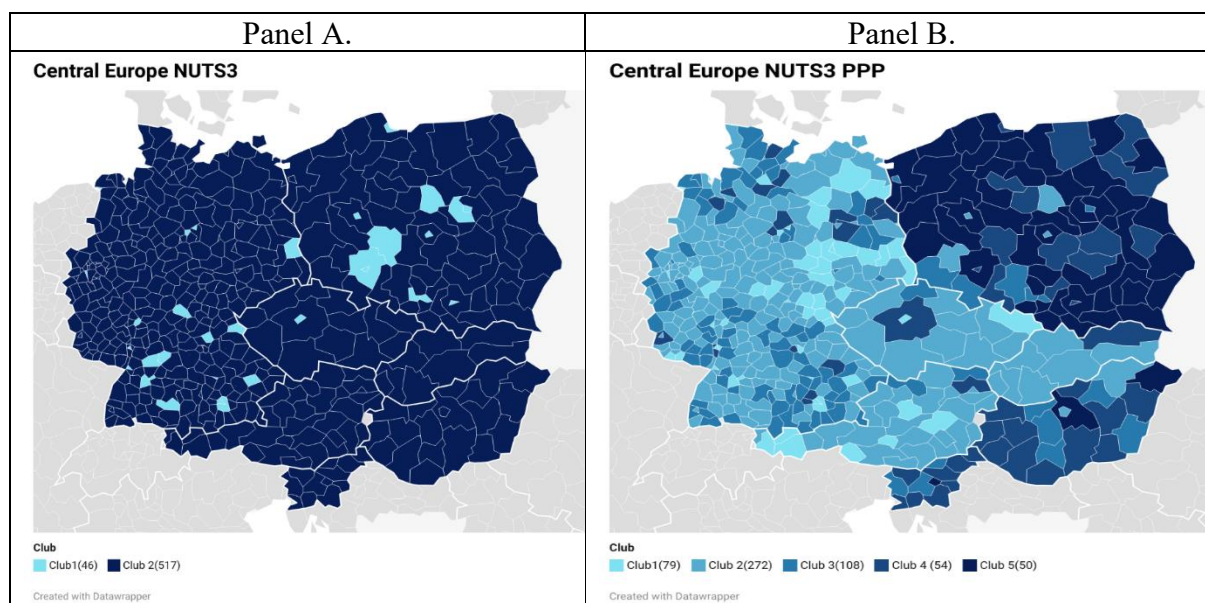
The baseline results of the $\log(t)$ regression tests for CE countries at different NUTS levels for real GDP per capita, expressed at constant 2015 prices, during the entire period of our sample (i.e. 1993–2024) are reported in Table 1, while the additional sensitivity tests for

⁴ In December 1992 Czech and Slovak Federative Republic of Czechoslovakia was dissolved and 1993 is the first year for which statistical data are available for its two independent successor states: Czechia and Slovakia.

⁵ Real GDP is calculated using regional price indexes of inflation.

real GDP per capita expressed at constant prices 2015 in PPP terms are shown in Table 2. In the first case, regional income levels are expressed in euros, calculated using regional inflation indexes and expressed in constant 2015 prices. In the second case, the income level is expressed in euros in constant 2015 prices, taking into account purchasing power parity (PPP).

Our baseline results reported in Table 1 show that the per capita income convergence hypothesis among all regions cannot be rejected at the NUTS1 and NUTS2 levels for the all regions of CE countries. This means that at these levels of regional aggregation, regional income convergence is occurring, with all regions moving towards a common long-term steady state. These results are in line with the previous results of per capita income convergence at the country level reported in Cieřlik and Wciřlik (2020). At the same time, our baseline results indicate that the income convergence hypothesis among all regions of Central European countries at NUTS 3 level is rejected (see Table 1 and Map 1). However, rejecting the convergence hypothesis for all NUTS3 regions does not rule out the possibility of club convergence. In fact, our results for NUTS3 regions indicate club convergence. In particular, two convergence clubs can be distinguished. The first club comprises 46 regions (mostly highly industrialised areas with large urban centres), while the second comprises the remaining 517 NUTS3 regions. Interestingly, the majority of the first club members are located mainly in Southern Germany and South-Western Poland that used to be a part of the German Empire before the First World War.



Map. 1 . Convergence clubs in the Central Europe from 1993 to 2024 at the NUTS3 level.

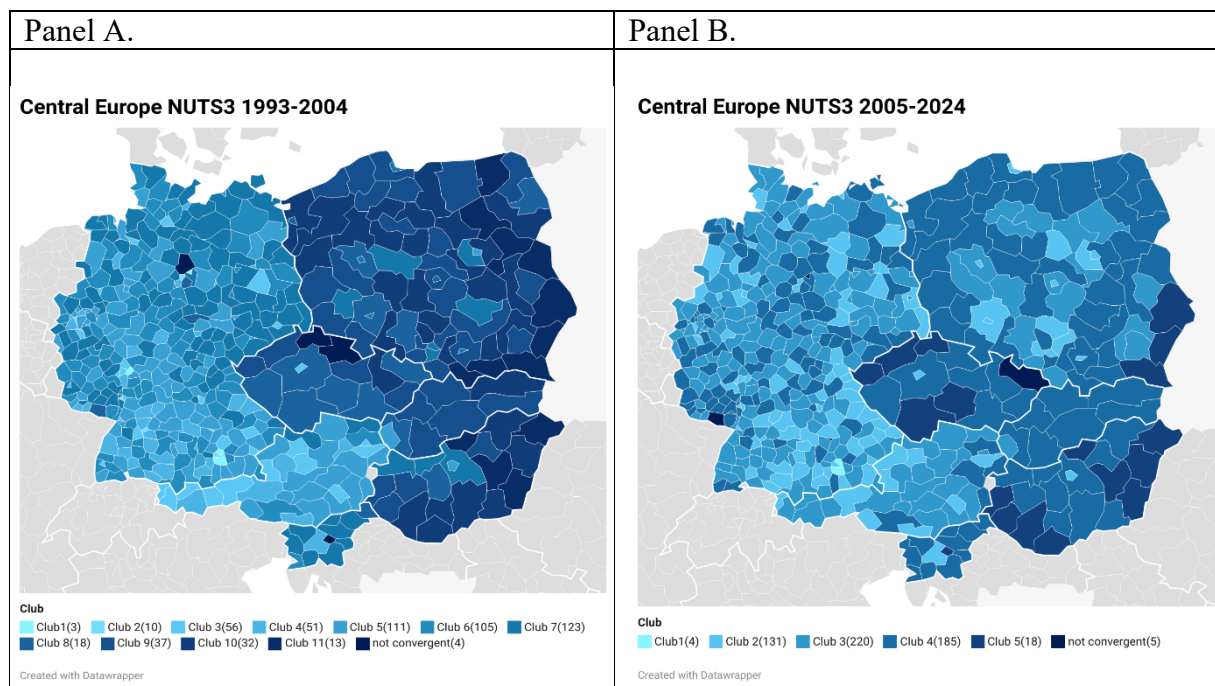
However, when we consider the results for real GDP per capita expressed at constant prices 2015 in PPP terms reported in Table 2, we can easily see that the convergence hypothesis is rejected for all regions and NUTS levels. At NUTS1 level, three convergence clubs were identified, as well as two non-convergent regions (Bremen and Hamburg). At the NUTS2 level, there were also two convergence clubs and five at the NUTS3 level. Moreover, there were no non-convergent regions at NUTS levels 2 and 3.

Summing up, during the entire period of our study, the convergence hypothesis cannot be rejected for all regions at NUTS levels 1 and 2, only when per capita income is not expressed in PPP terms. In all other cases, only club convergence is observed. Generally, there are less

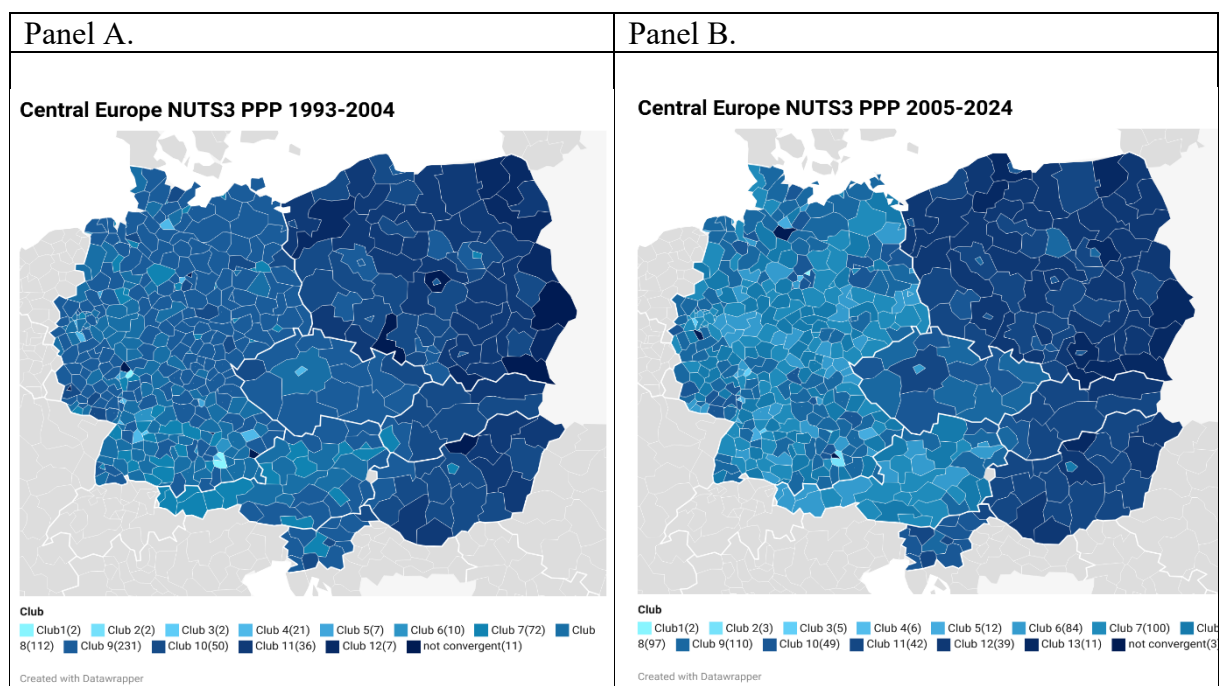
convergence clubs at lower NUTS levels than at NUTS3 level. This means that regional variation in per capita income is greater at higher NUTS levels.

The lack of convergence is also observed in the results obtained for the pre- and post-accession periods (see Tables 3-6 and Maps 2-3), irrespectively whether per capita income is expressed in PPP terms or not. However, in both cases the number and the composition of the convergence clubs in Central Europe differs between the periods. In the first sub-period 1993-2004, (i.e. before accession to the EU), when per capita GDP is expressed at constant 2015 prices, we identify 6 convergence clubs and 5 non-convergent regions at NUTS1 level, 6 clubs and 4 non-convergent regions at NUTS2 level and 11 clubs and 4 non-convergent regions at NUTS3 level. The results are quite similar when real GDP per capita is expressed at constant 2015 prices in PPP terms. In this case we can also observe 6 convergence clubs and 6 non-convergent regions at NUTS1 level, 5 clubs and 10 non-convergent regions at NUTS2 level and 11 clubs and 11 non-convergent regions at NUTS3 level.

In the second sub-period 2005-2024, (i.e. after accession to the EU), the number of identified clubs is lower at each NUTS level compared to the second sub-period when per capita GDP is expressed at constant 2015 prices. However, when GDP per capita is expressed at constant 2015 prices in PPP terms the number of identified clubs is lower only at NUTS 1 level but higher at both NUTS 2 and NUTS3 levels. In particular, when per capita GDP is expressed at constant 2015 prices there are 2 convergence clubs and 3 non-convergent regions at NUTS1 level, 3 clubs and zero non-convergent regions at NUTS2 level and 5 clubs and 5 non-convergent regions at NUTS3 level. In the case when real GDP per capita is expressed at constant 2015 prices in PPP terms we can observe 5 convergence clubs and 6 non-convergent regions at NUTS1 level, 7 clubs and 1 non-convergent region at NUTS2 level and 13 clubs and 3 non-convergent regions at NUTS3 level. This means that while the accession to the EU might generally contribute to the diminishing regional per capita disparities at the same time these inequalities when expressed in PPP terms could be in fact increasing.



Map. 2. Convergence clubs in Central Europe from 1993 to 2004 and from 2005-2024 at the NUTS3 level.



Map. 3. Convergence clubs in Central Europe from 1993 to 2004 and from 2005-2024 at the NUTS3 level in PPP terms.

Tab. 1. Log(t) regression test – real GDP per capita 1993-2024 at constant prices 2015

all regions												
Regions	NUTS1				NUTS2				NUTS3			
	$\hat{b}$	SE	t-stat	Convergence	$\hat{b}$	SE	t-stat	Convergence	$\hat{b}$	SE	t-stat	Convergence
Central Europe	0.131	0.034	3.897	Yes	-0.008	0.029	-0.272	Yes	-0.086	0.027	-3.17	No
Regional convergence clubs												
Regions	NUTS1				NUTS2				NUTS3			
	Clubs	$\hat{b}$	t-stat	Convergence	clubs	$\hat{b}$	t-stat	Convergence	clubs	$\hat{b}$	t-stat	Convergence
Central Europe	-	-	-	-	-	-	-	-	Club 1(46)	0.161	4.192	Yes
	-	-	-	-	-	-	-	-	Club 2(517)	-0.016	-0.552	Yes

Notes: The null hypothesis of convergence is rejected at the 5% significance level if t-stat < -1.65. NCG- not convergent group. Club 1(..) - the number of regions in the club is shown in brackets. The composition of the convergence clubs is shown in Tables A1 to A6 in the Appendix.

Tab. 2. Log(t) regression test – real GDP per capita 1993-2024 at constant prices 2015 in PPP

all regions												
Regions	NUTS1				NUTS2				NUTS3			
	$\hat{b}$	SE	t-stat	Convergence	$\hat{b}$	SE	t-stat	Convergence	$\hat{b}$	SE	t-stat	Convergence
Central Europe	-0.296	0.011	-28.17	No	-0.261	0.012	-21.81	No	-0.311	0.010	-31.92	No
Regional convergence clubs												
Regions	NUTS1				NUTS2				NUTS3			
	Clubs	$\hat{b}$	t-stat	Convergence	clubs	$\hat{b}$	t-stat	Convergence	clubs	$\hat{b}$	t-stat	Convergence
Central Europe	Club 1(19)	0.055	15.17	Yes	Club 1(58)	0.011	0.880	Yes	Club 1(79)	-0.016	-0.528	Yes
	Club 2(5)	0.034	1.36	Yes	Club 2(28)	0.060	2.031	Yes	Club 2(272)	-0.007	-0.610	Yes
	Club 3(6)	-0.030	-0.79	Yes					Club 3(108)	0.009	0.564	Yes
	NCG (2)	-0.172	-7.26	No					Club 4(54)	0.064	3.397	Yes
									Club 5(50)	0.239	4.864	Yes

Notes: as in Table 1.

4.1. Sub-period results

Tab. 3. Log(t) regression test – real GDP per capita 1993-2004 at constant prices 2015

all regions												
Regions	NUTS1				NUTS2				NUTS3			
	$\hat{b}$	SE	t-stat	Convergence	$\hat{b}$	SE	t-stat	Convergence	$\hat{b}$	SE	t-stat	Convergence
Central Europe	-0.695	0.043	-16.37	No	-0.748	0.039	-19.33	No	-0.776	0.036	-21.41	No
Regional convergence clubs												
Regions	NUTS1				NUTS2				NUTS3			
	Clubs	$\hat{b}$	t-stat	Convergence	clubs	$\hat{b}$	t-stat	Convergence	clubs	$\hat{b}$	t-stat	Convergence
Central Europe	Club 1(4)	0.145	2.30	Yes	Club 1(8)	0.018	0.174	Yes	Club 1(3)	3.326	2.683	Yes
	Club 2(4)	0.767	2.72	Yes	Club 2(10)	0.073	0.985	Yes	Club 2(10)	0.363	5.414	Yes
	Club 3(9)	-0.001	-0.014	Yes	Club 3(29)	-0.052	-0.607	Yes	Club 3(56)	-0.078	-0.885	Yes
	Club 4(2)	1.012	4.94	Yes	Club 4(3)	2.055	4.457	Yes	Club 4(51)	0.072	0.689	Yes
	Club 5(5)	0.119	1.526	Yes	Club 5(24)	-0.096	-1.335	Yes	Club 5(111)	0.039	0.386	Yes
	Club 6(3)	0.047	1.626	Yes	Club 6(8)	0.966	4.948	Yes	Club 6(105)	0.124	1.155	Yes
	NCG (5)	-0.724	-17.36	No	NCG (4)	-0.819	-21.98	No	Club 7(123)	-0.128	-1.502	Yes
									Club 8(18)	0.072	0.661	Yes
									Club 9(37)	-0.029	-0.321	Yes
									Club 10(32)	0.080	0.891	Yes
									Club 11(13)	0.837	4.602	Yes
									NCG (4)	-0.645	-15.11	No

Notes: as in Table 1.

Tab. 4. Log(t) regression test – real GDP per capita 1993-2004 at constant prices 2015 in PPP

all regions												
Regions	NUTS1				NUTS2				NUTS3			
	$\hat{b}$	SE	t-stat	Convergence	$\hat{b}$	SE	t-stat	Convergence	$\hat{b}$	SE	t-stat	Convergence
Central Europe	-0.521	0.052	-9.95	No	-0.518	0.052	-9.958	No	-0.613	0.045	-13.50	No
Regional convergence clubs												
Regions	NUTS1				NUTS2				NUTS3			
	clubs	$\hat{b}$	t-stat	Convergence	clubs	$\hat{b}$	t-stat	Convergence	clubs	$\hat{b}$	t-stat	Convergence
Central Europe	Club 1(2)	-1.662	-0.462	Yes	Club 1(41)	-0.125	-1.509	Yes	Club 1(2)	-0.047	-0.460	Yes
	Club 2(2)	2.609	4.162	Yes	Club 2(9)	0.067	0.608	Yes	Club 2(2)	0.365	0.162	Yes
	Club 3(13)	-0.068	-0.761	Yes	Club 3(8)	0.454	2.581	Yes	Club 3(2)	5.477	1.317	Yes
	Club 4(5)	0.687	4.077	Yes	Club 4(12)	-0.131	-1.122	Yes	Club 4(21)	-0.130	-1.596	Yes
	Club 5(2)	1.087	4.346	Yes	Club 5(6)	-0.155	-1.183	Yes	Club 5(7)	0.005	0.099	Yes
	Club 6(2)	1.462	3.339	Yes	NCG (10)	-0.696	-17.59	No	Club 6(10)	-0.064	-1.518	Yes
	NCG (6)	-0.873	-26.95	No					Club 7(72)	-0.107	-1.244	Yes
									Club 8(112)	-0.059	-0.686	Yes
									Club 9(231)	-0.105	-1.240	Yes
									Club 10(50)	-0.061	-0.672	Yes
									Club 11(36)	-0.103	-0.922	Yes
									Club 12(7)	0.181	1.462	Yes
									NCG (11)	-0.734	-18.66	No

Notes: as in Table 1.

Tab. 5. Log(t) regression test – real GDP per capita 2005-2024 at constant prices 2015

all regions													
Regions	NUTS1				NUTS2				NUTS3				
	$\hat{b}$	SE	t-stat	Convergence	$\hat{b}$	SE	t-stat	Convergence	$\hat{b}$	SE	t-stat	Convergence	
Central Europe	-0.225	0.042	-5.34	No	-0.321	0.038	-8.457	No	-0.380	0.034	-11.24	No	
Regional convergence clubs													
Regions	NUTS1				NUTS2				NUTS3				
	clubs	$\hat{b}$	t-stat	Convergence	Clubs	$\hat{b}$	t-stat	Convergence	clubs	$\hat{b}$	t-stat	Convergence	
Central Europe	Club 1(26)	-0.079	-1.543	Yes	Club 1(40)	-0.079	-1.571	Yes	Club 1(4)	1.187	4.624	Yes	
	Club 2(3)	0.058	1.003	Yes	Club 2(23)	-0.035	-0.636	Yes	Club 2(131)	-0.063	-1.273	Yes	
	NCG (3)	-0.444	-13.93	No	Club 3(23)	0.031	0.528	Yes	Club 3(220)	-0.040	-0.772	Yes	
									Club 4(185)	-0.064	-1.203	Yes	
									Club 5(18)	0.057	0.848	Yes	
									NCG (5)	-0.802	-32.11	No	

Notes: as in Table 1.

Tab. 6. Log(t) regression test – real GDP per capita 2005-2024 at constant prices 2015 in PPP

all regions													
Regions	NUTS1				NUTS2				NUTS3				
	$\hat{b}$	SE	t-stat	Convergence	$\hat{b}$	SE	t-stat	Convergence	$\hat{b}$	SE	t-stat	Convergence	
Central Europe	-0.579	0.030	-19.50	No	-0.550	0.031	-18.01	No	-0.580	0.028	-21.00	No	
Regional convergence clubs													
Regions	NUTS1				NUTS2				NUTS3				
	clubs	$\hat{b}$	t-stat	Convergence	Clubs	$\hat{b}$	t-stat	Convergence	clubs	$\hat{b}$	t-stat	Convergence	
Central Europe	Club 1(5)	0.085	1.523	Yes	Club 1(10)	0.022	0.355	Yes	Club 1(2)	0.607	7.067	Yes	
	Club 2(9)	0.097	1.792	Yes	Club 2(15)	-0.031	-0.672	Yes	Club 2(3)	0.844	10.58	Yes	
	Club 3(3)	0.041	1.440	Yes	Club 3(9)	0.072	1.313	Yes	Club 3(5)	0.011	0.211	Yes	
	Club 4(4)	0.273	2.608	Yes	Club 4(14)	0.046	0.715	Yes	Club 4(6)	0.125	2.182	Yes	
	Club 5(5)	0.031	0.592	Yes	Club 5(12)	0.020	0.337	Yes	Club 5(12)	0.201	3.757	Yes	
	NCG (6)	-0.604	-23.47	No	Club 6(10)	-0.006	-0.120	Yes	Club 6(84)	-0.067	-1.574	Yes	
					Club 7(15)	0.069	1.230	Yes	Club 7(100)	-0.019	-0.411	Yes	

					NCG (1)	-	-	No	Club 8(97)	0.047	0.942	Yes
									Club 9(110)	-0.055	-0.935	Yes
									Club 10(49)	-0.065	-1.001	Yes
									Club 11(42)	-0.022	-0.415	Yes
									Club 12(39)	0.075	1.415	Yes
									Club 13(11)	0.771	8.504	Yes
									NCG (3)	-0.701	-48.99	No

Notes: as in Table 1.

4. Conclusions

The main objective of this paper was to study regional income convergence in Central Europe from 1993 to 2024 using an innovative approach proposed by Phillips and Sul (2007). We divided the study period into two sub-periods: 1993-2004 and 2005-2024, which allowed us to compare income convergence patterns before and after accession to the EU. Our study used data at different NUTS levels ranging from NUTS1 to NUTS3. Our results showed that, throughout the entire sample period, the convergence hypothesis could not be rejected at the NUTS1 and NUTS2 levels among all regions of Central European countries. However, at the NUTS3 level, the convergence hypothesis was rejected for all regions of CE countries. Similarly, when purchasing power parity (PPP) was considered in income calculations, the convergence hypothesis was rejected for all regions at every NUTS level. At the same time our results indicated the existence of different convergence clubs between regions of Central Europe. In particular, the number of convergence clubs depended on both the NUTS level used and the period of the study. The number of convergence clubs increased with the level of spatial data aggregation. Moreover, our results showed that after joining the EU, the number of identified convergence clubs at each NUTS level was lower than before joining the EU. Therefore, our results suggested growing per capital income coherence within Central Europe.

References

- Aghion, P., Howitt, P. (1998), *Endogenous Growth Theory*, Cambridge MA: MIT Press.
- Barro, R. (1991), Economic growth in a cross section of countries. *Quarterly Journal of Economics*, 106, 407–443.
- Barro, R., Sala-i-Martin, X. (1992), Convergence. *Journal of Political Economy*, 100(2), 223–251.
- Baumol, W.J., Wolff, E.N. (1986), Productivity growth, convergence, and welfare: What the long-run data show, *American Economic Review* 76, s. 1072–1085.
- Borsi, M.T., Metiu, N. (2015), The evolution of economic convergence in the European Union. *Empirical Economics*, 48(2), 657–681.
- Bartkowska, M., Riedl, A. (2012). Regional convergence clubs in Europe: identification and conditioning factors, *Economic Modelling*, 29(1), 22–31.
- Canova, F., Mercet, A. (1995), The Poor Stay Poor: Non-convergence across Countries and Regions, Discussion Paper 1265, Centre for Economic Policy Research, London.
- Chapman, S., Meliciani V. (2012). Income disparities in the enlarged EU. Socio-economic, specialization and geographical clusters. *Tijdschrift voor Economische en Sociale Geografie*, 103(3), 293–311.
- Chapman, S., Meliciani V. (2017). Behind the Pan-European converge path: The role of innovation, specialization and socio-economic factors, *Growth and Change*, 48, 61–90.
- Chapman, S., Meliciani V. (2018). Explaining regional disparities in Central and Eastern Europe: The role of geography and of structural change, *Economics of Transition*, 26(3), 469–494.
- Cieślak, A., Wciślik, D.R. (2020). Convergence among the CEE-8 economies and their catch-up towards the EU-15, *Structural Change and Economic Dynamics*, 55, 39–48.
- Cutrini, E., Mendez C. (2023), Convergence clubs and spatial structural change in the European Union, *Structural Change and Economic Dynamics*, 67, 167–181.
- Du, K. (2017). Econometric convergence test and club clustering using Stata, *Stata Journal* 17(4), 882–900.
- Eva, M., Cehan, A., Corodescu-Roșca, E., Bourdin, S. (2022), Spatial patterns of regional inequalities: Empirical evidence from a large panel of countries. *Applied Geography* 140: 102638.
- Howitt, P., Mayer-Foulkes, D. (2005). R&D, implementation and stagnation: A Schumpeterian theory of convergence clubs. *Journal of Money, Credit and Banking*, 37, 147–177.
- Islam, N. (1995). Growth Empirics: A Panel Data Approach, *Quarterly Journal of Economics*, 110(443), 1127–1170.
- Levine, R., Renelt, D. (1992). A Sensitivity Analysis of Cross-Country Growth Regressions. *American Economic Review*, 82(4), 942–963.
- Lyncker, K., Thoennessen, R. (2017). Regional club convergence in the EU: Evidence from a panel data analysis, *Empirical Economics* 52(2), 525–553.
- Meliciani, V. (2016). *Regional disparities in the enlarged European Union: Geography, innovation and structural change*. Routledge, London.
- Meliciani, V., Peracchi, F. (2006). Convergence in per-capita GDP across European regions: a reappraisal, *Empirical Economics*, 31, 549–568.
- Oleš, T., Hudcovský, M. (2024). Impact of cohesion funds on convergence club's economic growth. *Growth and Change*, 55(4), e12739.
- Phillips, P.C.B., Sul, D. (2007a). Some empirics on economic growth under heterogeneous technology, *Journal of Macroeconomics*, 29, 455–469.
- Phillips, P.C.B., Sul, D. (2007b). Transition Modelling and Econometric Convergence Tests. *Econometrica*, 75(6), 1771–1855.

- Phillips, P.C.B., Sul, D. (2009). Economic transition and growth. *Journal of Applied Econometrics*, 24(7), 1153-1185.
- Quah, D. T. (1996). Regional convergence clusters across Europe. *European Economic Review*, 40(3-5), 951-958.
- Quah, D. T. (1997). Empirics for growth and distribution: stratification, polarization, and convergence clubs. *Journal of Economic Growth*, 2, 27-59.
- Sala-i-Martin, X. (1990). On growth and states. (Unpublished doctoral dissertation). Harvard University.
- Schnurbus, J., Haupt, H., Meier, V. (2017). Economic transition and growth: A replication. *Journal of Applied Econometrics*, 32, 1039-1042.
- Solow, R. M. (1956). A Contribution to the Theory of Economic Growth. *Quarterly Journal of Economics*, 70(1), 65-94.
- Swan, T.W. (1956). Economic Growth and Capital Accumulation. *Economic Record*, 32(2), 334-361.

Appendix

Table A1. Composition of convergence clubs at NUTS1 level

	1993-2024	1993-2004	2005-2024
Club 1	Alföld és Észak, Baden-Württemberg, Bayern, Berlin, Brandenburg, Bremen Cesko, Dunántúl, Hamburg, Hessen, Közép-Magyarország, Makroregion Centralny, Makroregion Południowo-Zachodni, Makroregion Południowy, Makroregion Północno-Zachodni, Makroregion Północny, Makroregion Województwo Mazowieckie, Makroregion Wschodni, Mecklenburg-Vorpommern, Niedersachsen, Nordrhein-Westfalen, Ostösterreich, Rheinland-Pfalz, Saarland, Sachsen, Sachsen-Anhalt, Schleswig-Holstein, Slovenija, Slovensko, Südösterreich, Thüringen Westösterreich	Baden-Württemberg, Hessen, Ostösterreich, Westösterreich	Baden-Württemberg, Bayern, Berlin, Brandenburg, Bremen, Hessen, Közép-Magyarország, Makroregion Centralny, Makroregion Południowo-Zachodni, Makroregion Południowy, Makroregion Północno-Zachodni, Makroregion Północny, Makroregion Województwo Mazowieckie, Mecklenburg-Vorpommern, Niedersachsen, Nordrhein-Westfalen, Ostösterreich, Rheinland-Pfalz, Saarland, Sachsen, Sachsen-Anhalt, Schleswig-Holstein, Slovenija, Südösterreich, Thüringen, Westösterreich
Club 2		Berlin, Nordrhein-Westfalen, Saarland, Südösterreich	Cesko, Makroregion Wschodni, Slovensko
Club 3		Brandenburg, Közép-Magyarország, Mecklenburg-Vorpommern, Niedersachsen, Rheinland-Pfalz, Sachsen, Sachsen-Anhalt, Schleswig-Holstein, Thüringen,	
Club 4		Cesko, Makroregion Województwo Mazowieckie	
Club 5		Dunántúl, Makroregion Centralny, Makroregion Południowo-Zachodni, Makroregion Południowy, Makroregion Północno-Zachodni	
Club 6		Alföld és Észak, Makroregion Północny, Makroregion Wschodni	
NCG		Bayern, Bremen, Hamburg, Slovenija, Slovensko	Alföld és Észak, Dunántúl, Hamburg

Notes: NCG- not convergent group

Table A2. Composition of convergence clubs at NUTS1 level –PPP

	1993-2024	1993-2004	2005-2024
Club 1	Baden-Württemberg/Bayern/Berlin/Brandenburg/Cesko/Hessen/Mecklenburg-Vorpommern/Niedersachsen/Nordrhein-Westfalen/Ostösterreich/Rheinland-Pfalz/Saarland/ Sachsen/Sachsen-Anhalt/Schleswig-Holstein/Slovensko/Südösterreich/ Thüringen/ Westösterreich/	Bayern/Bremen	Baden-Württemberg/Bayern/Hessen/Saarland/ Westösterreich/
Club 2	Alföld és Észak/Dunántúl/Közép-Magyarország/ Makroregion Południowo-Zachodni/Slovenija/	Ostösterreich/Westösterreich	Berlin/Niedersachsen/Nordrhein-Westfalen/Ostösterreich/ Rheinland-Pfalz/Sachsen/Sachsen-Anhalt/Südösterreich/ Thüringen
Club 3	Makroregion Centralny/ Makroregion Południowy/ Makroregion Północno-Zachodni/Makroregion Północny/Makroregion Województwo Mazowieckie/ Makroregion Wschodni	Brandenburg/Cesko/Közép-Magyarország/ Makroregion Województwo Mazowieckie/ Mecklenburg-Vorpommern/Niedersachsen/ Nordrhein-Westfalen/Rheinland-Pfalz/Saarland/ Sachsen-Anhalt/Slovenija/Südösterreich/Thüringen/	Brandenburg/Mecklenburg-Vorpommern/Schleswig-Holstein
Club 4		Dunántúl/Makroregion Południowo-Zachodni/ Makroregion Południowy/Makroregion Północno-Zachodni/Slovensko	Cesko/Közép-Magyarország/Makroregion Województwo Mazowieckie/Slovenija
Club 5		Makroregion Centralny/Makroregion Północny/	Alföld és Észak/Dunántúl/Makroregion Centralny/ Makroregion Południowy/Makroregion Północno-Zachodni
Club 6		Alföld és Észak/Makroregion Wschodni/	
NCG	Bremen/Hamburg/	Baden-Württemberg/Berlin/Hamburg/ Hessen/ Sachsen/Schleswig-Holstein	Bremen/Hamburg/Makroregion Południowo-Zachodni/ Makroregion Północny/Makroregion Wschodni/Slovensko

Notes: NCG- not convergent group

Table A3. Composition of convergence clubs at NUTS2 level

	1993-2024	1993-2004	2005-2024
Club 1	Arnsberg/ Berlin/ Brandenburg/Bratislavský kraj/ Braunschweig/ Bremen/Budapest/ Burgenland/Chemnitz/ Darmstadt/Detmold/Dolnosaskie/Dresden/ Dél-Alföld/ Dél-Dunántúl/Düsseldorf/Freiburg/Gießen/ Hamburg/ Hannover/Jihovýchod/Jihozápad/Karlsruhe/ Kassel/ Koblenz/Kujawsko-Pomorskie/Kärnten/Köln/Közép- Dunántúl/Leipzig/Lubelskie/Lubuskie/ Łódzkie/ Lüneburg/Malopolskie/Mazowiecki regionalny/ Mecklenburg-Vorpommern/Mittelfranken/Münster/ Moravskoslezsko/Niederbayern/ Niederösterreich/ Nyugat-Dunántúl/Oberbayern/Oberfranken/Oberpfalz/ Oberösterreich/Opolskie/Pest/Podkarpacie/Podlaskie/ Pomorskie/Praha/Rheinessen-Pfalz/Saarland/Sachsen- Anhalt/Salzburg/Schleswig-Holstein/Schwaben/ Severovýchod/Severozápad/Slaskie/Steiermark/ Stredné Slovensko/Strední Čechy/Strední Morava/ Stuttgart/Swietokrzyskie/Thüringen/Tirol/Trier/ Tübingen/Unterfranken/Vorarlberg/Vzhodna Slovenija/Východné Slovensko/Warminsko-Mazurskie/ Warszawski stoleczny/Weser-Ems/Wielkopolskie/ Wien/ Zachodniopomorskie/Zahodna Slovenija/Západné Slovensko/Észak-Alföld/Észak-Magyarország	Bremen/Darmstadt/Oberbayern/Praha/Salzburg/ Stuttgart/Tirol/Vorarlberg/	Berlin/Bratislavský kraj/Braunschweig/Bremen/Budapest/ Darmstadt/Detmold/Dolnosaskie/Dresden/Düsseldorf/ Freiburg/Hamburg/Hannover/Karlsruhe/Kärnten/Köln/ Leipzig/Mazowiecki regionalny/ Mittelfranken/Niederbayern/Oberbayern/Oberfranken/ Oberpfalz/Oberösterreich/Pomorskie/Praha/Rheinessen- Pfalz/Salzburg/Schwaben/Slaskie/Steiermark/ Stuttgart/ Tirol/Tübingen/Unterfranken/Vorarlberg/Warszawski stoleczny/Weser-Ems/Wielkopolskie/Wien
Club 2		Braunschweig/Düsseldorf/Karlsruhe/Köln/ Mittelfranken/Oberpfalz/Oberösterreich/ Steiermark/Tübingen/Unterfranken/	Arnsberg/Brandenburg/Burgenland/Chemnitz/Gießen/ Kassel/Koblenz/Kujawsko-Pomorskie/Łódzkie/Lüneburg/ Malopolskie/Mecklenburg-Vorpommern/Münster/ Niederösterreich/Opolskie/Podlaskie/Saarland/Sachsen- Anhalt/Schleswig-Holstein/Thüringen/Trier/Zahodna Slovenija/Zachodniopomorskie/
Club 3		Arnsberg/Berlin/Brandenburg/Bratislavský kraj/ Budapest/Burgenland/Detmold/Dresden/Freiburg/ Gießen/Hannover/Kassel/Koblenz/Kärnten/Leipzig/ Münster/Niederbayern/Niederösterreich/ Oberfranken/Rheinessen-Pfalz/Saarland/Sachsen- Anhalt/Schleswig-Holstein/Schwaben/Thüringen/ Trier/Warszawski stoleczny/Weser-Ems/Zahodna Slovenija	Dél-Alföld/Dél-Dunántúl/Jihovýchod/Jihozápad/Közép- Dunántúl/Lubelskie/Lubuskie/Moravskoslezsko/ Nyugat-Dunántúl/Pest/Podkarpacie/Severovýchod/ Severozápad/Stredné Slovensko/Strední Čechy/Strední Morava/Swietokrzyskie/Vzhodna Slovenija/Východné Slovensko/Warminsko-Mazurskie/Západné Slovensko/ Észak-Alföld/ Észak-Magyarország/
Club 4		Chemnitz/Lüneburg/Mecklenburg-Vorpommern	
Club 5		Dolnosaskie/Jihozápad/Kujawsko-Pomorskie/ Közép-Dunántúl/Lubuskie/Łódzkie/ Malopolskie/Moravskoslezsko/ Nyugat-Dunántúl/ Opolskie/Pest/Podlaskie/Pomorskie/Severovýchod/ Severozápad/Slaskie/Stredné Slovensko/Strední Čechy/Strední Morava/Swietokrzyskie/Východné Slovensko/Wielkopolskie/Zachodniopomorskie/ Západné Slovensko	
Club 6		Dél-Alföld/Dél-Dunántúl/Lubelskie/ Mazowiecki regionalny/Podkarpacie/Warminsko- Mazurskie/Észak-Alföld/Észak-Magyarország/	
NCG		Hamburg/Jihovýchod/Vzhodna Slovenija/Wien	

Table A4. Composition of convergence clubs at NUTS2 level -PPP

	1993-2024	1993-2004	2005-2024
Club 1	Arnsberg/ Berlin/ Brandenburg/Bratislavský kraj/ Braunschweig/ Bremen/Budapest/ Burgenland/Chemnitz/ Darmstadt/Detmold/ Dresden/ Düsseldorf/ Freiburg/ Gießen/ Hamburg/ Hannover/Jihovýchod/ Jihozápad/ Karlsruhe/ asse/ Koblenz/ Kärnten/ Köln/ Leipzig/ Lüneburg/Mecklenburg-Vorpommern/ Mittelfranken/ Moravskoslezsko/Münster/Niederbayern/ Niederösterreich/Oberbayern/Oberfranken/Oberpfalz/ Oberösterreich/Praha/Rheinessen-Pfalz/Saarland/ Sachsen-Anhalt/Salzburg/Schleswig-Holstein/ Schwaben/Severovýchod/Severozápad/Steiermark/ Stredné Slovensko/Strední Morava/Stuttgart/Thüringen/ Tirol/Trier/Tübingen/Unterfranken/Vorarlberg/ Weser- Ems/Wien/Západné Slovensko/	Arnsberg/Berlin/Bratislavský kraj/Braunschweig/ Bremen/Budapest/Darmstadt/Detmold/Dresden/ Düsseldorf/Freiburg/Gießen/Hannover/Jihovýchod/ Karlsruhe/Koblenz/Kärnten/Köln/Leipzig/ Mittelfranken/Münster/Niederbayern/Niederösterreich Oberfranken/Oberpfalz/Oberösterreich/Praha/ Rheinessen-Pfalz/Saarland/Schwaben/Severovýchod/ Steiermark/Strední Čechy/Strední Morava/Tirol/ Tübingen/Unterfranken/Vorarlberg/Warszawski stoleczny/Weser-Ems/Zahodna Slovenija/	Braunschweig/Bremen/Darmstadt/Oberbayern/Praha/ Salzburg/Stuttgart/Tirol/Vorarlberg/Wien
Club 2	Dolnosaskie/Dél-Alföld/Dél-Dunántúl/Kujawsko- Pomorskie/Közép-Dunántúl/Lubelskie/Lubuskie/ Łódzkie/Malopolskie/Mazowiecki regionalny/Nyugat- Dunántúl/Opolskie/Pest/Podkarpacie/ Podlaskie/ Pomorskie/Slaskie/Strední Čechy/Swietokrzyskie/ Vzhodna Slovenija/Východné Slovensko/Warminsko- Mazurskie/Warszawski stoleczny/Wielkopolskie/ Zachodniopomorskie/Zahodna Slovenija/Észak-Alföld/ Észak-Magyarország/	Brandenburg/Burgenland/Chemnitz/Jihozápad/ Lüneburg/Mecklenburg-Vorpommern/Nyugat- Dunántúl/Sachsen-Anhalt/Thüringen	Arnsberg/Chemnitz/Detmold/Düsseldorf/Karlsruhe/ Kassel/Köln/Mittelfranken/Oberfranken/Oberpfalz/ Oberösterreich/Saarland/Sachsen-Anhalt/Tübingen/ Unterfranken
Club 3		Dolnosaskie/Közép-Dunántúl/Pest/ Pomorskie/ Severozápad/Slaskie/Wielkopolskie/Západné Slovensko	Dresden/Freiburg/Hannover/Kärnten/Niederbayern/ Rheinessen-Pfalz/Schwaben/Steiermark/Thüringen
Club 4		Dél-Alföld/Dél-Dunántúl/Kujawsko-Pomorskie/ Lubuskie/Łódzkie/Malopolskie/Mazowiecki regionalny/Moravskoslezsko/Stredné Slovensko/	Berlin/Brandenburg/Bratislavský kraj/Budapest/ Burgenland/Gießen/Koblenz/Leipzig/Mecklenburg- Vorpommern/Münster/Niederösterreich/Schleswig- Holstein/Trier/Weser-Ems

		Východné Slovensko/Zachodniopomorskie/Észak-Alföld	
Club 5		Lubelskie/Opolskie/Podkarpacie/Podlaskie/ Swietokrzyskie/Észak-Magyarország/	Jihovýchod/Jihozápad/Lüneburg/Moravskoslezsko/ Severovýchod/Severozápad/Střední Čechy/Střední Morava/ Vzhodna Slovenija/Warszawski stoleczny/Zahodna Slovenija/Západné Slovensko
Club 6			Dolnoslaskie/Közép-Dunántúl/Lódzkie/Mazowiecki regionalny/Nyugat-Dunántúl/Opolskie/Slaskie/Stredné Slovensko/Wielkopolskie/Észak-Magyarország
Club 7			Dél-Alföld/Dél-Dunántúl/Kujawsko-Pomorskie/Lubelskie/ Lubuskie/Malopolskie/Pest/Podkarpacie/Podlaskie/ Pomorskie/Swietokrzyskie/Východné Slovensko/ Warminsko-Mazurskie/Zachodniopomorskie/Észak-Alföld/ Hamburg
NCG		Hamburg/Kassel/Oberbayern/Salzburg/Schleswig- Holstein/Stuttgart/Trier/Vzhodna Slovenija/Wien/ Warminsko-Mazurskie	Hamburg

Table A5. Composition of convergence clubs at NUTS3 level

	1993-2024	1993-2004	2005-2024
Club 1	Amberg/Kreisfreie Stadt/Ansbach/Kreisfreie Stadt/ Aschaffenburg/Kreisfreie Stadt/Biberach/Bonn/ Kreisfreie Stadt/Braunschweig/Kreisfreie Stadt/ Böblingen/Coburg/Kreisfreie Stadt/Darmstadt/Kreisfreie Stadt/Dingolfing-Landau/Düsseldorf/Kreisfreie Stadt/ Emden/Kreisfreie Stadt/Erlangen/Kreisfreie Stadt/ Forchheim/Frankfurt am Main/Kreisfreie Stadt/ Gliwicz/Heilbronn/Landkreis/Hlavní mesto Praha/ Hohenlohekreis/Ingolstadt/Kreisfreie Stadt/Kaliski/ Karlsruhe/Stadtkreis/ Katowicki/Ludwigshafen am Rhein/Kreisfreie Stadt/Mainz/Kreisfreie Stadt/Miasto Kraków/Miasto Łódź/Miasto Poznań/Miasto Warszawa/ Miasto Wrocław/München/Kreisfreie Stadt/ München/ Landkreis/Passau/Kreisfreie Stadt/Plock/Regensburg/ Kreisfreie Stadt/ Rhön-Grabfeld/Schweinfurt/Kreisfreie Stadt/Spree-Neiße/Stuttgart/Stadtkreis/Tirschenreuth/ Trojmiejski/Ulm/Stadtkreis/Warszawski zachodni/ Wolfsburg/Kreisfreie Stadt/Wroclawski/Würzburg/ Kreisfreie Stadt	Frankfurt am Main/Kreisfreie Stadt/München/ Landkreis/Wolfsburg/Kreisfreie Stadt	Coburg/Kreisfreie Stadt/Erlangen/Kreisfreie Stadt/Mainz/ Kreisfreie Stadt/München/Landkreis
Club 2	Ahrweiler/Aichach-Friedberg/Alb-Donau-Kreis/ Altenburger Land/Altenkirchen (Westerwald)/ Altmarkkreis Salzwedel/Altötting/Alzey-Worms/ Amberg-Weizbach/Ammerland/Anhalt-Bitterfeld/ Ansbach/Landkreis/Aschaffenburg/Landkreis/Augsburg/ Kreisfreie Stadt/Augsburg/Landkreis/Aurich/Außerfern/ Bad Dürkheim/Bad Kissingen/Bad Kreuznach/Bad Tölz-Wolfratshausen/Baden-Baden/Stadtkreis/Bamberg/ Kreisfreie Stadt/ Bamberg/Landkreis/Banskobystrický kraj/Baranya/Barnim/Bautzen/Bayreuth/Kreisfreie Stadt/ Bayreuth/Landkreis/Berchtesgaden Land/Bergstraße/ Berlin/Bernkastel- Wittlich/Bialostocki/Bialski/Bielefeld/ Kreisfreie Stadt/Bielski/Birkenfeld/Bludenz-Bregenzer Wald/ Bochum/Kreisfreie Stadt/Bodenseekreis/ Borken/ Borsod-Abaúj-Zemplén/Bottrop/Kreisfreie Stadt/ Brandenburg an der Havel/Kreisfreie Stadt/Bratislavský kraj/Breisgau-Hochschwarzwald/Bremen/Kreisfreie Stadt/Bremerhaven/Kreisfreie Stadt/Budapest/ Burgenlandkreis/Bydgosko-Torunski/Bytomski/Bács- Kiskun/Békés/Börde/Calw/Celle/Cham/Chelmsko- zamojski/Chemnitz/Kreisfreie Stadt/Chojnicki/ Ciechanowski/Cloppenburg/Coburg/Landkreis/Cochem- Zell/ Coesfeld/Cottbus/Kreisfreie Stadt/Csongrád/ Cuxhaven/Czestochowski/Dachau/Dahme-Spreewald/ Darmstadt-Dieburg/Deggendorf/ Delmenhorst/Kreisfreie Stadt/Dessau-Roßlau/Kreisfreie Stadt/Diepholz/Dillingen an der Donau/Dithmarschen/Donau-Ries/ Donnersbergkreis/Dortmund/Kreisfreie Stadt/ Dresden/Kreisfreie Stadt/Duisburg/Kreisfreie Stadt/ Düren/Ebersberg/Eichsfeld/Eichstätt/Eifelkreis Bitburg- Prüm/ Eisenach/Kreisfreie Stadt/ Elbe-Elster/Elblaski/ Elck/Emmendingen/Emsland/Ennepe-Ruhr-Kreis/ Enzkreis/Erding/Erfurt/Kreisfreie Stadt/Erlangen- Hochstadt/Erzgebirgskreis/Essen/Kreisfreie Stadt/ Esslingen/Euskirchen/Fejér/Flensburg/Kreisfreie Stadt/ Frankenthal(Pfalz)/Kreisfreie Stadt/Frankfurt(Oder)/ Kreisfreie Stadt/Freiburg im Breisgau/Stadtkreis/ Freising/ Freudenstadt/Freyung-Grafenau/Friesland/ Fulda/Fürstentum/Fürth/Kreisfreie Stadt/Fürth/ Landkreis/Garmisch-Partenkirchen/Gdansk/ Gelsenkirchen/Kreisfreie Stadt/Gera/Kreisfreie Stadt/ Germersheim/Gießen/Landkreis/Gifhorn/Gorenjska/ Goriska/Gorzowski/Goslar/Gotha/Grafschaft Bentheim/ Graz/Greiz/Groß-Gerau/Grudziadzki/Gyor-Moson- Sopron/Göppingen/Görlitz/Göttingen/Günzburg/ Gütersloh/Hagen/Kreisfreie Stadt/Hajdú-Bihar/Halle (Saale)/Kreisfreie Stadt/Hamburg/Hameln-Pyrmont/ Hamm/Kreisfreie Stadt/Harburg/Harz/Havelland/ Haßberge/Heidekreis/Heidelberg/Stadtkreis/Heidenheim / Heilbronn/Stadtkreis/Heinsberg/Helmstedt/Herford/ Herne/Kreisfreie Stadt/Hersfeld-Rotenburg/Herzogtum Lauenburg/Heves/Hildburghausen/Hildesheim/ Hochsauerlandkreis/Hochtaunuskreis/Hof/Kreisfreie Stadt/Hof/Landkreis/Holzminde/Höxter/Ilm-Kreis/	Bonn/Kreisfreie Stadt/Braunschweig/Kreisfreie Stadt/Darmstadt/Kreisfreie Stadt/Düsseldorf/ Kreisfreie Stadt/Ingolstadt/Kreisfreie Stadt/ Ludwigshafen am Rhein/Kreisfreie Stadt/München/ Kreisfreie Stadt/Regensburg/Kreisfreie Stadt/ Schweinfurt/Kreisfreie Stadt/Stuttgart/Stadtkreis	Altötting/Amberg/Kreisfreie Stadt/Anhalt-Bitterfeld/ Ansbach/Kreisfreie Stadt/Aschaffenburg/Kreisfreie Stadt/ Baden-Baden/Stadtkreis/Bamberg/Kreisfreie Stadt/ Bayreuth/Kreisfreie Stadt/Berlin/ Biberach/Bielefeld/ Kreisfreie Stadt/Bodenseekreis/ Bonn/Kreisfreie Stadt/ Borken/Braunschweig/Kreisfreie Stadt/ Bremen/Kreisfreie Stadt/Budapest/Böblingen/Cham/Czestochowski/ Darmstadt/Kreisfreie Stadt/Deggendorf/Dillingen an der Donau/Dingolfing-Landau/Dithmarschen/Donau-Ries/ Düsseldorf/Kreisfreie Stadt/ Eichstätt/Emden/Kreisfreie Stadt/Emsland/ Forchheim/Frankfurt am Main/Kreisfreie Stadt/Freiburg im Breisgau/Stadtkreis/Freyung-Grafenau/ Gliwicz/Graz/Görlitz/Günzburg/Gütersloh/Hamburg/ Heidelberg/Stadtkreis/Heilbronn/Landkreis/Heilbronn/ Stadtkreis/Hlavní mesto Praha/Hof/Landkreis/Innviertel/ Hohenlohekreis/Jena/Kreisfreie Stadt/Kaiserslautern/ Kreisfreie Stadt/Karlsruhe/Stadtkreis/Kassel/Kreisfreie Stadt/Katowicki/Kempten(Allgäu)/Kreisfreie Stadt/ Kiel/Kreisfreie Stadt/Klagenfurt-Villach/ Koblenz/ Kreisfreie Stadt/Kulmbach/Köln/Kreisfreie Stadt/ Landsberg am Lech/Landshut/Kreisfreie Stadt/Landshut/ Landkreis/Leverkusen/Kreisfreie Stadt/Linz-Wels/ Ludwigshafen am Rhein/Kreisfreie Stadt/Lübeck/ Kreisfreie Stadt/Main-Spessart/Main-Taunus-Kreis/Mainz- Bingen/Mannheim/Stadtkreis/Memmingen/Kreisfreie Stadt/Miasto Kraków/Miasto Łódź/Miasto Poznań/Miasto Warszawa/Miasto Wrocław/Miesbach/Minden-Lübbecke/ München/Kreisfreie Stadt/Münster/Kreisfreie Stadt/ Neumarkt in der Oberpfalz/Neumünster/Kreisfreie Stadt/ Neustadt an der Waldnaab/Nürnberg/Kreisfreie Stadt/ Oldenburg (Oldenburg)/Kreisfreie Stadt/Olpe/Osnabrück/ Kreisfreie Stadt/Osrednjeslovenska/Ostalbkreis/Osttirol/ Passau/Kreisfreie Stadt/Plock/Prignitz/Ravensburg/ Regen/Regensburg/Kreisfreie Stadt/Rheintal- Bodenseegebiet/Rhön-Grabfeld/Rosenheim/Kreisfreie Stadt/Rostock/Kreisfreie Stadt/Saale-Orla-Kreis/Saalekreis/ Salzburg und Umgebung/Salzgitter/Kreisfreie Stadt/ Schwandorf/Schwäbisch Hall/Sosnowiecki/Speyer/ Kreisfreie Stadt/Spree-Neiße/Starnberg/Stendal/ Straubing/Kreisfreie Stadt/Stuttgart/Stadtkreis/Teltow- Fläming/Tiroler Unterland/Tirschenreuth/Traunstein/ Trojmiejski/Tutzing/Uckermark/Ulm/Stadtkreis/ Unterallgäu/Vechta/Warszawski zachodni/Weiden in der Oberpfalz/Kreisfreie Stadt/Weilheim-Schongau/Wiener Umland/Südteil/Wiesbaden/Kreisfreie Stadt/Wroclawski/ Wunsiedel im Fichtelgebirge/Würzburg/Kreisfreie Stadt/ Zweibrücken/Kreisfreie Stadt

Innsbruck/Innviertel/Inowrocławski/Jeleniogórski/ Jena/Kreisfreie Stadt/Jerichower Land/Jihocecký kraj/ Jihomoravský kraj/Jugovzhodna Slovenija/Jász- Nagykun-Szolnok/Kaiserslautern/Kreisfreie Stadt/ Kaiserslautern/Landkreis/Karlovarský kraj/ Karlsruhe/Landkreis/Kassel/Kreisfreie Stadt/Kassel/ Landkreis/Kaufbeuren/Kreisfreie Stadt/Kelheim/ Kempten(Allgäu)/Kreisfreie Stadt/Kiel/Kreisfreie Stadt/ Kielecki/Kitzingen/Klagenfurt-Villach/Kleve/Koblenz/ Kreisfreie Stadt/Komárom-Esztergom/Koninski/ Konstanz/Koroska/Kosický kraj/Koszalinski/Kraj Vysocina/Krakowski/Krefeld/Kreisfreie Stadt/Kronach/ Krosnienski/Královéhradecký kraj/Kulmbach/Kusel/ Kyffhäuserkreis/Köln/Kreisfreie Stadt/Lahn-Dill-Kreis/ Landau in der Pfalz/Kreisfreie Stadt/Landkreis Rostock/ Landsberg am Lech/Landshut/Kreisfreie Stadt/ Landshut/Landkreis/Leer/Legnisko-Glogowski/Leipzig/ Kreisfreie Stadt/Leszczynski/Leverkusen/Kreisfreie Stadt/Liberecký kraj/Lichtenfels/Liezen/Limburg- Weilburg/Lindau(Bodensee)/Linz-Wels/Lippe/ Lomzynski/Lubelski/Ludwigsburg/Ludwigslust- Parchim/ Lungau/Lódzki/Lörrach/Lübeck/Kreisfreie Stadt/ Lüchow- Dannenberg/Lüneburg/Landkreis/Magdeburg/ Kreisfreie Stadt/Main-Kinzig-Kreis/Main-Spessart/ Main-Tauber-Kreis/Main-Taunus-Kreis/Mainz-Bingen/ Mannheim/Stadtkreis/Mansfeld-Südharz/Marburg- Biedenkopf/Mayen-Koblenz/Mecklenburgische Seenplatte/Meißen/Memmingen/Kreisfreie Stadt/ Merzig-Wadern/Mettmann/Miasto Szczecin/Miesbach/ Mittenberg/Minden-Lübbecke/Mittelburgenland/ Mittelsachsen/Moravskoslezský kraj/Mostviertel- Eisenwurzen/Märkisch-Oderland/Märkischer Kreis/ Mönchengladbach/Kreisfreie Stadt/Mühlendorf am Inn/ Mühlviertel/Mülheim an der Ruhr/Kreisfreie Stadt/ Münster/Kreisfreie Stadt/Neckar-Odenwald-Kreis/Neu- Ulm/Neuburg-Schrobenhausen/Neumarkt in der Oberpfalz/Neumünster/Kreisfreie Stadt/Neunkirchen/ Neustadt an der Aisch-Bad Windsheim/Neustadt an der Waldnaab/Neustadt an der Weinstraße/Kreisfreie Stadt/ Neuwied/Niederösterreich-Süd/Nienburg(Weser)/ Nitriansky kraj/Nordburgenland/Nordfriesland/ Nordhausen/Nordsachsen/Nordwestmecklenburg/ Northeim/Nowosadecki/Nowotarski/Nyski/Nógrád/ Nürnberg/Kreisfreie Stadt/Nürnberger Land/Obalno- kraska/Oberallgäu/Oberbergischer Kreis/Oberhausen/ Kreisfreie Stadt/Oberhavel/Oberkärnten/Oberspreewald- Lausitz/Odenwaldkreis/Oder-Spree/Offenbach am Main/ Kreisfreie Stadt/Offenbach/Landkreis/Oldenburg (Oldenburg)/Kreisfreie Stadt/Oldenburg/Landkreis/ Olomoucký kraj/Olpe/Olsztynski/Opolski/Ortenaukreis/ Osnabrück/Kreisfreie Stadt/Osnabrück/Landkreis/ Osrednjeslovenska/Ostalbkreis/Ostallgäu/Osterholz/ Ostholstein/Ostprignitz-Ruppin/Ostrolecki/ststeiermark/ Osttirol/ Oświęcimski/Paderborn/Pardubický kraj/ Passau/Landkreis/Peine/Pest/Pfaffenhofen an der Ilm/ Pforzheim/Stadtkreis/Pilski/Pinneberg/Pinzgau-Pongau/ Piotrkowski/Pirmasens/Kreisfreie Stadt/Plzenský kraj/ Plön/Podravska/Pomurska/Posavska/Potsdam/Kreisfreie Stadt/Potsdam-Mittelmark/Poznański/Presovský kraj/ Prignitz/Primorsko-notranjska/Przemyski/Pulawski/ Radomski/Rastatt/Ravensburg/Recklinghausen/Regen/ Rensburg/Landkreis/Region Hannover/ Regionalverband Saarbrücken/Rems-Murr-Kreis/ Remsheid/Kreisfreie Stadt/Rendsburg-Eckernförde/ Reutlingen/Rhein-Erft-Kreis/Rhein-Hunsrück-Kreis/ Rhein-Kreis Neuss/Rhein-Lahn-Kreis/Rhein-Neckar- Kreis/Rhein-Pfalz-Kreis/Rhein-Sieg-Kreis/Rheingau- Taunus-Kreis/Rheinisch-Bergischer Kreis/Rheintal- Bodenseegebiet/Rosenheim/Kreisfreie Stadt/Rosenheim/ Landkreis/Rostock/Kreisfreie Stadt/Rotenburg(Wümme)/ Roth/ Rottal-Inn/Rottweil/Rybnicki/Rzeszowski/Saale- Holzland-Kreis/Saale-Orla-Kreis/Saalekreis/Saalfeld- Rudolstadt/ Saarlouis/Saarpfalz-Kreis/Salzburg und Umgebung/Salzgitter/Kreisfreie Stadt/Salzlandkreis/ Sandomiersko-jedrzejowski/Sankt Pölten/Savinjska/ Schaumburg/Schleswig-Flensburg/Schmalkalden- Meiningen/Schwabach/Kreisfreie Stadt/Schwalm-Eder- Kreis/Schwandorf/Schwarzwald-Baar-Kreis/ Schweinfurt/Landkreis/Schwerin/Kreisfreie Stadt/ Schwäbisch Hall/Segeberg/Siedlecke/Siegen- Wittgenstein/Sieradzki/Sigmaringen/Skierniewicki/ Slupski/Soest/Solingen/Kreisfreie Stadt/Somogy/ Sonneberg/Sosnowiecki/Speyer/Kreisfreie Stadt/St. Wendel/Stade/Starnberg/Starogardzki/Steinburg/ Steinfurt/Stendal/Steyr-Kirchdorf/Stormarn/Straubing/ Kreisfreie Stadt/Straubing-Bogen/Stredocesky kraj/ Städteregion Aachen/Suhl/Kreisfreie Stadt/Suwalski/ Swiecki/Szabolcs-Szatmár-Bereg/Szczecinecko- pyrzycki/Szczecinski/Sächsische Schweiz- Osterzgebirge/ Sömmerda/Südburgenland/Südliche Weinstraße/ Südwestpfalz/Tarnobrzanski/Tarnowski/Teltow-Fläming/ Tiroler Oberland/Tiroler Unterland/Tolna/Traunstein/ Traunviertel/Trenciansky kraj/Trier/Kreisfreie Stadt/ Trier-Saarburg/Tnávský kraj/Tuttlingen/Tyski/ Tübingen/Landkreis/Uckermark/Uelzen/Unna/Unstrut- Hainich-Kreis/Unterrallgäu/Unterärnten/Vas/Vechta/ Verden/Veszprém/Viersen/Vogelsbergkreis/ Vogtlandkreis/Vorpommern-Greifswald/Vorpommern-		
--	--	--

	Rügen/Vulkaneifel/Walbrzyski/Waldeck-Frankenberg/ Waldshut/Waldviertel/Warendorf/Warszawski wschodni/ Wartburgkreis/Weiden in der Oberpfalz/Kreisfreie Stadt/ Weilheim- Schongau/Weimar/Kreisfreie Stadt/Weimarer Land/Weinviertel/Weißenburg-Gunzenhausen/Werra- Meißner-Kreis/Wesel/Wesermarsch/West- und Südsteiermark/Westerwaldkreis/Westliche Obersteiermark/Wetteraukreis/Wien/Wiener Umland/ Nordteil/Wiener Umland/Südteil/Wiesbaden/Kreisfreie Stadt/Wilhelmshaven/Kreisfreie Stadt/Wittenberg/ Wittmund/Wloclawski/Wolfenbüttel/Worms/Kreisfreie Stadt/Wunsiedel im Fichtelgebirge/Wuppertal/Kreisfreie Stadt/Würzburg/Landkreis/Zala/Zasavska/Zielonogórski / Zilinský kraj/Zlinský kraj/Zollernalbkreis/ Zweibrücken/Kreisfreie Stadt/Zwickau/Zyrardowski// Östliche Obersteiermark/Ústecký kraj/		
Club 3		Altötting/Amberg/Kreisfreie Stadt/Ansbach/ Kreisfreie Stadt/Aschaffenburg/Kreisfreie Stadt/ Außerfern/Baden-Baden/Stadtkreis/Bamberg/ Kreisfreie Stadt/Bayreuth/Kreisfreie Stadt/Bludenz- Bregenzer Wald/Bremen/Kreisfreie Stadt/Böblingen/ Coburg/Kreisfreie Stadt/Dingolfing-Landau/ Dresden/Kreisfreie Stadt/Eisenach/Kreisfreie Stadt/ Erlangen/Kreisfreie Stadt/Freiburg im Breisgau/ Stadtkreis/Freising/Fürth/Kreisfreie Stadt/ Graz/ Hamburg/Heidelberg/Stadtkreis/HeilbronnStadtkreis/ Hlavní mesto Praha/Hochtaunuskreis/Hof/Kreisfreie Stadt/Innsbruck/Jena/Kreisfreie Stadt/Karlsruhe/ Stadtkreis/Kassel/Kreisfreie Stadt/Kempten(Allgäu)/ Kreisfreie Stadt/Koblenz/Kreisfreie Stadt/ Köln/Kreisfreie Stadt/Landshut/Kreisfreie Stadt/ Leverkusen/Kreisfreie Stadt/Linz-Wels/Main- Taunus-Kreis/Mainz/Kreisfreie Stadt/ Mannheim/Stadtkreis/Memmingen/Kreisfreie Stadt/ Münster/Kreisfreie Stadt/Nürnberg/Kreisfreie Stadt/ Offenbach am Main/Kreisfreie Stadt/ Passau/Kreisfreie Stadt/Rheintal-Bodenseegebiet/ Salzburg und Umgebung/Steyr-Kirchdorf/Straubing/ Kreisfreie Stadt/Teltow-Fläming/Tiroler Unterland/ Ulm/Stadtkreis/Weiden in der Oberpfalz/Kreisfreie Stadt/Wien/Wiener Umland/Südteil/ Wiesbaden Kreisfreie Stadt/Würzburg/Kreisfreie Stadt	Ahrweiler/Alb-Donau-Kreis/Amberg-Sulzbach/ Ammerland/Ansbach/Landkreis/Augsburg/Kreisfreie Stadt/ Augsburg/Landkreis/Außerfern/Bad Kissingen/Bautzen/ Berchtesgadener Land/Bernkastel-Wittlich/Bielski/ Bludenz-Bregenzer Wald/Bochum/Kreisfreie Stadt/ Brandenburg an der Havel/Kreisfreie Stadt/Bratislavský kraj/Breisgau-Hochschwarzwald/Bydgosko-Torunski/ Börde/Chemnitz/Kreisfreie Stadt/Ciechanowski/ Cloppenburg/Cochem-Zell/Coesfeld/Cottbus/Kreisfreie Stadt/Cuxhaven/Dachau/Darmstadt-Dieburg/Dessau- Roßlau/Kreisfreie Stadt/Dortmund/Kreisfreie Stadt/ Dresden/Kreisfreie Stadt/Ebersberg/Eichsfeld/ Eisenach/Kreisfreie Stadt/Elbe-Elster/Emmendingen/ Erfurt/Kreisfreie Stadt/Erlangen-Höchstadt/ Essen/Kreisfreie Stadt/Esslingen/Flensburg/Kreisfreie Stadt/Frankenthal (Pfalz)/Kreisfreie Stadt/Frankfurt (Oder)/Kreisfreie Stadt/Freising/Freudenstadt/Fulda/ Fürstentum Fürth/Kreisfreie Stadt/Garmisch- Partenkirchen/Gera/Kreisfreie Stadt/Germersheim/ Gießen/Landkreis/Gotha/Grafschaft Bentheim/Groß-Gerau/ Grudziadzki/Göttingen/Halle(Saale)/Kreisfreie Stadt/ Hameln-Pyrmont/Hallertal/Heidekreis/Heidenheim/ Heinsberg/Herford/Hersfeld-Rotenburg/ Hochsauerlandkreis/Hochtaunuskreis/Hof/Kreisfreie Stadt/ Holzminden/Ilm-Kreis/Innsbruck/Jerichower Land/Kaliski/ Karlsruhe/Landkreis/Kaufbeuren/Kreisfreie Stadt/Kelheim/ Kitzingen/ Kleve/Konstanz/ Krefeld/Kreisfreie Stadt/ Kronach/Kyffhäuserkreis/Landau in der Pfalz/Kreisfreie Stadt/Landkreis Rostock/Leipzig/Leipzig/Kreisfreie Stadt/ Leszczynski/Lichtenfels/Liezen/Limburg-Weilburg/ Lindau(Bodensee)/Lippe/Lubelski/Ludwigsburg/ Ludwigslust-Parchim/Lungau/Lódzki/Lüneburg/Landkreis/ Magdeburg/Kreisfreie Stadt/Main-Kinzig-Kreis/Main- Tauber-Kreis/Marburg-Biedenkopf/Meißen/Mettmann/ Miasto Szczecin/Miltenberg/Mostviertel-Eisenwurzen/ Märkischer Kreis/Mönchengladbach/Kreisfreie Stadt/ Mühlhof am Inn/Mühlviertel/Neu-Ulm/Neuburg- Schrobenhausen/Neustadt an der Aisch-Bad Windsheim/ Neuwied/Nienburg (Weser)/Nordfriesland/Nordsachsen/ Nordwestmecklenburg/Nürnberger Land/Oberallgäu/ Oberbergischer Kreis/Oberspreewald-Lausitz/Oder-Spree/ Offenbach/Landkreis/Opolski/Ortenaukreis/ Osnabrück/Landkreis/Ostallgäu/Ostholstein/Ostprignitz- Ruppin/Ostrolecki/Oststeiermark/Paderborn/ Passau/Landkreis/Pfaffenhofen an der Ilm/Pforzheim/ Stadtkreis/Pinzgau-Pongau/ Piotrkowski/ Pirmasens/Kreisfreie Stadt/Potsdam/Kreisfreie Stadt/ Potsdam-Mittelmark/Poznanski/Rastatt/Region Hannover/ Regionalverband Saarbrücken/Rems-Murr-Kreis/ Remscheid/Kreisfreie Stadt/Rendsburg-Eckernförde/ Reutlingen/Rhein-Erft-Kreis/Rhein-Hunsrück-Kreis/ Rhein-Kreis Neuss/Rhein-Lahn-Kreis/Rhein-Neckar-Kreis/ Rosenheim/Landkreis/Rotenburg(Wümme)/Roth/Rottal- Inn/Rottweil/Rybnicki/Rzeszowski/Saalfeld-Rudolstadt/ Saarpfalz-Kreis/Salzlandkreis/Sankt Pölten/Schleswig- Flensburg/Schwabach/Kreisfreie Stadt/Schwalm-Eder- Kreis/Schwarzwald-Baar-Kreis/Schwerin/Kreisfreie Stadt/ Segeberg/Siegen-Wittgenstein/Sigmaringen/Soest/ Solingen/Kreisfreie Stadt/St. Wendel/Stade/Steinburg// Steinfurt/Steyr-Kirchdorf/Stormarn/Straubing-Bogen/ Städteregion Aachen/Swiecki/Sömmerda/Tarnobrzanski// Tiroler Oberland/Traunviertel/Trier/Kreisfreie Stadt// Tübingen/Landkreis/Uelzen/Unna/Unterkärnten/Verden// Vogtlandkreis/Vorpommern-Greifswald/Vulkaneifel// Waldeck-Frankenberg/Waldviertel/Warendorf/ Wartburgkreis/Weimar/Kreisfreie Stadt/Weinviertel/ Weißenburg-Gunzenhausen/Wesel/West- und Südsteiermark/Westerwaldkreis/Westliche Obersteiermark/ Wien/Wilhelmshaven/Kreisfreie Stadt/Wittenberg/ Wittmund/Worms/Kreisfreie Stadt/Wuppertal/Kreisfreie Stadt/Zollernalbkreis/Zwickau/Zyrardowski/Östliche Obersteiermark
Club 4		Augsburg/Kreisfreie Stadt/Biberach/Bodenseekreis/ Cham/Cottbus/Kreisfreie Stadt/Donau-Ries/ Emden/Kreisfreie Stadt/Erfurt/Kreisfreie Stadt/ Essen/Kreisfreie Stadt/Esslingen/Gießen/Landkreis/ Groß-Gerau/Günzburg/Heilbronn/Landkreis/ Hersfeld-Rotenburg/Hohenlohekreis/ Kaiserslautern/Kreisfreie Stadt/Kiel/Kreisfreie Stadt/ Klagenfurt-Villach/Krefeld/Kreisfreie Stadt/ Ludwigsburg/Lübeck/Kreisfreie Stadt/ Magdeburg/Kreisfreie Stadt/Oldenburg(Oldenburg)/ Kreisfreie Stadt/Ortenaukreis/Osnabrück/Kreisfreie Stadt/Osrednjeslovenska/Pinzgau-Pongau/	Aichach-Friedberg/Altenburger Land/Altenkirchen (Westerwald)/Altmarkkreis Salzwedel/Alzey-Worms/ Aschaffenburg/Landkreis/Aurich/Bad Dürkheim/Bad Kreuznach/Bad Tölz-Wolfratshausen/Bamberg/Landkreis/ Banskobystrický kraj/Bamim/Bayreuth/Landkreis/ Bergstraße/Bialostocki/Bialska/Birkenfeld/Borsod-Abaúj- Zemplén/Bottrop/Kreisfreie Stadt/Bremerhaven/Kreisfreie Stadt/Burgenlandkreis/Bytomski/Bács-Kiskun/Calw/Celle/ Chojnicki/Coburg/Landkreis/Csongrád/Dahme-Spreewald/ Delmenhorst/Kreisfreie Stadt/Diepholz/Donnersbergkreis/ Duisburg/Kreisfreie Stadt/Düren/Eifelkreis Bitburg-Prüm/

		Potsdam/Kreisfreie Stadt/Ravensburg/ Regionalverband Saarbrücken/Reutlingen/Rhein-Kreis Neuss/Rosenheim/Kreisfreie Stadt/Rottweil/Saarpfalz-Kreis/Salzgitter/Kreisfreie Stadt/Sankt Pölten/Schwabach/Kreisfreie Stadt/Schwandorf/Schwerin/Kreisfreie Stadt/Speyer/Kreisfreie Stadt/Starnberg/Tiroler Oberland/Traunviertel/Trier/Kreisfreie Stadt/Tuttlingen/Vechta/Weilheim-Schongau/Wilhelmshaven/Kreisfreie Stadt/Zweibrücken/Kreisfreie Stadt	Elblaski/Elcki/Ennepe-Ruhr-Kreis/Enzkreis/Erding/Erzgebirgskreis/Euskirchen/Fejér/Friesland/Fürth/Landkreis/Gdanski/Gelsenkirchen/Kreisfreie Stadt/Githorn/Gorenjska/Goriska/Gorzowski/Goslar/Greiz/Gyor-Moson-Sopron/Göppingen/Hagen/Kreisfreie Stadt/Hamm/Kreisfreie Stadt/Harburg/Harz/Havelland/Helmstedt/Herne/Kreisfreie Stadt/Herzogtum Lauenburg/Heves/Hildburghausen/Hildesheim/Höxter/Inowroclawski/Jeleniogórski/Jihomoravský kraj/Jugovzhodna Slovenija/Kaiserslautern/Landkreis/Kassel/Landkreis/Kielecki/Komárom-Esztergom/Koninski/Koroska/Kosický kraj/Koszalinski/Krakowski/Královéhradecký kraj/Kusel/Lahn-Dill-Kreis/ Leer/Legnico-Glogowski/Lomzynski/Lörrach/Lüchow-Dannenberg/Mansfeld-Südharz/Mayen-Koblenz/Mecklenburgische Seenplatte/Merzig-Wadern/Mittelburgenland/Mittelsachsen/Märkisch-Oderland//Mülheim an der Ruhr/Kreisfreie Stadt/Neckar-Odenwald-Kreis/Neunkirchen/Neustadt an der Weinstraße/Kreisfreie Stadt/Niederösterreich-Süd/Nitriansky kraj/Nordburgenland/Nordhausen/Northeim/Nowosadecki/Nowotarski/Nyski/Obalno-kraska/Oberhausen/Kreisfreie Stadt/Oberhavel/Oberkärnten/Odenwaldkreis/Offenbach am Main/Kreisfreie Stadt/Oldenburg/Landkreis/Olomoucký kraj/Olsztynski/Osterholz/Oswiecimski/Pardubický kraj/Peine/Pest/Pilski/Pinneberg/Plzenský kraj/Plön/Podravsko/Pomurska/Posavska/Presovský kraj/Primorsko-notranjska/Pulawski/Radomski/Recklinghausen/Regensburg/Landkreis/Rhein-Pfalz-Kreis/Rhein-Sieg-Kreis/Rheingau-Taunus-Kreis/Rheinisch-Bergischer Kreis/Saale-Holzland-Kreis/Saarlouis/Sandomiersko-jedrzejewski/Savinjska/Schaumburg/Schmalkalden-Meiningen/Schweinfurt/Landkreis/Siedlecki/Sieradzki/Skierniewicki/Slupski/Sonneberg/Starogardzki/Stredocesky kraj/Suhl/Kreisfreie Stadt/Suwalski/Szczecinecko-pyrzycki/Szczecinski/Sächsische Schweiz-Osterzgebirge/Südburgenland/Südliche Weinstraße/Tarnowski/Tolna/Trenciansky kraj/Trier-Saarlouis/Trnavský kraj/Tyski/Unstrut-Hainich-Kreis/Veszprém/Viersen/Vogelsbergkreis/Vorpommern-Rügen/Walbrzyski/Waldshut/Warszawski wschodni/Weimarer Land/Werra-Meißner-Kreis/Wesermarsch/Wetteraukreis/Wiener Umland/Nordteil/Wloclawski/Wolfenbüttel/Würzburg/Landkreis/Zielonogórski/Zilinský kraj/Zlinský kraj
Club 5		Ansbach/Landkreis/Aschaffenburg/Landkreis/Bad Kissingen/Bad Tölz-Wolfratshausen/Bielefeld/Kreisfreie Stadt/Bochum/Kreisfreie Stadt/Bratislavský kraj/Bremerhaven/Kreisfreie Stadt/Budapest/Burgenlandkreis/Börde/Chemnitz/Kreisfreie Stadt/Dachau/Deggendorf/Dithmarschen/Dortmund/Kreisfreie Stadt/Duisburg/Kreisfreie Stadt/Eichstätt/Emsland/Erlangen-Höchst/Flensburg/Kreisfreie Stadt/Frankenthal(Pfalz)/Kreisfreie Stadt/Frankfurt (Oder)/Kreisfreie Stadt/Freudenstadt/Fulda/Gütersloh/Hagen/Kreisfreie Stadt/Halle(Saale)/Kreisfreie Stadt/Haßberge/Heidekreis/Heidenheim/Herford/Innviertel/Karlsruhe/Landkreis/Kaufbeuren/Kreisfreie Stadt/Kelheim/Kitzingen/Konstanz/Kronach/Lahn-Dill-Kreis/Landau in der Pfalz/Kreisfreie Stadt/Landsberg am Lech/Landshut/Landkreis/Leipzig/Kreisfreie Stadt/Lichtenfels/Liezen/Lungau/Lörrach/Main-Kinzig-Kreis/Main-Spessart/Main-Tauber-Kreis/Marburg-Biedenkopf/Mettmann/Miasto Warszawa/Miesbach/Minden-Lübbecke/Mittelburgenland/Mostviertel-Eisenwurzen/Märkischer Kreis/Mühlhof am Inn/Mülheim an der Ruhr/Kreisfreie Stadt/Neu-Ulm/Neuburg-Schrobenhausen/Neumünster/Kreisfreie Stadt/Niederösterreich-Süd/Nordburgenland/Oberhavel/Offenbach/Landkreis/Olpe/Ostalbkreis/Ostallgäu/Oststeiermark/Ostirol/Pfaffenhofen an der Ilm/Pforzheim/Stadtkreis/Pirmasens/Kreisfreie Stadt/Rastatt/Regen/Region Hannover/Rems-Murr-Kreis/Remscheid/Kreisfreie Stadt/Rhein-Hunsrück-Kreis/Rhein-Neckar-Kreis/Rhön-Grabfeld/Rosenheim/Landkreis/Rostock/Kreisfreie Stadt/Roth/Rottal-Inn/Saalekreis/Saarlouis/Schwarzwald-Baar-Kreis/Schwäbisch Hall/Siegen-Wittgenstein/Soest/ St. Wendel/Städteregion Aachen/Suhl/Kreisfreie Stadt/ Sömmerda/Südburgenland/Traunstein/Uckermark/Unterkärnten/Waldeck-Frankenberg/Waldviertel/Weißenburg-Gunzenhausen/Wesermarsch/West- und Südsteiermark/Westliche Obersteiermark/Wuppertal/Kreisfreie Stadt/Würzburg/Landkreis/Östliche Obersteiermark	Baranya/Békés/Chelmsko-zamojski/Hajdú-Bihar/Jihocecký kraj/Jász-Nagykun-Szolnok/Karlovarský kraj/Kraj Vysocina/Krosnienski/Liberecký kraj/Nógrád/Przemyski/Somogy/Szabolcs-Szatmár-Bereg/Vas/Zala/Zasavska/Ústecký kraj
Club 6		Aichach-Friedberg/Alb-Donau-Kreis/Altmarkkreis Salzwedel/Amberg-Sulzbach/Augsburg/Landkreis/Bad Kreuznach/Bamberg/Landkreis/Berchtesgadener Land/Bergstraße/Berlin/Bernkastel-Wittlich/Birkenfeld/Borken/Brandenburg an der Havel/Kreisfreie Stadt/Breisgau-Hochschwarzwald/Cloppenburg/Cochem-Zell/Dahme-Spreewald/Darmstadt-Dieburg/Dessau-Roßlau/Kreisfreie Stadt/Diepholz/Dillingen an der Donau/Ebersberg/Eifelkreis Bitburg-Prüm/Emmendingen/Ennepe-Ruhr-Kreis/Enzkreis/Erding/Friesland/Garmisch-Partenkirchen/Gelsenkirchen/Kreisfreie Stadt/Gera/Kreisfreie Stadt/Germersheim/Goslar/Gotha/	

		Göppingen/Göttingen/Hameln-Pyrmont/Hildesheim/ Hochsauerlandkreis/Jerichower Land/ Kassel/Landkreis/Kleve/Limburg-Weilburg/Lindau (Bodensee)/Lippe/Mainz-Bingen/Mayen-Koblenz/ Mecklenburgische Seenplatte/Merzig-Wadern/ Milttenberg/Mönchengladbach/Kreisfreie Stadt/ Neckar-Odenwald-Kreis/Neumarkt in der Oberpfalz/ Neustadt an der Aisch-Bad Windsheim/Neustadt an der Waldnaab/Neustadt an der Weinstraße/Kreisfreie Stadt/ Neuwied/Nienburg (Weser)/Nordfriesland/ Nürnberger Land/Obalno-kraska/Oberallgäu/ Oberbergischer Kreis/Oberhausen/Kreisfreie Stadt/ Oberkärnten/Odenwaldkreis/Oder-Spree/Ostprignitz- Ruppin/ Paderborn/Passau/Landkreis/Pinneberg/ Rendsburg-Eckernförde/Rhein-Erft-Kreis/Saale-Orla- Kreis/Schmalkalden-Meiningen/Schwalm-Eder- Kreis/Segeberg/Sigmaringen/Solingen/Kreisfreie Stadt/Sonneberg/Stade/Steinburg/Steinfurt/Stornarn/ Straubing-Bogen/Südliche Weinstraße/Tirschenreuth/ Tübingen/Landkreis/Unterallgäu/Verden/Viersen/ Vulkaneifel/Waldshut/Warendorf/Wartburgkreis/ Weimar/Kreisfreie Stadt/Werra-Meißner-Kreis// Westerwaldkreis/Wetteraukreis/Wiener Umland/ Nordteil/Worms/Kreisfreie Stadt/Wunsiedel im Fichtelgebirge/Zollernalbkreis/Zwickau	
Club 7		Ahrweiler/Altenburger Land/Altenkirchen (Westerwald)/Alzey-Worms/Ammerland/Anhalt- Bitterfeld/Aurich/Bad Dürkheim/Barmim/Bautzen/ Bayreuth/Landkreis/Bottrop/Kreisfreie Stadt/Calw/ Celle/Coburg/Landkreis/Coesfeld/Cuxhaven/ Delmenhorst/Kreisfreie Stadt/Donnersbergkreis/ Düren/Eichsfeld/Elbe-Elster/Erzgebirgskreis/ Euskirchen/Forchheim/Freyung-Grafenau/ Fürstentum Fürth/Landkreis/Gorenjska/Goriska Grafschaft Bentheim/Greiz/Gyor-Moson-Sopron/ Görlitz/Hamm/Kreisfreie Stadt/Harburg/Harz/ Havelland/Heinsberg/Helmstedt/Herne/Kreisfreie Stadt/Herzogtum Lauenburg/Hildburghausen/ Hof/Landkreis/Holzminde/Höxter/Ilm-Kreis/ Jugovzhodna Slovenija/Kaiserslautern/Landkreis/ Katowicki/Kielecki/Komárom-Esztergom/Koninski/ Koroska/Kulmbach/Kusel/Landkreis/Rostock/Leer/ Legnicko-Glogowski/Leipzig/Ludwigslust-Parchim/ Lüchow-Dannenberg/Lüneburg/Landkreis/Mansfeld- Südharz/Meißen/Miasto Kraków/Miasto Poznań/ Miasto Wrocław/Mittelsachsen/Märkisch-Oderland/ Mühlviertel/Neunkirchen/ Nordhausen/Nordsachsen/ Nordwestmecklenburg/Norheim-Oberspreewald- Lausitz/Oldenburg/Landkreis/Osnabrück/Landkreis/ Osterholz/Ostholstein/Peine/Pest/Plön/Podravska/ Posavska/Potsdam-Mittelmark/Prignitz/Primorsko- notranjska/Recklinghausen/Regensburg/Landkreis/ Rhein-Lahn-Kreis/Rhein-Pfalz-Kreis/Rhein-Sieg- Kreis/Rheingau-Taunus-Kreis/Rheinisch-Bergischer Kreis/Rotenburg (Wümme)/Saale-Holzland-Kreis/ Saalfeld-Rudolstadt/Salzlandkreis/Savinjska/ Schaumburg/Schleswig-Flensburg/ Schweinfurt/Landkreis/Spree-Neiße/Stendal/ Sächsische Schweiz-Osterzgebirge/Trier-Saarburg/ Trojmiejski/Tyski/Uelzen/Unna/Unstrut-Hainich- Kreis/Vogelsbergkreis/Vogtlandkreis/Vorpommern- Greifswald/Vorpommern-Rügen/Warszawski zachodni/Weimarer Land/Weinviertel/Wesel/ Wittenberg/Wittmund	
Club 8		Białostocki/Fejér/Jihočeský kraj/Jihomoravský kraj/ Kraj Vysocina/Kyffhäuserkreis/Miasto Łódź/Miasto Szczecin/Moravskoslezský kraj/Opolski/Plzeňský kraj/Pomurska/Poznański/Stredocesý kraj/ Středwestpfalz/Trnavský kraj/Wolfenbüttel/ Wrocławski	
Club 9		Banskobystrický kraj/Bielski/Bydgosko-Torunski/ Chojnicki/Gdanski/Gliwicki/Heves/Jeleniogórski/ Karlovarský kraj/Kosický kraj/Koszalinski/ Krakowski/Leszczynski/Lubelski/Łódzki/Nitriansky kraj/Olsztynski/Pardubický kraj/Piotrkowski/Plocki/ Rybnicki/Rzeszowski/Sandomiersko-jedrzewski/ Skiermiewicki/Slupski/Sosnowiecki/Starogardzki/ Suwalski/Trenciansky kraj/Vas/Veszprém/ Walbrzyski/Zala/Zielonogórski/Zilinsky kraj/Zlinsky kraj/Ústecký kraj	
Club 10		Baranya/Borsod-Abaúj-Zemplén/Bytomski/Bács- Kiskun/Ciechanowski/Csongrád/Czestochowski/ Elblaski/Gorzowski/Grudziadzki/Hajdú-Bihar/ Inowroclawski/Kaliski/Lomzynski/Nyski/Olomoucký kraj/Oswiecimski/Pilski/Presovský kraj/Pulawski/ Radomski/Sieradzki/Somogy/Swiecki/Szczecinecko- pyrzycki/Szczecinski/Tarnobrzanski/Tarnowski/Tolna/ Warszawski wschodni/Wloclawski/Zyrardowski	
Club 11		Bialski/Békés/Chelmsko-zamojski/Elcki/Jász- Nagykun-Szolnok/Krosnienski/Nowosadecki/ Nowotarski/Nógrád/Ostrolecki/Przemyski/Siedlecki/ Szabolcs-Szatmár-Bereg	
NCG		Gifhorn/Královéhradecký kraj/Liberecký kraj/ Zasavska	Ingolstadt/Kreisfreie Stadt/Moravskoslezský kraj/ Schweinfurt/Kreisfreie Stadt/Südwestpfalz/ Wolfsburg/Kreisfreie Stadt

Table A6. Composition of convergence clubs at NUTS3 level - PPP

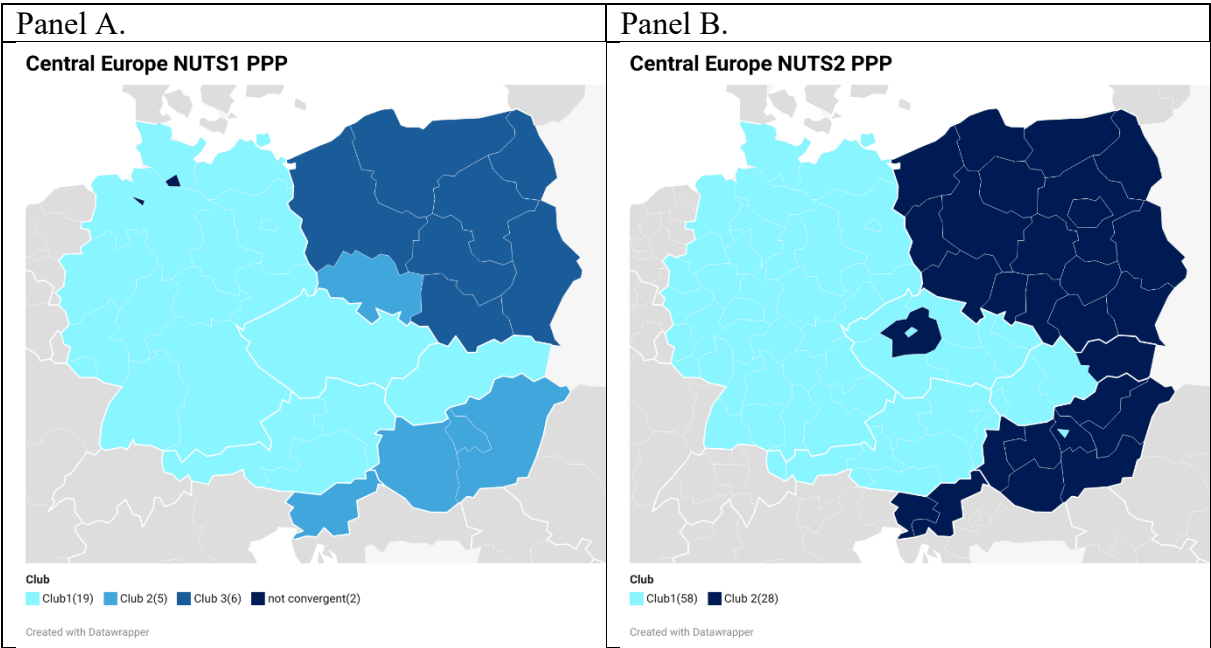
	1993-2024	1993-2004	2005-2024
Club 1	Amberg/Kreisfreie Stadt/Anhalt-Bitterfeld/ Ansbach/Kreisfreie Stadt/Aschaffenburg/Kreisfreie Stadt/Außerfern/Bayreuth/Kreisfreie Stadt/Bluden- Bregenzer Wald/Bonn/Kreisfreie Stadt/ Braunschweig/Kreisfreie Stadt/Burgenlandkreis/ Böblingen/Coburg/Kreisfreie Stadt/Cottbus/Kreisfreie Stadt/Darmstadt/Kreisfreie Stadt/Dessau- Roßlau/Kreisfreie Stadt/Dingolfing-Landau/ Düsseldorf/Kreisfreie Stadt/Eisenach/Kreisfreie Stadt/ Elbe-Elster/Emden/Kreisfreie Stadt/Erlangen/Kreisfreie Stadt/Frankfurt(Oder)/Kreisfreie Stadt/Frankfurt am Main/Kreisfreie Stadt/Gera/Kreisfreie Stadt/ Görlitz/ Hamburg/Hersfeld-Rotenburg/Hlavní mesto Praha/ Hof/Kreisfreie Stadt/Hof/Landkreis/Ingolstadt/Kreisfreie Stadt/ Karlsruhe/Stadtkreis/Koblenz/Kreisfreie Stadt/ Kronach/Ludwigshafen am Rhein/Kreisfreie Stadt/ Lungau/Mannheim/Stadtkreis/Mansfeld-Südharz/ Mecklenburgische Seenplatte/Memmingen/Kreisfreie Stadt/Moravskoslezský kraj/Märkischer Kreis/ München/Kreisfreie Stadt/München/Landkreis/ Nürnberg/Kreisfreie Stadt/Oberspreewald-Lausitz/ Osttirol/Passau/Kreisfreie Stadt/Pirmasens/Kreisfreie Stadt/Prignitz/Regensburg/Kreisfreie Stadt/ Regionalverband Saarbrücken/Saale-Orla-Kreis/ Saalekreis/Saalfeld-Rudolstadt/Saarpfalz-Kreis/ Salzlandkreis/Schweinfurt/Kreisfreie Stadt/Siegen- Wittgenstein/Speyer/Kreisfreie Stadt/Spree-Neiße/ Stendal/Steyr-Kirchdorf/Stuttgart/Stadtkreis/ Suhl/Kreisfreie Stadt/Tiroler Oberland/Uckermark/ Ulm/Stadtkreis/Wartburgkreis/Weiden in der Oberpfalz/Kreisfreie Stadt/Wiesbaden/Kreisfreie Stadt/ Wilhelmshaven/Kreisfreie Stadt/Wittenberg/ Wolfsburg/Kreisfreie Stadt/Wunsiedel im Fichtelgebirge/ Würzburg/Kreisfreie Stadt/Zweibrücken/Kreisfreie Stadt/ Zwickau/Östliche Obersteiermark	Frankfurt am Main/Kreisfreie Stadt/ München/Landkreis/	Ingolstadt/Kreisfreie Stadt/Wolfsburg/Kreisfreie Stadt
Club 2	Altenburger Land/Altenkirchen(Westerwald)/ Altmarkkreis Salzwedel/Altötting/Amberg-Sulzbach/ Aschaffenburg/Landkreis/Augsburg/Kreisfreie Stadt/ Bad Kissingen/Bad Kreuznach/Baden-Baden/Stadtkreis/ Bamberg/Kreisfreie Stadt/Banskobystrický kraj/Bautzen/ Bernkastel- Wittlich/Biberach/Bielefeld/Kreisfreie Stadt/ Birkenfeld/Bochum/Kreisfreie Stadt/Bodenseekreis/ Borken/Borsod-Abaúj-Zemplén/Brandenburg an der Havel/Kreisfreie Stadt/Bratislavský kraj/ Bremen/Kreisfreie Stadt/Bremerhaven/Kreisfreie Stadt/ Budapest/Börde/Celle/Cham/Chemnitz/Kreisfreie Stadt/ Coburg/Landkreis/Cochem-Zell/Deggendorf/Dillingen an der Donau/Dithmarschen/Donau-Ries/ Donnersbergkreis/Dortmund/Kreisfreie Stadt/ Duisburg/Kreisfreie Stadt/Eichsfeld/Emsland/Ennepe- Ruhr-Kreis/Erfurt/Kreisfreie Stadt/Erlangen-Höchstädt/ Erzgebirgskreis/Essen/Kreisfreie Stadt/Esslingen/ Flensburg/Kreisfreie Stadt/Frankenthal (Pfalz)/Kreisfreie Stadt/Freiburg im Breisgau/Stadtkreis/Freising/ Freudenstadt/Freyung- Grafenau/Friesland/Fulda/ Gelsenkirchen/Kreisfreie Stadt/Germersheim/Goslar/ Gotha/Grafschaft Bentheim/Graz/Greiz/Groß-Gerau/ Göppingen/Göttingen/Günzburg/Gütersloh/ Hagen/Kreisfreie Stadt/Halle(Saale)/Kreisfreie Stadt/ Hameln-Pyrmont/Hamm/Kreisfreie Stadt/Harz/ Haßberge/Heidekreis/Heidelberg/Stadtkreis/Heidenheim / Heilbronn/Landkreis/Heilbronn/Stadtkreis/Herford/ Herne/Kreisfreie Stadt/Hildburghausen/Hildesheim/ Hochsauerlandkreis/Hochtaunuskreis/Hohenlohekreis/ Holzminden/Höxter/Ilm-Kreis/Innsbruck/Innviertel/ Jena/Kreisfreie Stadt/Jerichower Land/Jihocecký kraj/ Jihomoravský kraj/Kaiserslautern/Kreisfreie Stadt/ Karlovarský kraj/Karlsruhe/Landkreis/ Kassel/Kreisfreie Stadt/Kassel/Landkreis/Kaufbeuren/Kreisfreie Stadt/ Kempten(Allgäu)/Kreisfreie Stadt/Kiel/Kreisfreie Stadt/ Kitzingen/Klagenfurt-Villach/Kosický kraj/ Kraj Vysočina/Krefeld/Kreisfreie Stadt/ Královéhradecký kraj/Kulmbach/Kyffhäuserkreis/ Köln/Kreisfreie Stadt/Lahn-Dill-Kreis/Landau in der Pfalz/Kreisfreie Stadt/Landkreis Rostock/ Landshut/Kreisfreie Stadt/Legnico-Glogowski/Leipzig/ Leverkusen/Kreisfreie Stadt/Lichtenfels/Liezen/ Limburg-Weilburg/Lindau (Bodensee)/Linz- Wels/Lippe/ Ludwigsburg/Ludwigslust- Parchim/Lörrach/ Lübeck/Kreisfreie Stadt/Lüchow- Dannenberg/ Magdeburg/Kreisfreie Stadt/Main- Spessart/Main-Tauber-Kreis/Main-Taunus- Kreis/Mainz/Kreisfreie Stadt/Marburg- Biedenkopf/Mayen-Koblenz/Meißen/ Merzig-Wadern/Mettmann/Miasto Łódź/Miasto Poznań/ Mültenberg/Minden-Lübbecke/Mittelburgenland/ Mittelsachsen/Mostviertel-Eisenwurzten/ Mönchengladbach/Kreisfreie Stadt/Mülheim an der Ruhr/Kreisfreie Stadt/Münster/Kreisfreie Stadt/ Neckar- Odenwald-Kreis/Neumarkt in der Oberpfalz/ Neumünster/Kreisfreie Stadt/Neunkirchen/Neustadt an	Erlangen/Kreisfreie Stadt/ Regensburg/Kreisfreie Stadt/	Coburg/Kreisfreie Stadt/München/Landkreis/ Schweinfurt/Kreisfreie Stadt

	der Waldnaab/Neustadt an der Weinstraße/Kreisfreie Stadt/Neuwied/Niederösterreich-Süd/Nienburg(Weser)/Nitriansky kraj/Nordburgenland/Nordfriesland/Nordhausen/Nordsachsen/Nordwestmecklenburg/Northeim/Nürnberger Land/Oberbergischer Kreis/Oberhausen/Kreisfreie Stadt/Oberkärnten/Odenwaldkreis/Oder-Spree/Offenbach/Landkreis/Oldenburg(Oldenburg)/Kreisfreie Stadt/Olomoucký kraj/Olpe/Ortenaukreis/Osnabrück/Kreisfreie Stadt/Osnabrück/Landkreis/Ostalbkreis/Ostprignitz-Ruppin/Oststeiermark/Paderborn/Pardubický kraj/Pforzheim/Stadtkreis/Pinzgau-Pongau/Plocki/Plzenský kraj/Potsdam/Kreisfreie Stadt/Rastatt/Ravensburg/Recklinghausen/Regen/Region Hannover/Rems-Murr-Kreis/Remscheid/Kreisfreie Stadt/Reutlingen/Rhein-Erft-Kreis/Rhein-Hunsrück-Kreis/Rhein-Kreis-Neuss/Rhein-Lahn-Kreis/Rheintal-Bodenseegebiet/Rhön-Grabfeld/ Rosenheim/Kreisfreie Stadt/Rostock/Kreisfreie Stadt/ Rotenburg (Wümme)/Rottal-Inn/Rottweil/Saale-Holzland-Kreis/Saarlouis/Salzburg und Umgebung/Salzgitter/Kreisfreie Stadt/Sankt Pölten/Schaumburg/Schmalkalden-Meiningen/Schwalm-Eder-Kreis/Schwandorf/Schwarzwald-Baar-Kreis/Schwerin/Kreisfreie Stadt/Schwäbisch Hall/Sigmaringen/Soest/Solingen/Kreisfreie Stadt/Sonneberg/ St. Wendel/Starnberg/Steinburg/Steinfurt/Straubing/Kreisfreie Stadt/Städteregion Aachen/Sächsische Schweiz-Osterzgebirge/Sömmerda/Südburgenland/Tiroler Unterland/Tirschenreuth/Traunstein/Traunviertel/Trenciansky kraj/Trier/Kreisfreie Stadt/Trnavský kraj/Tuttlingen/Uelzen/Unna/Unstrut-Hainich-Kreis/Unterkärnten/Vechta/Viersen/Vogelsbergkreis/Vogtlandkreis/Vorpommern-Greifswald/Vorpommern-Rügen/Vulkaneifel/Waldeck-Frankenberg/Waldviertel/Warendorf/Weilheim-Schongau/Weimar/Kreisfreie Stadt/Weimarer Land/Weßenburg-Gunzenhausen/Werra-Meißner-Kreis/Wesel/Wesermarsch/West- und Südsteiermark/Westerwaldkreis/Westliche Obersteiermark/Wien/Wiener Umland/Südteil/Worms/Kreisfreie Stadt/Wuppertal/Kreisfreie Stadt/Zilinský kraj/Zlínský kraj/Zollernalbkreis/Ústecký kraj		
Club 3	Ahrweiler/Aichach-Friedberg/Alb-Donau-Kreis/Alzey-Worms/Ammerland/Ansbach/Landkreis/Augsburg/Landkreis/Aurich/Bad Dürkheim/Bad Tölz-Wolfratshausen/Bamberg/Landkreis/Bayreuth/Landkreis/Berchtesgadener Land/Bergstraße/Berlin/Bottrop/Kreisfreie Stadt/Breisgau-Hochschwarzwald/Békés/Calw/Cloppenburg/Coesfeld/Cuxhaven/Dahme-Spreewald/Darmstadt-Dieburg/Delmenhorst/Kreisfreie Stadt/Diepholz/Dresden/Kreisfreie Stadt/Düren/Ebersberg/Eichstätt/Eifelkreis Bitburg-Prüm/Emmendingen/Enzkreis/Erding/Euskirchen/Fejér/Forchheim/ Fürth/Kreisfreie Stadt/Garmisch-Partenkirchen/Gießen/Landkreis/Gliwicz/Goriska/Heinsberg/Helmstedt/Heves/Jeleniogórski/Kaiserslautern/Landkreis/Katowicki/Kelheim/Kleve/Komárom-Esztergom/Konstanz/Koroska/Kusel/Landsberg am Lech/Landshut/Landkreis/Leer/Leipzig/Kreisfreie Stadt/Liberecký kraj/Lüneburg/Landkreis/Main-Kinzig-Kreis/Mainz-Bingen/Miasto Szczecin/Miasto Warszawa/Miesbach/Mühlendorf am Inn/Mühlviertel/Neu-Ulm/Neuburg-Schrobenhausen/ Neustadt an der Aisch-Bad Windsheim/Oberallgäu/ Oberhavel/Offenbach am Main/Kreisfreie Stadt/Opolski/Osrednjeslovenska/Ostallgäu/Ostholstein/Passau/Landkreis/Pfaffenhofen an der Ilm/Pinneberg/Rendsburg-Eckernförde/Rhein-Neckar-Kreis/Rhein-Sieg-Kreis/Rheingau-Taunus-Kreis/Rheinisch-Bergischer Kreis/Rosenheim/Landkreis/Roth/Schleswig-Flensburg/Schwabach/Kreisfreie Stadt/Schweinfurt/Landkreis/Segeberg/Stade/Stormarn/Straubing-Bogen/Südliche Weinstraße/Südwestpfalz/Teltow-Fläming/Tolna/Tübingen/Landkreis/Unterallgäu/Verden/Walbrzyski/Waldshut/Weinviertel/Wetteraukreis/Wittmund/Wolfenbüttel/Würzburg/Landkreis	Schweinfurt/Kreisfreie Stadt/Stuttgart/Stadtkreis/	Düsseldorf/Kreisfreie Stadt/Erlangen/Kreisfreie Stadt/Frankfurt am Main/Kreisfreie Stadt/Ludwigshafen am Rhein/Kreisfreie Stadt/Stuttgart/Stadtkreis/
Club 4	Baranya/Barnim/Bydgosko-Torunski/Bács-Kiskun/Csongrád/Dachau/Fürstenfeldbruck/Fürth/Landkreis//Gifhorn/Gorenjska/Gyor-Moson-Sopron/Hajdú-Bihar//Harburg/Havelland/Herzogtum Lauenburg/Jugovzhodna Slovenija/Jász-Nagykun-Szolnok/Kaliski/Kielecki/Lomzynski/Lubelski/Miasto Kraków/Miasto Wrocław/Märkisch-Oderland/Nyski/Nógrád/Obalno-kraska/Oldenburg/Landkreis/Olsztynski/Osterholz/Peine/Piotrkowski/Płön/Podravska/Pomurska/Posavska/Potsdam-Mittelmark/Presovský kraj/Primorsko-notranjska/Radomski/Regensburg/Landkreis/Rhein-Pfalz-Kreis/Savinjska/Somogy/Sosnowiecki/Stredocesky kraj/Suwalski/Trier-Saarburg/Trojmiejski/Vas/Veszprém/Wiener Umland/Nordteil/Wloclawski/ Zala	Aschaffenburg/Kreisfreie Stadt/Bamberg/Kreisfreie Stadt/Bonn/Kreisfreie Stadt/Braunschweig/Kreisfreie Stadt/Böblingen/Coburg/Kreisfreie Stadt/Darmstadt/Kreisfreie Stadt/Dingolfing-Landau/Düsseldorf/Kreisfreie Stadt/Hamburg/Hlavní mesto Praha/Karlsruhe/Stadtkreis/Koblenz/Kreisfreie Stadt/Köln/Kreisfreie Stadt/Landshut/Kreisfreie Stadt/Ludwigshafen am Rhein/Kreisfreie Stadt/Mannheim/Stadtkreis/München/Kreisfreie Stadt/Passau/Kreisfreie Stadt/Ulm/Stadtkreis/Würzburg/Kreisfreie Stadt	Aschaffenburg/Kreisfreie Stadt/Braunschweig/Kreisfreie Stadt/Koblenz/Kreisfreie Stadt/Regensburg/Kreisfreie Stadt/Ulm/Stadtkreis/Würzburg/Kreisfreie Stadt/
Club 5	Białostocki/Bialski/Bielski/Bytomski/Chelmsko-zamojski/Chojnicki/Ciechanowski/Czestochowski/Elblaski/Elcki/Gdansk/Gorzowski/Gruzdzadzki/Inowroclawski/Koninski/Koszalinski/Krakowski/Krosnienski/Leszczynski/Lódzki/Nowosadecki/	Bayreuth/Kreisfreie Stadt/Heidelberg/Stadtkreis/Kempten(Allgäu)/Kreisfreie Stadt/Memmingen/Kreisfreie Stadt/Münster/Kreisfreie Stadt/Nürnberg/Kreisfreie Stadt/Wiesbaden/Kreisfreie Stadt/	Amberg/Kreisfreie Stadt/Bayreuth/Kreisfreie Stadt/Bonn/Kreisfreie Stadt/Böblingen/Darmstadt/Kreisfreie Stadt/Dingolfing-Landau/Emden/Kreisfreie Stadt/Hamburg/Karlsruhe/Stadtkreis/Mannheim/Stadtkreis/Passau/Kreisfreie Stadt/Wiesbaden/Kreisfreie Stadt

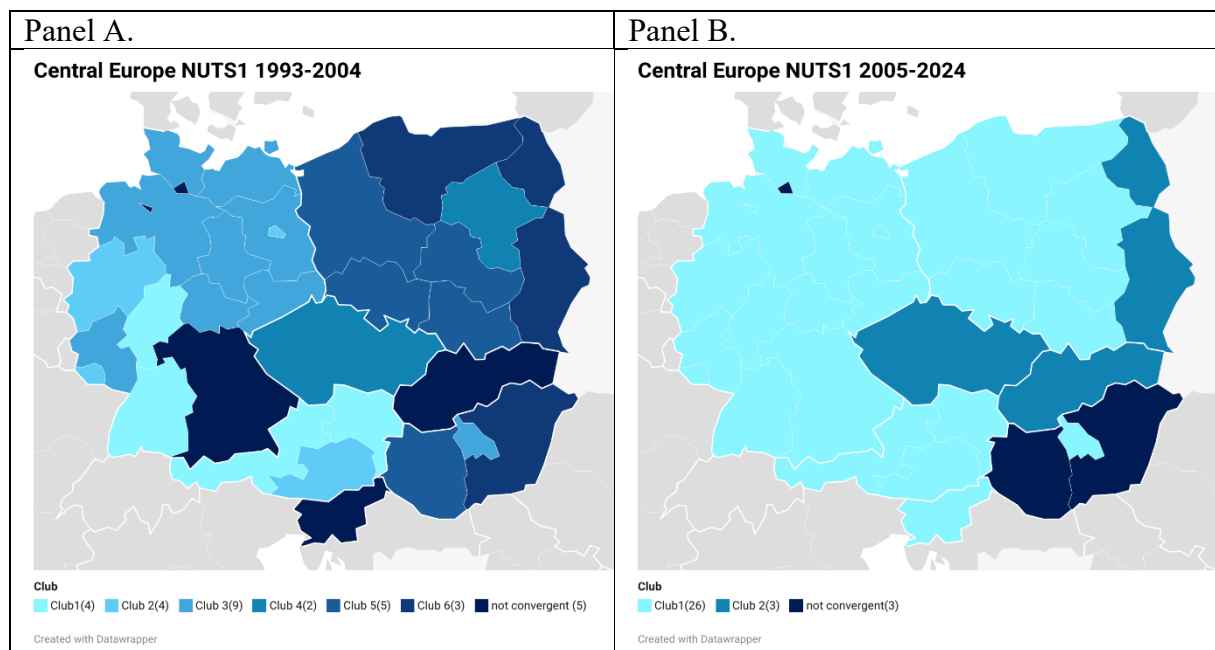
	Nowotarski/Ostrolecki/Oswiecimski/Pest/Pilski/ Poznanski/Przemyski/Pulawski/Rybnicki/Rzeszowski/ Sandomiersko-jedrzejowski/Siedlecki/Sieradzki/ Skierniewicki/Slupski/Starogardzki/Swiecki/Szabolcs- Szatmár-Bereg/Szczecinecko-pyrzycki/Szczecinski/ Tarnobrzanski/Tarnowski/Tyski/Warszawski wschodni/ Warszawski zachodni/Wroclawski/Zasavska/ Zielonogórski/Zyrardowski		
Club 6		Ansbach/Kreisfreie Stadt/Augsburg/Kreisfreie Stadt/ Baden-Baden/Stadtkreis/Emden/Kreisfreie Stadt// Freising/Heilbronn/Landkreis/Heilbronn/Stadtkreis/ Main-Taunus-Kreis/Rosenheim/Kreisfreie Stadt/ Weiden in der Oberpfalz/Kreisfreie Stadt	Altötting/Anhalt-Bitterfeld/Ansbach/Kreisfreie Stadt/ Augsburg/Kreisfreie Stadt/Außerfern/Baden- Baden/Stadtkreis/Bamberg/Kreisfreie Stadt/Biberach/ Bludenz-Bregenzer Wald/Bodenseekreis/ Bremen/Kreisfreie Stadt/Cottbus/Kreisfreie Stadt/Dessau- Roßlau/Kreisfreie Stadt/Donau-Ries/Eisenach/Kreisfreie Stadt/Essen/Kreisfreie Stadt/Frankfurt(Oder)/Kreisfreie Stadt/Freiburg im Breisgau/Stadtkreis/Freising/Gütersloh/ Heidelberg/Stadtkreis/Heilbronn/Landkreis/ Heilbronn/Stadtkreis/Hersfeld-Rotenburg/Hlavní mesto Praha/Hochsauerlandkreis/Hochtaunuskreis/Hof/Kreisfreie Stadt/Hof/Landkreis/Hohenlohekreis/ Kaiserslautern/Kreisfreie Stadt/Kassel/Kreisfreie Stadt/ Kempten(Allgäu)/Kreisfreie Stadt/Kiel/Kreisfreie Stadt/ Kronach/Kulmbach/Landshut/Kreisfreie Stadt/ Leverkusen/Kreisfreie Stadt/Linz-Wels/Lübeck/Kreisfreie Stadt/Main-Taunus-Kreis/Mainz/Kreisfreie Stadt/ Memmingen/Kreisfreie Stadt/Minden-Lübbecke/ Märkischer Kreis/Münster/Kreisfreie Stadt/ Neumünster/Kreisfreie Stadt/Nürnberg/Kreisfreie Stadt/ Oberspreewald-Lausitz/Olpe/Osnabrück/Kreisfreie Stadt/ Pirmasens/Kreisfreie Stadt/Region Hannover/ Regionalverband Saarbrücken/Rheintal-Bodenseegbiet/ Rhön-Grabfeld/Rosenheim/Kreisfreie Stadt/Rottweil/ Saalekreis/Saalfeld-Rudolstadt/Saarlouis/Saarpfalz-Kreis/ Salzburg und Umgebung/Salzgitter/Kreisfreie Stadt/ Siegen-Wittgenstein/Speyer/Kreisfreie Stadt/Spree-Neiße/ Steyr-Kirchdorf/Straubing/Kreisfreie Stadt/Tiroler Oberland/Tiroler Unterland/Tirschenreuth/Trier/Kreisfreie Stadt/Uckermark/Waldeck-Frankenberg/Wartburgkreis/ Weiden in der Oberpfalz/Kreisfreie Stadt/Wien/Wiener Umland/Südteil/Wilhelmshaven/Kreisfreie Stadt/ Wunsiedel im Fichtelgebirge/Zweibrücken/Kreisfreie Stadt/Zwickau/Östliche Obersteiermark
Club 7		Amberg/Kreisfreie Stadt/Außerfern/Berlin/Biberach/ Bielefeld/Kreisfreie Stadt/Bludenz-Bregenzer Wald/ Bodenseekreis/Bratislavský kraj/Bremen/Kreisfreie Stadt/Budapest/Chemnitz/Kreisfreie Stadt/Donau- Ries/Dresden/Kreisfreie Stadt/Eisenach/Kreisfreie Stadt/Erfurt/Kreisfreie Stadt/Essen/Kreisfreie Stadt/ Esslingen/Flensburg/Kreisfreie Stadt/Freiburg im Breisgau/Stadtkreis/Graz/Groß-Gerau/Günzburg/ Gütersloh/Hof/Kreisfreie Stadt/Hohenlohekreis/ Innsbruck/Jena/Kreisfreie Stadt/ Kaiserslautern/Kreisfreie Stadt/Kassel/Kreisfreie Stadt/Kiel/Kreisfreie Stadt/Klagenfurt-Villach/ Landau in der Pfalz/Kreisfreie Stadt/ Leipzig/Kreisfreie Stadt/Leverkusen/Kreisfreie Stadt/ Linz-Wels/Ludwigsburg/Lübeck/Kreisfreie Stadt/ Magdeburg/Kreisfreie Stadt/Miasto Warszawa/ Neumünster/Kreisfreie Stadt/Offenbach am Main/Kreisfreie Stadt/Offenbach/Landkreis/ Oldenburg(Oldenburg)/Kreisfreie Stadt/ Osnabrück/Kreisfreie Stadt/Osrednjeslovenska/ Ostalbkreis/Pfaffenhofen an der Ilm/ Pforzheim/Stadtkreis/Potsdam/Kreisfreie Stadt/ Rastatt/Ravensburg/Region Hannover/ Regionalverband Saarbrücken/ Rheintal- Bodenseegbiet/Rostock/Kreisfreie Stadt/Rottweil/ Salzburg und Umgebung/Salzgitter/Kreisfreie Stadt/ Sankt Pölten/Schwerin/Kreisfreie Stadt/ Speyer/Kreisfreie Stadt/Starnberg/Steyr-Kirchdorf/ Straubing/Kreisfreie Stadt/Tiroler Oberland/Tiroler Unterland/Tuttlingen/Vechta/Wien/Wiener Umland/Südteil/Wilhelmshaven/Kreisfreie Stadt/ Zweibrücken/Kreisfreie Stadt	Altmarkkreis Salzwedel/Bad Kissingen/Bautzen/ Bielefeld/Kreisfreie Stadt/Bochum/Kreisfreie Stadt/ Borken/Brandenburg an der Havel/Kreisfreie Stadt/ Burgenlandkreis/Börde/Cham/Chemnitz/Kreisfreie Stadt// Deggendorf/Dithmarschen/Dortmund/Kreisfreie Stadt/ Dresden/Kreisfreie Stadt/Duisburg/Kreisfreie Stadt/Elbe- Elster/Emsland/Ennepe-Ruhr-Kreis/Erfurt/Kreisfreie Stadt/ Erzgebirgskreis/ Esslingen/Flensburg/Kreisfreie Stadt/ Freudenstadt/Fulda/Gera/Kreisfreie Stadt/Germersheim/ Graz/Groß-Gerau/Görlitz/Göttingen/Günzburg/ Hagen/Kreisfreie Stadt/Hameln-Pyrmont/Harz/Herford/ Holzminden/Ilm-Kreis/Innsbruck/Jena/Kreisfreie Stadt/ Klagenfurt-Villach/Krefeld/Kreisfreie Stadt/Lahn-Dill- Kreis/Landau in der Pfalz/Kreisfreie Stadt/Lichtenfels/ Liezen/Ludwigsburg/Lungau/Magdeburg/Kreisfreie Stadt/ Main-Spessart/Main-Tauber-Kreis/Marburg-Biedenkopf/ Mecklenburgische Seenplatte/Meißen/Mettmann/ Miltnerberg/Mittelsachsen/Mülheim an der Ruhr/Kreisfreie Stadt/Neustadt an der Waldnaab/Nordfriesland/ Oberbergischer Kreis/Offenbach/Landkreis/Oldenburg (Oldenburg)/Kreisfreie Stadt/Ortenaukreis/Ostalbkreis/ Osttirol/Pforzheim/Stadtkreis/Pinzgau-Pongau/ Prignitz/ Rastatt/Ravensburg/Remscheid/Kreisfreie Stadt/ Reutlingen/Rhein-Kreis Neuss/Rostock/Kreisfreie Stadt/ Saale-Orla-Kreis/Salzlandkreis/Sankt Pölten/Schwalm- Eder-Kreis/Schwarzwald-Baar-Kreis/Schwerin/Kreisfreie Stadt/Schwäbisch Hall/Sigmaringen/Soest/Starnberg/ Steinburg/Stendal/Städteregion Aachen/Suhl/Kreisfreie Stadt/Traunviertel/Tuttlingen/Unterkärnten/Vechta/ Vogtlandkreis/Vulkaneifel/Wesermarsch/Westliche Obersteiermark/Wittenberg/Worms/Kreisfreie Stadt/ Wuppertal/Kreisfreie Stadt/
Club 8		Berchtesgaden Land/Bochum/Kreisfreie Stadt/ Borken/Brandenburg an der Havel/Kreisfreie Stadt/ Bremerhaven/Kreisfreie Stadt/Cham/Cloppenburg/ Cottbus/Kreisfreie Stadt/Deggendorf/Dillingen an der Donau/Dortmund/Kreisfreie Stadt/ Duisburg/Kreisfreie Stadt/Ebersberg/Eichstätt/ Emmendingen/Emsland/Erding/Erlangen-Höchstadt/ Frankenthal(Pfalz)/Kreisfreie Stadt/Frankfurt (Oder)/Kreisfreie Stadt/Freudenstadt/Fulda/ Fürth/Kreisfreie Stadt/Germersheim/ Gießen/Landkreis/Grafschaft Bentheim/Göppingen/ Göttingen/Hagen/Kreisfreie Stadt/ Halle (Saale)/Kreisfreie Stadt/Hameln-Pyrmont/ Heidenheim/ Herford/Hersfeld-Rotenburg/ Hochsauerlandkreis/Innviertel/Karlsruhe/Landkreis/ Kaufbeuren/Kreisfreie Stadt/Kelheim/Kitzingen/ Konstanz/Krefeld/Kreisfreie Stadt/Lahn-Dill-Kreis/ Landsberg am Lech/Landshut/Landkreis/Lichtenfels/ Liezen/Lindau(Bodensee)/Lungau/Lörrach/Main- Kinzig-Kreis/Main-Spessart/Main-Tauber-Kreis/ Mainz-Bingen/Marburg-Biedenkopf/Mettmann/ Miesbach/Miltenberg/Minden-Lübbecke/Mostviertel- Eisenwurz/Märkischer Kreis/ Mönchengladbach/Kreisfreie Stadt/Mühlendorf am Inn/ Mülheim an der Ruhr/Kreisfreie Stadt/Neu-Ulm/ Neuburg-Schrobenhausen/Neumarkt in der Oberpfalz/Niederösterreich-Süd/Nordfriesland/	Altenburger Land/Aschaffenburg/Landkreis/Berlin/ Bernkastel-Wittlich/Birkenfeld/Bremerhaven/Kreisfreie Stadt/Budapest/Celle/Coburg/Landkreis/Cochem-Zell/ Dillingen an der Donau/Donnersbergkreis/Eichsfeld/ Erlangen-Höchststadt/Frankenthal(Pfalz)/Kreisfreie Stadt/ Freyung-Grafenau/Gelsenkirchen/Kreisfreie Stadt/ Gießen/Landkreis/Goslar/Gotha/Grafschaft Bentheim/ Greiz/Göppingen/Halle(Saale)/Kreisfreie Stadt/Haßberge/ Heidekreis/Heidenheim/Hildburghausen/Hildesheim/ Höxter/Innviertel/Jerichower Land/Karlsruhe/Landkreis/ Kassel/Landkreis/Kaufbeuren/Kreisfreie Stadt/Kitzingen/ Konstanz/Kyffhäuserkreis/Limbürg-Weilburg/Lindau (Bodensee)/Lippe/Lörrach/Mainz-Bingen/Mansfeld/ Südharz/Mayen-Koblenz/Miesbach/Mostviertel- Eisenwurz/Mönchengladbach/Kreisfreie Stadt/Neckar- Odenwald-Kreis/Neu-Ulm/Neumarkt in der Oberpfalz/ Neustadt an der Weinstraße/Kreisfreie Stadt/Neuwied/ Nienburg(Weser)/Nordhausen/Nordsachsen/Northem/ Nürnberger Land/Oberhausen/Kreisfreie Stadt/ Oberkärnten/Offenbach am Main/Kreisfreie Stadt/ Ostallgäu/Ostprignitz-Ruppin/Oststeiermark/Paderborn/ Pfaffenhofen an der Ilm/Potsdam/Kreisfreie Stadt/Regen/ Rems-Murr-Kreis/Rhein-Erft-Kreis/Rhein-Hunsrück-Kreis/ Rhein-Neckar-Kreis/Rotenburg(Wümme)/Rottal-Inn/ Schmalkalden-Meiningen/Schwabach/Kreisfreie Stadt// Schwandorf/Solingen/Kreisfreie Stadt/Sonneberg/ St. Wendel/Steinfurt/Stormarn/Sömmerda/Südburgenland/

		Nürnberger Land/Oberbergischer Kreis/Olpe/ Ortenaukreis/Ostallgäu/Paderborn/Pinzgau-Pongau// Pirmasens/Kreisfreie Stadt/Rems-Murr-Kreis/ Remscheid/Kreisfreie Stadt/Reutlingen/Rhein-Erft- Kreis/Rhein-Hunsrück-Kreis/Rhein-Kreis Neuss/ Rhein-Neckar-Kreis/Rhön-Grabfeld/ Rosenheim/Landkreis/Saarlouis/Saarpfalz-Kreis/ Schwabach/Kreisfreie Stadt/Schwandorf/ Schwarzwald-Baar-Kreis/Schwäbisch Hall/Siegen- Wittgenstein/Sigmaringen/Soest/Steinburg/ Stormarn/Stredoceský kraj/Städteregion Aachen/ Suhl/Kreisfreie Stadt/Teltow-Fläming/Traunstein/ Traunviertel/Tübingen/Landkreis/Unterallgäu/ Waldeck-Frankenberg/Weilheim-Schongau/ Weimar/Kreisfreie Stadt/Worms/Kreisfreie Stadt// Wuppertal/Kreisfreie Stadt/Zollernalbkreis/Östliche Obersteiermark/	Traunstein/Unna/Unstrut-Hainich-Kreis/Unterallgäu/ Vogelsbergkreis/Vorpommern-Greifswald/Waldviertel/ Warendorf/Weilheim-Schongau/Weimar/Kreisfreie Stadt/ Werra-Meißner-Kreis/Westerwaldkreis/Zollernalbkreis
Club 9		Ahrweiler/Aichach-Friedberg/Alb-Donau-Kreis/ Altenburger Land/Altengirkechen(Westerwald)/ Altmarkkreis Salzwedel/Alzey-Worms/Amberg- Sulzbach/Ammerland/Anhalt-Bitterfeld/ Ansbach/Landkreis/Aschaffenburg/Landkreis/ Augsburg/Landkreis/Aurich/Bad Dürkheim/Bad Kissingen/Bad Kreuznach/Bad Tölz-Wolfratshausen/ Bamberg/Landkreis/Barnim/Bautzen/Bayreuth/ Landkreis/Bergstraße/Bernkastel-Wittlich/Bielski/ Birkenfeld/Breisgau-Hochschwarzwald/ Burgenlandkreis/Börde/Calw/Celle/ Coburg/Landkreis/Cochem-Zell/ Coesfeld/Cuxhaven/ Dachau/Dahme-Spreewald/Darmstadt-Dieburg/ Delmenhorst/Kreisfreie Stadt/Dessau- Roßlau/Kreisfreie Stadt/Diepholz/Dithmarschen/ Donnersbergkreis/Düren/Eichsfeld/Eifelkreis Bitburg-Prüm/Elbe-Elster/Ennepe-Ruhr-Kreis/ Enzkreis/Erzgebirgskreis/Euskirchen/Forchheim/ Freyung-Grafenau/Friesland/Fürstentum Bückeburg/ Führ/Landkreis/Garmisch-Partenkirchen/ Gelsenkirchen/Kreisfreie Stadt/Gera/Kreisfreie Stadt/ Gifhorn/Gliwicz/Gorenjska/Goriska/Goslar/Gotha/ Gyor-Moson-Sopron/Görlitz/Hamm/Kreisfreie Stadt/ Harburg/Harz/Haßberge/Heidekreis/Heinsberg/ Helmstedt/Herne/Kreisfreie Stadt/Herzogtum Lauenburg/Hildburghausen/Hildesheim/Hof/ Landkreis/Holzwinden/Höxter/Ilm-Kreis/Jerichower Land/Jihocecký kraj/Jihomoravský kraj/Jugovzhodna Slovenija/Kaiserslautern/Landkreis/Kassel/Landkreis Katowicki/Kleve/Koroska/Kraj Vysocina/Kronach/ Královéhradecký kraj/Kulmbach/Kyffhäuserkreis/ Landkreis Rostock/Leer/Legnico-Glogowski/ Leipzig/Liberecký kraj/Limburg-Weilburg/Lippe/ Ludwigslust-Parchim/Lüchow-Dannenberg/ Lüneburg/Landkreis/Mayen-Koblenz/ Mecklenburgische Seenplatte/Meißen/Merzig- Wadern/Miasto Kraków/Miasto Łódź/Miasto Poznań/ Miasto Wrocław/Mittelburgenland/Mittelsachsen/ Mühlviertel/Neckar-Odenwald-Kreis/Neunkirchen/ Neustadt an der Aisch-Bad Windsheim/Neustadt an der Waldnaab/Neustadt an der Weinstraße/Kreisfreie Stadt/Neuwied/Nienburg(Weser)/Nordburgenland/ Nordhausen/Nordsachsen/Nordwestmecklenburg/ Northeim/Obalno-kraska/Oberallgäu/ Oberhausen/Kreisfreie Stadt/Oberhavel/Oberkärnten/ Oberspreewald-Lausitz/Odenwaldkreis/Oder-Spree/ Oldenburg/Landkreis/Olomoucký kraj/ Osnabrück/Landkreis/Ostholstein/Ostprignitz- Ruppin/Oststeiermark/Osttirol/Pardubický kraj/ Passau/Landkreis/Peine/Pinneberg/Plocki/Plzenský kraj/Podravsko/Posavska/Potsdam-Mittelmark/ Poznanski/Prignitz/Recklinghausen/Regen/ Regensburg/Landkreis/Rendsburg-Eckernförde/ Rhein-Lahn-Kreis/Rhein-Pfalz-Kreis/Rhein-Sieg- Kreis/Rheingau-Taunus-Kreis/Rheinisch-Bergischer Kreis(Rotenburg(Wümme)/Roth/Rottal-Inn/Saale- Holzland-Kreis/Saale-Orla-Kreis/Saalekreis/ Saalfeld-Rudolstadt/Salzlandkreis/Savinjska/ Schaumburg/Schleswig-Flensburg/Schmalkalden- Meiningen/Schwalm-Eder-Kreis/ Schweinfurt/Landkreis/Segeberg/Solingen/Kreisfreie Stadt/Sonneberg/Spree-Neiße/St. Wendel/Stade/ Steinfurt/Stendal/Straubing-Bogen/Sächsische Schweiz-Osterzgebirge/Sömmerda/Südburgenland/ Südliche Weinstraße/Tirschenreuth/Třnavský kraj/ Trojměstský/Tyski/Uckermark/Uelzen/Unna/Unstrut- Hainich-Kreis/Unterkärnten/Vas/Verden/Viersen/ Vogelsbergkreis/Vogtlandkreis/Vorpommern- Greifswald/Vorpommern-Rügen/Vulkaneifel/ Waldshut/Waldviertel/Warendorf/Warszawski zachodni/ Wartburgkreis/Weimarer Land/ Weinviertel/Weißenburg-Gunzenhausen/Werra- Meißner-Kreis/Wesel/Wesermarsch/West- und Südsteiermark/Westerwaldkreis/Westliche Obersteiermark/Wetteraukreis/Wiener Umland/Nordteil/Wittenberg/Wittmund/Wunsiedel im Fichtelgebirge/Würzburg/Landkreis/Zlínský kraj/ Zwickau/Ústecký kraj	Ahrweiler/Aichach-Friedberg/Alb-Donau-Kreis/ Altengirkechen(Westerwald)/Amberg-Sulzbach/Ammerland/ Ansbach/Landkreis/Augsburg/Landkreis/Aurich/Bad Kreuznach/Bad Tölz-Wolfratshausen/Bamberg/Landkreis/ Bayreuth/Landkreis/Berchtesgadener Land/Bergstraße/ Bratislavský kraj/Breisgau-Hochschwarzwald/Calw/ Cloppenburg/Coesfeld/Cuxhaven/Dahme-Spreewald/ Darmstadt-Dieburg/Diepholz/Düren/Ebersberg/Eichstätt/ Eifelkreis Bitburg-Prüm/Emmendingen/Enzkreis/Erding/ Euskirchen/Forchheim/Friesland/Führ/Kreisfreie Stadt/ Garmisch-Partenkirchen/Hamm/Kreisfreie Stadt/ Herne/Kreisfreie Stadt/Jihomoravský kraj/Kelheim/Kleve/ Kraj Vysocina/Královéhradecký kraj/Landkreis Rostock/ Landsberg am Lech/Landshut/Landkreis/Leer/ Leipzig/ Leipzig/Kreisfreie Stadt/Ludwigslust-Parchim/Lüchow- Dannenberg/Lüneburg/Landkreis/Main-Kinzig-Kreis/ Merzig-Wadern/Miasto Poznań/Miasto Warszawa/ Mittelburgenland/Moravskoslezský kraj/Mühlendorf am Inn/ Mühlviertel/Neuburg-Schrobenhausen/Neunkirchen/ Neustadt an der Aisch-Bad Windsheim/Niederösterreich- Süd/Nordburgenland/Nordwestmecklenburg/Oberallgäu/ Oberhavel/Odenwaldkreis/Oder-Spree/ Osnabrück/Landkreis/Osrednjeslovenska/Ostholstein/ Passau/Landkreis/Pinneberg/Plocki/Plzenský kraj/ Recklinghausen/Rendsburg-Eckernförde/Rhein-Lahn- Kreis/Rhein-Sieg-Kreis/Rheingau-Taunus-Kreis/ Rheinisch-Bergischer Kreis/Rosenheim/Landkreis/Roth/ Saale-Holzland-Kreis/Schaumburg/Schleswig-Flensburg/ Segeberg/Stade/Straubing-Bogen/Sächsische Schweiz- Osterzgebirge/Südliche Weinstraße/Teltow-Fläming/ Tübingen/Landkreis/Uelzen/Verden/Viersen/Vorpommern- Rügen/Waldshut/Weimarer Land/Weißenburg- Gunzenhausen/Wesel/West- und Südsteiermark/ Wetteraukreis/Wiener Umland/Nordteil/Wittmund/ Würzburg/Landkreis/Zlínský kraj/Ústecký kraj
Club 10		Banskobystrický kraj/Bottrop/Kreisfreie Stadt/ Bydgosko-Torunski/Bytomski/Bács-Kiskun/ Csongrád/Czestochowski/Fejér/Gdansk/Gorzowski/ Greiz/Hajdú-Bihar/Havelland/Kaliski/Karlovarský kraj/Komárom-Esztergom/Kosický kraj/Koszalinski/ Kusel/Leszczynski/Lubelski/Mansfeld-Südharz/ Mansfeld-Südharz	Alzey-Worms/Bad Dürkheim/Barnim/Bottrop/Kreisfreie Stadt/Dachau/Delmenhorst/Kreisfreie Stadt/ Fürstentum Bückeburg/Führ/Landkreis/Gifhorn/Gliwicz/ Goriska/Havelland/Heinsberg/Helmstedt/Herzogtum Lauenburg/Jihocecký kraj/Jugovzhodna Slovenija/ Kaiserslautern/Landkreis/Karlovarský kraj/Katowicki/

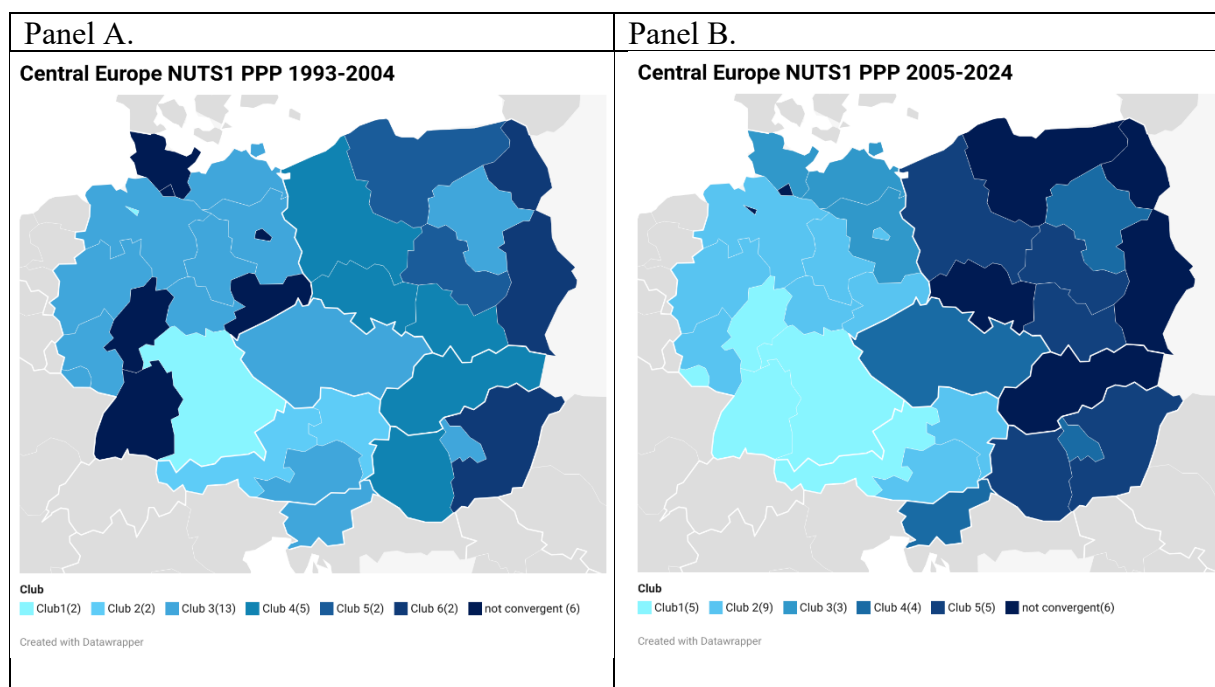
		Miasto Szczecin/Moravskoslezský kraj/Märkisch-Oderland/Nitriansky kraj/Opolski/Osterholz/Pest/Piotrkowski/Plön/Pomurska/Primorsko-notranjska/Rybnicki/Rzeszowski/Sosnowiecki/Starogardzki/Südwestpfalz/Tolna/Trenciansky kraj/Trier-Saarburg/Veszprém/Warszawski wschodni/Wolfenbüttel/Wrocławski/Zala/Zasavska/Zielonogórski/Zilinský kraj/Zyrardowski	Koroska/Kusel/Legnico-Glogowski/Liberecký kraj/Miasto Kraków/Miasto Łódź/Miasto Szczecin/Miasto Wrocław/Märkisch-Oderland/Obalno-kraska/Oldenburg/Landkreis/Olomoucký kraj/Osterholz/Pardubický kraj/Peine/Plön/Podravska/Posavska/Potsdam-Mittelmark/Regensburg/Landkreis/Rhein-Pfalz-Kreis/Savinjska/Schweinfurt/Landkreis/Südwestpfalz/Trier-Saarburg/Trnavský kraj/Trojmiejski/Weinviertel/Wolfenbüttel
Club 11		Baranya/Białostocki/Borsod-Abaúj-Zemplén/Békés/Chojnicki/Ciechanowski/Elblaski/Grudziadski/Heves/Inowrocławski/Jeleniogórski/Jász-Nagykun-Szolnok/Kielecki/Koninski/Krakowski/Nowosadecki/Olsztynski/Ostrolecki/Oswiecimski/Pilski/Presovský kraj/Pulawski/Radomski/Sandomiersko-jedrzejowski/Siedlecki/Sieradzki/Skierniewicki/Slupski/Somogy/Swiecki/Szabolcs-Szatmár-Bereg/Szczecinski/Tarnobrzeki/Tarnowski/Walbrzyski/Wloclawski	Banskobystrický kraj/Bielski/Borsod-Abaúj-Zemplén/Bydgosko-Torunski/Bács-Kiskun/Békés/Csongrád/Czestochowski/Fejér/Gorenjska/Gyor-Moson-Sopron/Heves/Jeleniogórski/Jász-Nagykun-Szolnok/Kaliski/Kielecki/Komárom-Esztergom/Kosický kraj/Koszalinski/Lubelski/Nitriansky kraj/Olsztynski/Opolski/Piotrkowski/Pomurska/Poznanski/Primorsko-notranjska/Sosnowiecki/Stredoecský kraj/Tolna/Trenciansky kraj/Tyski/Vas/Veszprém/Walbrzyski/Warszawski zachodni/Wloclawski/Zala/Zasavska/Zielonogórski/Zilinský kraj/Zyrardowski
Club 12		Bialski/ Elcki/ Lomzynski/ Nowotarski/ Przemyski/ / Suwalski/ Szczecinecko-pyrzycki/	Baranya/Białostocki/Bialski/Bytomski/Ciechanowski/Elblaski/Gorzowski/Grudziadski/Hajdú-Bihar/Inowrocławski/Koninski/Leszczynski/Lomzynski/Łódzki/Nyski/Ostrolecki/Oswiecimski/Pest/Pilski/Presovský kraj/Pulawski/Radomski/Rybnicki/Rzeszowski/Sandomiersko-jedrzejowski/Siedlecki/Sieradzki/Skierniewicki/Slupski/Somogy/Starogardzki/Suwalski/Swiecki/Szabolcs-Szatmár-Bereg/Szczecinecko-pyrzycki/Szczecinski/Tarnobrzeki/Tarnowski/Wroclawski
Club 13			Chelmsko-zamojski/Chojnicki/Elcki/Gdanski/Krakowski/Krosnienski/Nowosadecki/Nowotarski/Nógrád/Przemyski/Warszawski wschodni
NCG		Altötting/Chelmsko-zamojski/Hochtaunuskreis/Ingolstadt/Kreisfreie Stadt/Krosnienski/Łódzki/Mainz/Kreisfreie Stadt/ yski/Nógrád/Trier/Kreisfreie Stadt/Wolfsburg/Kreisfreie Stadt	Harburg/Köln/Kreisfreie Stadt/München/Kreisfreie Stadt



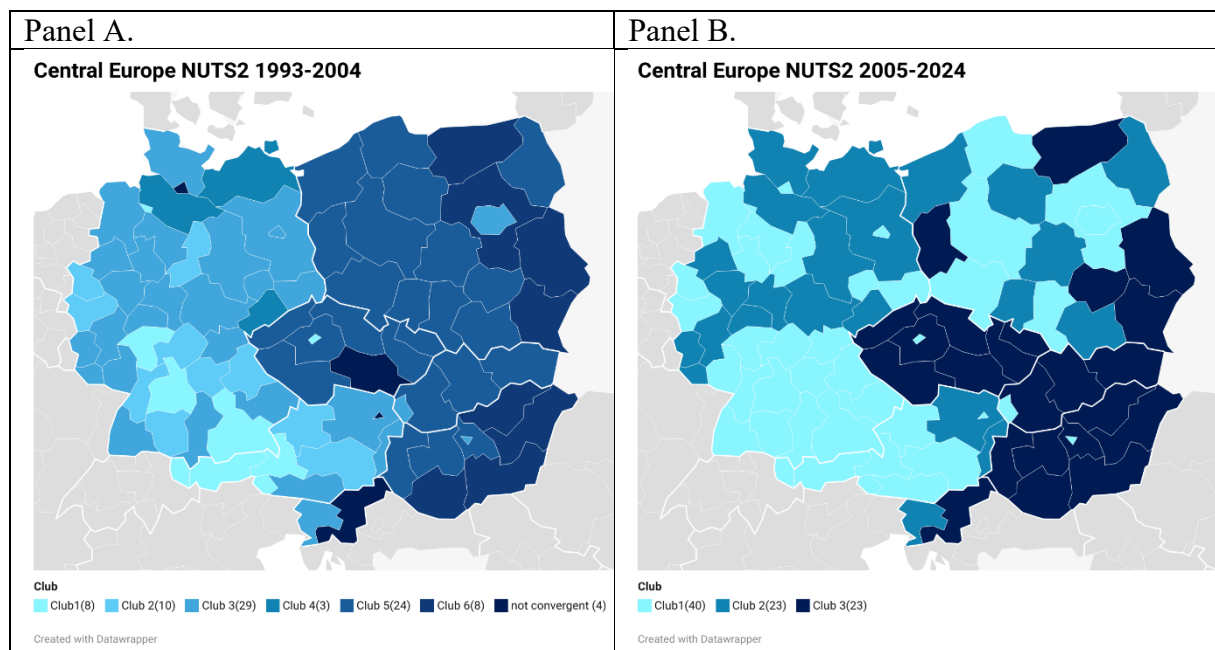
Map A1. Convergence clubs in Central Europe from 1993 to 2024 at the NUTS1 level (Panel A) and at the NUTS2 level (Panel B) in PPP.



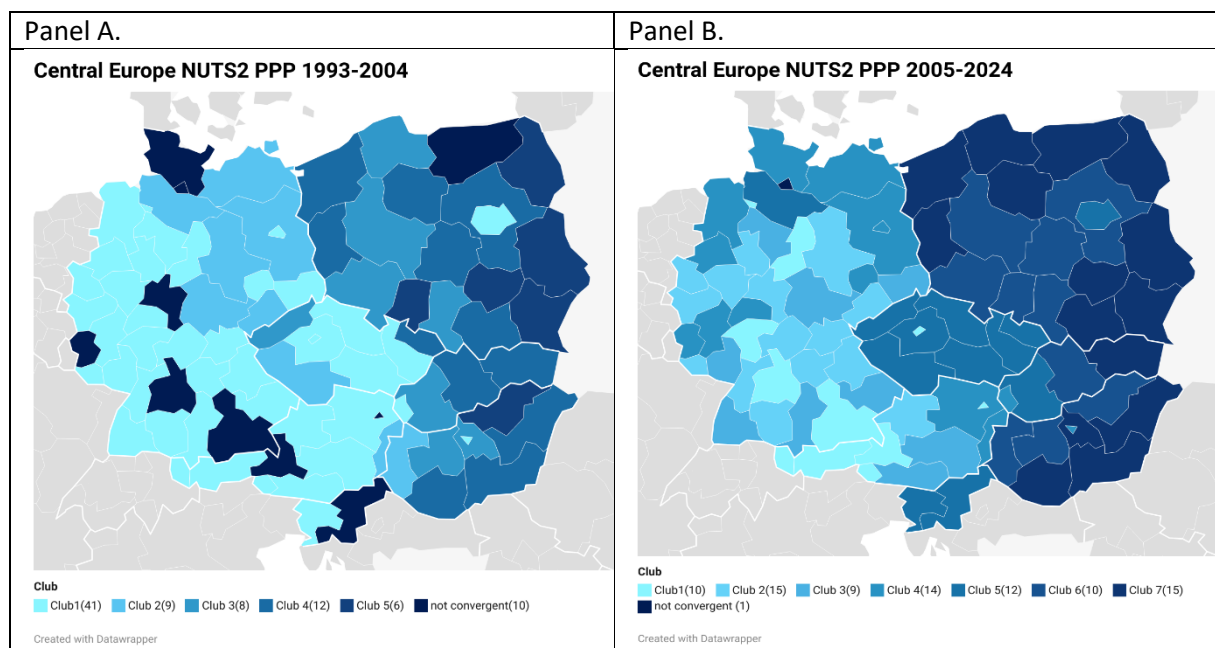
Map. A2. Convergence clubs in Central Europe from 1993 to 2004 (Panel A) and from 2005 to 2024 (Panel B) at the NUTS1 level.



Map. A3. Convergence clubs in Central Europe from 1993 to 2004 at the NUTS1 level (Panel A) Convergence clubs in Central Europe from 2005 to 2024 (Panel B) at the NUTS1 level in PPP.



Map A4. Convergence clubs in Central Europe from 1993 to 2004 (Panel A) and from 2005 to 2024 (Panel B) at the NUTS2 level.



Map A5. Convergence clubs in Central Europe from 1993 to 2004 (Panel A) and from 2005 to 2024 (Panel B) at the NUTS2 level in PPP.