

EUROPEAN JOURNAL OF SPATIAL DEVELOPMENT

The European Journal of Spatial Development is published by [Nordregio](#), Nordic Centre for Spatial Development and [OTB Research Institute](#), Delft University of Technology

ISSN 1650-9544

Publication details, including instructions for authors: www.nordregio.se/EJSD

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Online Publication Date: 11 October 2007

To cite this Article: E.J. Meijers, B. Waterhout and W.A.M. Zonneveld: Closing the GAP: Territorial Cohesion through Polycentric Development, *Refereed Articles*, Oct 2007, no 24, *European Journal of Spatial Development*

URL: <http://www.nordregio.se/EJSD/refereed24.pdf>

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Closing the Gap: Territorial Cohesion through Polycentric Development

ABSTRACT

This article discusses and analyses national polycentric development policies aiming at cohesion. Due to its insertion in the 1999 European Spatial Development Perspective ‘polycentricity’ has become an important concept in discussions on Europe’s territorial and economic development. Its content remains however rather unclear. This paper contributes to the discussion on the meaning of polycentricity by looking at national polycentric development policies. These policies can be distinguished according to two types of disparities, or gaps, which they try to bridge. The first concerns the gap between different levels of the national urban hierarchy, the most common being the gap between a primate capital city and the next category of cities. The second gap is the one between cities located in regions with diverging rates of socio-economic development. On the basis of a conceptual and quantitative discussion of these gaps a basic definition is presented of what polycentric development policies are about: policies that address the distribution of economic and/or economically relevant functions over the urban system in such a way that the urban hierarchy is flattened in a territorially balanced way. A discussion of the polycentric development policies of France, Poland and Germany illustrates our findings. The article concludes that for the period 2007-2013 – the new EU budget period – a clear synergy is needed between EU and national policies and that without such synergy policies cannot be effective.

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1. Polycentricity: A multi-scalar concept

The concept of polycentric development has gained widespread currency in planning and territorial development strategies, though it remains a rather fuzzy concept as it seems to mean different things to different actors and on different scales (Kloosterman & Musterd, 2001a; Davoudi, 2003; Hague & Kirk, 2003). Thus far, the academic and policy debates have focussed mainly on the spatial scales of Europe, urban regions and cities and not so much on the national scale, which is the focus of this paper.

At the European scale, the ESDP (European Spatial Development Perspective) presents the development of a balanced and polycentric urban system as a major objective as the economic fabric of Europe is dominated by one large metropolitan system mainly located in the northwest corner of the continent (CEC, 1999; Krätke, 2001; Copus, 2001; Faludi & Waterhout, 2002; Shaw & Sykes, 2004). This objective is currently being taken further in the current debate about a European territorial cohesion policy (Faludi 2004, 2005, 2006; Council of the European Union 2006; CEMAT 2006; EU Ministers Responsible for Spatial Planning and Development 2007). On a regional scale, polycentric development often refers to the development of functional relationships in a regional cluster of cities, and issues such as the competitiveness, the spatial-functional structure and co-operation between cities are often debated (see for instance Batten, 1995; Dieleman & Faludi, 1998; Kloosterman & Musterd, 2001b; Meijers & Romein, 2003; Parr, 2004; Priemus *et al.*, 2004; Meijers, 2005; Hall & Pain, 2006). Finally, on the local scale, the development of the many centres next to the traditional downtown centre within an agglomeration has been widely documented and it is now generally acknowledged that all post-industrial cities have become polycentric (see for instance Hall, 2001; Anas *et al.*, 1998; Halbert, 2004).

The objective of this paper is to shed light on the interpretation of polycentric development at the national scale as this scale has, thus far at least, received only limited attention. There are several reasons to focus on this scale. In the first place, in a majority of the present European Union Member States the pursuit of polycentric development is seen as a major objective in spatial or spatial-economic policy (Nordregio *et al.*, 2004), although reference is not always made to the term ‘polycentric development’ as such. Seventeen countries list it as a major policy aim at the national scale while in a couple of others polycentric development is a subsidiary aim. In a number of either ‘federalised’ or ‘regionalised’ countries polycentricity is also a major aim at the *regional* scale (see Waterhout *et al.*, 2005, for an overview). Thus far however, little comparative research has been undertaken on these policies.

In the second place, as the concepts of territorial cohesion and polycentric development still need to crystallize out on the European scale, this conceptual debate could well be informed by national approaches to similar issues of unbalanced development, competitiveness and cohesion. Although the European spatial discourse, and in particular the ESDP, is generally considered as providing a framework for spatial strategies at a national and regional scale (see Dabinett & Richardson, 2005), one must be aware that at the same time, community policies in turn often bear the stamp of one national tradition or another. Regarding the European spatial discourse, the French tradition is a case in point (Faludi, 2004). As such then a European territorial cohesion policy will undoubtedly be influenced by national approaches to cohesion and poly-

centric development. This influence is moreover likely to be strong as formal competencies for territorial development are embedded at the member states rather than the European level. Learning more about national approaches to polycentric development may thus be valuable as an input to the current European debate.

Finally, doing so may also prevent the rise of conflicts between the European and the national scale, as the pitfall of the concept of polycentric development, that such a policy ‘might create an illusion of ‘balanced development’ at a broad brush scale, whilst presiding over, or even exacerbating, polarization on a more localized scale’ (Copus, 2001, p.548), may be avoided if more is known of the spatial trends and policies at lower scales.

On the local and regional scales, the polycentricity concept could be considered mainly as an analytical tool, whereas on the national and European scales it is used as the expression of a normative agenda (Davoudi, 2003). The main interest in the debate on the lower scales is on the spatial-functional structure of cities. On the regional scale, polycentricity is also associated with competitiveness issues, while polycentricity on the European scale is predominantly discussed in the context of EU Structural Funds mainly in terms of regions and countries lagging behind and thus as a means of achieving cohesion. It should be noted though that EU Structural Funds policy under the influence of the revived Lisbon Agenda pays increasing attention to competitiveness issues. Not surprisingly, on the intermediate national scale, polycentric development often concerns achieving both competitiveness *and* cohesion. Given the emphasis on cohesion at the European scale and the relevance of the national scale in designing European policies, we will focus on national polycentric development policies aiming at cohesion. Moreover, we will link both analytical features of polycentricity in the national urban system with normative features of national polycentric development policies.

The aim of this paper is threefold:

- To explore the nature and objectives of cohesion-oriented polycentric development policies at the national scale;
- To relate such policies to analytical features describing the current extent of polycentricity in national urban systems;
- To identify potential synergies as well as conflicts between the European and national approaches to polycentric development.

The paper will be structured along these three axes. Starting with a presentation of the research methods, section 2 presents our exploration of the nature and objectives of polycentric development policies in various European countries. Though in many European countries polycentric development is given a country-specific interpretation we focus our attention on finding the commonalities between them in order to induce general patterns in national polycentric development policies. This allows for a conceptual clarification, resulting in among other things a definition of polycentric development policies. Section 3 presents our data on the extent of polycentricity in respect of national urban systems and links these with the presence, and nature, of polycentric development policies. In section 4 we present the polycentric development policies of France, Poland and Germany. These countries represent very well the variety in polycentric development policies, as described in section 2. Finally, in our concluding

section 5, we address the potential synergies and conflicts between the European and national approaches to polycentric development. This section begins by laying out the policy context at the European scale. We then relate this context to our findings in the previous sections on the national scale.

2. The diversity of national policies in Europe aiming at polycentricity

Research design

Information on spatial trends and territorial policies within the EU territory was until recently rather limited. For that and other reasons, the European Commission together with the member states commissioned the substantial European Spatial Planning Observation Network (ESPON) research programme (Van Gestel & Faludi, 2005). Largely based on the contents of the ESDP, the ESPON programme gathers information through research projects on spatial trends and spatial policies, including the national scale, for the European territory covering 29 European countries. Among the first projects started in 2002, one project on ‘the role, specific situation and potentials of urban areas as nodes in a polycentric development’ (project 1.1.1 in ESPON terminology) focussed on polycentricity.¹ This paper builds on that project, in particular the work package that addressed the application of polycentricity in European countries. An inventory was made of polycentric development policies in 29 European countries (EU 25 + Bulgaria, Norway, Romania and Switzerland) (Zonneveld *et al.*, 2004). The basis for this inventory was a questionnaire that was sent to key persons in the 29 countries as well as a study of relevant material such as policy documents and literature reflecting on these policies and actual spatial tendencies in these countries. We did not provide the respondents with an exact definition of what a polycentric development policy is, except for some general hints that such a policy addresses the distribution of economic and/or economically relevant functions over the urban system. Leaving this definition largely open allowed us to gain an understanding of how planning experts across all European countries comprehend and interpret the concept of polycentric development. Based on our findings, we will construct a general definition informed by these various interpretations below.

The focus in this paper is on cohesion-oriented polycentric development policies. Diminishing urban disparities to enhance cohesion is central to 14 European countries. These countries include: Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Norway, Poland, Portugal and Slovenia. The remainder of this section addresses the objectives of these countries’ polycentric development policies.

Policies: Closing the Gap

Although the 14 countries pursuing a more cohesive national urban system have the same overall objective of diminishing urban disparities to achieve cohesion in common, they have different rationales for doing so. These rationales include political norms referring to principles of economic and social cohesion and solidarity, the desire to counterbalance a situation of perceived over-concentration in one place and the under-utilization of resources and potential in others, or the prevention of a rural exodus. There is, therefore, a large variety in the types of urban disparities and cities on

which the policy focuses. Our inventory shows that it is useful to distinguish cohesion-related polycentric development policies by the type of disparity, or *gap*, they try to bridge:

- A. Gaps between different categories of cities caused by a limited representation of cities of a certain level of the urban hierarchy.
- B. The gap between cities located in regions with diverging rates of socio-economic development. It appears that policy strategies increasingly address zonal differences, thus, between regions, through a nodal approach, focusing on the main cities in lagging regions. Obviously, a spillover effect from these cities to other parts of the region is envisaged.

Both gaps do not exclude one another as countries can address both. Table 1 lists the 14 countries aiming at territorial cohesion, stating the gap in the national urban system they are trying to bridge and indicating whether this relates to gap type *A* or type *B*, as described above, or a combination of both (the first named gap getting the most emphasis). Our labelling is based on what can be found in the text of key policy documents and information provided in response to the questionnaire (see Zonneveld *et al.*, 2004). It needs to be emphasised that the objective of this paper is not to explain the emergence of these kinds of gaps in the urban system, but rather the policy responses to them.²

Table 1 demonstrates that addressing the first type of gap, the one between categories of cities, is very common in European countries. The gap between the top-level cities and the next category of cities in the urban hierarchy is the one most addressed by polycentric development policies. Generally, top level cities include only the capital city, or, in some countries the two largest cities, as for instance in Greece and Portugal. The countries that address the gap between the top level and the next category of cities in the national urban hierarchy include: Denmark, Estonia, Finland, France, Greece, Hungary, Ireland, Latvia, Norway, Poland, Portugal and Slovenia.

However, the gap between the capital and the next category of cities (in some countries referred to as medium-sized cities) is not the only gap focused on. In Greece, the category of rural centres is also under-represented according to policy-makers. Therefore, polycentric development policies may also focus on the gap caused by a limited representation of medium-sized or rural centres.

Gaps between cities that follow from their location in lagging regions are addressed by policies in Germany, Ireland, Italy, Norway, Poland and Slovenia. In these countries, regional disparities prevail for which polycentric development, often amongst other forms of regional policy, is also considered essential. Although regional policy as such does not exclude the possibility of focusing concrete policy instruments on urban centres, it is not its prime characteristic. Regional policy, as the term already suggests, follows a *zonal* approach: areas are designated as eligible for support, including financial. In contrast, the polycentricity concept follows a *nodal* approach: certain urban centres or classes of urban centres are identified as eligible for support. Of course, the idea is that this will benefit the entire region.

Table 1: Type of gaps addressed in national urban systems and privileged groups of cities.

Country	Type of urban disparities the policy addresses	Type of cities the policy focuses on	Type of gap addressed*
Denmark	Gap between the capital Copenhagen and other major cities or urban regions in terms of economic development opportunities	'National centres'	A
Estonia	Gap between the capital Tallinn and other major cities in terms of socio-economic development	Smaller country centres	A
Finland	Gap between the five most urbanized regions of Finland and other cities or regional centres in terms of population development, employment and GDP	Regional centres (medium and small towns)	A
France	Gap between the capital Paris and cities in the rest of the country	Urban areas except for Paris	A
Germany	Gap between cities in former West Germany and cities in former East Germany	Cities in former East Germany	B
Greece	Gap between the two largest cities (Athens and Thessalonica) and the next group of cities in the hierarchy. The bottom of the hierarchy is also considered too weak: a lack of viable rural centres	Major cities outside Athens and Thessalonica as well as rural centres	A
Hungary	Gap between the capital Budapest and the medium-sized regional centres	Regional centres	A
Ireland	Gap between the capital Dublin and cities in lagging regions	'Gateway cities'	A, B
Italy	Gap between cities in the North and cities in the South	Cities in the South, in particular medium-sized cities	B, A
Latvia	Gap between the capital Riga and the rest of the urban system	Not specified	A
Norway	Gap between the capital Oslo and other cities in the south on the one hand and other regional centres on the other in terms of population development, employment and GDP as well as service provision	A selection of regional centres	B
Poland	Gap between the capital Warsaw and more diversified cities (mainly in the west) on the one hand and less diversified, lagging or peripheral cities on the other in terms of economic development	Less diversified lagging and peripheral cities (east Poland)	A, B
Portugal	Gap between the capital Lisbon and Porto on the one hand and the next group of cities in the hierarchy (the level of medium-sized cities is lacking)	Medium-sized cities	A
Slovenia	Gap between advanced western and central part of Slovenia vis-à-vis eastern part. Gap between Ljubljana and other cities.	National and regional centres, urban regions and cross-border regions	B, A

* See text for explanation

Gaps between different categories of cities are addressed by polycentric development policies that try to flatten the urban hierarchy, whereas gaps between cities located in regions with a different socio-economic development are addressed by polycentric

development policies that try to territorially balance the urban hierarchy. In the European Spatial Development Perspective, the source of most recent policy documents when it comes to the concept of polycentricity, no clear definition of polycentric development is presented. Based on our analysis we would like to define polycentric development policy as ‘*a policy that addresses the distribution of economic and/or economically relevant functions over the urban system in such a way that the urban hierarchy is flattened in a territorially balanced way.*’ Compared to the basic definition of polycentricity introduced previously in this section and which was sent to a variety of key persons as part of the study on which this paper is based this new definition adds a political rationale to policies aiming at polycentric development.

Picturing polycentricity

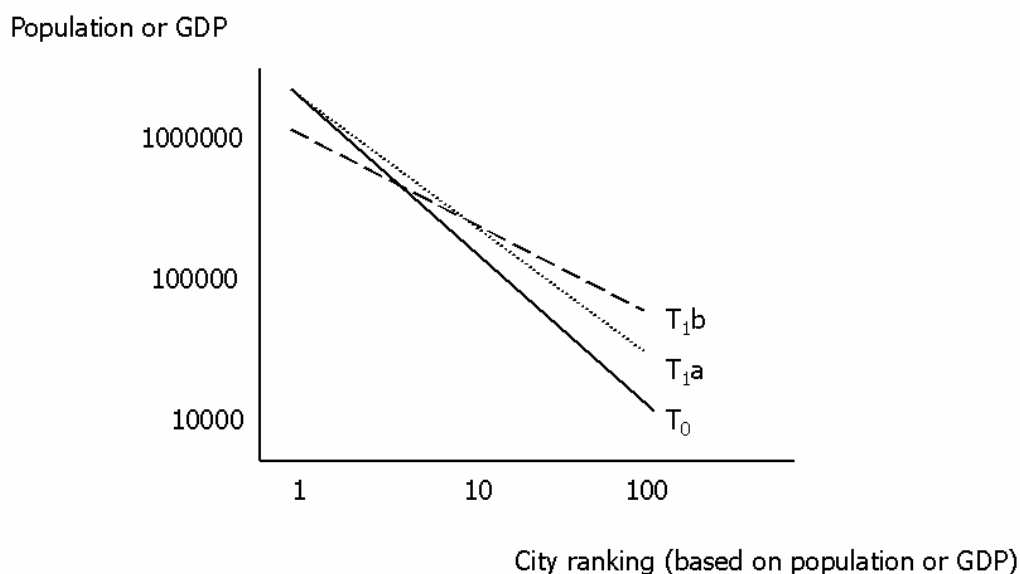
We can deepen our understanding of polycentric development policies by picturing their envisaged impact on the national urban system. The notion of ‘territorial balance’ here suggests that we find strongly developing cities all across the national territory, not just in one part of the country. Similarly, the ‘flattening of urban hierarchies’, refers to the oft-stated notion that the hierarchy of urban centres (in terms of city sizes or economic importance) in a country follows a regular, log-linear pattern, known as the rank-size distribution. The log linear rank-size distribution can be represented as a straight regression line with a given slope. It can be hypothesised that a relatively flat line represents a relatively polycentric national urban system, whereas a very steep line represents a more monocentric national urban system (Nordregio *et al.*, 2004). This means that the log linear rank-size distribution can be considered an indicator of the degree of polycentricity of the urban system. This could be combined with other indicators such as the accessibility of urban areas and the size of service areas, where the latter is a proxy for the evenness of the spread of cities over a country’s territory (see Nordregio *et al.*, 2004).

Thus, polycentric development implies that the regression line of the rank-size distribution becomes less steep. Given that polycentric development policies aiming for cohesion are widespread, it is obvious that relatively flat regression lines are the most appealing for politicians. However, in the policy domain no exact references are made to rank-size distributions. Instead we find concepts like the ones listed in table 1 (third column).

We can graphically display the envisaged impact of polycentric development policies aiming for a more cohesive national urban system as an attempt to achieve a flatter regression line in respect of the log-linear rank-size distribution between now (t_0) and some time in the future (t_1). To foster such a development, two general policy options can, in theory, be pursued (Figure 1):

- Enhancing the increase in growth in terms of population or economic importance relatively more in smaller/less economically significant cities (t_1a);
- Dispersing growth from top-ranked cities to cities with a lower rank as regards population or economic importance (t_1b).

Figure 1: A polycentric development of the urban system.



The first option, enhancing growth in terms of population or economic importance relatively more in smaller/less economically significant cities is the most common, while also being the most politically acceptable. Even though countries address the gap between a capital city and the next group of cities, for reasons of international competitiveness they cannot allow their main asset to lose significance. Even though there is a polycentric development policy in place a leading city or category of cities is often also supported by other coexisting policies. The second option, to disperse growth, was more popular in the past and quite a common characteristic of traditional regional policy carried out in the context of general welfare state policies. For instance the dispersal of national government institutions to peripheral regions was very common. Even though this option is less and less frequently considered, we can still find examples of such a dispersal of national government jobs, notably in Finland (Antikainen & Vartiainen, 2005), and also in Ireland where it is under discussion (Davoudi & Wishardt, 2005).

3. Polycentricity and the basic characteristics of national urban systems

In the previous section we discussed the complicated notion of polycentric development policies on a more conceptual level. In this section we provide a more quantitative, spatial analysis. Doing so shows that there is a strong link between those countries striving for a more cohesive urban system and some features of their urban systems. This holds true in particular for those countries wanting to close the gap between different categories of cities. As this most often refers to the gap between a top-level city and the next group of cities, it is not surprising to find that these countries are the ones characterised by a comparatively high primacy rate, a figure expressing the dominance of the largest city in a country over the urban system. In fact, 9 out of the 10 countries that have the highest primacy rates measured in terms of Gross Do-

mestic Product (GDP) for Europe pursue a more polycentric development, the exception being Austria (Table 2). Apparently, having a dominant top-level city is not considered a favourable situation.³

In table 2 we list primacy rates based on data on the scale of so-called functional urban areas or FUAs rather than data on the scale of municipalities. Most countries use some definition of FUAs, referring to them as functional urban regions, travel-to-work areas, commuting areas, daily urban systems, city-regions etc. Due to the lack of comparable data across Europe the FUAs used here have been delimited by national definitions (Nordregio *et al.*, 2004). The primacy rate is calculated by measuring the degree to which the size of the largest city deviates from the regression line of the rank-size distribution in terms of population as well as GDP. This regression line is calculated considering all but the largest city. In the literature the latter ‘rule’ is not always followed but if we want to measure the degree to which the size of the largest city deviates from the ‘average’ we obviously have to get rid of the influence of the largest city on this average.

Table 2: Primacy rate indicators of FUAs in European countries

Country (largest city)	No. of FUAs	Primacy population	Ranking primacy population	Primacy GDP	Ranking primacy GDP
Latvia (Riga)	8	3.81	2	8.61	1
Greece (Athens)	45	6.00	1	6.13	2
Portugal (Lisbon)	44	3.72	3	5.84	3
Hungary (Budapest)	77	2.58	5	5.39	4
France (Paris)	211	1.44	13	4.30	5
Estonia (Tallinn)	10	1.66	7	4.16	6
Denmark (Copenhagen)	35	1.57	10	2.80	7
Austria (Vienna)	24	2.89	4	2.74	8
Finland (Helsinki)	35	1.66	8	2.57	9
Norway (Oslo)	36	1.30	14	2.50	10
Bulgaria (Sofia)	31	1.54	11	2.31	11
Czech Republic (Prague)	25	0.94	17	2.18	12
Ireland (Dublin)	7	1.74	6	2.13	13
Romania (Bucharest)	59	1.47	12	1.95	14
United Kingdom (London)	146	1.63	9	1.48	15
Sweden (Stockholm)	47	0.99	16	1.44	16
Slovenia (Ljubljana)	6	0.76	19	1.30	17
Spain (Madrid)	105	1.06	15	1.27	18
Slovakia (Bratislava)	27	0.54	22	1.24	19
Italy (Rome, Milan) ^a	253	0.69	20	0.83	20
Poland (Katowice, Warsaw) ^a	48	0.59	21	0.83	21
Belgium (Brussels)	21	0.53	23	0.82	22
Switzerland (Zurich)	48	0.82	18	0.82	23
Netherlands (Amsterdam)	39	0.51	24	0.62	24
Lithuania (Vilnius)	8	0.44	26	0.51	25
Cyprus (Nicosia)	4	0.46	25	0.46	26
Germany (Berlin, Stuttgart) ^a	186	0.29	27	0.14	27

Source: Nordregio *et al.* (2004).


Data: 2000/2001.

^a First mentioned city-region is the country's largest in terms of population, the second one mentioned the most significant city-region in terms of GDP.

Table 3 presents the current situation as regards the rank-size distributions of national urban systems. Though a comparison in time was not possible within the scope of the underlying study (Nordregio *et al.*, 2004), this could still provide policy-makers trying to develop a more cohesive national urban system with a starting point for monitoring the actual development. We found that the number of FUAs included in the analysis matters. Nordregio *et al.* (2004) present results for a large number of FUAs per country, although the selection criteria for the N (FUA) per country differ and they ignore the first-ranked FUA in the calculation of the regression line. We could also take into account the first-ranked FUA and apply a more robust selection mechanism based on a fixed population threshold of FUAs (50,000) to be included (see Table 3), but then the results would be quite strongly influenced by many provincial cities and towns in the larger and/or more densely populated European countries. On the other hand, in a small country, less populated FUAs may also be of significance. As our tentative impression of the extent of polycentricity of a national urban system is often based on the differences in significance between a mere handful of the largest cities, we would like to propose using a fixed and limited number of FUAs for each country when calculating polycentricity. This would mean that we include the major FUAs for each country. Table 3 therefore also presents the slope of the regression line of the rank-size distribution taking into account the 10 largest FUAs in terms of population.

From Table 3 it follows that including a different number of FUAs may lead to considerable differences for some countries. Of particular note here is, for instance, the position of Germany, which comes out as the most polycentric country using $N=10$, while using a threshold of 50,000 people presents a much more monocentric picture. Obviously, the reason for this is that there are many small and medium-sized cities that are more or less equally sized in Germany. The Netherlands, Belgium, Poland and Slovakia also appear more polycentric when using $N=10$. Together with Romania and Italy these countries are among the most polycentric. Hungary is in a strange position, being the most polycentric according to the 50,000 threshold measure, while having a more average position using $N=10$. Interestingly, Hungary also has a high primacy rate. The explanation here relates to the fact that many similar-sized cities exist below the level of the capital city of Budapest. Countries that appear more monocentric using $N=10$ include Greece, the UK, Hungary, Sweden, Bulgaria, France, Spain and the Czech Republic. The most monocentric countries are Greece, Ireland, Portugal, Latvia, Austria and Slovenia. Not surprisingly, more polycentric countries tend to have lower primacy rates, while the opposite holds for the more monocentric countries. Interestingly, six out of the eight most monocentric countries deploy polycentric development policies aimed at reducing gaps between different categories of cities. This includes the four most monocentric countries.

Table 3: Slope of the regression line of the rank-size distribution of population in European countries

Country	Slope regression line population N(FUAs) = 10	Polycentric vs Monocentric	Country	Slope regression line population N (FUAs) based on population threshold of 50.000
Germany	-0,571	Most polycentric  Most monocentric	Hungary	-0,657
Slovakia	-0,589		Slovakia	-0,701
Belgium	-0,591		Belgium	-0,752
Romania	-0,722		Italy	-0,782
Netherlands	-0,759		Romania	-0,784
Poland	-0,773		Bulgaria	-0,838
Italy	-0,820		Poland	-0,882
Hungary	-0,894		Czech Republic	-0,887
Norway	-0,991		United Kingdom	-0,893
Switzerland	-1,002		Sweden	-0,895
Bulgaria	-1,042		Netherlands	-0,927
Czech Republic	-1,045		Norway	-0,937
Finland	-1,088		France	-0,939
Denmark	-1,116		Spain	-0,950
Spain	-1,116		Finland	-0,969
Sweden	-1,118		Switzerland	-0,973
France	-1,119		Denmark	-0,986
United Kingdom	-1,203		Germany	-1,023
Cyprus	-1,210		Cyprus	-1,210
Estonia	-1,312		Greece	-1,294
Lithuania	-1,316		Estonia	-1,312
Slovenia	-1,351		Lithuania	-1,316
Austria	-1,440		Slovenia	-1,351
Latvia	-1,576		Austria	-1,440
Portugal	-1,599		Portugal	-1,465
Ireland	-1,887		Latvia	-1,576
Greece	-1,894	Ireland	-1,887	

Data: Nordregio *et al.* (2004) for 2000/2001.

Calculation N=10 by authors, other by Spiekermann & Wegener. Contrary to the calculations of the regression line of the rank-size distribution used to determine the primacy rate, calculations for Table 3 also take into account the largest city. If a country did not have 10 FUAs with at least 50,000 inhabitants, the 10 largest FUAs were included. If a country did not have at least 10 FUAs, then all FUAs were included. Luxembourg (2 FUAs) and Malta (1) were excluded as no meaningful calculations could be done

4. Examples of polycentric development policies

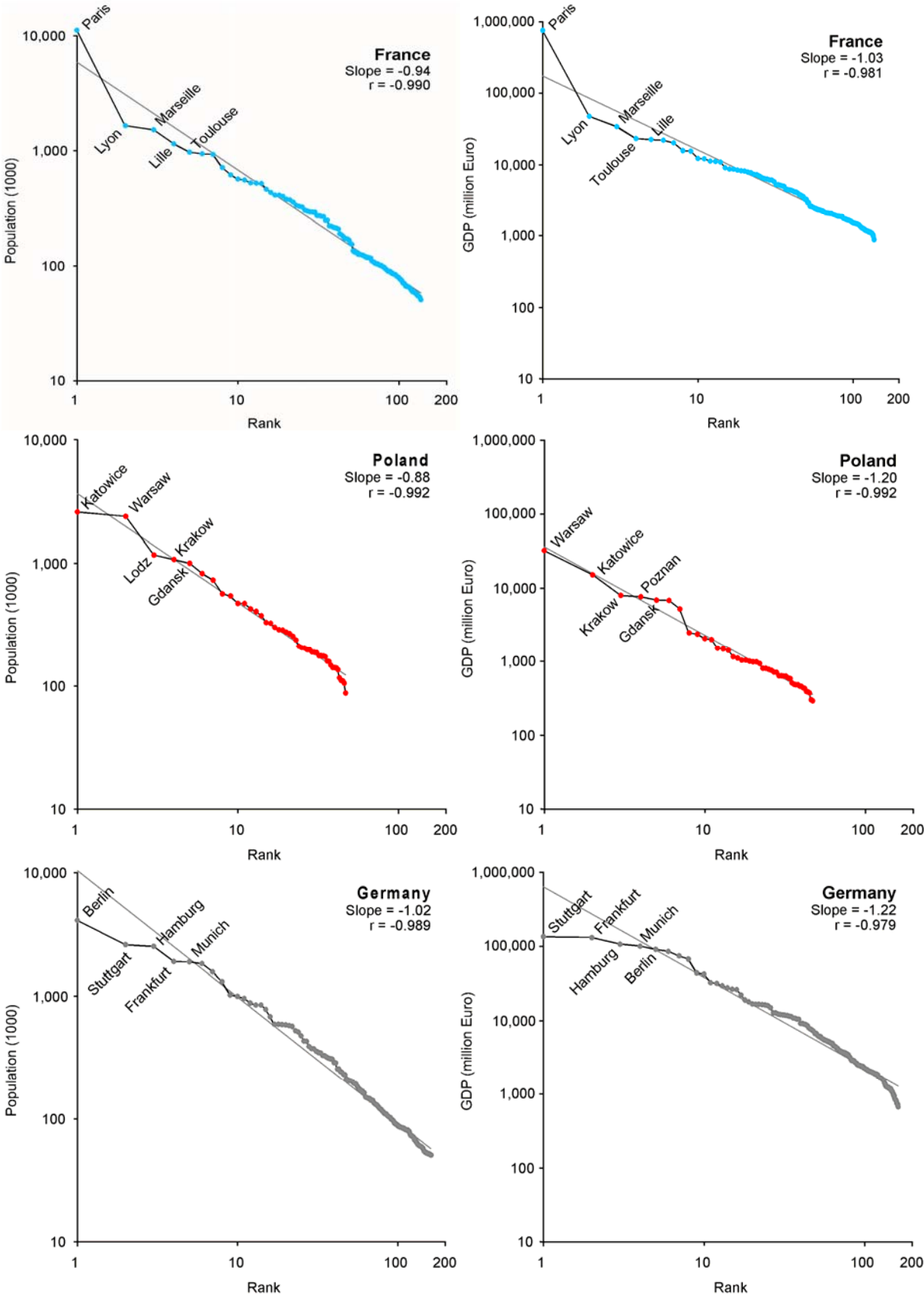
Now that we have identified the objectives and rationales of polycentric development policies, as well as the type of gaps cohesion-oriented polycentric policies try to close, and how they impact on the national urban system, all in general terms, we would like to show what kind of concrete policies are pursued to 'combat' these gaps. As such the countries we have selected are more or less archetypal in relation to these gaps. We focus firstly on France, a country in which policies primarily aim to achieve cohe-

sion through closing the gap between Paris and the next categories of cities in the national urban hierarchy. We then continue with Poland, as an example of a country that addresses gaps in both the national urban hierarchy and gaps between cities in regions with a different socio-economic development. The third case concerns the polycentric development policies of Germany, which focus solely on the gap between cities in regions with a different socio-economic development. Characteristics of the national urban systems of these countries were presented in Tables 2 and 3. France has a high primacy rate, contrary to Poland and Germany, the latter being the country with the lowest primacy rate in Europe. According to the slopes of the regression line, Germany is an example of a polycentric country *par excellence*, while Poland is also relatively polycentric. Contrarily, France turns out to be quite monocentric.

The actual rank-size distributions of national urban systems will deviate more or less from the straight regression line, the slope of which is given in Table 3. For instance, some categories will be over or under-represented. A lack of medium-sized cities means that these cities will be below the regression-line. High primacy of the largest city means that it is positioned well above the line. Therefore, a visual presentation of the actual rank-size distribution and its regression line allows for a further analysis of the spread of the cities around this line. Figure 2 presents the rank-size distributions of FUAs in terms of population (left-hand side) as well as GDP (right-hand side) for France, Poland and Germany. Although the extent of polycentricity is better measured by a fixed and limited number of FUAs, thus only based on the top-level FUAs, a better picture of the entire urban system is obtained by visualising the position of all FUAs with over 50,000 inhabitants in France, Poland and Germany.

What follows from Figure 2 is that France is obviously a country with a very dominant capital and as a result, large disparities between the capital and the next category of cities. Conversely, the top-ranked cities of the German national urban system have quite a similar level of significance. It is however striking to see is that the economic importance of Berlin falls short of what one would normally expect on the basis of its number of inhabitants. Poland's urban system seems to deviate less from the regression line, although it seems that there is a group cities of relatively similar economic importance behind Warsaw and Katowice (the Upper Silesian Conurbation). Like Berlin, the largest cities in Poland in terms of population are not necessarily the most economically significant. Another conclusion that can be drawn from Figure 2 is that the slopes of the regression line for GDP are steeper than those for population, which points to the fact that economic development tends to be concentrated to the larger cities. As a consequence, disparities between cities or categories of cities tend to be larger in terms of economic development than in terms of population development. This holds in fact for all European countries (see Nordregio *et al.*, 2004). As we will see, such analytical characteristics have great explanatory power in relation to the kind of polycentric development policies being pursued.

Figure 2. Rank-size distributions of population and GDP in France, Poland and Germany



Figures by Spiekermann & Wegener.

France

Because of the dominance of Paris, France is considered to have a rather monocentric urban structure. Interestingly, without Paris the country would instantly become quite polycentric with a number of comparably-sized cities (Lille, Nantes, Bordeaux, Toulouse, Marseille, Lyon, and Strasbourg) in a ring around a rather 'empty' centre. Paris, however, does exist, which is why, throughout the second half of the 20th century, there have been voices arguing for policies and initiatives to reduce over-concentration in and around the *Ile de France*. The publication of '*Paris et le Désert Français*' (Paris and the French Desert) (Gravier, 1947), which denounced the demographic and economic imbalances resulting, as Gravier argued, from excessively centralized policies, can be considered a starting point here. In the decades that followed, the idea of polycentricity (a term which only came to be used in the latter half of the 1990s) became strongly institutionalised, though the nature of polycentric development policies did change. After WWII and up to 1973, French policy focused on a redistribution of activities, in particular industrial activity, from Paris to the rural West and traditional industrial regions. *Métropoles d'équilibre* (balance metropolises: Lille – Roubaix – Tourcoing; Nancy – Metz; Lyon – Saint-Etienne; Marseille-Aix; Toulouse; Nantes – Saint-Nazaire; Bordeaux and Strasbourg) benefited from the dispersal of higher order functions. In the 1970s there was also a decentralization of public services and prioritised infrastructure development which benefited the medium-sized French cities in an attempt to counterbalance the Paris agglomeration.

The political decentralization of 1983 gave local authorities more power to stimulate their own development. Increasing international competition however led to renewed interest in the international role of Paris. The assets of the *Ile-de-France* were no longer included in a zero-sum scenario, but rather a positive-sum approach was adopted. The influential agency DATAR concluded that it was necessary to change the perspective from 'the distribution of wealth to the organization of territories' (Guigou, 1995; see also Lacour *et al.*, 2003), for instance by encouraging the formation of *réseaux des villes* (city networks). In 2000, DATAR's director Guigou issued the policy document '*Aménager la France de 2020*', which introduces the scenario of *polycentrisme maillé* (networked polycentrism). This scenario is considered the ideal configuration for France in 2020. It argues that new urban poles need to be developed alongside Paris. Diversity between city-regions is accepted in this scenario, as is further growth in Paris, provided that 'spatial justice' is guaranteed (Baudelle & Peyrony, 2005). Spatial justice means equality of access to basic services. Spatial justice does not imply equal treatment but rather equal opportunity. As such, the policy tries to find a balance between what is often phrased as 'efficiency versus equity'. It is largely up to the various city-regions themselves to make the most of their own comparative advantages. Much emphasis is therefore placed on the building of organising capacity in such regions. Strategic projects – so-called 'project territories' developed by local partnerships – are eligible for central funding, which is organised by covenants. In practice, dynamic urban regions throughout France tend to benefit more than Paris, as the large differences in size and hence power between Paris and its neighbouring municipalities makes co-operation more difficult.

Poland

Poland's urban pattern has developed through a complex historical process. This process originates in the period of the partition of Poland in the 19th century, when

each of the parts of the country, occupied by Russia, Prussia or Austria, developed within the respective state agencies and formed its own regional centres. An East-West divide is still apparent, resulting in different cultures and different potentials to become integrated into Europe's economy, with a clear advantage maintained by the Western half of the country (Gorzelać, 2000; Petrakos, 2001). We should not however forget that after the Second World War the entire Polish State was moved, so to speak, a few hundred kilometres west, absorbing former German territory. During the 1990s disparities between regions increased due to renewed economic concentration around Warsaw and some other larger centres which developed diversified economies such as Poznań, Gdansk, Wrocław and Krakow. Both Łódź and the Upper Silesian conurbation around Katowice have more traditional industry-based economies, which limits their development potential. Currently, Warsaw has hardly any rivals either in terms of political functions, economic development or attractiveness. Nevertheless, competition exists between the cities, particularly in respect of attracting foreign investments, which are considered a major factor in the further economic development of Poland (Domanski, 2003; Gorzelać, 2001). Thus far, foreign direct investment has however often simply reproduced existing regional disparities between either east and west or metropolitan and peripheral areas (Pavlínek, 2004).

Polycentric development strategies have a long tradition in Poland (Korcelli, 2005). As such, without reference to current terminology, goals resembling the polycentricity principle have previously been pursued. All previous regional development policies have been directed at the further development of the relatively polycentric urban system (both during the period of the socialist economy and before World War II). The various policy stages differed only in the number of key centres identified and in the functions assigned to them. In the current transition phase, the polycentric nature of the urban system is considered beneficial. The 'National Concept of Spatial Development' (2001) takes polycentric development on board as one of its main objectives.

The policy combines two main objectives, focusing on balanced regional development and providing equal quality of life to all inhabitants on the one hand, and increasing the international competitiveness of its larger urban areas on the other. There is an acceptance however that these political objectives – competitiveness and cohesion – often contradict each other in real life. The policy therefore outlines both a short-term and a long-term strategy. In the short term, priority is given to enhancing the competitiveness of a selected number of cities, thus accepting increasing polarization within the urban system. In the long term however, cohesion should replace polarization. Whether the strategy successfully evolves to this stage remains however to be seen. The policy also envisages the rise in importance of the regional centres located in more or less lagging eastern Poland (e.g. Lublin and Białystok). These are called 'potential gate-cities' as they are located in the vicinity of the future boundary of the European Union.

The Polish experiences of considerations on polycentric development are exemplary for other transition countries as, in general, it seems that urban and regional disparities in such countries are widening and will, in future, continue to do so. Increasing disparities seem to be intrinsic to a territory being in a transition phase, as western regions and metropolitan areas in general perform better in Eastern European countries (Downes, 1996; Petrakos, 2001). Allowing a certain degree of polarization in terms of growth and development in the short-term can therefore be interpreted as a pragmatic

choice. This awareness is moreover also present in other transition economies in Eastern Europe. For instance, the VISION PLANET working team that was occupied with the drawing up of a spatial vision for the Central European, Adriatic, Danubian and South Eastern European Space (CADSES)-Area is of the opinion that: “[an] equity-oriented approach must be implemented cautiously: considering that in most countries only a few regions and cities are the carriers of competitiveness, foreign investment, export and growth, their support in creating better conditions for efficient business is of vital interest to the national economy as a whole.” (VISION PLANET Working Team, 2000, p.9).

Germany

Polycentric development is almost institutional in German spatial planning policy and also remaining highly influential across other policy areas. As Figure 2 illustrates, Germany has no primary city, but rather some six or seven top-level cities or city-regions. This pattern is historically rooted. Compared to other countries, Germany became a unified country very late (1871), and consequently, development had been dispersed over many former capitals of small states and independent cities. Due to the federalised nature of the German republic and the recognised advantage (at national as well as regional level) by policy-makers of a polycentric settlement in terms of environmental, economic and social concerns there is a *communis opinio* about the maintenance and safeguarding of the polycentric pattern.

Obviously, the reunification of relatively poor East Germany and comparatively prosperous West Germany in 1991 resulted in a nation with large regional imbalances. As regards GDP *per capita* the new *Länder* – apart from Berlin and Brandenburg – are lagging some 20 per cent behind the national average. Employment and population figures also show a picture in which growth is concentrated in the west, and – sometimes drastic – decline in the east. The gap between the richest and poorest regions is increasing (OECD, 2001; Vision Planet, 1999). Through an institutionalised mechanism of inter-*Länder* equalisation taxes prosperous states aid poorer states (Kunzmann, 2001). In addition, there is the federal programme *Aufbau Ost*, which involves a yearly transfer of 25 billion euro to the five East German states. This policy has now however been revised as on the 1st of January 2005 the *Solidarpakt II* (Solidarity Pact II) has become effective, which intends to gradually reduce the yearly payments from 10.5 billion euro in 2005 to 2 billion euro in 2019.

Being a federal country, the main competence level for many policies is located to the 16 *Länder*. However, with the new 1998 Federal Regional Planning Act the Federal government is entitled to define models of spatial development. The federal spatial planning strategy has three main objectives: a further reduction of spatial disparities; the maintenance of urban functions; and the improvement of living opportunities in rural areas (BBR, 2000). These objectives comply with the general aims of sustainable development and of preserving equivalent living conditions all over the country, as required by Art. 72 of the Constitution. However, this overarching aim of equivalence should not be mistaken for equality in terms of economic power or homogeneous development. Rather, it means that equal opportunities for housing, jobs, education, the provision of goods and services, good environmental conditions and recreational opportunities should be available throughout Germany (BBR, 2000). These objectives have been pursued since the 1993 Guidelines for Regional Policy – *Rau-*

mordnungspolitischer Orientierungsrahmen (BMBau, 1993) – favoured a polycentric development of the settlement structure (Kunzmann, 2001). In addition, the recently adopted *Leitbilder und Handlungsstrategien für die Raumentwicklung in Deutschland 2006* (MKRO, 2006) continue this policy and, following *Leitbild 2 – Daseinsvorsorge sichern* ('Securing services of public interest'), will concentrate, against the background of demographic shrinking, on the provision of services of general interest through a multi-level system of central places.

In 1995 the top-level cities in Germany were labelled as European metropolitan areas (*Metropolregionen*) by policy-makers: Munich, Frankfurt-Main, Stuttgart, the Rhine-Ruhr area, Hamburg and Berlin. Top-level functions are spread over these city-regions in such a way that they allegedly complement each other. This would make the urban system more flexible to changes in the international economy. Interestingly, from the perspective of closing the gaps between cities in east and west, is the designation in 1997 of a seventh *Metropolregion*, the city network Dresden – Chemnitz – Leipzig - Halle, (*Sachsendreieck*) in the former East Germany (see also Vision Planet, 1999, p.302). This appointment was driven by political motivations, the main one being the consideration that the Eastern part of Germany needed a second region of European significance besides Berlin. The already mentioned new spatial development policy (MKRO, 2006) identifies no less than eleven *Metropolregionen* and aims at even more polycentricity at national level. As Aring and Sinz (2006) show, not all of these regions are as yet at the same level, and in particular for the new regions this status should be merely considered as a challenge to become a metropolitan area of European importance. Moreover, the number of *Metropolregionen* has been increased in order to avoid further polarization (Aring & Sinz, 2006).

5. Conclusion: looking for synergies

Cities in an urban system often do not develop in a comparable manner; some grow fast, while others decline. Disparities occur between cities in terms of population development, economic growth, accessibility, productivity, average income development, accessibility to public and private services such as education, medical facilities, cultural facilities, and in access to jobs and other opportunities. In many countries, disparities in development between categories of cities in the national urban system have remained or have even become larger. Such an unequal spread of development potential and hence a further polarisation within the urban system is considered unproductive in many European countries. In order to reverse this tendency, many national governments have started to deploy what could be called 'polycentric development policies'. On the basis of a survey of national policies we have presented a basic description of what polycentric development is thus plugging a gap in the European Spatial Development Perspective, where polycentricity plays an important role but remains undefined. Building our argument on what seems to be current policy practice we would like to assert that polycentricity is basically about the distribution of economic and/or economically relevant functions over the urban system in such a way that the urban hierarchy is flattened in a territorially balanced manner.

This paper presented the current state of cohesion-related polycentric development policies in a number of European countries. In addition to some of the rationales behind these policies, two different types of gaps in the urban hierarchy were identified: gaps between different categories of cities, most often the top-level city and the next

ones down, as well as the gap between cities in regions with diverging rates of socio-economic development. Moreover, we found a strong link between the outcomes of the statistical exercises and the type of polycentric policy that can be found in a country at the national scale. For instance, nine of the ten countries that have the highest primacy rate in terms of GDP (including France) have polycentric development policies designed to adjust the dominance of the largest city region, which is, in all cases, the capital city region. In addition, relatively monocentric countries tend more often to have polycentric development policies in place.

One of the main reasons to focus on cohesion-oriented polycentric development policies at the national level was the belief that this could enrich the European debate on polycentric development and territorial cohesion. What should be avoided, in our view, is that national and European interpretations of these policy objectives conflict and contradict each other.

In the European debate polycentric development was brought forward as one of the cornerstones of the ESDP (CEC, 1999). This document indicates the dominance of the area between London, Paris, Milan, Munich and Hamburg, which is called the 'pentagon'. Before the framing of the ESDP, discussions on Europe's territorial development were dominated by conventional core-periphery thinking (Zonneveld, 2000; Copus, 2001): there is only one 'core', all the rest of Europe is periphery and in urgent need of support. The concept of polycentricity adds a more sophisticated interpretation of Europe's territorial organisation to this debate by stressing that there is potential for other centres outside the core, hence the prefix 'poly'.

After the finalisation of the ESDP, polycentric development increasingly came to be mentioned as a *spatial* concept to elaborate the much wider – and for that reason even more vague – policy goal of *territorial cohesion* (Faludi, 2005; Zonneveld & Waterhout, 2005). In the draft European Constitution, territorial cohesion is placed on an equal footing with social and economic cohesion and thus gained political importance. Territorial cohesion, for instance, gained a prominent place in the Third Cohesion Report (CEC, 2004). With the Treaty establishing a Constitution for Europe on hold this has, at least for the moment, stopped the European Commission from working on territorial cohesion. Currently it is the member states that are pursuing a joint territorial cohesion agenda (Faludi & Waterhout, 2005).

At the EU level the structural funds are extremely important in the context of polycentric development and cohesion. The political sensitivities surrounding polycentricity and cohesion concern the – anticipated – allocation of these funds. The structural funds require the making of operational programmes. It is these operational programmes which will form the stage for the coalescence of national and EU policies. If a 'European territorial cohesion policy' should be based on national traditions, it will have to acknowledge current policy practice at this level. Our analysis reveals that the message given by individual countries is that a nodal approach to regional development rather than a zonal approach should be followed. Moreover, polycentric development strategies should be 'potential based approaches' rather than 'redistribution approaches'. Providing equal opportunities in economic development, not parity of outcomes, should stand central. Against the background of a decreasing economic performance gap between old and new member states, but, due to market forces, at the same time increasing gaps between the regions within these new member states

(ESPON, 2006), these observations imply that EU cohesion policy should focus less on the well-performing capital regions within the new member states but, in order to avoid even larger disparities within the new member states, at facilitating endogenous growth in relatively peripheral regions and cities. Still, the examples of polycentric development policies in France, Poland and Germany highlighted the large variety in approaches and this variety needs to be acknowledged by a European territorial cohesion policy in order to create synergies.

At present, the concept of polycentricity is used as a bridging concept in the European debate. This does not mean that all potential political conflicts could be softened simply by use of the concept of polycentric development. There are clear examples of conflicts between spatial scales. There is a clear tendency to select a smaller number of cities and urban regions to be the object of polycentric development policies at higher levels of scale (for instance the state level) than is considered desirable at lower scales (for instance the regional level). What could look polycentric at the European scale – for instance the rise of Dublin as a new economic node on the European map – raises questions of monocentricity at lower scales, in this example Ireland. This calls for strong coordination between European territorial development strategies and national strategies, or only a modest role for the EU.

Notes

¹ The reader is also referred to a recent project that aimed to bring the ESPON 1.1.1 project further, in particular the delimitation of ‘Functional Urban Areas’. This is the ESPON 1.4.3 project. The final report of this project (IGEAT *et al.*, 2007) can be accessed through www.espon.eu.

² However, as regards developments over time in urban systems, the reader is referred to the work on urban systems research (see Berry *et al.*, 1988 for an overview; and also Batty, 2001). In addition, the development of gaps can for instance be explained through the mechanism of ‘cumulative causation’: once a region gets a head start of some sort on others, mobile factors are increasingly drawn into it, thus increasing the advantages for firms and workers in that region at the expense of other regions (see Krugman, 1991a, 1991b).

³ It is striking that the opposite often holds for countries with a very low primacy. They often fear a lack of critical mass in their main cities from an international perspective. Policies are often in place to make them appear more dominant through emphasising that a cluster of important cities forms a functional entity. Examples include the ‘Randstad’ in the Netherlands, the ‘Flemish Diamond’ in Belgium and the ‘dipolis Kaunas-Vilnius’ in Lithuania.

Acknowledgement

This paper was developed against the background of the ESPON project ‘The role, specific situation and potentials of urban areas as nodes in a polycentric development’ (ESPON Project 1.1.1.) in which the authors have participated (see www.espon.lu). The authors wish to acknowledge the financial assistance of the Dutch government through the Habiforum Program Innovative Land Use and Delft University of Technology through the Delft Centre for Sustainable Urban Areas. We are very grateful to our colleagues Michael Wegener and Klaus Spiekermann in providing data and figures on national rank-size distributions. We would like to thank Andreas Faludi, Hugo Priemus and Michael Wegener for their comments on an earlier version of this paper. The usual disclaimer applies.

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