

1. Synthesis of comments on the final report ESPON 1.1.1, “The role, specific situation and potentials of urban areas as nodes in a polycentric development”

Author of the synthesis: Valérie Biot, from IGEAT/ULB (ECP Belgium)

Authors of the comments:

ECP	Experts
Belgium	Valérie Biot, Institut de Gestion de l’Environnement et d’Aménagement du territoire, Université libre de Bruxelles - IGEAT/ULB), Pierre Cornut (IGEAT/ULB), Sarah Luyten (Katholieke Universiteit Leuven)
Czech Republic	Lubor Fridrich, Josef Markvart (Institute for Spatial Development, Brno)
France	Jean-Paul Carrière (Spatial Planning and Urbanism professor, Ecole polytechnique de l’Université de Tours)
Greece	Panagiotis Getimis (Institute of Urban Environment and Human Resources)
Ireland	Jim Walsh, Jeanne Meldon, NIRSA NUI Maynooth
Malta	Saviour Formosa, Malta Environment & Planning Authority
Netherlands	Christiaan Wallet (Ministry of Housing, Spatial Planning and the Environment), J. Ritsema van Eck (Netherlands Institute for Spatial Research)
Poland	Piotr Korcelli (Institute of Geography and Spatial organization, Polish Academy of Sciences)
Slovenia	Marko Peterlin, Eva Kosak (Ministry of the Environment and Spatial Planning, Office for Spatial Development)
Sweden	Lisa Van Well (Swedish Institute for Growth Policy studies/ Royal Institute of Technology)

I] Brief presentation of the report

Following the ESDP and its objectives of a more balanced territorial development of the EU space, this TPG explores the concept of polycentrism, both theoretically and empirically. It concludes on policy recommendations to improve polycentrism at micro, meso and macro level, but also point out the possible contradictions between polycentrism strategy implemented simultaneously at each level. It is a document with strategic orientation, as it assembles on the one hand elements of diagnostic, regarding the situation of the cities and of the continental urban pattern, the exchange flows and how polycentrism is taken into account by national policies, and on the other hand recommendations for implementing the polycentrism principles at the different European, national and regional scales.

The report is organised into 5 distinct documents, which include a main volume, itself structured into 9 chapters (the first of them being a summary of the whole) and 4 volumes of annexes.

The study relies on the use of four main concepts:

- *The functional urban area* (FUA) are considered as basic unit (*building block*) of polycentrism. Definition is left to national level, but a FUA generally corresponds to the aggregation of areas encompassing a centre-city and the peripheral municipalities economically integrated with it, notably in terms of labour market,

- the « FUAs of excellence », the MEGAs² (*Metropolitan European growth areas*). This second key concept of the analysis designates the 76 agglomerations which make the highest scores on a set of chosen indicators.

- the PUSH and the PIAS: answering the question as to where the potentials for re-balancing the European territory are located and which would be the new urban nodes apt to strengthen polycentrism, the report defines a third concept, the PUSH (*Potential Urban Strategic Horizon*) whose definition relies on a principle of proximity, as these areas correspond to the zone which can be reached from a FUA centre in less than 45 minutes. This is actually an intermediate step leading to the definition of a fourth level of territorial analysis, that of PIAs (*Potential Polycentric Integration Areas*). These spatial entities have been identified assuming that neighbouring cities belonging to PUSHs overlapping over more than a third of their surface are prone to realise a better functional integration and to better co-operate.

PIAs are presented as genuine potential areas for strategic planning. Strengthening zones of global economic integration, as a main condition of polycentrism, indeed requires, according to the recommendations put down in the last chapter of the report, supporting the PIAs, notably those whose main node is a MEGA and those situated outside the Pentagon.

Remark: synthesis of main points are found at the beginning of chapters and subchapters, in a frame. Development from national experts follow.

² The two other categories are the trans-national / national FUAs and the regional / local FUAs.

II] Strategic reflection

a. From a national point of view

What is at stake with promoting polycentrism differs from country to country, as context, size, history, ... are different

For the very small countries, (Malta, Belgium, Netherlands), it is mainly about infraregional cooperation and relations, as the proximity and functional criteria are already quite strong between urban areas (specially in the two latest).

For experts from the other, larger, countries, opinions are mixed about possible use of the report for strategic reflections in their countries:

- some welcome it, and mention that they will use the results of the reports to elaborate their spatial strategy (Czech Republic, Sweden),
- some are very interested by the results, but point out some discrepancies between information from the reports and their knowledge, which makes it more difficult to use the report fully (Poland, Slovenia, France, Ireland),
- finally, an extreme case is Greece, where it seems that the report can not be useful, and would even be misleading.

We point out here some specific comments which are repeatedly found in reports:

Two countries' experts (Slovenia and Greece) insist on the fact that the territory of EU 27+2 is understood as a too closed area. This will be echoed further by Poland in another part of the report (cf infra).

The comment about the need for less static studies (Greece) will be also underlined in further programming research by Sweden and Poland (cf infra).

Finally, several experts underline the probleme of the possible contradictions between the two objectives competitiveness and cohesion, which is also expressed in the 111 report, and which should be specifically addressed (cf infra).

Development from national experts

For Malta, a small island state located outside the Pentagon, the concept of intraregional cooperation with particular urban functional and economics complementarities is emphasized, the focus is on better cooperation and improved links within the (urban) region, integrated spatial development strategies (to implement polycentricity), accessibility and connectivity (for success full polycentricity at pan european level).

For Belgium, a small country located in the pentagon, and completely covered by FUAs and PIAs, it is difficult to identify a territorial challenge from the information in the report.

It seems that the policies of the Belgian Regions aim at polycentrism, but in this case, as in other part in the report, the question is always: at which scale? For instance, the strategy to strengthen the Vlaamse Ruit, which is a inter-urban polycentric node, is a “monocentric” strategy at the regional level.

The challenge in Belgium is certainly more related to the “relational” aspect, which the report identifies as a key aspect for polycentrism strategy. The chapter on governance can therefore give some tools.

Finally, the proposal to transfer EU institutions away from the Pentagon would have dramatic impact on Belgium.

Netherlands experts list first the “findings relevant” for their country:

Small country situated in the pentagon, high score for the three dimension of the polycentricity index, difference in degree of polycentrism between West Netherlands (Randstad, lower degree) and the rest, large number of medium sized FUAs, almost all growing, with a high level of internal polycentricity except for transport and tourism – cf functional indicators. Following the classification of FUA based on the indicators for mass, competitiveness, connectivity and knowledge basis, Amsterdam is in group 2, Rotterdam in group 4

Polycentric development can be used for reducing disparities between urban areas, and/or to increase urban competitiveness; from the report, Netherlands are from the latter.

Netherlands experts point out then that some general finding are not correct in the case of the Netherlands and that Dutch spatial policy is underexposed.

The Netherlands have a two decades history of planning policy at FUA level (2001, introduction of the concept urban networks in the 5th national spatial planning.), and there are structures of governance, cooperation between municipalities being stimulated by several (legal) tools. Municipalities can cooperate to regional planning (information incorrect on p 210). Also, there are cross border strategic plans for infrastructure.

Concerning the “choice” between economic competitiveness or cohesion, solidarity and sustainability, economic development is an important goal, but the agenda is much wider than this, and include those different aspects.

Finally, there is no decreasing polycentricity in the Netherlands.

Netherlands experts identify two challenges from the report:

- To improve FUAs position in the European urban system, each FUA must develop a specialisation with a potential demand on the European market.
- Trying to achieve cohesion and competitiveness at the same time. On this last point, the report suggests that cohesion is the same than “evenness” among regions at all spatial levels while the Netherlands look at diversity of region. Cohesion is searched at the level of metropolitan region, and each metropolitan region increases the international economic competitiveness of the country.

The question is then how to improve cohesion between regions, and developing a balanced European urban system.

For the Czech Republic, polycentrism is of high importance, as the transition to market economy has caused strong imbalanced, the deepest being between Prague and the rest of the country. New international investment (financial services, advanced technologies, ...) goes mainly there, and Prague is also an extremely important centre for tourism, education and culture. In the "historic" division between Bohemia and Moravia, Moravia is more polycentric. Czech Republic is now structured with 14 self governed Regions, and basically, the Region of Central Bohemia correspond to Prague metropolitan area.

Population of small and medium cities, and of city centres, is decreasing, suburbanisation of the largest cities (Prague and Brno) is growing.

International (poor traffic connections) and cross border cooperation remains poor.

FUAs are adequately spread throughout the Czech Republic, due to the more balanced industrial development during the communist period, but some industrial areas are declining (mostly textile industry, coal mining, steel work).

A new strategic document is developed by the Ministry for Regional development, which will used result from ESPON 111, with more considerations on economic development, mostly regarding prevention of negative effect like suburbanisation, urban sprawl, brown fields, declines of periphery, differences between Prague and the rest of the country.

For Sweden the report is relevant at all level of governance. At the meso level, it is important to have a spatial or polycentric vision with a European perspective, but very few strategic plans and growth programs have any reference to ESDP or a European perspective. At micro level, the recommendations to enhance urban functional complementarity and intermunicipal cooperation can facilitate spatial strategies.

Sweden is a sparsely populated country, with only one category 2 MEGA and one category 3 MEGA, so FUAs and functional specialisation of urban nodes are very relevant at national level. The idea is that strong, successful regions across the territory are main contributors to economic growth, and the challenge is thus for regions to be able to use their unique conditions and resources.

The concept of PUSH areas could be relevant to national decisions concerning transport infrastructure investment, but there are few of these areas, so it is difficult to apply on a nation wide level.

111 results about the urban system in Poland correspond generally with studies conducted in Poland: a high overall polycentricity index, for the structure, but a low connectivity value for the functioning. This lead to strong policy recommendations concerning improvement in spatial accessibility at both transnational and interregional levels, and the promotion of cooperation between cities and of interurban networking (to enhance urban competitiveness).

The list of MEGA includes Poland's largest urbanised areas, but does not fully correspond with the set of metropolitan centres, as identified in Polish strategic spatial planning documents.

For Slovenia experts, the scope of the study is very broad, and focuses on relational and morphological aspect of polycentricity, with a strong accent on the later. The results give two pictures of Slovenian urban system:

On the one hand, it is one of the most polycentric countries in Europe. This is also the view of Slovenia expert, as polycentricity has been part of national policies since the 1970s in Slovenia, developing a very balanced urban system,

On the other hand, the results give a picture of a non integrated national urban system (chapter 5.2), where several PUSH areas do not appear to overlap enough to form PIAs with neighbouring urban areas. This is not corresponding with what the experts observe at national level, which points out that there is a substantial amount of daily commuting existing between PUSH areas which are presented as isolated. Also, the national methodology for FUA ignores several smaller FUAs, which would bridge the gap between bigger FUAs, and reinforce their integration, Finally, Croatian FUAs very close to the border should be included, as it would change the picture substantially

FUA concept is actually very close to that of the French category of « aire urbaine » (« urban area »). 1595 FUAs have been identified in Europe, among which 214 en France.

In the French case, it can be noticed that almost all cities which had been « elected » as « métropoles d'équilibre » are included in the list of MEGAs ; but one may question the fact that Nantes (and its agglomeration) or Strasbourg are merely classified as national FUAs, while Le Havre, on account of its industrial and harbour functions is ranked as a MEGA.

PIAs indeed constitute extensively defined urban areas which are viewed as potential spaces for co-operation and strategic planning. There would be matter to investigate what such recommendation concretely implies in matter of territorial planning in the French case, as here the territorial scale goes beyond that of the perimeters of the SCOTs³, but does not for all that reach that of the SRADTs⁴. The report suggests that they could be voluntary co-operation spaces, but for obvious reasons does not further specifies the modalities of implementation. The question here is to know whether the aim is to tend to a better harmonisation of the existing planning documents in the PIAs or to really progress toward the definition of a new planning level ?

The proposals also indirectly question the role of the Regions in territorial planning, by favouring the urban agglomerations grouped into PIA.

Ireland experts are quite mixed on the report: on one hand, the concept of polycentric urban development has been adopted as a guiding principle for the national spatial strategy (NSS, November 2002), so the 111 report is very relevant in this perspective. On the other hand, Ireland experts are critical of some aspects of the methodology and the results, which are not corresponding at all with their knowledge of Ireland..

The urban analysis and classification through the PUSH and PIAs reflect only partly Greek urban system. For an important part of the basic interrelations or spatial trends concerning networking, it does not reflect the reality,

on one hand because the 45 minutes isochrone area seem to exclude the physical structure (mainly mountains) of Greece (as in the major part of Europe) as well as protected areas,

on the other hand because it does not take into account the large scale infrastructure planned in national spatial policies, and already partly constructed, which joined national development axes in the framework of the trans-european Corridor.

Other development projects are neither taken into account, nor for the future, nor for current identification of urban poles.

³ SCOT: Schéma de Cohérence Territoriale (Territorial Cohesion Outline)

⁴ SRADT: Schéma Régional d'Aménagement et de Développement du Territoire (Regional Territorial Planning and Development Outline)

MEGAs and FUAs classification is a more coherent and synthetic approach, but the inner evaluation of the MEGAs into certain categories is questionable, due to lack of data concerning the real economic flow in several sectors of production and service system.

Also, for Greece, the expected accession of Turkey will have strong impact, for instance for the metropolitan cooperation zone between Athens, Thessaloniki – which role will grow with the accession of Bulgaria and Romania in 2007-, Sofia, Constantinople and Smyrne.

The role of Athens has already been promoted, now the polycentric structure of Greece is implemented towards the secondary urban poles (cf national Spatial plan).

b. From a general point of view

The most common reflection under this title is that every ESPON TPG and report is grounded in and bound to ESDP, so contradictions are not easy to find, except from the fact that some ESDP objectives are contradictory themselves.

Some specific common points or complementarities with other TPG are mentioned (Sweden, Slovenia, Belgium). Greece insists on another point of view (re evaluating PUSH and PIAs taking into account other TPGs outcomes).

The fact that ESPON TPG are so bound to ESDP sounds in some comments as an implicit critique (Slovenia, Malta, Poland, Greece), which becomes explicit when expressed by Ireland and Belgium experts, who worry about a lack of critical analysis of polycentric development.

The problem of the “relevance” of polycentrism, not scientifically proven by any “correlation” method, will be echoed further by other experts (Netherlands, Poland, Belgium, Ireland).

Some contradictions are nevertheless pointed out by Slovenia, Ireland and Belgium, mainly between cohesion and competitiveness objectives, and concerning an implementation of polycentrism strategies at each level simultaneously. This concern will be echoed further by other experts.

Finally, an important point underlined by several experts (cf Greece and infra for others), and by the authors of 111 themselves, is the lack of – comparable – data.

In general, a shared proposal is that a new spatial approach is needed, a new ESDP with enlarged Europe, and in the framework of ESDP objectives, including specific spatial priorities from a strategic point of view (Greece, Sweden, Czech Republic and Malta).

Focussing on policy recommendations by other TPG's: do you see common or contradicting points?

Not everyone completed this subtitle. For those who did (Greece, Slovenia, Malta, Sweden, Belgium, Ireland), common reflection is that every ESPON report is quite bounded to and grounded in ESDP, so contradictions are not easy to find.

Specific common point and /or complementarities with other TPG are quoted (Sweden, Slovenia, Belgium):

112 (urban rural: urban functional complementarity), 211,121, 113 (enlargement: promoting second tier cities) , 221 (Structural funds: it seems that polycentric development and other spatial policies are often reinforced through structural funds)

Sweden expert points out a general focus on city and transregional cooperation. She also points out that as functional specialisation is an important point both in 111, 112 and 221, this tentatively says that at meso level, economic or functional specialisation is may be more important than accessibility for polycentricity.

On another point of view,

Greece expert points out that PUSH and PIAs framework could be used more coherently and efficiently for policy recommendations if connected and re evaluated taking into account other TPGs outcomes.

For instance the physical structure of EU territory (132) with urbanisation perspective in enlarged EU, transferring the “centroïd” in Germany and the emergence of linear urbanization corridors along the European transport corridors

Also, accessibility indicators could be used (transport TPG), or the regional classification of Europe (31).

Finally, the lack of data about specialisation and economic flows should be addressed in order to reach concrete output and further urban investigation.

Even if “ teams were bound with the objectives of ESDP”, some possible contradictions between TPG reports are nevertheless underlined:

By Slovenia experts: one contradicting recommendation is with the 132 suggestion of support for spatial developments in corridors (European scale), which is not supported neither with findings nor with recommendations in this project .

By Ireland experts: about transport projects (121 and 211). The recommendations may favour polycentrim at the macro level but they may also lead to a tendency towards greater monocentricity at regional and local levels.

By Belgium experts: ESPON 132 (natural heritage) points out the dramatic impact of polycentric development on natural assets, especially through the development of transport corridors between potential high level MEGA’s if not concentrated in the main infrastructure corridor.

This critique on polycentrism is in contrast with the general pro-polycentrism discourse in the research of the other TPGs. Linkage should be done, e.g. with 111,112, 121 and 211.

Also, it seems that CAP (213) works against polycentrism and territorial cohesion, as it tends to favour the richer areas of EU, especially in pillar I.

Espon 211 (transport policy impact) points out the contradiction between on the one hand the economic efficiency of a EU transport strategy that promotes main national urban nodes in the East and, on the other hand, the negative cohesion impact that this kind of strategy would have at national scale.

This last point focuses on two main problematic aspects of polycentrism: the possible contradictions between cohesion and competitiveness objectives, and between polycentrism strategies implemented at different level simultaneously. Those two aspects are underlined by several experts in different parts of the reports.

Focussing on the ESDP: which policy recommendations correspond and which conflict with the ESDP's basic concepts?

The same comment than in the precedent subtitle applies here: ESPON TPG reports are bound to ESDP.

For France, polycentrism, as it is formulated in the European Spatial Development Perspective (ESDP), aims at linking together objectives which are still too often thought of in terms of mutual exclusivity, i.e. territorial cohesion and competitiveness (cf Lisbon strategy). Some authors add to the ultimate goals of polycentrism social equity and environmental sustainability (Gothenburg strategy). This will to reconcile two seemingly contradictory objectives, cohesion and competitiveness, could be fostered, according to the perspectives opened by the ESDP, through the development of « global integration zones » (GIZ) on the continent, apt to make the best out of their own endogenous potentials. ESPON report 111 clearly fits in this strategic vision of the construction of the European space, often reminded throughout the text.

For Sweden: ESDP goal of balanced competitiveness and promoting polycentrism to this end with measures at all level can be find extensively is most of the 111 policy recommendations. There is not so much about cohesion and natural resources and cultural heritage goals. However, linkage between competitiveness and cohesion can be found throughout the report, explicitly (meso level) or implicitly (micro level).

This “bounding” aspect sounds, in some comments, as an implicit critique...

For Slovenia the recommendations in the project are actually firmly rooted in ESDP, so there cannot be much conflict with the ESDP's basic concepts.

For Malta, ESDP scenarios illustrates the ideal situation: increased polycentricity at intra-urban level (micro) makes city regions stronger and therefore produces a more polycentric national or transnational urban system (meso). Stronger functional areas are then able to sustain a more balanced Europe in general, and to promote the emergence of the global integration zones (macro) in addition to the pentagon.

The concept of reinforcement of cities and regions as result of an integrated approach (...) is generally in line with ESDP's basics concepts.

For Poland, this report has taken for granted the approach of polycentricity selected in the ESDP, and uses it as a normative and descriptive concept. So the emphasis is on measuring (polycentrism), not on the evaluation of polycentricity.

To postulate that urban competitiveness can be enhanced by cooperation between cities is fully in line with ESDP, as well as the emphasis on development of linkages between cities, and on the promotion of governance practices for cluster of urban centres.

The authors of 111 can not be blamed for the fact that they failed to identify any region in the EU-27+2 periphery where integration of neighbouring cities could produce a critical mass sufficient for the emergence of a new GIZ.

Greece expert agrees with 111 that the ESDP's approach of polycentrism simultaneously at each level is rather flat. The different context, history, physical structure... should lead to differentiated policy recommendations and priorities

Structural funds should consider polycentrism a EU level as a strong target. At meso or macro level, polycentrism could be promoted by selective support of urban concentrations connected to the EU transport corridor.

A new spatial approach is needed, a new ESDP with enlarged Europe, and in the framework of ESDP objectives, including specific spatial priorities from a strategic point of view. This proposal will be echoed further by Sweden, CR and Malta.

The “implicit “ critique of a “perfect harmony” between ESDP and reports is becoming explicit when expressed by Ireland and Belgium experts:

for them, the main critique which could be addressed to the report is the lack of critical analysis of polycentric development. The reports provides interesting insights on the measurements of polycentrism, which was certainly needed and useful, but is poor on the relevance of polycentrism for social, economical and environmental matters. Indeed, Ireland and Belgian experts would like to insist on the fact that even the positive correlations between polycentrism and economic wealth and sustainable development (environment) are extremely weak, and that the correlation for equity (which is once mentioned as “spatial” and once as “social”) is negative. In each case, nothing is known about the causality.

It was not the subject of the 111 to put polycentrism in question, but as there is an attempt to find proofs of this relevance, analysis could have gone further on that point. This relevance is not proved by any scientific results, and proves even negative in relation with equity (still on non scientific result and correlation).

Ireland experts insist that one of the outcomes from the research should be a more critical assessment of the European urban system, and especially of the potential of the polycentric model as a planning tool throughout Europe.

The problem of “relevance” based on “correlations” will be echoed by other experts in different parts of the commenting reports (cf infra, Netherlands and Poland).

Still, even in strong harmony between ESDP objectives and the 111 report, some contradictions appear in the report, coming mainly from contradictions in the objectives of the ESDP

Belgium and Ireland underline

- contradictions between cohesion and competitiveness,
- contradictions when promoting polycentrism at each level, with the idea to promote strong GIZs to counterbalance the Pentagon; for instance, polycentrism at EU scale involves enforcing the eastern major urban nodes, while at national scale, polycentrism would mean enforcing secondary urban nodes.

The authors of the 111 report also underline the fact that, today, the general trend is towards monocentrism.

III] Methodological matters

a. Do you consider the project scientifically well grounded?

Almost everybody is welcoming an impressive, in quantity and quality, amount of work, giving a strong basis and reference for further studies on European urban system and evaluation of existing and potential polycentricity at different level.

Some strong comments and critiques are nevertheless present:

- About chapter 6 (empirical studies on network), considered as important and interesting, but arbitrary and not going deep enough (France, Ireland, Netherlands),
- About difficulties to work with FUAs, data gathering methodologies, the use of functional specialisation on some chosen criteria, which lead to some problematic results (Malta, Czech Republic, Poland, Ireland)
FUA and PUSH methodologies are commented with contradictory point of view, some welcoming PUSH (Slovenia), some disagreeing (Greece, Poland). France is mixed about FUAs.
- For France, Poland and Sweden, the analysis is too static, Greece insists also on future trends (cf supra).
- Slovenia, Ireland and Netherlands would welcome a clearer “line of reasoning”, the report suffers from being written by different teams.
- Belgium, Ireland and the Netherlands point out some specific mistakes which could be problematic if generalized
- Finally, Greece Poland and Slovenia regret that EU 27 + 2 is considered a too closed area.

Generally, the lack of usefull data is again underlined, and the authors of 111 remind the exploratory status of their hypothesis and methodology. Belgium experts insist that this should be

kept in mind when using the result of this report, and certainly if any maps would be used as a basis for further policy.

A general answer is yes

For France expert the 111 report represents a considerable contribution in terms of knowledge and prospective apprehension of the reality of the territorial organisation of the study area, Methodologically, the project is very well grounded (Czech Republic), both quantitatively and qualitatively (Sweden), The research presented here is of very good quality and wide scope. The results are interesting, and it is certainly an important and well grounded step in understanding and evaluating the reality and potentiality of polycentrism (Belgium).

A huge amount of information is handled in this project, and this makes the study one of the most important overview of European urban system as a whole. Most of the research is of very high quality, new concepts and typologies are introduced and well explained. Thresholds can always be a question of debate, but they are mostly well chosen, even if not always explained in details (Slovenia).

Polycentrism is a multidimensional concept, not easy to operationalize. Some structural aspects can be approached with existing theoretical concepts (central place, city rank size), difficulties appear when interrelations have to be measured, since relevant data are scarce and lacking comparability. To produce a composite index of polycentricity involves therefore a number of arbitrary decisions and simplifications. On all these aspects, the reports document an impressive effort. The comprehensive index of polycentrism is a new and consistent concept, even if some results appear in contradiction to common knowledge (for instance Denmark), due a.o. to the fact that the hierarchy of urban centres as central places for goods and services is not considered (Poland).

The scientific quality is really high and comprehensive. It has offered crucial tissue to all TPGs, although the city level is rather difficult, due to lack of data at NUTS 5 (Greece).

Analysis is of good quality, concepts are made operational in a understandable way, outcomes are summarized in understandable typologies. Generally, the report covers a huge amount of information about urban regions in Europe, and is useful book reference. Some comments must nevertheless be made (Netherlands).

Comments and critiques:

Methodology difficulties

France expert underlines that the study of some inter-urban networks (Chapter 6) is necessary, but that the work here does obviously not exhaust the topic of inter-urban networks; he points out also a too allusive approach of themes such as for example that of transport networks as material bases for the flows necessarily implied by any project of polycentric organisation of the European space ; but this theme is the topic of another ESPON project (1.2.1 report).

About the questionnaire on partnerships (intermunicipal cooperation), Malta points out that FUA are often a relevant socioeconomic level of analysis, but that they are few policies being implemented at that level. There is no formal structure of governance.

Problems also appear due to different data gathering methodologies, leading to problems when establishing trends on a regional and pan-european level.

For the Czech Republic, some further analysis could be done, especially concerning new EU member states in Central Europe.

Also, Czech Republic is a bit surprised by the large number of FUA in Hungary, compared to Czech Republic, Slovakia and Poland, and by the only one MEGA in Czech Republic, compared to the 8 in Poland, when it seems that mass and competitiveness of several Czech cities can be compared to those of the Polish cities

For Poland functional specialization, an important dimension of polycentricity, is thoroughly analysed, and a list of diagnostic indicators is identified. But the use of it for typology and classification is sometimes problematic, leading to inscript in a same category cities which should not. There are also some minor errors.

The general findings, however are relevant (very few top category MEGAs in the periphery).

Slovenia, Ireland and Netherlands *underline a lack of homogeneity*, of “line of reasoning”, due to the fact that chapters were written by different team, making the structure of the whole document not very clear.

Several experts comment on PUSH and FUA methodologies, with some contradictory point of view.

- Some welcome the “PUSH method, would like to promote it further, and disagree with FUA method:

Slovenia experts disagree with FUA method, since the selection of FUA is left to national level. This gives rise to many difference, and a wrong picture, as inputs from different countries are difficult to compare. To overcome this difficulty, as FUA and PUSH concepts overlap strongly, it might possible to get a better (comparable, more unified) picture of the morphology of the European urban system through the outstanding analysis that was done assigning the PUSH areas. PUSH centres should then be all urban centres (e.g. over 15 000 inhabitants)

- For others, the concept of PUSH is quite misleading, and can be counterproductive, as PUSH method, even if based on a functional centre, does not say a lot about relation:

Greece expert has objections to PUSH and PIA method (cf strategic reflections), but agrees that the 45 minutes isochrone is more concrete compared with the different definitions per country.

Further investigation on economic flows and specialization between cities and city network is necessary.

For Poland, PUSH and PIA are less useful analytical constructs (than FUAs). The zone of influence never approach the 45 minutes isochrone. PUSH and PIA reflect mainly variations in density of urban settlement, their typology again produce a number of paradoxical outcomes.

For Ireland there are inconsistencies between the PUSH and PIA outputs and the polycentricity index. The reliability of some of the outputs is challenged because of inaccuracies in the data used.

For France, the FUA typology has some advantages and disadvantages:

It avoids to limit the approach to a size criterion, but it could have been conceived to complement the list of criteria with other equally important criteria for an assessment approach of territorial influence of an agglomeration (with for example indicators of local governance, such as the degree of inter-municipal co-operation inside agglomerations, or in another domain, of the richness in cultural heritage, etc.). But the combinations of variables that are already taken into account still provide an important basis for the analysis of the European urban reality.

The proposed typological analysis however remains too static (cf also Poland and Sweden infra) to allow identifying all evolution potentials and local dynamics which should be taken into account in a prospective and long-term approach of the construction of polycentrism in Europe.

On another point, Greece, Poland and Slovenia regret *that EU 27 + 2 is excessively considered to be a closed territorial system* (they point out different focus: the analysis of settlement structure - main focus on geographical proximity and accessibility - , cross border metropolitan areas, future development, ... cf also infra).

Netherlands experts propose a quite detailed list of comment:

- They wonder about a lack of literature basis,

- they propose a reorganisation of the chapters for *a more clear "line of reasoning"* (cf also Slovenia) : how can morphological characteristics enable functional specialisation and formation of networks? And what role can administrative cooperation play to enhance this effect?

- They point out *the problem of the "relevance" methodology*:

the three indicators for polycentrism are clear, but the analysis about relevance of polycentricity is less adequate. Correlation between level of polycentricity and GDP per capita or with energy consumption is quite weak, and causal link cannot be deduced: it cannot be demonstrated statistically that more polycentrism leads to economic growth. There are too many other factors which can be responsible for economic competitiveness, social equity and environmental sustainability. Statistical correlations are not convincing.

This topic is strongly underlined also by Belgium; Ireland and Poland experts, cf supra and infra.

- Chapter 5 spatial analysis builds well on chapter 3, and is done carefully and meticulously; it is then inconvenient that the map of the MEGA typology does not match with the list of cities on pp 116-117 (also 11-13)

Also, this "potential for polycentricity" seems to overlap strongly the already acquired polycentricity measured in chapter 3, due a.o. to the methodology to identify them. It is no coincidence that map 5.15 looks similar to map 3.5.

- Chapter 6 *empirical studies on network* is an important addition, but it is difficult to find useful data on flow or contacts between urban areas . Also, the case studies are somewhat arbitrary. As this part is extremely important, it is a pity that the cases are explored more in depth (fortunately, annex A gives a good complement).

The conclusion from the aviation case study does not follow on the analysis.

More comments in the same line from other experts on that chapter are found infra.

Finally, experts from Belgium; Ireland and the Netherlands mention specific mistakes and incorrect information, which give rise to concerns about the reliability of the outputs: some results based on those information are obviously wrong and experts wonder how the TPG gathered such incorrect facts.

For instance, the FUA of Brussels has a population superior to one million. It seems quite contradictory with the FUA methodology to use the amount of population of the Région de Bruxelles-Capitale, which is a political, institutional and administrative boundary, but not a functional delimitation. Also, there are not 7 regional capitals (there are only three Regions). In Ireland, statement about higher education is wrong – there are more than four centres, and they all have less than 50 000 students. The report says the contrary...Other examples are given.

In general, Ireland experts are very critical of some aspects of 111 report, they are clearly disappointed by the outcomes, and worried by the methodologies and the information used in the report.

To conclude, as Belgium experts said, the authors themselves point out the lack of some (comparable) data, and the fact that some approximation at large level proved to be misleading when tested with the reality at the local level. They underline the exploratory status of their hypothesis and methodology.

The maps are made at a very broad scale, and based on data and indicators which are themselves sometimes delivered from approximate results from other research.

This should be kept in mind when using the result of this report, and certainly if any maps would be used as a basis for further policy.

b. Do you consider the relation between scientific results and policy recommendations strong enough?

About relations between scientific result and policy recommendations, comments are quite mixed:

- Some experts agree on a strong relation (Malta, Belgium, France, Greece, Poland), but criticize some of the recommendations themselves, mainly for not taking into account differentiated national situations and point of view. Poland insists on the risk linked to a functional specialisation of GIZ.

- Other experts are quite more tedious about a strong relation, at least for some part of the report, mainly on thematic and functional specialised urban networks, where data are missing (Belgium, France, Netherlands, Greece, Poland). Finally, Sweden, Ireland and Netherlands are quite doubtful about any relation between scientific result and policy recommendations.

Common critics about recommendations concern the question of the relevance of polycentrism, the methodology used to try to establish it (Poland, Netherlands, Belgium, Ireland), and the contradiction linked to the decision to foster polycentrism at different level at the same time (Belgium, Poland, Greece, Sweden).

A common recommendation proposed by most of the experts, and the authors of 111 themselves, is that more research is needed, as well as more data which can be used fruitfully. Another common recommendation is to elaborate a new common strategy for the enlarged EU.

Finally, Belgium experts ask a more general question about the “relevance” of policy recommendations in a scientific report.

Comments are quite mixed on this subject.

Some experts agree on a strong relation, but criticize the recommendations themselves:

Experts from Malta consider the relation between scientific results and policy recommendations strong, scientific results (data and interpretations) are used to formulate policy recommendations, which are addressed to cities, regions national authorities and the EU (To enhance economic integration, urban policies should focus on linkages between cities).

More concrete examples of advantage and bottleneck of intercity cooperation should be studied
The EU can contribute to more polycentric structure by agenda setting (for instance, encouraging national authorities and regional agencies to elaborate spatial development strategies, including transregional and transnational horizons).

For Belgium also, in general there is a (strong) relation, but sometimes only partly, for instance an interesting point raised by the research is the importance of the relational and functional aspects, but they recommend a geographic zoning based on PUSH and PIAs (functional and proximity criteria), were nothing is known about relations. The governance aspect would be very important here. Another interesting conclusion from the scientific study is that the periphery cannot grow enough on a population base alone to counterbalance the pentagon. In consequence, functional relations and specialisation should be the building block for polycentrism at EU level.

But for Belgium experts, the critic goes to another point: one question is missing here. Do member states want to promote polycentrism at national level, when this could generally weaken them?

The same can be said concerning the recommendations to invest on “linkage” between, and not on development of cities: this may be coherent with scientific result, but not adapted to the national wishes, which would want first to have strong cities. The question of implementation in national strategy should be addressed.

As France expert underlines it, the discussion should also concern the role which the report intends to confer to the MEGAs in building polycentrism, as main « counterweights » of the Pentagon (for those which are not already located inside it). Conversely, the potential role that intermediate cities, all classified in the second category, i.e. transnational/ national FUAs, could play seems underestimated and would in any case require to be better assessed.

Globally, the recommendations of the report can be summarised in considering that the principle is to view the ESDP as the « guideline » of the regional and territorial policies of the EU. But while the ESDP presented the Zones of Global Economic Integration as the main level for strategic thinking, ESPON report 111 invites us to consider the PIAs as spaces for reflection, but also for action, in order to re-balance the European urban system, and through it the whole continental territory. These recommendations are consistent with the analyses – and the analysis tools – proposed for the diagnostic. But their translation into operational terms at national scale poses a number of questions.

Greece insists on some recommendations:

Spatial priorities should be set out at national level (urban connectivity, synergies perspective). PIAs classification could be considered as a framework, but more criteria should be used, for instance proximity to transport corridors, specialisation advantages, cultural and natural heritage potentials, physical structures restraints, the promotion of innovative activities, knowledge economy....The concept of urban specialisation should be taken into account as necessary at each level.

Poland expert points out two conclusions of the report:

Preconditions for gaining additional potential through integration are more likely found in the core (Pentagon) than in the periphery.

Polycentrism in EU should be built upon functional specialisation of urban cluster: here, Poland's expert disagrees, as each existing GIZ performs a wide, if not complete, spectrum of function, and as specialisation involve the risk of strong instability in the long term.

Other comments are more tedious about a “strong” relation:

For Belgium experts, the network chapter gives an interesting illustration of some thematic networks but it is not very well integrated in the report, and it is not really convincing about a polycentricity without proximity. The authors themselves stress that further research is needed on that point.

Netherlands, Greece, Poland and France experts underline that aspect too:

For Greece, due to lack of data concerning functional specialisation of urban networks, the report suffers from some discontinuities between scientific results and policy recommendations. Example of specialized or thematic networks are insufficient to ground a scientific conclusion or a policy recommendation. Netherlands was also expressing critics on that point (cf supra), as well as Poland, Ireland and France (cf infra).

A very logic recommendations proposed by most of the experts, and the authors of 111 themselves, is that more research is needed, as well as more data which can be used fruitfully,

more knowledge, especially concerning the new member states, and the links between functional and morphological polycentrism (Belgium). This is also quoted by most of the expert in the need for further research. But Ireland underlines that a lack of data should not be used as an excuse to use meaningless data.

For Slovenia, policy recommendations are in fact hidden in chapters 2 and 8 – blurring the borders among analysis, conclusions and recommendations - and they are well grounded in scientific analysis. In chapter 9, the strength of relations between scientific results and recommendations is not equal on different spatial level, as information, quantitative or / qualitative are not always sufficient on each level. Meso level is the most well grounded, on micro level, qualitative information help to ground recommendations.

For Sweden the link between the findings and recommendations could have been clearer. The policy recommendations are very general and only implicitly related to the scientific findings. It would have been good to also make more directed recommendations also based on the typologies of actual or potential FUAs and MEGAs and more specific interventions to potential PUSH areas. There is a huge amount of relevant and useful descriptive material (mainly in appendices) which was not used to a large extent.

Finally, for Ireland the Netherlands, the answer is no. The report fails to prove that more polycentricity on European level leads to achieving the Lisbon/Goteborg goals (relevance of polycentrism). So there is no clear reason for promoting polycentricity on that level, a conclusion that the report confirms implicitly, as most policy recommendations aimed at stimulating cooperation on a regional scale. Implicitly also appears the question of the contradiction: how to create the benefit of concentration in a polycentric situation? (Netherlands). For Ireland, conclusions are contradictory, and not enough attention is given to alternatives to polycentrism.

Some common comments and critiques can be underline about the recommendations of 111 report:

The question of the “relevance” of polycentricity, and the methodology used in the report on this subject, is criticized by several experts, in different part of the reports.

Poland points out that confrontation between polycentricity index and policy objectives may reveal a positive association in some case, but is negative in other. In any case, there is no theoretical proof that such a relation is valid (there are number of variables other than polycentrism which can be responsible), and those results can not be the base for recommendations regarding spatial policy at a national level.

Belgium expressed the same critic, as well as Netherlands (cf supra)

Another common comment is the contradiction appearing when policies would try to foster polycentrism at different level at the same time:

For Poland, as a policy concept, polycentricity can refer to various levels on spatial scales, but it is generally not feasible to foster polycentricity at more than one level at a time, as promoting polycentrism at one level tends to bring a decrease of polycentrism at other levels. For instance, polycentrism at EU level would in fact reinforce capital cities outside the core area, hence having a concentrating effect at national level. Therefore, possible consequence and impacts of policies promoting polycentrism should be considered and monitored.

Belgium experts point out the same contradiction, (cf supra). For them therefore, one conclusion should have been more clear: strategies for polycentrism simultaneously at each level are not relevant, and even contradictory. EU should decide which level it wants to promote in priority.

Finally, a common recommendation from several experts ask a special but common strategy for the new EU countries to be defined (Czech Republic, Sweden, Malta).

Even if difficult, the elaboration of those vision, including regional level spatial vision, are extremely important for EU level, the formation of strategic policy document is in itself a key instrument of intercity governance and cooperation. National governments and EU should promote regional spatial strategies, explicitly focusing on enhancing urban functional complementarity. A set of guidelines for the understanding of polycentricity at the regional level would be necessary.

On a more general basis, Belgium experts put into question the relevance of “policy recommendations” in a scientific report: the idea of “policy recommendations” is maybe not suitable for a scientific report focusing on “potentials”. Certainly conclusions should be drawn, but is it then up to scientist to propose policies, or is it up to the political authorities to use reports and conclusions of the reports to elaborate proposals of policies? The latter appear more efficient and adequate. It would also allow scientific studies to be more critical about concepts and strategies, which is a common concern expressed implicitly by several experts when speaking about the “ESDP bounding” (cf infra).

c. Are the chosen core indicators and the measurements simple enough to be covered by other research teams in different areas (Nuts 2, or Nuts 3)?

Core indicators and measurements are considered simple enough (even too simple worries Ireland) to be used by other research teams, but with some restrains (Greece being the more negative) and carefulness.

In general, the answer is yes, with some restrains:

For Malta, Czech Republic, Slovenia the answer is yes, the core indicators seem to be very good, and indicators and typology from 111 are already used in almost all other projects.

For Poland polycentricity indices developed here are of general value, and can be used by others. However, their applicability at different spatial levels is limited and need to be carefully analysed. FUAs and MEGAs concepts should be further refined. Nevertheless, the idea to develop a European common definition of FUA has already a long and unsuccessful history

For Sweden: yes, except the 45 minutes isochrones for delimitation of PUSH areas, which seems difficult for team not dealing with transport indicators.

Belgium: yes, generally, but in some case, the methodology uses different level of hypothesis and exploratory measurements which should not be taken for granted.

For Ireland, the problem is that the core indicators may be too simple for the task too be addressed.

Greece expert is more negative:

According to the 31 evaluation it is not simple, mainly because of differences in national definition and data access. Indicators were produced through a combination of different European and national data sets, and in a pragmatic way for this report, as several data were lacking, or not comparable. But used at European level, results are robust enough.

The major difficulty was to find comparative data on flows or cooperation for any level. A number of qualitative data were used.

d. Focussing on the scale of analysis: did the scale of some data and indicators show to be misleading?

The same comments than in point c. apply for the scale of datas and indicators: the general answer is that they are good and/or interesting, but that they can be quite misleading and/or incorrect , and should be used carefully.

Once again, comments follow different degree of agreement and disagreement:

For the Czech Republic and Sweden the scale of analysis seems to be very good, the level of analysis is clearly defined for each chapter.

For France, for what concerns the data, the study suffers from difficulties inherent to the heterogeneity of national sources and to the lack of a genuine pan-European statistical system. In particular the use of data collected at NUTS 3 level concerning some indicators used to establish the typology of cities certainly constitutes an unavoidable way of doing, but at the same time a cause of approximation, as far as NUTS 3 aggregate urban but also rural spaces. Despite this factor of uncertainty, the considerable set of data processed for the whole study area, as well as the numerous cartographic representations which derive from them, nonetheless form beyond doubt one of the essential contributions of the report, whose richness also comes from an effort to renew the concepts.

The more general answer (Poland, Slovenia Greece, Belgium, Netherlands and Malta), is that some indicators are very good and/or interesting, but some others are quite misleading and/ or incorrect:

National urban system represent the most appropriate spatial level at which polycentricity is measured, Assembling database for 1595 FUA for EU 27+2 is an impressive achievement, even with problems of comparability.

Data on flows and networks were difficult to gather (cf 111 authors) and are partial and not quite representative. This indicated directions for future studies. (Poland)

From the huge amount of data handled in this project, there can certainly be some objections to particular points. An example given is in chapter 4.2, where some typologies are defined in relation to national total. Because of the very different sizes of countries, these data are in fact not comparable to each other, and the results shown on the map can be misleading (Slovenia).

Controversy exists about the 45 minutes isochrone for the selection of PUSH areas. The areas' classification has to be enriched with further dynamic criteria from cities typology (potential specialisation, cooperation network, regional position if any, ...) (Greece, cf also infra)

Sometimes it is a bit difficult to follow at which scale which part of the report is dealing. Also for Belgium, and for other small countries, some indicators are not relevant, or not showing anything (everything is covered with one symbol).

About indicators used for the FUA typology: the transport criteria is based on airport and harbour. This is not relevant to measure polycentrism at national (or infranational) level. (Belgium)

Malta, Ireland and the Netherlands point out negative aspects:

the scale of data and indicators is misleading with particular reference to NUTS 4 and 5 level (Malta).

The scale of the analysis and the choice of indicators led to some questionable results, some meaningless data were used, numbers have been used were ratios would have been more useful (Ireland)

The conclusive paragraph 4.3 is inaccurate, you can't total the scores for polycentricity in different sectors (example: Italy) as it is possible that the structure of a country is monocentric for each sector, while the central location differs for each sector. In that case, it is a matter of specialisation (complementarity), and it could still be polycentrism (Netherlands).

IV] Programming of further research

Points to be amplified further, Challenges for a future spatial development of (central) Europe:

Economic structures:

Geographical concentration of important economic activities (Malta)

Changes in economic structures: higher mobility, housing market evolution, new developments of settlements (Czech Republic)

Increasing disparities and segregation as a EU wide concern about cities and their potential to increase economic dynamics (Malta)

Relational aspect:

Cooperation or competition between member states and their regions (Czech Republic)

The actual relations between urban nodes on different scales (relational aspect is crucial for polycentricity) (Slovenia)

From morphological aspects, “Potential integration areas” exist at different scale (from intra urban to global level), and at each scale, relations matter. This project was focusing on polycentric integration at regional and interregional scale, so the bigger and smaller scales still remains to be investigated, may be separately. (Slovenia)

Demographic and migrations aspects

Demographic decline and immigration to Central Europe, include demographic parameter and their change, as well as international migration patterns (Czech Republic, Poland)

Depopulation of poor areas (Czech Republic)

Environment, natural and cultural heritage

Environmental concerns and the development of urban qualities as an asset in a sustainable development (Malta)

More is needed for linking polycentric development with cohesion and conservation of natural and cultural heritage (Sweden), Preservation of cultural heritage, taking into account settlement patterns, historical structures of settlements, cultural landscape and local tradition (Czech Republic)

To go on with a non static analysis of polycentrism

The results here are mainly based on static analysis, examination and evaluation of past trends and designing future projection would be needed (Poland), a temporal dimension is missing. Trends are a vital aspects when analyzing polycentrism, especially in new accessing countries in transition from a communist organisation (Sweden).

Some aspect of back casting and forecasting polycentricity are addressed in other ESPON projects (211, 113), but more is needed, for instance to use the building blocks of the 111 MEGAs analysis to examine changes in mass criterion, connectivity, competitiveness, and knowledge basis over some years to discern trends in the functional composition of the typology of MEGAs (Sweden). Greece also insists on that point (include strategic planning, future infrastructure, etc...), as well as France and Ireland (temporal and spatial dynamics of urban systems in Europe).

To include outside Eu+27 in the strategic reflection;

Attempts should be made to consider the EU 27+2 as an open system, i.e. including its major interactions on the global scale (Poland, Slovenia, Greece)

The need for more - comparable – data:

This is the most common comment, including the authors of 111 report. Belgium, Netherlands, Malta (cf supra),

Slovenia; one more challenge is the possibility to get comparable data, Poland; develop possibilities to collect comparable and relevant data on inter-urban flows and the networking activities,

Greece; The analysis of urban areas is based on intraregional scales data. There is an intense need of systematic gathering of data with adequate metadata, indicating differences from country to country. There is also a need for data on flows at intraurban level in order to promote the network dimension in European polycentric development.

The major necessity for further research should be covered in the field of economic flows and functional specialization between cities and city networks at a GIZ level.

Ireland insist on further work on the functional specialisation of different centres.

The contradictions of polycentrism at different level simultaneously:

For Sweden: A follow up project should deal with the problematic of achieving a multilevel polycentrism, to avoid that promoting polycentrism at one level would contradict it at another level. Belgium and Greece insist also on that point.

Belgium and Netherlands point out also the problematic of the objectives of competitiveness and cohesion.

Those two points lead to the more general question of the relevance of polycentrism, and a more critical approach to it, a subject already dealt with supra:

For the Netherlands for instance, the study of intermunicipal cooperation is useful (chapter 7), it shows that factors of success or failure are not primarily in the area of spatial proximity. More research should be made on that point, linking for example with chapter 5, trying to identify if cooperation is more successful in region with a high “potential for polycentricity” or a high amount of (realised) polycentrism than, in other regions.

This means in fact not taking for granted polycentrism as the ideal solution for more cohesion and competitiveness. The question of the “relevance” of polycentrism is addressed in different part of this report.

However, to go on that aspect, it was necessary first to have the possibility to measure polycentricity, at different levels, which this report provided.

Thus, the main questions which remain unanswered are (for Belgium, but also for Ireland, as expressed under strategic reflections) :

is polycentric development a real opportunity for developing the EU in a sustainable way?

is a polycentrism strategy relevant, for which objectives, and at which level?

is decentralization automatically linked with more well being? Or more competitiveness?

what is the possibility for politics to influence polycentrism?

and which level should be chosen in priority?

If the political aim is to promote global integration zones as an alternative to the pentagon, i.e. a polycentric development at EU level, then it seems that monocentrism at national level should not be denied, to have the possibility to reach a “critical mass”. This is already the

trend in each country, the report says. If the aim is to reach more cohesion, polycentrism at national level could be an advantage, but the report points on the negative correlation between equity and polycentricity... This should be further explored.

In general, Belgium experts suggest to further develop a strong scientific background on the advantage and drawback of polycentricity at each scale, on which EU strategies could be based.

Different experts are also asking a new spatial approach, a new ESDP, with enlarged EU (Greece, Sweden, Czech Republic, Malta)

All these issues should be incorporated in the next ESPON programme.

Belgium experts would also like to insist here on the fact that, in future, there should be the possibility for research to go deeper. It is a general problem for all ESPON projects: they have to cover a huge area (EU 29) in a short time and with a small budget.