POLICY CONVERGENCE IN EUROPEAN EMERGING POLITIES: A CONTENT ANALYSIS ON SELECTED CROSS-BORDER COOPERATION STRUCTURE

Valentin COJANU*, Alexandru GAVRIS**, Raluca POPESCU***

Abstract: The paper starts from the hypothesis that the viability of emerging territorial units depends on the way their members reach a converging approach towards issues of common concern. Based on previous results, we rank ten selected cross-border cooperation structures (CBCS) according to their institutional strength as a measure of assessment of their viability as polity. Data are then collected for each CBCS for three areas of cooperation, i.e. economy, society, and environment, in the form of policy documents. The analysis uses text mining techniques to explore the content of documents on each selected region and on each areas of cooperation. The results are further explored inside a thematic mapping of clusters, which is analysed through content analysis. The goal is to investigate and assess what is the cross-border cooperation level of policy convergence inside EU selected case studies, based on the emerging themes.

Keywords: European integration; policy agenda; polity

Introduction

The increase of cross-border initiatives has become an established feature of the European economic space. From small to large-scale trans-border projects, setting-up nearly accomplished self-contained economies asserts precedence in opening up new vista for research: How much will it change the impact of nationally devised economic policies? Will it strengthen or weaken instead the role of the nation-state? The pace of accomplishing the EU single market, will it accelerate as a result? In this paper, we argue that some answers may result from an investigation as to the existence of a consensual view of policy-making.

Inside the European Union, there is a developing process of cross-border cooperation maintained by actors with a keen interest to spur mutual benefits that arise from cross-border externalities and spillovers or linkages of all kind: economic, technological, social, cultural, educational, environmental, etc. From

* Professor, Bucharest University of Economic Studies, Romania; e-mail: cojanu@ase.ro.
**Lecturer PhD, Bucharest University of Economic Studies, Romania; e-mail: alexandru.gavris@rei.ase.ro.
*** Associate professor, PhD, Bucharest University of Economic Studies, Romania; e-mail: raluca_1st@yahoo.com.
this process results the need of coordinated interventions of countries in regional policies’ design and implementation and, even more, the need of an adequate territorial organization of authority (ESPON, 2010). The question is which institution and from which side of the border could coordinate the activity of cross-border agglomerations that developed as a concentration of economic activity around border areas.

According to Perkmann (2007, p. 254), “a cross-border region is a territorial unit that comprises contiguous sub-national units from two or more nation states”. Cross-border cooperation structures (CBCS) are organizations that may or may not hold legal personality and which are founded to manage cooperation projects of the members of a cross-border region. CBCS have limited authority in relation to national states, which differs according to the form of organization: association, charter, intergovernmental commission, European Grouping for Territorial Cooperation (EGTC), etc. (ESPON, 2010). However, they play an important role in coordinating cooperation and representing the interests of the respective region (AEBR, 2008). The collaboration efficiency of the initial institutional design is essential for the later development of the CBCS.

In particular, we start from the hypothesis that the viability of the emerging territorial units depends on the way their members reach a converging approach towards issues of common concern. Based on a previous research, we rank ten selected cross-border cooperation structures (CBCS) according to their institutional strength as a measure of assessment of their viability as polity. In this paper, we test the hypothesis that policy consensus among the members of a cross-border cooperation area may be a condition for deeper regional integration. While, structural integration is considered more advanced than simple coordination of certain policies, we believe that the emergence of new cross-border cooperation structures may diminish the role of the nation state to different levels according to the extent to which trans-boundary governance extends its prerogatives. But, before CBCS gain sovereignty, there is a certain parallelism and coordination between the policies of the members with the role of supporting initiatives of cooperation in different domains and between different kinds of institutional or private actors, existent networks and functional linkages which can produce important spillovers and enhance economic competitiveness.

We attempt to identify these common views in a case study that includes several CBCS in the European Union. Data are collected for each CBCS for three areas of cooperation, i.e. economy, society, and environment, in the form of policy documents. This material should both come from an authoritative source and represent the interest of all participating members in all three areas. We search for expressions of political consensus or conflict within policies, objectives, proof of actions, opinions, etc. that appear in a set of documents (issued by the authorities of each member) that we collected by a pre-established methodology.

The analysis consists in extracting meaningful information from respective documents to explore the strength of cross-border cooperation. Besides the visible links among CBCS, there is a much hidden knowledge inside the documents which create, manage and shape the future of regional structures. In our research, we
deploy text mining techniques to explore the content of documents on each selected region and on each areas of cooperation. The results are further explored inside a thematic mapping of clusters, which is analysed through content analysis. The goal is to investigate and assess what is the cross-border cooperation level of policy convergence inside EU selected case studies, based on the emerging themes. We try to use a balanced quantity of information from each member and in each of the three directions of cooperation: economic, social and environmental protection. The selected cross-border cooperation structures are very different in terms of size, autonomy, political organization, institutional level, specialization and with a variety of public and private actors involved, which all seek to channel cooperation in one direction or another, facing the “challenge of being divided across two or more sovereign nations, with different governance systems and different strategies” (Anderson, 2011, pp. 492). Using this variety of data, we expect to find general conclusions about the role of cross-border externalities on policy coordination and the effect of policy coordination on the sustainability of the territorial unit.

1. Theoretical framework

Trade liberalization and economic integration in the European Union have led to shaping numerous cross-border regions. Due to the new business networks and cooperation opportunities the economic space is transformed and national borders come to play a different role. Hirsch (2009) observes the new role of boundaries as a ‘place and moment of transition’, while the increased cross-border flows lead to a deeper regional economic integration and socio-spatial changes (p. 131).

The concept of borders is vital in discussing cross-border cooperation. Throughout time, the meaning of borders has always changed. Even though there never existed a full agreement regarding the purpose, form and function of borders, until recent time they were regarded mainly as ways to establish the territory of nation-states (Brunet-Jailly, 2012). But this understanding of borders has changed dramatically within the last few decades, mainly due to the process of globalization, which led to increasing global integration of various interests. Therefore, in achieving the goals of cross-border cooperation, namely to ease the barrier effect, borders must transmute from lines of separations into a communication and healthy relationship between neighbours. That is, one must look beyond the mere territorial frontiers. Cross-border cooperation leads to the formation of regions and territories that are essentially a manifestation of functional cooperation, regardless of the territory of sovereign nation states, while the territorial limit will be determined by functionality (Ohmae, 1990). “Borders today are aligned by both globalization and localization. That is, boundaries are defined by and operate in a continuum of local global activity, and one needs to consider the parallel processes at both ends of the spectrum in order to understand the impact of boundaries on society in space.” (Konrad, 2006).

As Cojanu (2013) points out, an optimal context for market integration is confined to a cross-border region where jurisdictions are willing to share resources
with other members, which will lead to externalities and economies of scale, being a mutual benefit for the parties involved.

Beyond representing territorial limits and institutional separation, the concept of borders brings about the discussion related to geographical and institutional proximity between neighbours, treating regional communality as a competitive asset (the main purpose of cross-border cooperation structures). Cojanu and Robu (2014) analyse how the advantage of geographic proximity can be harnessed within a common institutional cooperation framework implementing projects in different thematic areas in several CBCSs. Their findings confirm the existence of a good level of both types of proximities as a condition for positive results of cooperation and development and that a strong institutional cooperation leads to a strong cohesion. Moreover, to maximize the advantages of cross-border cooperation, countries must have a “robust political economy” (Schoon, 2013), which describes an economy that copes well with different problems arising from cross-border exposure. Institutions and institutional frameworks do influence cross-border coordination, its degree depending on each country’s historical legacy (Schoon, 2013).

The development of cross-border cooperation structures has been quite remarkable and occupies a vast space of analysis in the economic literature. We choose to concentrate on issues regarding policy convergence and the way it is seen by institutions that govern cross-border regions in order to support the hypothesis that functional linkages must supported by a good institutional design to obtain a good cohesion.

Several authors focus on the political coordination of the members of a transboundary region and the way it results in diminishing national authority: Ohmae (1996), Jerneck (2000), Anderson (2011). This phenomenon has a two-fold consequence. On one side it means restricting its sovereignty (Hlatky, 2012) and, on the other side, it empowers CBCS to exploit their competitive advantage. While national decision makers agree to cooperate under a common agenda with their neighbors, they realize that new externalities arise (Cnossen, 2003). Furthermore, supranational institutions are often created, but in other cases it’s enough to give more decision power to local governments (Chen, 2005).

During the continuation of the academic debate, institutions express their different opinions and draw different forces which either stimulate or limit cross-border cooperation. We find examples of reluctant vision of an advanced form of integration in NAFTA, where the USA insist on border security (Hlatky, 2012) and Canada and Mexico fear of cultural and political domination by the United States (Arndt, 2006). It is also important to mention that the integration process was adapted to particular unexpected events happening over time. For example, Hlatky (2012) mentions the policy innovation across Canada – US border after the terrorist attacks on 9/11 2001. New security measures were introduced, but changed and improved over time in order to simplify the border crossing procedures and to reduce costs. Canada - USA cooperation is the result of a functional relationship as both countries responded to border policy challenges, even if each one has different priorities, Canada being more focus to obtain improvements in trade Hlatky (2012).
Although bilateral trade and cross-border production sharing inside NAFTA are of great interest to decision factors from all member states (Anderson, 2011), political, legal, social and institutional characteristics impede measures for a more integrated form of cooperation similar to the European Union (Arndt, 2006). Arndt (2006) argues that the three countries that form NAFTA have done little to build on the initiative they started years ago and that the benefits it has delivered did not reach the expectations, while costs have been larger than anticipated. Meanwhile, particular cross-border regions with a strong cultural identity, such as Cascadia, managed to reach a very advanced form of integration without much national support and even began striving for independence (CascadiaNow, 2014).

The pros and cons of greater economic cooperation (moving towards a monetary cooperation) continue to be debated in North America. Silvers (2000), focusing on short term effects, expressed his concern regarding the economic linkages between the adjacent states of Arizona in the US and Sonora in Mexico, as the Mexican economy is more vulnerable to exchange rate instability and gains less from the trans-border cooperation. Nicol and Townsend-Gault (2005) believe that European transnationalism is far ahead NAFTA’s integration as the European Union has deeper roots, greater currency and more political will. Nevertheless, the European Union might be a more advanced form of integration compared to NAFTA, but even inside the monetary union there is place for improvement. For instance, lack of coordination between the fiscal policies in member states leads to bottlenecks that restrict the functionality of the common market (Cnossen, 2003).

The differences between the cross-border cooperation vision in North America and in the European Union reveal two types of approaches. The first is born of particular initiatives and institutions adapt their regional policies to encourage cross-border cooperation (institutional integration follows economic integration), while in the second one, the economic integration is a result of institutional efforts. In the first case, there are cross-border networks supported by a certain policy coordination, while in the second case, supra-national institutions with a stronger degree of authority prevail (Brunet-Jailly, 2012). Our paper explores whether a strong institutional setting of a cross-border cooperation relationship determines a good cohesion, comparable to a national state.

In some cases an improper institutional level is the cause that impedes integration. Analyzing the organization of authority, scholarly attention is drawn by the question whether a bottom up or a top down governance would be more efficient. Schoon (2013) emphasizes that both strategies have advantages and disadvantages and that a decision should be made at a level matching the scale of the problem. Top-down institutional structures have the benefits of a broader viewpoint and more resources, but are more rigid compared to bottom up approaches which can adapt faster. Ulmwengu1 and Sanyal (2013), for example, found positive results of cooperation at governmental level materialized in adopting a common agenda and harmonizing legislation in an agglomeration in Africa specialized in agricultural production. In the absence of such a top-down coordination, other regions find their ways towards integration on regional and local level, such as the aforementioned region of Cascadia.
Coming back to the American experience, it is important for CBCSs in the European Union, to remark that functional linkages are possible even in the context of limited structural integration, but some level of policy coordination is necessary. In fact, political consensus is so important, that in the case of remote areas, the disadvantage of geographic distance can be reduced through policies aimed at reducing transaction costs or facilitating business relations (Vernon Henderson et al., 2001). Political coordination comes mostly when the interests and aspirations are divergent and it is done for mutual benefits through imposed political decisions (Talbot, 2007). Afterwards, disagreement might continue, as opinions and interests do not change, which means the terms of cooperation are a permanent subject to negotiations. Nonetheless, opening up public and private interests to as many functional cooperative networks as possible within adjacent economic spaces is the second best solution until political interests eventually become subdued by economic rationality (Cojanu, 2012).

Determining the level of consensus or conflict between authorities in cross-border cooperation regions is, to our knowledge, a unique initiative. We establish this as the main purpose of this paper as we believe that the more the cooperation between the members of a cross-border region is based on agreement and setting common goals, the greater are its chances to take advantage of their common economic and social heritage and transform the region into a strong integrated pole of competitiveness.

2. Methodology

Recent advancement into linguistic and computational models revealed solutions for analyzing political discourses (Albaugh et al., p. 20). Researchers involved in the field argue that the meaning of communication frames itself on words, among which complex relations exists. Moreover, the text “is an integral part of its context and the formalization of contextual patterning of a given word or expression is assumed to be relevant to the identification of the meaning of that word or expression” (Tognini-Bonelli, 2001, p. 4). The analysis of words from various corpora of text showed clusters with different relations in which the meaning of the words depends on its neighbors. This hierarchic association of words and spatial proximity within a sentence or a paragraph determines semantic fields, seen as maps or graphical charts. The abstract representation of language is transferred into models that suggest patterns of co-occurrence, indicating the semantic clustering. Such patterns indicate potential themes representative for the field of inquired corpora. Among the solutions proposed to analyse texts and words, we opted for content analysis, given its potential to develop “systematic, objective, quantitative analysis of message characteristics” (Neuendorf, 2002, p. 1).

Analyzing the patterns and reviewing the frequency of words are parts of content analysis which we used to gain understanding over the proposed hypothesis. While content analysis comprises many other steps, in this paper we focused on exploring the themes revealed by words co-occurrence from each of the corpora that may indicate models and strength of the three directions of cooperation. The rationale is that if words specific to the three areas of cooperation appear well structured, this indicates their
respective directions and the importance of cooperation. But before analyzing the content of the texts, we had to collect relevant materials on trans-border cooperation. Based on previous researches and methodological inquires, we opted to mine the web to extract the texts. More specifically, the official web-sites of CBCSs were crawled to download all the text uploaded and considered to be official documents. Because not all of the CBCSs sites, which we first took into consideration, contained enough documents, only five regions remained for analysis, those which have relevant and diverse official documents uploaded on their website: Council of the Baltic Sea States, Greater Region, Nordic Council, Oresund Region and South Eastern European Region. The grouping of text into categories according to the three directions of cooperation involved reading of the documents and consultation among the members of the team. After these steps, the relevant texts (Table 1) of each category supported data preparation to uniform various expressions that might be considered individual words and to clean irrelevant information (like bibliography, web-links). To obtain the co-occurrence maps we pre-processed each corpora by using a stop words list (common English words and country names) and eliminating w-words and prepositions from analysis using as software KH Coder (Higuchi, 2014).

Table 1. The number of CBCS documents used in the content analysis

<table>
<thead>
<tr>
<th>CBCS</th>
<th>Economic</th>
<th>Environment</th>
<th>Social</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baltic Sea Region</td>
<td>25</td>
<td>19</td>
<td>62</td>
</tr>
<tr>
<td>Greater Region</td>
<td>13</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Nordic Region</td>
<td>9</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>Oresund Region</td>
<td>16</td>
<td>22</td>
<td>5</td>
</tr>
<tr>
<td>South Eastern Europe Region</td>
<td>10</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: author’s calculations

3. Results

Among the regions, frequency of words indicates the major elements among which the policy themes are structured. Because we analyse 5 regions, for each of the three dimensions of political cooperation, the frequency of words is limited only to the top 10 words. Differences in frequency of words vary across regions and dimensions. Words show the strong focus on the identity of the region, underlined by corresponding words and the dimensions on which the space is perceived through cooperation. The understanding of spatial relations is emphasized from economic corpora through words like project and area in the case of Baltic Region, region and centre for Greater Region, area and program for Nordic Region and SEE, region and development for Oresund Region. These basic findings of words frequency indicate the functionality of the regional cooperation and the way in which it is supposed to be developed. The other two corpora for each of the five regions suggest well framed paths of actions, which are better understood from their respective co-occurrence maps (Annexes). Moreover, elements of cooperation within the region emerged from sorting the top 10 words of each region to see which the indicators for common elements are. As expected, words like development, project, region, area, country, policy and program advocate that cross-border cooperation starts with project development within regions or specific
areas, given the country will and interest to establish common policies or programs. The orientation of environment and social dimensions reveals particular directions, although they are connected to the main words identified above. Another preliminary finding emerging from the frequency of words is that the identity of the region is well structured and supported on all the tree dimensions by corresponding words.

**Table 2. Main words’ frequency in each CBCS**

<table>
<thead>
<tr>
<th>Baltic Region</th>
<th>Economic</th>
<th>Frequency</th>
<th>Environment</th>
<th>Frequency</th>
<th>Social</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>project</td>
<td>2219</td>
<td>project</td>
<td>892</td>
<td>child</td>
<td>417</td>
<td></td>
</tr>
<tr>
<td>area</td>
<td>1726</td>
<td>waste</td>
<td>715</td>
<td>social</td>
<td>311</td>
<td></td>
</tr>
<tr>
<td>development</td>
<td>1706</td>
<td>BalticSea</td>
<td>660</td>
<td>labor</td>
<td>255</td>
<td></td>
</tr>
<tr>
<td>BalticSea</td>
<td>1114</td>
<td>ecovillage</td>
<td>649</td>
<td>project</td>
<td>254</td>
<td></td>
</tr>
<tr>
<td>policy</td>
<td>1091</td>
<td>HELCOM</td>
<td>601</td>
<td>civil</td>
<td>243</td>
<td></td>
</tr>
<tr>
<td>BalticSeaRegion</td>
<td>987</td>
<td>management</td>
<td>576</td>
<td>country</td>
<td>233</td>
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<tr>
<td>impact</td>
<td>967</td>
<td>EuropeanUnion</td>
<td>431</td>
<td>union</td>
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<td>planning</td>
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<td>BalticSeaRegion</td>
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<td>402</td>
<td>market</td>
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<table>
<thead>
<tr>
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<th>Economic</th>
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<th>Environment</th>
<th>Frequency</th>
<th>Social</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>region</td>
<td>709</td>
<td>cross-border</td>
<td>130</td>
<td>cultural</td>
<td>1539</td>
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<td>401</td>
<td>region</td>
<td>109</td>
<td>ECOC</td>
<td>1398</td>
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</tr>
<tr>
<td>GreaterRegion</td>
<td>339</td>
<td>GreaterRegion</td>
<td>98</td>
<td>program</td>
<td>753</td>
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<td>development</td>
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<td>actor</td>
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<td>mobility</td>
<td>666</td>
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</tr>
<tr>
<td>center</td>
<td>254</td>
<td>policy</td>
<td>75</td>
<td>event</td>
<td>664</td>
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<tr>
<td>cross-border</td>
<td>250</td>
<td>network</td>
<td>73</td>
<td>project</td>
<td>633</td>
<td></td>
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<tr>
<td>metropolitan</td>
<td>188</td>
<td>transportation</td>
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<td>european</td>
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<td>governance</td>
<td>56</td>
<td>city</td>
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<tr>
<td>CBPMR</td>
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<td>public</td>
<td>55</td>
<td>activity</td>
<td>413</td>
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</table>

<table>
<thead>
<tr>
<th>Nordic Region</th>
<th>Economic</th>
<th>Frequency</th>
<th>Environment</th>
<th>Frequency</th>
<th>Social</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>area</td>
<td>882</td>
<td>Nordic</td>
<td>641</td>
<td>municipality</td>
<td>249</td>
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</tr>
<tr>
<td>program</td>
<td>634</td>
<td>research</td>
<td>504</td>
<td>social</td>
<td>245</td>
<td></td>
</tr>
<tr>
<td>Nordic</td>
<td>558</td>
<td>project</td>
<td>394</td>
<td>country</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>marine</td>
<td>412</td>
<td>cooperation</td>
<td>349</td>
<td>project</td>
<td>174</td>
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<tr>
<td>energy</td>
<td>380</td>
<td>innovation</td>
<td>258</td>
<td>policy</td>
<td>166</td>
<td></td>
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<tr>
<td>management</td>
<td>356</td>
<td>program</td>
<td>255</td>
<td>welfare</td>
<td>166</td>
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<tr>
<td>market</td>
<td>314</td>
<td>region</td>
<td>250</td>
<td>model</td>
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<td>NordicCountries</td>
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<td>planning</td>
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<td>funding</td>
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<td>labor</td>
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<td>spatial</td>
<td>280</td>
<td>committee</td>
<td>239</td>
<td>Nordic</td>
<td>133</td>
<td></td>
</tr>
</tbody>
</table>
Figures 1-15 (annexes) revealed the main themes for each region and the possible relationships among them. The structure of the networks emerged from selecting top 100 words and using random-walks option to represent the communities, option that allowed a better structuring of the clusters (Aggarwal, 2011). The position of clusters is not relevant, only the size of the circles and the lines among them. In the resulted maps, circles represent themes that have various importance, based on their size, while the line representation indicates the strength of association inside a cluster and the relative connection to other themes. All these allowed a deeper understanding of the cross-border cooperation themes, added to the initial exploration of key words frequency. Furthermore, co-occurrence analysis revealed consistency with the initial findings, but suggested in-depth results. Next we present the results for each region.

The Baltic Region economic clusters suggested the intensity of developing projects at different scale, involving the different structures (CBSS, HELCOM) specific for the organization. They focus on strengthening the cooperation by acting on the Baltic Sea as a complex system, fact suggested also by the environment map. In the case of environment and the social map, the issues are
more specific (ecological structures, marine protection, social development, child security), but they increased the understanding about the initiative of cooperation.

Situation of Greater Region identified that for economic dimension the regional theme is well developed, connected to the cities theme among which cross-border cooperation is high. The economic perspective indicated that cooperation is related to research and industry partnership. These themes showed continuation within externalities map, transportation distinguishing as the main theme, but one strongly related with the previously mentioned. The same case is for social map, where the two main clusters (culture and artists mobility) indicated additional themes of cooperation in the region.

The Nordic Region cooperation recorded a complex structure for all of its dimensions, being characterized by marine management, energy issues and unemployment for economic part, infrastructure and organization issues for externalities, while social showed the main themes focused on urban challenges, welfare and increasing social challenges.

Oresund Region analysis revealed strong relations among the development theme that expand over cross-cooperation theme and its structure. Moreover, the region indicated the importance of cross-border cooperation in the externalities map, where it was revealed as one of the central themes, alongside spatial development through transportation and business. A third theme emerged from externalities concentrated the words within an environmental framework. The same themes continue in the case of social co-occurrence map, energy and environment challenges revealing themselves as important.

The case of SEE Region showed that the project is at the core of the map, being very populated with connecting words based on partnership, cooperation and development at scale. Other elements from the economic map did not appear important, their distribution and connectivity indicating emerging elements in the policies of the region, but that were not enough developed until the date of documents collection. It is a situation similar for externalities where only one clusters dominates the map, the one of regional identity. Social dimension disclosed the importance of cultural heritage theme, connected to the CULTEMA project acting over environment, seen as a part of it.

All the results emerged from words frequency and co-occurrence maps indicated a well framed image of each region with some persistent themes within the dimensions of regions. Their relevance to policy convergence in European emerging polities is discussed in the next section.

Conclusions

In this paper, we collected official documents in which we identified the common language of authorities that determine the cooperation activity of selected cross-border regions. The clusters of common words and expressions that we have found in political speeches, opinions and CBCSs’ goals and actions confirm our hypothesis that a good cross-border coordination of policies leads to an increased sustainability of the territorial unit.
Results show that there are numerous words that appear at a high frequency and that many of them are repeated across the three directions of cooperation within the same CBCS or across different CBCSs. Also, connections between words appear to be strong and the distance between them within a paragraph is small, which suggests that they are used in similar contexts and that there is a common speech and a good coordination between the actors and decision factors of the CBSS.

Repetition among several documents and paragraphs of words like ‘actions’, ‘activity’ and ‘results’ show an advanced level of implementation of projects and the preoccupation to monitor and evaluate their achievements. The most frequent expressions that were found in all CBCSs refer to official names of organizations, ‘region’, ‘projects’, ‘governance’, ‘policy’, ‘development’ and ‘cooperation’ showing an intense preoccupation for a formalized relation of cross-border cooperation and for a careful planning of the objectives and their achievement (‘impact’, ‘planning’, ‘implementation’, ‘management’). The institutional level of actors involved in cooperation is also discussed in some CBCS using words like: ‘governance’, ‘local’, ‘transnational’, but it is less frequent topic of discussion.

Another objective of this research was to identify the functional linkages within a CBCS and the main cooperation policies. Dense occurrence of words which designate themes of cooperation shows a high interest for the respective themes. Also, the fact that they are part of large clusters of words with strong connections between them indicates an intense preoccupation for those themes that were described in the previous sections.

The existence of common language throughout the three directions of cooperation shows that selected regions are well integrated (possibly also the reason why we found more official documents for these regions) and there is a good coordination between the policies inside that CBCS. It also suggests the acknowledgement that social and environmental development is strongly connected to economic development (although we most of the common themes were identified between the society and environment topics).

References

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ESPON (2010), METROBORDER. Cross-border Polycentric Metropolitan Regions, Luxembourg.
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Annexes

Figure 1. Co-occurrence maps of cooperation themes in the Baltic Region – economic dimension

![Economic Dimension Co-occurrence Map](image1)

Figure 2. Co-occurrence maps of cooperation themes in the Baltic Region – social dimension

![Social Dimension Co-occurrence Map](image2)

Source: own computations
**Figure 3.** Co-occurrence maps of cooperation themes in the Baltic Region – environmental dimension

**Figure 4.** Co-occurrence maps of cooperation themes in the Greater Region – economic dimension
Figure 5. Co-occurrence maps of cooperation themes in the Greater Region – social dimension

Figure 6. Co-occurrence maps of cooperation themes in the Greater Region – environmental dimension
Figure 7. Co-occurrence maps of cooperation themes in the Nordic Region – economic dimension

Figure 8. Co-occurrence maps of cooperation themes in the Nordic Region – social dimension
Figure 9. Co-occurrence maps of cooperation themes in the Nordic Region – environmental dimension

Figure 10. Co-occurrence maps of cooperation themes in the Oresund Region – economic dimension
Figure 11. Co-occurrence maps of cooperation themes in the Oresund Region – social dimension

Figure 12. Co-occurrence maps of cooperation themes in the Oresund Region – environmental dimension
Figure 13. Co-occurrence maps of cooperation themes in the SEE Region – economic dimension

Figure 14. Co-occurrence maps of cooperation themes in the SEE Region – social dimension
Figure 15. Co-occurrence maps of cooperation themes in the SEE Region – environmental dimension

Source: own computations