City branding in polycentric urban regions: identification, profiling and transformation in the Randstad and Rhine-Ruhr

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ABSTRACT
In polycentric urban regions several distinct cities, none of which is dominant, cooperate and compete with each other to attract inhabitants and firms. In such settings city branding strategies do not solely affect one city, but the entire region. We examined how city branding in the face of ecological modernization, that is, delivering higher added economic value, while lowering environmental impacts, is playing out in the Dutch Randstad and the German Rhine-Ruhr. Our findings show that regional identity formation occurs at the sub-polycentric urban region level, coinciding more with (historical) economic profiles than with planning imaginaries. The Dutch cities profile themselves more along the lines of ecological modernization than their German counterparts. Differences between subregions within each polycentric urban region are also noticeable, where more industrialized regions, such as the Ruhr or southern Randstad focus on ‘green’, ‘liveable’ and ‘knowledge-oriented’, while cities with stronger knowledge-intensive sectors portray themselves as ‘smart’ or ‘sustainable’. Cities generally substantiate their profiles through projects, but a significant gap persists between reality and aspirations for improved environmental conditions. This is especially true for the Dutch cities, where many claims, but little visible action can be observed.

1. Introduction
For a sustainable city we need to anticipate climate change. We make the air, soil and water cleaner, we make the city greener, more robust, quieter and more energy efficient; we optimize the use of scarce land and we switch to sustainable energy and water resources. (Amsterdam, 2011)

With its ‘Structural Vision Amsterdam 2040’, the city of Amsterdam emphasizes its aim to ‘develop further as the core city of an internationally competitive and sustainable European metropolis’. The city’s ambition is to become a smart global hub and it aspires to reduce its CO2 emissions by 45% in 2025 compared to 2012 (Amsterdam, 2015a).
Until 2020, the climate-protection and low-energy city of the future is being developed in Bottrop. [...] Bottrop as an exceptional model city consequently gains the character of an international role-model. (Bottrop, 2015a)

In 1300 pages the Masterplan InnovationCity Ruhr elucidates strategies and projects that enable Bottrop to reduce its CO₂ emissions by 50%, while simultaneously creating a greener and more liveable environment for its citizens (IC Ruhr, 2014). Energy-efficiency measures, climate-protecting energy generation and eco-friendly mobility will be developed in a joint effort of politics, administration, businesses, associations and citizens (IC Ruhr, 2014).

These examples are evidence of the vital role attributed to cities in reconciling economic growth and environmental protection (Bulkeley & Betsill, 2005; Satterthwaite, 2010). The notion of ‘ecological modernization’ has been brought forward by academics since the 1980s (Jänicke, 1993; Mol & Spaargaren, 2000). Its fundamental premise is that ‘policies for economic development and environmental protection can be combined with synergistic effect’ (Gouldson & Murphy, 1996, p. 11). In addition, cities have to remain competitive in an ever-increasing globalized world. Balancing these priorities, cities have to reinvent the essence of what defines them, and this has led to a plethora of new city branding and marketing concepts. For an in-depth treatment of categories such as ‘intelligent’, ‘smart’, ‘sustainable’, ‘eco’, ‘low-carbon’, ‘knowledge’, ‘green’, ‘liveable’, etc., the reader is referred to (de Jong, Joss, Schraven, Zhan, & Weijnen, 2015).

While the background of the two example cities above is very different – Amsterdam, capital of the Netherlands and a well-known international city, and Bottrop, one of the smallest cities of the former ‘rustbelt’ of the Ruhr area in the western part of Germany – both are positioning themselves as front runners in ecological modernization. However, the two cities are not the only ones. They also have in common that they are part of bigger, regional metropolitan entities, the so-called polycentric urban regions the Randstad in the Netherlands and the Rhine-Ruhr in Germany. Within these two polycentric urban regions other cities, such as Utrecht or Rotterdam for the Dutch case and Essen or Cologne in Germany, also claim to be sustainable, green, smart and attractive.

In fact, both the Randstad and the Rhine-Ruhr are considered prime examples of such polycentric urban regions. These are defined as regions consisting of administratively and politically distinct cities, lacking a clear leading city and not differing too much in terms of economic importance, located in reasonable proximity (mainly within maximum commuting distance) and being well-connected through infrastructure (ESPON, 2005; Kloosterman & Musterd, 2001; Lambregts, Kloosterman, van der Werff, Roling, & Kapoen, 2006; Meijers, Hollander, & Hoogerbrugge, 2012; Münter & Volgmann, 2014; Parr, 2004). Figure 1 shows the approximate location of the two polycentric urban regions in central-western Europe.

In a polycentric urban setting, complex relationships of cooperation and competition are likely to affect the cities’ strategies in attracting investors, businesses and qualified workforce (Docherty, Gulliver, & Drake, 2004; Parr, 2004). To date, the main studies on the Randstad and the Rhine-Ruhr have focused on their polycentric character in terms of development, structure, governance, policy and planning (Blotevogel, 1998; Hall & Pain, 2006; van Houtum & Lagendijk, 2001; Lambregts, 2009; Meijers, 2007; Spaans, Waterhout, & Zonneveld, 2012). Additionally, empirical analyses on the
regions’ complementarity and synergetic composition have been conducted (Meijers, 2007; Münter & Volgmann, 2014; van Oort, Burger, & Raspe, 2010). In polycentric urban regions, there is an interesting balance between, on the one side, developing a joint image to the outside world of a coherent, spatial entity of which all the cities are part, while simultaneously, cities feel the need to profile themselves relative to their neighbouring cities – after all, being part of a network allows for specialization. This first element essentially requires cooperation, while the second element captures a competition aspect. To our knowledge, no studies exist that examine the cities’ branding practices in such a regional context. Our aim is to analyse the two regions’ cities in terms of their city branding strategies and actions undertaken to flesh out these strategies.

The paper is structured as follows. Section 2 provides an overview of the literature on the concepts of polycentric urban regions and city branding. Section 3 introduces the present-day Randstad and Rhine-Ruhr. This touches upon governance and identity issues in both regions and verifies how planning labels are ‘experienced’ by city governments and regional organizations. In Section 4, the general branding practices and the profiling efforts of the cities in these regions are analysed. In addition, evidence of how these cities’ branding strategies translate into follow-up actions is presented. Section 5 summarizes our key findings and offers an outlook for further research.

2. City branding in polycentric urban regions

Polycentricity is a conceptually ambiguous concept used in different fields of research with different methodological traditions, and gets a different interpretation according to the geographical context in which it is used (van Meeteren, Poorthuis, Derudder, & Wiltox, 2016). For instance, in the US, the intra-urban interpretation of polycentricity prevails, whereas in Europe the focus is more on interurban polycentricity (Hall, 1997;
Kloosterman & Musterd, 2001; Masip-Tresserra, 2016). This seems fair since, unlike in other continents, polycentric urban ‘regions’ are the dominant form of urbanization in Europe: more than half of the European urban population lives in what must be considered a polycentric urban region (Meijers et al., 2012). Due to constraints on transportation at the time Europe urbanized, many cities are located close to each other. In the wake of technological, economic and societal changes, their hinterlands have begun to overlap, leading them to evolve into larger polycentric urban regions (Champion, 2001). In recent decades, the notion of polycentric urban regions has been put on the agenda by academics, professionals and policy-makers as these constitute a significant trait of urban form in advanced economies. Different political entities (i.e. regional governance vs. independent city policies), functional relationships (i.e. specialization vs. homogenization of economic structures) and cultural identities (i.e. regional vs. city identity) of polycentric urban regions add complexity to the concept (ESPON, 2005; Hall & Pain, 2006; Kloosterman & Musterd, 2001; Meijers et al., 2012).

However, the polycentric urban region has not just become a relevant geographical scale for analytical purposes, it has also become an appropriate entity for action. With ongoing globalization, the focus on international competitiveness has shifted from nation states to smaller geographical entities, such as regions and cities (Cuadrado-Roura & Rubalcaba-Bermejo, 1998). Especially city regions – including polycentric urban regions – play an important role in leveraging national and even global competitiveness, while maintaining regional cohesion (Tosics, 2005). Competition for resources, businesses, tourists, inhabitants and governmental subsidies among cities has the potential to induce specialization and create complementarity between the cities (Cuadrado-Roura & Rubalcaba-Bermejo, 1998). It might, however, also lower the entire region’s competitiveness if cities compete excessively and put the regional economic resilience and liveability at risk and fail to ‘borrow size’ (Burger, Meijers, Hoogerbrugge, & Masip-Tressera, 2015). Cooperative behaviour between the cities of a polycentric urban region as a form of regional governance can also increase the region’s functional character, and thus allow it to act in a more concerted way to address intra-regional, national or international issues (Tosics, 2005). In the real world, ‘co-opetition’, this particular admixture of competition and co-operation, is most likely to arise (Pasquinelli, 2013).

Closely related to the notion of competitiveness is the promotion of a city or a region by branding efforts. City branding reflects the need of especially industrial cities to redefine themselves through a process of reimaging (Hubbard & Hall, 1998; Kavaratzis & Hatch, 2013). Zenker and Braun (2010) have defined place branding as

a network of associations in the consumers’ mind based on the visual, verbal, and behavioural expression of a place, which is embodied through the aims, communication, values, and the general culture of the place’s stakeholders and the overall place design.

Accommodating various stakeholders implies that city brands are to some extent multifaceted and ambiguous, but creative use of this allows cities to differentiate themselves from other cities by transferring desirable attributes to their place or, quite contrary, concealing undesirable ones (Kavaratzis & Ashworth, 2005; Kavaratzis & Kalandides, 2015). In addition, such an image can help to achieve local identification and city-internal momentum for change, while simultaneously appealing to the outside world as a
favourable location for business, tourism or living (Anttiroiko, 2015). Such an image cannot be constructed as a tabula rasa narrative, but should be based on actual physical features and a local identity; fake urban brands are destined to low credibility (Vanolo, 2008). The same principle applies to regional place marketing, where cities create a joint image for the benefit of a regional development strategy (Pasquinelli, 2013).

City branding strategies increasingly emphasize aspects of quality of life, in the wake of an abundance of literature stressing that quality of life is key to understanding the competitiveness of places, particularly in interurban competition for a highly qualified labour force (Glaeser, Kolko, & Saiz, 2001). Quality of life in a city might entail a diversity of factors ranging from costs of living and availability of employment to recreation and lifestyle opportunities. It can provide a benchmark for a comparison between cities based on the necessary conditions for personal satisfaction and happiness (Rogerson, 1999). Environmental quality and sustainability seem to become increasingly important determinants of quality of life. Awareness among cities of their importance has grown significantly in recent years (de Jong et al., 2015; Joss, Cowley, & Tomozeiu, 2013; Satterthwaite, 2010). In order to enable economic growth, cities and their respective branding narratives try to merge the issues of competition, technology and human capital. Branding strategies for the creative city or class, therefore, also serve as urban regeneration agendas with a focus on innovation, talent and diversity (Florida, 2005; Landry, 2012). While there are many possibilities to achieve socially and environmentally balanced economic growth, it is not entirely clear what these differential manifestations of sustainable development in the context of urbanization and urban development look like (de Jong et al., 2015). Technological innovation, the ‘smart’ information society, utilization of renewable energy sources, enhancement of scientific research and knowledge creation, introduction of green spaces and the establishment of liveable communities are among the many approaches cities deploy to enhance their attractiveness for citizens and their competitiveness on the regional, national or even international scale (Joss et al., 2013). Categories such as ‘smart’, ‘sustainable’, ‘knowledge’ or ‘green’ can convey a positive image and allow cities to distinguish themselves from other cities. In polycentric urban regions, branding strategies that incorporate themes related to ecological modernization enhance the attractiveness of a city within the region or of the region as a whole. The materialization of the profile through projects might in fact even deliver tangible environmental improvements.

3. Morphology and identity in the Randstad and Rhine-Ruhr

3.1. Research approach

Being prototypical polycentric urban regions, the Randstad and Rhine-Ruhr areas seem appropriate case studies to study city branding processes in a polycentric context. Obviously, this does not withstand that there are differences between these regions, for instance in institutional terms, in the extent to which they evoke feelings of belonging and attachment with their inhabitants, and in the extent to which they operate as functional entities (with competing regional concepts on a lower spatial scale abound). However, it is exactly these differences that are of interest as they are likely to affect city branding: they affect the identification of what is the most appropriate ‘region’ to
sell to the outside world, and what the main neighbouring cities are that act as benchmark against which a city tries to profile itself. As such, city profiling practices are also indicative of such wider metropolization processes.

We considered only those cities with over 100,000 inhabitants in both regions. In the Randstad 11 cities match this requirement, while in the Rhine-Ruhr 20 cities were identified. We conducted 15 semi-structured interviews with officials from selected cities and regional organizations in the period October 2015 to January 2016. Appendix A contains more information on the interviews, which were critical for verifying and updating the information we collected online.

The general city branding practices of the cities were assembled from the strategic visions and ambitions of the most important municipal planning documents and the web pages of the cities (see Appendix B). Specific municipal master plans regarding mobility, housing or climate, and thematic web pages allowed to create detailed profiles of the cities. Some cities released more documents than others and Appendix C contains detailed tables of the documents studied. Building on available analyses on concepts used in sustainable urbanization (de Jong et al., 2015; Joss et al., 2013), we identified eight distinctive themes, which are used for city profiles. The categories used to depict those profiles are ‘smart’, ‘sustainable’, ‘eco’, ‘low-carbon’, ‘knowledge’, ‘green’, ‘resilient’ and ‘liveable’. The analysis of follow-up in terms of investment actions was limited to the major cities of the two regions and offers a general overview.

3.2. Morphology in the Randstad and the Rhine-Ruhr

To understand the regional background within which the cities interact, a characterization of the Randstad and the Rhine-Ruhr follows.

3.2.1. The Randstad

Located in the western part of the Netherlands, the Randstad comprises the country’s four largest cities, Amsterdam, Rotterdam, The Hague and Utrecht. The horseshoe-shaped area has a population of around 7 million people and is covered by four Dutch provinces: North-Holland, South-Holland, Utrecht and Flevoland. The borders of the Randstad are not strictly defined, but it covers an approximate area of 6000 km². The urban configuration circles an open and mostly rural area, the so-called Green Heart (Lambregts et al., 2006; Meijers, 2005). Owing to the existence of independent cities, different local and provincial governments, the political and administrative structure is rather complex and can be characterized as multilevel and fragmented (Spaans et al., 2012). Allegedly, the term ‘Randstad’ was first coined by the former KLM-director Plesman, who identified a ring of cities from the air in the 1930s. It has become an important spatial planning concept since the 1950s (Zonneveld, 1991), largely because of its potential to prevent further urbanization of the ‘Green Heart’ between the cities. With Hall (1966) presenting the region as a ‘world city’, also its potential to enhance international competitiveness became a rationale for using the concept. While the Randstad has by now become a widespread geographical concept frequently used in everyday life, policy attention comes in waves. Over the past decades, there seems to be a cyclical process in which attention for the Randstad as a whole alternates with a focus on its two ‘wings’. Main anchors of the North Wing are Amsterdam and Utrecht, while Rotterdam and The Hague act as such in the ‘South
Wing’ (IenM, 2012). A divide between the northern and the southern part in terms of economic profiles exists (Kloosterman & Lambregts, 2001; Meijers, 2007), where Amsterdam and Utrecht are associated with the tertiary sector, that is, financial, cultural, entertainment, trade and consultancy services, while Rotterdam is mainly associated with logistics and manufacturing linked to its large seaport and The Hague’s profile is dominated by public and administrative services, including international organizations. However, currently even the scale of the wings is considered too large or too complicated for institutionalized governmental cooperation. The concepts of the South Wing and the North Wing have gradually faded in recent years. The North Wing was split into a ‘North Wing Utrecht’ and an ‘Amsterdam Metropolitan Area’ (MRA). In the South Wing, the Metropolitan Region Rotterdam–The Hague (MRDH) has been formed by the cities Rotterdam and The Hague (and 21 surrounding municipalities and cities). It does, however, not include Dordrecht and Leiden (MRDH, 2015). Leiden and Dordrecht have both engaged in closer cooperation with their immediate neighbours (Interview Deltametropool). While no exact delimitation of the Randstad exists, Figure 2 presents an approximation.

**Figure 2.** The approximate position of the Randstad in the Netherlands (upper left) and the main cities comprising the Randstad (right) (Meijers, 2005).
3.2.2. The Rhine-Ruhr

As early as in 1952, Düsseldorf, the administrative capital of North Rhine-Westphalia (NRW), developed the concept of a ‘city landscape Rhein-Ruhr’ highlighting Düsseldorf’s important function as its centre. However, only 40 years later, the Ministerial Conference on Regional Planning in 1995 identified the Rhine-Ruhr as one of Germany’s European Metropolitan Regions. Following a national-level planning conference, the federal state of NRW introduced the Rhine-Ruhr as a planning region in its Regional Development Plan in 1995. Figure 3 shows maps of NRW in Germany, the Rhine-Ruhr and its location in this federal state.

The Rhine-Ruhr was and is by many regarded as a prime example of a polycentric urban region (Davoudi, 2003; Meijers, 2007), covers an area of more than 7000 km² and is home to roughly 10 million people (Carr, 2011). It is administratively fragmented across four district administrations, while 20 independent cities with more than 100,000 inhabitants are located more or less adjacent to each other (Knapp, 1998). The Rhine-Ruhr consists of two rather distinctive areas: the Rhine-axis in the south with its historic and more service-oriented cities Düsseldorf, Cologne and Bonn; and the former highly industrialized ‘rustbelt’, the Ruhr area in the north with the main cities of Dortmund, Bochum, Essen and Duisburg.

Figure 3. North Rhine-Westphalia in Germany (lower left), the Rhine-Ruhr in NRW (upper left) and the Rhine-Ruhr with its main cities and district administrations (right) (Grier, 2002; Wikimedia, 2015) (modifications by the authors).
Some of the cities in the ‘Ruhrgebiet’, the northern part of the Rhine-Ruhr, just expanded from rural settlements to cities proper during the region’s development into one of the largest industrialized areas in Europe in the nineteenth and twentieth centuries based on the coal and steel industry (Butzin, Pahs, & Prey, 2009). With the decline of this industry during the twentieth century, the Ruhr area had to cope with structural change and lost 17% of its employment (almost 300,000 jobs) from 1977 to 2006. The growth of the tertiary sector and the transition towards a more service-oriented economy offset some of the negative employment dynamics (Eltges, 2008; Jasper & Scholz, 2008). The cities on the Rhine-axis, on the other hand, are proud of their long history and contrast their Rhenish way of life with the ‘rustbelt’-image of the Ruhr area (Interviews Cologne and Bonn). The principal locations for service- and knowledge-oriented firms are the cities of Düsseldorf and Cologne of the southern Rhine-axis (Münter & Volgmann, 2014).

A coherent vision for the entire Rhine-Ruhr did not develop over time (Blotevogel, 1998; Danielzyk, Knapp, & Schulze, 2008; Knapp, 1998; Knapp, Scherhag, & Schmitt, 2006), nor is it still on the political agenda. Claims for making a distinction between the Ruhr area and a southern Rhine-axis area have been made for some time (BBR, 2008; Blotevogel, 1998; Knapp, 1998) despite manifold and increasing functional linkages and complementarities between the cities in both parts, showing that the people do not identify with the Rhine-Ruhr as a whole, but more with its parts (Danielzyk, Knapp, & Volgmann, 2016). The Ruhr Regional Association (RVR) as an inter-municipal body for the Ruhr area was re-established in 2004 and constitutes the regional planning authority of the Ruhr area since 2009 (RVR, 2015). In addition, a variety of intercity collaborations exists in the Ruhr area (Interviews Bottrop, Essen and Dortmund). Cities and institutions of the southern part of the Rhine-Ruhr, the Rhine-axis, started the process of creating a separate metropolitan area, the Rheinland, in 2011 (IHK-Initiative Rheinland, 2011). Under guidance of the district administrations of Düsseldorf and Cologne, the establishment of the Rheinland metropolitan area was proclaimed in early 2015 and the process of region-formation is still ongoing (Bezirksregierung Düsseldorf, 2015) (Interviews Cologne, Bonn and Düsseldorf). The new version of the Regional Development Plan of NRW also mentions both the Ruhr Metropolis and the Rheinland metropolitan area as separate regions (LEP NRW, 2015).

3.3 Identity in the Randstad and Rhine-Ruhr

We have seen that in the Randstad and Rhine-Ruhr there are similar tendencies of spatially scaling down efforts for administrative cooperation, from a focus on the region at large to a focus on more coherent entities, with which cities and their citizens identify more strongly because they share defining characteristics that set them apart from the other cities.

Whether people (including policy-makers) identify with a particular region depends on the institutionalization of that region. Institutionalization refers to the process through which regions become established, gain status and may become a significant unit of regional identification (Paasi, 2009). The extent to which a region has become institutionalized can be derived from a region’s position as regards its development in four interdependent and simultaneously occurring stages: the development of territorial shape, the development of symbolic shape, the emergence of institutions, and the establishment of a
region in the spatial and social consciousness of inhabitants, as well as the development of metropolitan areas as political space (Paasi, 1996). The last stage suggests that the development of regional organizing capacity (Meijers & Romein, 2003) itself leads to a stronger identification. The institutionalization of polycentric urban regions is particularly hampered by the lack of a common culture in a region (Albrechts & Lievois, 2003). Major sources of cultural difference include language, ethnicity, religion and political preferences, which, if present, may prevent people from identifying with the (polycentric urban) region. It has been suggested that cultural identification with regions is positively associated with functional integration and institutional cooperation, leading to what Meijers, Hoogerbrugge, and Hollander (2014) call ‘an upward spiral of metropolization’ of polycentric urban regions. Kübler (2016) recently provided an interesting empirical underpinning for the occurrence of such positive associations and linkages by showing that activity and travel patterns on a higher regional scale lead to an upscaling of territorial identities and consequently a more favourable attitude towards governmental cooperation at the city-regional scale.

On the interurban level, identification with territories should not be confused with attachment. The latter refers to an emotional bond with a place (the ‘affective dimension’), while territorial identification relates to cognition about the self as a member of a physical space (the ‘cognitive dimension’). This latter dimension is explored here in the Randstad and Rhine-Ruhr by making an inventory of policy documents and web pages of individual cities as well as interviews with stakeholders from cities in the two regions, in order to clarify with which regional entities cities identify, or, in other words, of which territories they consider themselves to be part. We refer to this as (cognitive) territorial identification and the results are presented in Tables 1 and 2.

The split of the North Wing is obvious, where Amsterdam, Almere and Haarlem are all part of the MRA (2015) and declare their affiliation with the North Wing of the Randstad. Utrecht and Amersfoort claim to be part of the Randstad as a whole, but do not acknowledge their membership of the North Wing, thus effectively constituting an independent subregion within the Randstad. The cities in the southern part of the Randstad unanimously declare to be part of the South Wing, where The Hague also makes reference to its importance as a governmental city in the Randstad. Those that are not part of the MRDHF do not identify with that particular metropolitan area. While Table 1 shows

| City        | Randstad | Amsterdam Metropolitan Area | South Wing of the Randstad | Rotterdam–The Hague Metropolitan Area |
|-------------|----------|------------------------------|---------------------------|----------------------------------------|
| Almere      | +        | +                            |                           |                                        |
| Amersfoort  | +        | +                            |                           |                                        |
| Amsterdam   | +        | +                            |                           |                                        |
| Haarlem     | +        | +                            |                           |                                        |
| Utrecht     | +        |                              |                           |                                        |
| Delft       | +        |                              |                           |                                        |
| Dordrecht   | +        |                              |                           |                                        |
| Leiden      | +        |                              |                           |                                        |
| Rotterdam   | +        | +                            |                           |                                        |
| The Hague   | +        | +                            |                           |                                        |
| Zoetermeer  | +        | +                            |                           |                                        |
primarily that subregions in the Randstad offer a means for particular territorial identification and a convenient platform for regional cooperation, we should add here that the Randstad as a whole is still recognized as a relevant functional entity (Interviews Amsterdam, Utrecht, The Hague, Rotterdam, Delft and Deltametropool).

Most cities in the northern part of the Rhine-Ruhr associate themselves with the Ruhr area, while only Duisburg also makes a reference to the Rhine-axis. Cities located in the southern part of the Rhine-Ruhr want to be identified with the Rhine-axis or the Rheinland. Interestingly, the cities Remscheid, Solingen and Wuppertal prefer to be affiliated with the region Bergisches Dreieck, rather than with the Rhine-axis or the Ruhr. This hints at the existence of a third subregion in the Rhine-Ruhr. The position of the Bergisches Dreieck is not entirely clear yet. A joint regional place branding concept relates the cities of Wuppertal, Remscheid and Solingen closer to the Rhine-axis than to the Ruhr area (Bergische Entwicklungsagentur GmbH, 2011), and apparently, the Bergisches Dreieck is likely to become part of the Rheinland metropolitan area that is currently being developed (Interview Bonn). The Rhine-Ruhr as a point of reference is only mentioned by Krefeld and Remscheid.

The Rhine-Ruhr was never seen as an entity by most city governments, which is both obvious from Table 2 and confirmed by our respondents in Germany. However, the subregions, such as the Ruhr area and the Rhine-axis, certainly are identity-establishing units for the constituting cities as well as the population at large.

The tendency of people to identify more easily with perceived ‘winners’ rather than perceived ‘losers’ may partly explain why the economically booming parts of the Randstad (in particular Amsterdam and Utrecht) and the Rhine-Ruhr (in particular the Rheinland area) are not too keen to be associated with the comparatively lagging regions of, in particular, Rotterdam or the Ruhr area.

| City         | Rhine-Ruhr | Ruhr area | Rhine-axis/Rheinland | Bergisches Dreieck |
|--------------|------------|-----------|----------------------|-------------------|
| Bochum       | +          |           |                      |                   |
| Bottrop      | +          |           |                      |                   |
| Dortmund     | +          |           |                      |                   |
| Duisburg     | +          | +         |                      |                   |
| Essen        | +          |           |                      |                   |
| Gelsenkirchen| +          |           |                      |                   |
| Hagen        |            |           |                      |                   |
| Hamm         |            | +         |                      |                   |
| Herne        | +          |           |                      |                   |
| Mülheim      | +          |           |                      |                   |
| Oberhausen   |            |           |                      |                   |
| Remscheid    | +          | +         |                      |                   |
| Solingen     |            |           |                      |                   |
| Wuppertal    | +          |           |                      |                   |
| Bonn         | +          |           |                      |                   |
| Cologne      | +          |           |                      |                   |
| Düsseldorf   | +          |           |                      |                   |
| Krefeld      | +          | +         |                      |                   |
| Leverkusen   |            |           |                      |                   |
| Mönchengladbach |        |           |                      |                   |

Table 2. Territorial identification in Rhine-Ruhr cities.
4. City branding practices in the Randstad and Rhine-Ruhr

4.1. General city brands

City branding is an important tool for cities to lure new investors, businesses and inhabitants. They generally choose a profile that fits existing local factors and expresses how they wish to develop. In the particular case of polycentric urban regions, this revolves around the question how cities specialize in complementary ways, and how they distinguish themselves from their neighbours. The main slogans, ambitions and visions of the cities investigated are presented in Tables 3 and 4 (sources in Appendix B).

As becomes obvious from Table 3, all cities in the northern part of the Randstad make explicit reference to themes in ecological modernization in their general city branding strategies. Almere, Amsterdam and Utrecht also market their strong economic profiles. This pattern is less evident for the cities situated in the southern part of the Randstad, where Rotterdam, The Hague and Dordrecht do not respond to such themes very clearly.

However, Rotterdam and The Hague have quite distinct profiles, such as Mainport and World Port in reference to Europe’s largest harbour, the Port of Rotterdam, or, in the case of The Hague, International City of peace and law, referring to the presence of international organizations such as the International Court of Justice and to being the governmental seat of the Netherlands.

The general marketing slogans of the cities in the Rhine-Ruhr are collected in Table 4. While most of the cities in the Rhine-Ruhr stress their attractiveness or state economic or other profiles, only some explicitly take up themes in ecological modernization, such as Bottrop, Essen and Wuppertal. No clear branding strategies or profiles are exhibited by Hagen, Hamm and Herne, and to some extent by Oberhausen and Remscheid.

The bigger cities, especially Düsseldorf and Cologne, certainly portray themselves as prosperous, vivid and attractive locations with a diverse set of characteristics. The unique profiles of Solingen and Krefeld (manufacturing centres for blades and cutlery and for silk weaving and textiles, respectively) directly relate to the cities’ industrial past and present, and seem to be well-known brands worthy to be retained (Bergische Struktur- und Wirtschaftsförderungsgesellschaft, 2015; Krefeld, 2015).

4.2. Profiles related to ecological modernization

Nowadays, cities’ branding strategies address topics of ecological modernization more frequently, suggesting that such a strategy is considered desirable for a city’s public image.

| City       | Branding practice                                                                 |
|------------|-----------------------------------------------------------------------------------|
| Almere     | Almere is an ecologically, socially and economically sustainable city. A growing city. |
| Amersfoort | Economically strong and sustainable. Internationally competitive and sustainable city. |
| Amsterdam  | City with heart. A vital, attractive and sustainable city.                           |
| Haarlem    | City with sustainable and good living environment, and cultural and touristic attractiveness. |
| Utrecht    | Economically dynamic environment. Utrecht city of knowledge and culture. Healthy urban boost |
| Delft      | Creating history. Technology, innovation, creativity and history. Creative knowledge city. |
| Dordrecht  | Historical and modern service city. City in the Delta. City at the European corridors. |
| Leiden     | Internationally oriented historical university and knowledge city.                  |
| Rotterdam  | Attractive European city, intercultural metropolis. Mainport. World port and world city. |
| The Hague  | World city at the Sea. Multicultural international city of peace and law. Governmental city. |
| Zoetermeer | Attractive, sustainable and complex city. Leisure city.                             |
These profiles in the Randstad and Rhine-Ruhr have been established through an in-depth analysis of the sources in Appendix C.

Table 5 shows that most of the cities use several of the ecological modernization categories to profile themselves. No city in the Randstad denotes itself as an ‘eco’-city; however, all of the cities claim to be ‘sustainable’, albeit with differing levels of intensity. The second-most frequent category is the ‘green’ city, followed by ‘resilient’ and ‘low-carbon’. ‘Liveable’ and ‘green’ as profiles were only chosen in addition to other more dominant themes, such as for instance the profile of a ‘knowledge’ city, which is clearly prominent in the university towns Delft, Leiden and Utrecht.

Table 4. City branding in the Rhine-Ruhr.

| City       | Branding and marketing                                                                 |
|------------|----------------------------------------------------------------------------------------|
| Bochum     | Flourishing and lively city. Knowledge, Change, Identity. University City               |
| Bottrop    | Green city, Climate-protection and low-energy city.                                     |
| Dortmund   | Dynamic economic centre with focus on services and future technologies.                 |
| Duisburg   | University city. Sport and health city.                                                 |
| Essen      | Modern and leading economic, trading and service city. Green capital Europe 2017.       |
| Gelsenkirchen | Gelsenkirchen is a city in change, a city with potential.                            |
| Hagen      | -/-                                                                                    |
| Hamm       | Rising city.                                                                           |
| Herne      | -/-                                                                                    |
| Mülheim    | City at the river. Attractive city for living and successful business location.         |
| Oberhausen | Modern major city.                                                                     |
| Remscheid  | Small city with flair.                                                                 |
| Solingen   | Blade Town.                                                                            |
| Wuppertal  | Green, greener Wuppertal. Greenest city in Germany.                                     |
| Bonn       | Federal city, international city, United Nations city, City of Beethoven. City at the Rhine |
| Cologne    | Attractive shopping city, sport city, knowledge city, international metropolis, media city, city of literature, photography and film, cultural city. |
| Düsseldorf | Management, administration city, finance city, fashion, media and communication city, high-end shopping city, consulting city, sport city. International metropolis. |
| Krefeld    | City like silk and satins, Lively major city with charm.                               |
| Leverkusen | Sport city. Young major city.                                                           |
| Mönchengladbach | A major green city without big city problems.                                             |

Table 5. Ecological modernization profiles of cities in the Randstad.

| Category | Almere | Amersfoort | Amsterdam | Haarlem | Utrecht | Delft | Dordrecht | Leiden | Rotterdam | The Hague | Zoetermeer |
|----------|--------|------------|-----------|---------|---------|-------|-----------|--------|-----------|-----------|------------|
| Smart    | ++++   | ++++       | ++++      | ++++    | ++++    | ++++  | ++++      | ++++   | ++++      | ++++      | ++++       |
| Sustainable | ++++ | ++++       | ++++      | ++++    | ++++    | ++++  | ++++      | ++++   | ++++      | ++++      | ++++       |
| Eco      | ++++   | ++++       | ++++      | ++++    | ++++    | ++++  | ++++      | ++++   | ++++      | ++++      | ++++       |
| Low-carbon | ++++ | ++++       | ++++      | ++++    | ++++    | ++++  | ++++      | ++++   | ++++      | ++++      | ++++       |
| Knowledge | ++++   | ++++       | ++++      | ++++    | ++++    | ++++  | ++++      | ++++   | ++++      | ++++      | ++++       |
| Green    | ++++   | ++++       | ++++      | ++++    | ++++    | ++++  | ++++      | ++++   | ++++      | ++++      | ++++       |
| Resilient | ++++   | ++++       | ++++      | ++++    | ++++    | ++++  | ++++      | ++++   | ++++      | ++++      | ++++       |
| Liveable | ++++   | ++++       | ++++      | ++++    | ++++    | ++++  | ++++      | ++++   | ++++      | ++++      | ++++       |

Notes: The metrics were established according to the following principles: when the ecological modernization category was not mentioned in any of the investigated documents, a blank occurs. ‘+’ appearance of an ecological modernization category in one policy document (incl. city web pages), for example, ‘Amersfoort is a sustainable city’. ‘++’ appearance of an ecological modernization category in two policy documents (incl. city web pages), for example, ‘Amersfoort is a sustainable city’. ‘+++’ appearance of an ecological modernization category in more than two policy documents (incl. city web pages), for example, ‘Amersfoort is a sustainable city’; in a prominent place, such as the ambition/vision of a long-term city development plan or when clear branding intention is obvious, for example, ‘Amsterdam Smart City’, ‘Utrecht, city of knowledge’. 
Table 6 provides an overview of the ecological modernization profiles of the German cities. The most common categories in the Rhine-Ruhr are ‘liveable’ and ‘green’. The ‘knowledge’ city theme is also chosen by some cities. The ‘sustainable’ and ‘low-carbon’ city themes appear less frequently. ‘Resilient’, ‘smart’ and ‘eco’ appear seldom and take the form of an accompanying profile, rather than of an independent branding strategy. The exception is Cologne, where the smart city profile is strongly represented. Some cities lack a related profile altogether: examples are Herne, Hamm, Hagen, Solingen and Leverkusen.

In a region-to-region comparison of branding practices in ecological modernization, the cities in the Randstad appear far more active in branding and portray themselves as sustainable, green, resilient, low-carbon and smart cities, whereas in the Rhine-Ruhr, ‘liveable’ and ‘green’ predominate.

4.3. Evidence for the materialization of ecological modernization

The materialization of place branding strategies requires more and without demonstration or implementation of projects, the profile or vision of a city might just be hot air. In the interviews, the main projects in selected cities were identified. This serves as first evidence for the cities’ follow-up on their profiles, but does not present an exhaustive picture.

The cities in the northern Randstad focus on smart and sustainable projects in which urban living labs with the application of smart technology prevail. Examples in Amsterdam are the roll-out of public charging stations for electric vehicles (Interview Amsterdam), as well as the living labs and smart areas of the Amsterdam Smart City platform (ASC, 2015). Utrecht started to develop a smart and sustainable district around its train station and denotes it to be ‘a healthy urban boost’ (Interview Utrecht) (Utrecht,

| City          | Smart | Sustainable | Eco | Low-carbon | Knowledge | Green | Resilient | Liveable |
|---------------|-------|-------------|-----|------------|-----------|-------|-----------|----------|
| Bochum        | +++   |             |     |            |           |       |           |          |
| Bottrop       | ++    | +++         |     |            | +++       | +     |           | +++      |
| Dortmund      | +     |             | +++ |            |           | +     |           | +++      |
| Duisburg      | +     |             |     |            | +++       | +     |           | +++      |
| Essen         | +++   |             | ++  |            | +++       | +     |           |          |
| Gelsenkirchen | +     |             |     |            |           | +     |           |          |
| Hagen         |       |             |     |            |           | +     |           |          |
| Hamm          |       |             |     |            |           | +     |           |          |
| Herne         |       |             |     |            |           | +     |           |          |
| Mülheim       |       |             |     |            |           | +     |           |          |
| Oberhausen    | +     |             |     |            |           | +     |           | +        |
| Remscheid     |       |             |     |            |           | +     |           |          |
| Solingen      |       |             |     |            |           | +     |           |          |
| Wuppertal     | +++   |             |     |            |           | +     |           | +++      |
| Bonn          | ++    |             |     |            |           | +     |           | +        |
| Cologne       | +++   |             | +   |            |           | +     |           | +++      |
| Düsseldorf    | ++    |             | +   |            |           | +     |           | +++      |
| Krefeld       |       |             |     |            |           | +     |           |          |
| Leverkusen    |       |             |     |            |           | +     |           |          |
| Mönchengladbach |     |             |     |            |           | +     |           | +++      |

Note: The metrics were established according to the same principles as for Table 5.
The cities in the South Wing rather engage in knowledge- and resilience-enhancing projects, where the Technologische Innovatie Campus in Delft (Delft, 2012) or the transformation of the Zomerhof Kwartier in Rotterdam to a climate-proof and vital urban district (Interview Rotterdam) (RCI, 2016) are telling examples.

The most pervasive and prominent projects in the Ruhr area are the revitalization, repurposing or upgrading of former industrial brownfields, where the focus on creating more liveable and green environments, along with enhancing not only the cities’, but also the entire region’s image away from declining heavy industries, resulted in a variety of actions, such as the InnovationCity Bottrop, the Phoenixsee in Dortmund and the Krupp-Belt in Essen (Dortmund, 2015b; Essen, 2014; IC Ruhr, 2014; RVR, 2014) (Interviews Bottrop, Essen, Dortmund). In the Rhine-axis, the cities are less burdened by an industrialized past and we find a stronger emphasis on smart city projects, such as with the Grow Smarter project in Cologne (Smartcity Cologne, 2015).

As Tables 5 and 6 show, many cities in the Rhine-Ruhr brand themselves less in terms of ecological modernization than the ones in the Randstad. However, the German cities initiated many projects and even realized considerable improvements in their environmental performance. Bottrop reduced its CO₂ emissions by 38% compared to 2010 (Bottrop, 2015c) and Essen by 33% compared to 1990 (Interview Essen). While city branding in the Randstad is more in line with ecological modernization precepts, the performance of the cities reveals a gap between city branding and substantiation (Amsterdam, 2015b). This shortcoming as well as the awareness that the implementation of programmes and projects that simultaneously improve environmental conditions and stimulate economic growth is slow, painstaking and difficult was acknowledged (Interviews Amsterdam, The Hague).

Generally, the proposed actions put forward by the selected cities in the Randstad and Rhine-Ruhr reflect their branding practices and their economies, where cities of the South Wing, the Ruhr area and Bergisches Dreieck were and still are more industry-intensive compared to the cities in the northern Randstad and the Rhine-axis (Jasper & Scholz, 2008; Kloosterman & Lambregts, 2001; Münter & Volgmann, 2014). Their branding strategies as identified in Tables 5 and 6 confirm that the two polycentric urban regions and their subregions exhibit different trends for project themes and thus pathways in ecological modernization.

5. Conclusions

Cities in polycentric urban regions share ambiguous relations with each other: they are potential partners in strengthening the external profile of their region as a whole vis-à-vis other regions. But they are also competitors when trying to attract investors, businesses and talented employees to their cities. In this contribution, we have studied how these co-opetitive relations play out in two of Europe’s best known polycentric urban regions, the Randstad and Rhine-Ruhr, in the face of large-scale industrial restructuring towards economic functions that generate more added value, while being a lesser burden on the physical environment.

An important conclusion is that both polycentric urban regions are not only administratively fragmented, but they also do not enjoy unambiguous existence in terms of being geographic regions with recognized identities. The Randstad is still acknowledged by all
involved Dutch cities being a relevant functional region, even though they do not explicitly affiliate themselves with it. The existence of an entity Rhine-Ruhr is much less acknowledged, at least in terms of having an identity of its own.

Another significant finding is that for both polycentric urban regions, stronger affiliation is noticeable for subregions within the polycentric urban region. In the case of the Randstad, one can discern between a North Wing (Amsterdam–Almere–Utrecht) and a South Wing (The Hague–Rotterdam) which to a certain extent have even driven the establishment of administrative arrangements answering these functional and identity relations (MRA, Utrecht region, MRDH), but not exactly matching their territories. Speaking with one voice to compete internationally and to align economic development agendas seems to be an attractive choice (MRDH), while cities and municipalities surrounding Amsterdam are eager to adopt its name to boost their local attractions (MRA). With regard to the Rhine-Ruhr area, it must be emphasized that the functional and identity links between the Rhine-axis (Cologne–Bonn–Dusseldorf) on the one hand and the Ruhr (Duisburg–Essen–Bochum–Dortmund) on the other have never been strong. In fact, there appears to be even a smaller third one (Bergisches Dreieck) with a distinct identity and functionality of its own. But internally, the coherence within these subregions is quite strong, even in the absence of convincing administrative arrangements that support them. This is especially true in the Ruhr where cities have gone through comparable challenges and problems in recent decades. Their approach to joint projects and advocacy for the entire region reveals high levels of spontaneous solidarity and enables smaller cities to be represented as part of a competitive and more powerful entity (e.g. IBA Emscher, European Capital of Culture 2010). The formation of subregions or new regional cooperation bodies (such as for Rheinland) gained traction not only partly for administrative and political reasons, but also because it allows for a more efficient thematic collaboration.

In terms of city branding practices, the major cities in the Randstad have developed their own profiles and seem confident about them. They expect an increase in population and claim to be both economically successful and sustainable, truly along the lines of ecological modernization. They hardly see any reason to brand themselves as 'liveable' any more, apparently because they have little doubt about their liveability. Rather, many of them claim to be smart cities. Amsterdam has fostered a reputation of being a 'smart' city already for a while, but recently, this theme was also adopted in Utrecht’s and Rotterdam’s branding practices (Rotterdam, 2015; Utrecht, 2015a, 2015b). However, some cities in the South Wing do emphasize their ‘liveability’ and ‘greenness’ still (The Hague, 2015). The use of the themes ‘resilient’ and ‘climate-proof’ by Dutch cities may have its roots in being located in an area below sea level and thus their direct vulnerability to climate change. This aspect is mentioned in almost none of the German cities.

The cities in the Rhine-Ruhr, on the other hand, are far less outspoken in their city branding activities than their Dutch counterparts. Nor do they claim to be front runners in realizing ecological modernization as an industrial restructuring strategy. ‘Liveability’ plays a big role and even successful cities such as Cologne and Düsseldorf use this term. Clearly, cities in the Ruhr area aim to shake off their unfavourable image associated with smoke, dust, black skies and shrinking population and explicitly focus on the themes of ‘liveable’, ‘green’ and ‘knowledge’ to signal their move on to pastures
more in line with ecological modernization. However, a range of cities in the Rhine-Ruhr, especially smaller ones, such as Hagen, Hamm, Herne, Solingen or Krefeld, do not exhibit a strong affinity to any of the themes related to ecological modernization in their city profiles. Interestingly, Hagen, Hamm and Herne do not follow any sophisticated city branding strategy, while Solingen and Krefeld seem not to expect benefits from such a denomination, because they already established well-known other city brands.

Cities in both polycentric urban regions undertake action to flesh out their profiles in urban (re)development projects, with successful service-oriented cities such as Amsterdam, Utrecht or Cologne showing strong affiliation to the smart city theme. ‘Smart’ investments in transport and ICT infrastructures are seen to usher in urban high quality of life and economic wealth alongside an improved management of natural resources. Cities that are still undergoing a transition to a more knowledge-based economy or which have a long-standing heritage in heavier industries have rather initiated action aiming to make them more liveable, green and knowledge-intensive.

Whether all or even some of these cities will truly deliver on their promises to create ecologically modernized cities is still open to further research, but so far it appears that while their city branding practices are advanced and their targets are set high, in terms of implementation the Dutch cities seem to be lagging behind in comparison with their German counterparts. Whether this is simply due to traditional cultural differences, with the Netherlands being a nation of traders that know how to ‘sell’ and the Germans traditionally emphasizing physical production and engineering, or relates to a desire to conform to the desired vocabulary of, for instance, national or EU governments and international organizations which may translate in political or financial support remains open to further examination.

Notes

1. Translation by authors.
2. The cities are arranged according to the original North Wing and the South Wing for the Randstad and the Ruhr area, Bergisches Dreieck and the Rhine-axis for the Rhine-Ruhr in all following tables and figures.
3. Nonetheless, the remainder of the text will continue to use the term Rhine-Ruhr to denote the polycentric urban region as depicted in Figure 3.

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