



Paper to be presented at the DRUID Academy conference in Rebild, Aalborg, Denmark on January
21-23, 2015

Comparative analysis of regional strategies in five European best-practice regions

Ties Vanthillo

Universiteit Antwerpen
Transport and Regional Economics
ties.vanthillo@uantwerpen.be

Abstract

Innovation is the key focus point in current local and regional development policies (Hassink & Klaering, 2011; Laranja, Uyerra, & Flanagan, 2008). Regional innovation policies have gained a prominent position in the field of economic support and these initiatives have been tied more closely to the EU innovation and competitiveness policies (Soete, 2009 in Lagendijk, 2011). It is expected that regions themselves also contribute to these efforts (Lambooy & Boschma, 1998).

Some regional innovation initiatives are used as an inspiring concept for clustering and knowledge transfer initiatives (Blien and Maier, 2008). Often these best practices are identified by a benchmarking exercise and are focused on introducing a regional model developed in a different institutional context. There is a tendency among regional policy to choose for initiatives targeting fashionable sectors (see e.g. Hildreth, 2013) based on a best practice model neglecting sectoral and regional specifics and place-based conditions (Martin, Moodysson, & Zukauskaite, 2011). Furthermore the transferability of best practices is doubtful because of knowledge asymmetries (Asheim et al., 2014). Increasing awareness thus exists among academia and policy makers that one-size-fits-all regional policy models do not work (Todtling & Trippl, 2005) because these models are not embedded in the institutional, geographic and sociological setting of a region.

Previous studies have identified an evolution in the geographical scope of regional economic policy programs and strategies. In correspondence with these findings, regions are expected to target parts of their policy programs not only within their administrative boundaries but also go beyond their borders to functional regions or global hotspots in a respective industry. This paper presents case-studies of five European regions supporting a regional economic strategy and analyses to what extent these programs are regionalizing. We handle a qualitative approach that uses data extracted interviews in the regions under study and a broad literature study. Particular focus is paid to assessing the geographical scope of the regional economic policy program and the drivers of regionalization.

In this paper we argue for a regional economic policy program based on a differentiated set of instruments that reflect

the industry-specific needs and specific knowledge bases of targeted sectors, realistic objectives based on the possibilities and competences of the regional institutional framework and ambitious actions towards cooperation between functional regions. The paper connects the geographical scope of policy initiatives and the differentiated knowledge base of chosen spearhead sectors.

Comparative analysis of regional strategies in five European ‘best-practice’ regions

Ties Vanthillo

PhD Researcher

Department of Transport and Regional Economics, University of Antwerp

Prinsstraat 13 - SB.403 – 2000, Antwerpen, Belgium

ties.vanthillo@uantwerpen.be

This version: December 2014

Preliminary version. Please do not cite or circulate

Abstract: TO COME

Keywords: TO COME

1. Introduction

Innovation is currently a key focus point in local and regional development policies (Hassink & Klaerding, 2011; Laranja, Uyerra, & Flanagan, 2008). Regional innovation policies have gained a prominent position in the field of economic support. Policy makers introduce a regional dimension in their innovation policy and regional policy is fuelled by innovation matters (Fritsch & Stephan, 2005). This is especially the case for the European Union where a growing part of the regional development funding is channeled towards innovation support (Legendijk, 2011). Regional initiatives have been also tied more closely to the EU's innovation and competitiveness policies and it is expected that regions themselves also contribute to these efforts (Legendijk, 2011; Lambooy & Boschma, 2001).

This paper reviews the institutional framework of five European NUTS-2 regions and their regional economic policy strategies in five European regions. The paper pursues two objectives. Firstly, the paper aims at presenting the great variation across different European regions with regard to the institutional conditions for regional economic policy-making and multi-scalar dynamics around regional strategy building. Secondly, we pay particular attention to the geographical scope of regional strategies and give a preliminary overview of potential drivers of further regionalization of these strategies. This paper thus connects the regionalisation of economic policies with the differentiated and rescaling institutional framework of NUTS-2 regions in Europe and the geographical scope of strategic policy initiatives targeting specific sectors and industries. The main questions addressed in this paper are:

- (i) How does the institutional framework ('competencies') influence the design and implementation of regional economic policy programs ?
- (ii) Why do regional governments extend the geographical scope of their (industry-specific) regional economic policy programs?
- (iii) How does the geographical scope of a regional economic policy program relate to the differentiated knowledge base of an industry?

For the first objective, the concept of 'regionalisation' is used as an analytical lens to capture the variation. This framework can then be used as an instrument to assess the potential of the regional institutional arrangements for multi-scalar regionalization regarding economic strategies. This part of the analysis is situated against the background of the discussion on rescaling of policy systems and the evolution of regional economic policy. A comparative case-study approach of European regions is not unique, but this study can give more insight in our understanding of how multi-scalar regionalization affects the production of 'new state spaces' and organizations related to economic development and regional strategies.

When addressing the second aim, the factors that drive further regionalization of regional strategies are explored. We argue that regionalization is embedded at three levels: extra-regional, interregional and intraregional economic cooperation. We place particular emphasis to the geographical scope of regional strategies by using a multi-scalar analytic framework to explore the processes of sector-based initiatives within 'rescaled territories'.

The paper is organized as follows. In the first section we provide a conceptual framework. Second, we introduce the methods used. We handle a qualitative approach that uses data extracted interviews in the regions under study

and a broad literature study. Third, we present an overview of the case-studies of five European regions. It starts with analyzing the design and implementation of regional economic policy in different institutional environments. The case-study evidence is then compared across the cases. We pay attention to the geographical scope of the regional economic policy strategy and the drivers of further regionalization of these strategies in the fourth section. In the last section we discuss the results and make a conclusion.

2. Conceptual framework

2.1 Networks and institutions: 'innovative' territorial policy communities

Institutions are recognized as being important in shaping economic development, but showing the exact linkages between them has been problematic (Lakshmanan & Button, 2008; Rodriguez-Pose, 2013). In the knowledge economy actors require new competences and new patterns of interaction among them to support new knowledge and its application. More and more economic actors choose strategies which are knowledge-intensive and have a cooperative-competitive hybrid structure.¹ This introduces new factors in regional economies. Innovation became a competitive factor next to cost reduction and productivity enhancement and sets in motion changes in the nature and patterns of economic interactions which creates an environment for new institutional forms. The processes of adaptive change thus activate mechanisms of institutional change (Lakshmanan & Button, 2008).

In response to the requirements of regional economies, new kinds of networks emerge as appropriate governance mechanisms (Lakshmanan & Button, 2008).² In regions innovation becomes a critical competitive factor for firms. The mere presence of firms alone does not foster interactive learning processes and innovation. In a region many different actors and organisations are present (e.g. research institutes, higher education institutes, financial organisations, employers organisations, firms, ...) that constitute a specific institutional environment. Different institutions appear in a variety of combinations and complement one other in the performance of the regional economy. Over the years a large body of literature on regional innovation systems (RIS) provided us with insights into why some regions grow faster than others in relation to their multi-actor and institutional environment (Legendijk, 2011; Moulaert & Sekia, 2003).

A regional economy of networks becomes increasingly a system of cooperative interactions among economic actors or a web of links between individuals, firms and organizations, with links based on knowledge assets and evolving through cooperative learning processes (Lakshmanan & Button, 2008). A particular kind of networks are labelled in the *literature stream* 'policy communities'. Policy community has both a broad and a narrow meaning. It might be confined to term a tight group of actors united in their view of problems and appropriate solutions, others point to the importance of shared ideas (advocacy coalitions, epistemic communities) (see Hill, 2005 in Keating, 2014). Keating *et al.* (2009: 51) introduces the concept of 'territorial policy communities' to designate "*territorially bounded constellations of actors within and across policy sectors, emerging in response to the rescaling of government* "

¹ These frameworks are e.g. alliances and joint ventures to access competences and share R&D costs, pre-competitive research groups, co-creation with customers, open innovation structures, cluster initiatives for a sector.

² They emerge as the outcome of complex evolutionary mechanisms.

which is a relevant set of actors within any given region that may have a stable membership, can be sectoral or cross-sectoral and shares ideas and has cooperative relationships (or not). The policy communities share territorial interest.

2.2 Rescaling: search for the right scale of regional economic policy initiatives

Amin (2004) observes a spatial restructuring in Europe. Su (2014) argues that this concurs with the emergence of multi-scalar regionalization. Restructuring and regionalization is highly variable and depends on various factors as the differences in institutional and governmental purpose of state structures shows, e.g. abolishment of regions in England and Germany and examples of regionalization in Denmark and Sweden (Tassilo Herrschel & Newman, 2000; Hildreth & Bailey, 2014). The challenges of globalization also underpins the search for the 'best' forms and the 'right' scale of economic policy initiatives and governance (T Herrschel & Tallberg, 2011). The current debate doesn't emphasize 'old' centrally implemented regions with fixed administrative boundaries but highlights variably defined policy spaces (T. Herrschel, 2009). Regions are understood as shaped through collaborative alliances that can have a high(er) degree of flexibility and responsiveness to policy challenges. Institutions for regional development change from 'regimes' that control (political and economic) space within administrative boundaries to a more *networked regional governance* that plays on opportunities within flexible spaces (Brenner, 2004, p. 292). Next to flexible spaces, networked regional governance establishes "*horizontal inter-linkages among geographically dispersed nodal points*". It is thus a synthesis of vertical and horizontal institutional arrangements (Su, 2014).

This becomes more apparent with the current era of spatial rescaling as we see more social & economic differentiation (Keating, 2014). Rescaling might push groups into new alliances and power relations might change. Regionalization is about shifting spaces (Herrschel, 2009). This network-based, relational territorialisation brings some kind of 'fuzziness' because of the variable, time-limited and more unclear bordering of it (see Markusen, 2003). The territorial boundaries of the new spaces and the institutions that have emerged to govern them are often contested since power and resources are at stake in both. This reflects the highly political process: regions are constructed through interplay of diversity of interest, political forces and actors. Strategic policy making on the regional level is confronted with various difficulties (Cabus, 2001; Hildreth & Bailey, 2013). Related to the micro-level is the competitive attitude by local actors in particular policies, the different perception of problems or the presence of various logics of spatial action and interaction. On the meso-level, difficulties are related to the lack of multi-level governance (e.g. reluctant participation at supra-local level, lack of cooperation culture within a region), institutional asymmetries (in e.g. cross-border regions), a different governance or political culture (between various layers, across different administrations, ...) or an unclear overlap between the functional region and the administrative region. All these difficulties could lead to the underdevelopment of a particular region.

2.3 Regionalization: definition and what do we mean?

There are various reasons that provide a strong rationale for regionalization of economic and innovation policy, i.e. not to operate economic and innovation policy entirely on a national scale. The ongoing process of territorial rescaling of governance stems not only from the devolution of competencies from central states to more regional,

local and supranational levels (Brenner, 2004) but also from the changing importance of localities for economic growth (R. A. Boschma, 2005). Growing recognition of these regional complexities was followed by the need felt by policy makers on the field to develop and shape policies at the regional level itself (Legendijk, 2011). 'New regionalism' ideas are adopted by regional politicians and diffused by national and EU governments (Keating, 2014). Although the competitiveness of regions is a contentious issue, regions are, at least discursively, constructed as competitive entities (Huggins, 2010).

Recently, scholars changed their interpretation of local and regional spaces as 'a world in a bottle' to include also global linkages in their analyses (Bathelt, Malmberg, & Maskell, 2004; Henderson, Dicken, Hess, Coe, & Yeung, 2002). As O Riain (2010, p. 18) points out: "*The discovery of the region as a space for generating development and shaping global processes opens up a new spaces of social and political struggle and strategy within globalizing economic structures.*" Regions belong to specific spatial and administrative territories but are increasingly involved in large-scale interregional processes.

Regionalization is widely debated in and is perceived in various forms (see e.g. special edition Research Policy: Fritsch & Stephan, 2005). Regionalization can mean different things. In our reading we see it as Herrschel & Tallberg (2009, p.8), that regionalization focuses on the "*strategic, instrumental side of regions as flexible, dynamic spaces circumscribed by shared policy agendas 'from within' – and that means collaborations between localities and their actors and policy makers in an often ad hoc, 'bottom-up' process*". Actors more and more adjust to new conditions leading to a form of 'composite' regionalism combining informal arrangements and existing structures which remain important for financial resources, democratic legitimacy and policy implementation (T Herrschel & Tallberg, 2011; Perkmann, 2007)

2.4 Three factors of regionalization of innovative territorial policy communities

Keating (2014) provides a useful framework for analyzing regionalization. He distinguishes between the aspects of political mobilization for processes of region-building, institutional restructuring resulting in new governance structures and functional needs providing rationales for the actors involved in the construction of new scales. In this paper we look at 'territorial policy communities' focusing on regional development. These 'territorial policy communities' regionalize in accordance to two factors: institutional (political) and functional. These are often intertwined.

Institutional rescaling refers to changes in territorial structures of government. One school attributes a functional 'optimal' area for each task which is highly disputable. The levels differ from function to function (see e.g. Hooghe & Marks, 2009). Keating (2014, p. 241) argues that it is a highly contested notion: "*drawing boundaries creates insiders and outsiders and is highly political process*". Reasons for reform, not causes, can be a desire to recapture functions, regain control through new territorial institutions at sub-state level (local/regional government control) or to manage national diversity. Other political reasons all seek to emphasize a territorial dimension in public policy (e.g. case for poorer regions).

Functional rescaling in term of economic development follows is underpinned by work from the 'new regionalist' school that highlights the importance of local and regional factors in economic change (Keating, 2014). The regional scale is considered as a fundamental driver of economic development founded on the significance of spatial proximity and agglomeration (Ron A. Boschma, Kloosterman, & Lambooy, 2005; Rodriguez-Pose & Crescenzi, 2008). In other versions authors base themselves on more sociological grounds embedded in social relations and networks. The basis is Marshall's writings on industrial districts: regions or portrayed as being production systems with their own internal logic. A widespread move from passive welfare support into active labour market policy brought welfare programs together (e.g. training, job placement, economic development). The functional rescaling pressures in the sphere of welfare policy created regional forums for interaction, social compromise and social partnership within regional labor markets areas (Keating, 2014). A key role is played by partnerships of employers, trade organizations and government in a variety of mechanisms (Rusinek & Tojerow, 2014).

Various regional governance arrangements and alliances are reorganized to enhance place-specific competitiveness in the global market (Perkmann, 2003; Su, 2014)). The current tendency for regional policy initiatives is to invest more in the development of networks, linkages and connections within a wider geographical scale and scope than before. This leads to networked regional governance which expands the geographic scope of economic programs of regional governments This paper proposes a multi-scalar analytic framework to analyze regional development as a scaled political-economic configuration (Su, 2014). More specifically, we highlight multi-scalar alignment processes of sector-based initiatives within 'rescaled territories'. The analytical focus is extended from bounded territorial systems to an unbounded and multi-scalar spatial system in which both regional and transregional relations are taken into account. We take a multi-actor view of the regional economy. It includes a range of institutions of economic governance conditions with their own logic, set of objectives and functions, attributes, strengths and deficiencies.

Subnational authorities maintain multi-scalar, multi-actor and multi-level transregional governance arrangements to facilitate the processes of regionalization in three interrelated network dimensions. We argue that regionalization is embedded at three levels: extra-regional, interregional and intraregional economic cooperation (Su, 2014). Extra-regional transnational networks between larger blocques of macro-regions generally refers to transnational cooperation, which is economic cooperation between different administrative units. Political boundaries disappear and regionalization is more driven by economic development than political considerations. Interregional economic networks between province and other nearby regions. These cooperation enlarges concept of proximity to overcome geographical distance. Historical legacies, cultural affinity, economic forces and geographical components (lakes, rivers, ...) can propel migration of industries and labour. Intraregional (city-)region network cooperation is meant to enhance internal competitiveness. Intraregional dimension requires cities and subregions to economically join forces to foster a more competitive economic zone (e.g. London-centric regionalism in southern England, metropolitan Amsterdam).

3. Methodology

3.1 Interviews and literature review

The data collection and analysis used a process-based methodological framework (Yeung, 2003). The framework is useful because its emphasis on data triangulation. The first part of the research included desk research that focused on policy documents of regional governments and research reports on regional development. Academic articles were consulted that focused on economic, institutional and governance aspects of the case-study regions. The desk research provided first insights and questions about the design, implementation and coordination of regional economic policy in the different institutional environments. More specific it provided insight in the dynamics of the institutional and governance structure, policy programs, spearhead sectors and relevant actors in regional development. The second part of the research involved interviews with local experts in all five case-study regions in the period between December 2011 and June 2012. We handle a qualitative approach that uses data extracted from interviews in the case-study regions. Interviews were conducted with officials of regional bodies and development agencies. Additional interviews involved experts at universities and regional organizations that could help to nuance the policy narratives. This part informed us on more 'intangible' issues on dynamics (background, relations, ...) of regional economic policy making in the case-study regions.

3.2. Benchmark and comparison of the five regions under study

There are diverging pathways towards economic development and a higher welfare level per capita (Huggins, 2010; Nijkamp, Zwetsloot, & van der Wal, 2010; PBL, 2010). The impact of technology, knowledge and innovation in the production of added value is for regions very different. The regions with the same level of welfare often have a different knowledge base. Next to that, when regions evolve also the socio-economic conditions change and other factors become important to stimulate economic development. So measuring competitiveness of regions does not come for granted. In this section we look at the position of the regions in a series of comparative studies namely the EU Regional Competitiveness Index and international typologies based on important factors of regional competitiveness, mostly focused on knowledge and technology (Foddi, Paci, & Colombelli, 2011; Wintjes & Hollanders, 2010). Often focus these typologies on indicators relating research and development, technology and/or innovation. These results will give us first insight in some processes at the regional level and how these regions are related to each other.

Region	Position RCI	Type (Hollanders & Wintjens, 2010)	Position (Foddi <i>et al.</i> , 2010)
Kobenhavn	2	Metropolitan knowledge intensive services regions	1
Noord-Brabant (NL)	9	High-tech regions	5
Prov. Brabant Wallon*	17	Metropolitan knowledge intensive services regions	10
Hamburg	20	Metropolitan knowledge intensive services regions	55
Prov. Antwerpen	21	Knowledge absorbing region	44
Skane lan (SE22)*	32	High-tech regions	8

Table 1: Position regions on various rankings. Source: EU Regional Competitiveness Index, 2010; Hollanders en Wintjens, 2010; Foddi *et al.*,2010

The case-studies that are selected for this research are, for various reasons, very much in the picture in the 'regional development scene' as 'best' or 'good' practice regions in Europe. Oresund is the name for the cross-border region between Copenhagen in Denmark and Skane in Sweden. The bridge that was built between the two countries was an important driver for the regionalization process that started. Another reason is the good economic track record of Copenhagen. The south of Sweden (Skane) with university of Lund standing strong in life sciences (see further) and Malmo with an enigmatic building by Calatrava is in the picture.

Hamburg in Germany made a turnaround from an old industrial port city with a focus on logistics, port and maritime activities to an important city-region in north-west Europe with a diversified economic structure. Hamburg is the second biggest city in Germany after Berlin and has known a strong economic growth the last decennia. Despite the importance of the port for Hamburg, port-related industries and services have a rather modest share in the economic structure of the region (OECD, 2013).

Noord-Brabant in the Netherlands tops many innovation lists in the world and Europe. It is an innovation focused region with the presence of Philips and many spin-offs. The Brainport-region around the city of Eindhoven produces fifty percent of patents in the Netherlands. The southern region of Noord-Brabant in the Netherlands tops many of global and European science, technology and innovation lists (BRON). The Brainport area around Eindhoven was voted 'Most intelligent community of the year' in 2011 and Forbes called it the 'next Silicon Valley' (BRON). It is an innovation focused region which is the birthplace of Philips.

Indicator	Hamburg	Kopenhagen	Skane	Noord-Brabant	Waals-Brabant	Antwerpen
Inhabitants (x 1.000l)	1.773	1.671	1.231	2.439	377	1.738
Regional GDP (in million euro)	83.300	82.900	41.900	82.400	12.000	63.000
Regional GDP per capita (in euro)	49.100	52.400	31.500	36.100	32.500	37.800
Percentage of industry (incl. construction) in employment	18	16	22	24	/	23
Unemployment rate (in percent)	7,1	6,1	8,6	3,2	6,9	5,7
R&D-expenditure (in million euro)	1.925	4.316	1.746	2.443	922	1.433
Ratio R&D-expenditure against GDP (in percent)	2,0	5,1	4,6	3,0	7,6	2,3
Private R&D-expenditure in total expenditure (in percent)	60	79	77	89	/	/
EPO patent-applications (per million inhabitants)	197	360	440	550	306	181
Ratio knowledge workers kenniswerkers (in percent)	52	56	44	43	61	46

Table 2: Overview indicators case-study regions, source: Regional Innovation Monitor, 2011; EUROSTAT, 2011, own compilation

From the 1970s on a period of strong industrial decline characterizes the Belgian region Wallonia (Reid & Musyck, 2000). Surprisingly for some, Brabant-Walloon, one of its five provinces (and a NUTS-2 region) is well-ranked in European wide innovation and technology related regional indexes. The close proximity to the Brussels Capital Region with its international institutions played an important role in the attraction of multinational companies to the province. Additionally, the location of a diverse set of business and science parks nearby the university town

Louvain-la-Neuve fuelled international investment projects and spin-off activity in the chemical, pharmaceutical and biotechnological sector. These factors explain the relative high position of Brabant-Walloon in the ranking lists.

The province of Antwerp in the north of Flanders (Belgium) is home to the largest European chemical cluster and the second busiest port of Europe is located mostly in its borders. The port supports a related wholesale and logistics platform in the surrounding area of Belgium, France and the Netherlands. The province is the largest regional contributor to GDP in Flanders but is an average region, compared to the other cases, in the field of technology and science (cfr. patent application, R&D-investments).

The selected regions reflect the wide variety of size, power, function and many other indicators of NUTS-2 regions in Europe (see Lidstrom in Herrschel & Tallberg, 2011). The regions under study differ strongly in population number, ranging from the province of Noord-Brabant with 2.5 million inhabitants to Waals-Brabant with 350.000 inhabitants.³ Also a variety in the morphological structure of the regions: a region with a central urban core (Hamburg, Hovestaden/Copenhagen), regions on the fringe of a large urban area (Brabant-Wallon) and regions with a polycentric pattern of cities (Antwerpen, Noord-Brabant, Skane).

4. Dynamics of regional governance and economic strategies: overview of the case study evidence

4.1. Regionalization of the economic strategy

In this section we turn towards the design, setup and implementation process of the regional economic strategy in our case study regions. Policy may be regionalized in diverse ways because of the multi-faceted nature of a policy program. A particular interesting view when assessing policy strategies is to look for the different policy elements of a strategy that could be regionalized (Fritsch & Stephan, 2005). Decision competencies and tasks can for example be assigned to national-level or be devolved to actors in the regions, or split up between them. Very much related with competencies are the funds or budget that can be raised in the region, come from the central government or be shared between various levels.

The most extreme case in the set of case-studies is Hamburg which is one of the three Federal city-states in Germany. It has full regional competencies in economic, innovation and science policy and has its own financing mechanisms, complementary with national and EU funds. The regional level in Belgium (Flanders, Wallonia, Brussels Capital Region) have almost full 'nation state' competencies in the field of economic, scientific and technological development. In Wallonia and Flanders a tier of government between the communes (local level) and the region exist, namely the provinces (NUTS2-region).

The recent trend of decentralization of government powers in the Netherlands has resulted in a growing importance of the provinces (regional economic policy, spatial planning) and subregional platforms (e.g. platform Brainport, North and Southwing of Randstad) especially in policy implementation. From the 1990s on the Dutch national

³ Some indicators are developed on the basis of inhabitants. This implies that less populated regions or the regions with a relative low number of population can achieve a relatively high position while this regions in absolute terms achieves less in comparison with more densely populated areas. Some of the regions will be influenced by the 'headquarters' phenomena. Firms will report some issues in their administrative headquarters while activities are more regionally dispersed. This is often the case with capital cities and regions.

government supported the economic potential of regions (Raspe & Van Oort, 2007 in Kooi et al, 2014). The process of ‘spatialization’ of regional economic development was concretized by the identification of ‘Key areas’ and the programme ‘Peaks in the Delta’ (2005-2011) which introduced an area-specific innovation policy (BRON). Recently the Dutch government left the spatial focus of the Peaks in the Delta-programme and started to focus on ‘Topsectors’ *but still strong regional focus (e.g. Brainport 2020)*.

Both the Nordic countries of Denmark and Sweden have known a restructuring of their institutional fabric recently. The Swedish regions got more autonomy vis-à-vis the national state the last years. The regional level in **Sweden** is divided in 21 regions and has a regional council appointed by the Swedish national government. The regional council is the representative of the national state and the ‘interconnector’ between different levels, from local to national (OECD, 2003). Next to appointed council members there is an elected council with as most important competence health care. In 1999 a new reform brought some of the tasks of the national appointed ‘Lansstyrelse’ to the elected ‘Landsting’ with as objective to have a stronger democratic support and higher efficiency of the policy. The region Skane is part of a modernizing administrative exercise. The administrative reform of the country in xxxx.

The rate of decentralization in **Denmark** is relatively high. In 2007 a profound institutional reform took place in Denmark where half of the municipalities (‘kommuner’) and all the counties (‘amter’) were abolished. In their place 5 regions were installed. The reform gave the regional level different competencies in the development and implementation of a regional policy. The most important competencies budget wise (85%) are health care and secondary education. Following a series of constitutional amendments the last decades the three regional governments

	Brabant-Wallon (Wallonia)	Antwerpen (Flanders)	Hovestaden (Denmark)	Skane ⁴ (Sweden)	Noord-Brabant (Netherlands)	Hamburg (Germany)
Design	Very limited, design by Walloon level	Limited, Flemish design more important but unconnected	Yes, design and coordination	Yes, design and coordination	Yes, design and coordination	Yes, design and coordination
Objectives	Nationwide objectives	Regional-specific objectives with no national interference	Regional-specific objectives + partly national objectives	Regional-specific objectives + partly national objectives	Regional-specific + partly city-regional wide objective	Regional-specific + partly nationwide objective
Instruments	Identical in all NUTS-2 regions in Wallonia	Identical in all NUTS-2 regions in Flanders, limited own instruments	Semi-differentiated by NUTS-2 region	Semi-differentiated by (NUTS-2) region	Differentiated instruments + semi-identical national programs	Differentiated instruments + semi-identical national programs
Execution	Walloon level, some projects related to regional development	Flemish level, some projects related to regional development	Implementation of projects by stakeholders, and national and specific programs and initiatives	Implementation of projects by region, and national specific programs and initiatives	Implementation of projects by region and subregions	Implementation of project by region

⁴ Skane is not a NUTS-2 region I think, but is included in the study

Administration	Very limited, central body on regional level	Limited on provincial level, central body on Flemish level	Partly, within regional body	Mostly within regional body (Skane) region	Partly, within regional body	Fully, within regional body
Decision competencies	Very limited	Limited	Partly, regional development included	Partly, regional development included	Partly, regional development included with subregions, local and national	Full
Finance/Budget	Very Limited, mostly national (Walloon) level funding	Limited, mostly national (Flemish) level	No regional budget, national (75%) and local (25%) funding	Regional budget, complemented by national and local funding	Regional budget, complemented by national funding	Regional budget

Table 1: This table gives an overview of the 'regionalisation of the policy components of the regional strategy. The country or region between brackets is meant by the 'national level' in the table. The region in *bold* is the NUTS-2 region

In all the countries a regional economic strategy was designed by the NUTS-2 case study regions. Ranging from a very limited document to a full-fledged program that can oversee various policy domains. The economic development strategy of the province of Brabant-Walloon is very limited and draws largely upon the Marshall Plan that is designed, coordinated and financed by the Walloon regional government. The regional strategy of Hamburg in contrast is designed, coordinated and implemented by the Ministry of Economics and Innovation and oversees a various policy domains related to economic development. Also the regional-level coordination through regional strategies has become important. Both in the top-down obligation of the development of regional strategies and programs, as in some national frameworks or in the case of the ERDF ex-ante conditions of a smart specialization strategy. A second driver is the bottom-up development through cooperative or partnership efforts in regions. Regionalization can also influence the objective of a policy. The objective can be the achievement of a national goal or it can have a regional character (e.g. primary goals is to promote regional development of a certain region, this can stand in conflict with national growth objectives however). Often this is a point of national-regional coordination. National policy objectives can be reflected in regional strategies. There exist various coordination mechanism: contractual coordination, coordination via targets or frameworks, theme-based coordination or network-based coordination (**BRON**).

The objectives of the regional strategy of the province Noord-Brabant are regional-specific. But the Brainport region around Eindhoven received recognition as a national asset by the designation as third national Mainport, after Schiphol airport and Rotterdam harbor. The further economic development of the wider region is seen as a nationwide objective within the current the Brainport 2020 'South-East Netherlands'-strategy and previously in the 'Pieken in de Delta'-programme of the national government. Noord-Brabant consists of a complex institutional framework of policy actors active in the field of regional economic and innovation policy (Mommaas & Haarmann, 2011; Wintjes, 2011). Four subregional platforms in Noord-Brabant developed their own economic strategies (Midpoint, Strategische Agenda West-Brabant, 5-sterrenregio, Brainport) and are embedded in the provincial economic strategy Agenda van Brabant (Provincie Noord-Brabant, 2011).⁵

⁵ These regions are usually made up of several municipalities and tend to take various sizes, forms and ways of cooperation.

The regional authorities in Denmark have the full autonomy to use their funding for the support of innovation related activities. The strategy of the Danish Hovestaden region has regional-specific objectives and partly national objectives in certain projects (e.g. attraction of highly-skilled migrants). Instruments are semi-differentiated and an instrumental framework for some initiatives exists at national level and is adapted on regional level. The innovation system of Skane is part of a broader national innovation system. The national cluster policy is being implemented by VINNOVA. Together with the regional agenda the cluster initiatives get funded, often through competitive tendering. The strategy has regional-specific objectives and partly national objectives (e.g. VINNOVA in certain projects). In contrast also national-regional coordination can be absent as in the case of Belgium. The Walloon regional government takes a more centralized role (e.g. more than Flanders, Netherlands) with regard to subregional economic development. The provincial level in the region of Wallonia (Belgium) has very limited decision competencies regarding regional development and these powers are not well-defined (Reid & Musyck, 2000). In comparison with its Flemish counterparts, the Walloon provinces have no own funding mechanism and therefore heavily relies on local, regional (Walloon) and federal level finances. The Marshall Plan follows regional wide (Walloon) objectives and has no regional-specific objectives for the province of Brabant-Wallon. Although the province is considered as an important region for entrepreneurial activity with the 'technopole' of Louvain-la-Neuve, the biotechnology, pharmaceutical and chemical industries and nearby business and science parks.

The Flemish government recently designed, coordinates and implements a smart specialization strategy and a 'new industrial policy' that both are horizontal in nature. There is no explicit spatial focus (dedicated regions for focused intervention) which means that no regional-specific objectives are formulated. The provincial and subregional strategies are influenced by regional Flemish policy documents but are structurally unconnected to the Flemish strategy documents. The objectives of the provincial strategy are thus regional-specific without national (Belgian) or regional (Flemish) interference. Instruments for regional economic development are mostly developed, financed and administrated by the regional Flemish level without a specific spatial focus. The Flemish provincial level has limited competencies regarding regional development (BRON) Although having a limited own budget gathered through taxes most of the budget of regional development projects in the province of Antwerp is funded or co-funded with Flemish, local and European money.

The level of operation of a policy can be nation-wide (e.g. specific innovation programs) or only operated in certain regions of a country like a specific regional strategy or a policy targeted designated areas e.g. urban and peripheral areas, regions with a specific industrial structure or designated themes e.g. specific R&D and innovation programs. There can also be distinguished in the instruments being used: are they regional-specific instruments (e.g. financial incentives in designated zones) or are they identical in all regions (e.g. innovation subsidies based on competitive tendering). Administration can be within regions, distributed among levels of government or be at the central level of government.

The Hamburg city-state develops its own differentiated instruments and administration is mostly within the region. Next to that semi-identical instruments are used in the operational framework of the national German government for thematic R&D (Spitzenclusters, Excellence) and public research institutes (Fraunhofer, Max Planck) and EU-

funding mechanisms. Also in the Netherlands an operational framework for implementation of R&D and innovation policy instruments is set up by the national government to stimulate innovation and economic development (current Topsectoren, MKBInnovatiefonds, Agentschap NL, innovation (e.g. One point)). This framework is used in (a more or less) differentiated way by the provincial and subregional level. The administration is split up on various levels depending on the initiatives. The most important role for the province of Noord-Brabant is coordination and co-financing of strategic initiatives who are being developed by regional stakeholders. The design and coordination of the regional growth pact in Skane is the responsibility of a regional growth committee with subregional and local actors involved. Regional development projects are financed from a variety of sources (regional, subregional, local and national government), sometimes the private sector is involved. Also in the region around Copenhagen a regional 'Growth Forum' designs and coordinates the regional strategy and vision. In both regions the implementation of the strategy is dealt by the regional and local government by designated agency and stakeholders in projects (e.g. municipalities, universities, cluster organisations, research institutes, business organizations, ...).

Three typical examples of the different meaning of the regionalizing of a program are put forward by Fritsch & Stephan (2005). A national policy that accounts for the regional dimension of innovation or economic activity. The BioRegio program in Germany for example. This program implemented to reach the national goal of stimulating development of German biotechnology sector by means of promoting clusters. It operated in selected regions and was implemented through regional specific concepts developed by regional actors. The initiative, finance, administration, selection and other decision competences (more or less) were completely assigned to central state level. A regionalized innovation or economic policy aims at promoting development in certain backward areas by means of stimulating innovation activity and regional development here. The regional policy scheme aimed at certain backward areas. It is in accordance with national objectives, instruments, finance and administration or not. Mostly selection is dominated by a central-level government that also contributes largest share of respective funds. Regionalized innovation or economic policy are seen as local initiatives that emerge from within a region. It operates entirely autonomous in a region with specific instruments. It can act autonomously, the administration and decision competences are completely intra-regional, and the recourses are spent entirely in respective region. There is no inter-regional distribution of public funds, so it is not in conflict with goals of national level. We can also place the case studies in a continuum, were Hamburg is on one end of the spectrum with a fully regionalised innovation and economic policy and Brabant-Wallon is on the other end of the spectrum with a national policy initiatives that account for the regional dimension of economic activity.

4.2. Sector-based regional strategies

Due to the changing role of the region in economic development, policy schemes targeted towards specific regions underwent significant changes in objectives, geographical scope, governance and policy instruments (OECD, 2010). Regional innovation policies have gained a prominent position in the field of economic support and intervention (Lagendijk, 2011). And the recent financial crisis of 2008 brought industrial policy back on the agenda in several European regions. Furthermore, there is an increasing importance at the regional level with regard to

diffusion-oriented innovation support policies. Especially in the European Union where much of the support is channeled through the regional development funding. A large part of this budget is allocated to peripheral or urbanized manufacturing regions with unfavorable economic structures.

Over the years a large body of literature provided us with insights into why some regions grow faster than others. Particularly the regional innovation system (RIS) perspective was very influential in the policy design of the OECD and the European Commission. In the current debate on a new generation of regional development policies the concept of smart specialisation (RIS3) has gained significant political and analytical importance at the regional level. Both these policy schemes combine measures that stimulate knowledge transfers between universities and firms, training, local and regional partnerships and alliances, venture capital and traditional mechanisms centered on incentives systems and an 'entrepreneurial discovery process' of smart specialisations (Vale, 2011: 414; BRON). Most of the case-study regions choose the approach of clustering and their regional strategies are since recently heavily on RIS3-strategy building.

Region	Brabant-Wallon (Wallonia)	Antwerpen (Flanders)	Hovestaden (Denmark)	Skane (Sweden)	Hamburg (Germany)	Noord-Brabant (Netherlands)
Number of domains	6 defined on Walloon regional level	6	4	7	8 + 4 defined on Metropolregion level	7
Domains	Health (Biowin) , Agro-industry (Wagralim), Mechanical engineering (Pole Mecatech), Transport-logistics (Logistics in Wallonia), Sustainable technologies (Green Win), Aerospace (Skywin)	Logistics; Sustainable construction, new materials and chemical; Chemical, biobased and life sciences; Creative Industries; Agrocomplex; Retail	Cleantech, ICT, Life sciences, Entertainment (gaming, digital, film)	Packaging, Cleantech , Mobile heights, Moving media	IT (Hamburg@work); Aviation industry; Life sciences (Life Science Nord); Logistics (Logistics Initiative Hamburg); Creative industries; Renewable Energy; Maritime technology (Martimes cluster NordDeutschland) + four supported by Metropolregion: Chemical industry, Food, Engineering; Tourism	High-tech systems and materials, maintenance, bio-based, agro-food-nutrition, logistics, life sciences and medical technology, creative industries
Approach	Pôles de compétitivité	Cluster approach	Cluster approach	RIS approach / cluster approach	Cluster approach	Ecosystem approach / cluster approach
History	Administrative reform Federal level, since 2005 building strategy based on poles (Wallonia)	Administrative reform + future reforms, focus on sector-based strategy since 2010	Administrative reform, 5-year strategy (focus first on broad sector agenda but now only 4 clusters)	Administrative reform, building of platform for regional development with extra-regional support	First strong focus on port, than on diversification and explicit cluster strategy. Now Innovation Alliance Hamburg with strong focus on interface between industry and science	Strong influence of national program 'Pieken in de Delta' with specific regional component. Now Topsectorenbeleid (2011) with less regional focus but some regional clusters.

Table 4: Overview sector-based economic program

All of the NUTS-2 regions identify specific priority sectors, industries or domains in their regional strategy. Table 3 shows the diversity in the selected sector priorities of the case study regions. These often reflect the presence of a specific industry in the region, for example the chemical industry in Antwerp, the aviation industry around Hamburg or the packaging industry in Skane. Next to this diversity there is a tendency for regions to choose the same priorities. Some of these regional sector initiatives are used as an inspiring concept for clustering and knowledge transfer initiatives. Often these best practices are identified by a benchmarking exercise and are focused on

introducing a regional model developed in a different institutional context (Huggins, 2010), most often the Silicon Valley-model is chosen. This process of regionalization of best practices is problematized by academic scholars and policy practice.

There is a tendency among regional policy makers to choose for initiatives targeting fashionable sectors (Hildreth & Bailey, 2013) based on a 'best practice' model neglecting sectoral and regional specifics and 'place-based' conditions (Martin, Moodysson, & Zukauskaitė, 2011). Furthermore the transferability of best practices is doubtful because of 'knowledge asymmetries' (Asheim, Boschma, & Cooke, 2011). Increasing awareness thus exists among academia and policy makers that 'one-size-fits-all' regional policy models do not work because these models are not embedded in the institutional, geographic and sociological setting of a region (Tödtling & Tripl, 2005) The most frequently cited priority sectors are logistics, transport and distribution, health and the chemical industry . Next to the trend of choosing the same priorities, there is a tendency for regions to focus on some 'fashionable' sectors like cleantech, life sciences and creative industries. Sometime political choices are the reason for this rather than evident competitive advantage. This example also show how regional policy components are evolved over time because some changes become apparent: there is a tendency to choose for less sector priorities while narrowing down the sector, industries and domains to focus on regional-specific niches and more 'modern' sectors (e.g. clean-, green-, bio-, nano-). Regional strategies focus on specific industries or technologies because of the pre-supposed cumulative effect through (in)direct linkages with other firms and the perception that 'modern, high-tech' industries are necessary for economic growth (Lambooy & Boschma, 2000).

4.3 Geographical scale of the regional strategies

Recently the European Commission established a new regulatory framework for the European Regional Development Fund (ERDF). The regulation contained an ex-ante obligation to develop a smart specialization strategy for regions who want to make use of the ERDF. Smart specialization strategies contain policy components that target the scientific, economic and technological knowledge base of a region. Boschma (2004) argues that the excellence of a region is based on the specific knowledge and competence base of firms. This knowledge base is regarded as an important driver for economic growth and regional development.

Asheim et al. (2011) argues that there are typically three kinds of knowledge bases: synthetic, analytic and symbolic. The knowledge bases have different collaboration, cooperation and knowledge-seeking mechanisms with a unique geographical scope. Previous studies have identified an evolution in the geographical scope of regional economic policy strategies with a focus on sector-based initiatives (Asheim, et al., 2011). In correspondence with these findings, regions are expected to target parts of their smart specialization strategy not within their administrative boundaries alone but also to go beyond their borders to the functional economic region of a respective industry, to cross-border regions or towards global hotspots. We argue that regionalization is embedded at three levels: extra-regional, interregional and intraregional economic cooperation (Su, 2014).

	Brabant-Wallon (Wallonia)	Antwerpen (Flanders)	Hovestaden (Denmark)	Skane (Sweden)	Hamburg (Germany)	Noord-Brabant (Netherlands)
	<p>Extraregional: links with Brussels Capital Region</p> <p>Interregional links with Flemish Brabant and other Walloon provinces</p>	<p>Intraregional: subregional partnerships</p> <p>Extraregional: linkages with Delta region</p> <p>Interregional: linkages with other Flemish provinces and with international policy networks on Flemish level through Vanguard Initiative</p>	<p>Less intraregional</p> <p>Extraregional focus on certain top-regions</p> <p>Interregional Oresund-focus</p>	<p>Intraregional within regional growth committee</p> <p>Interregional Oresund focus</p> <p>Extraregional through Vanguard Initiative</p>	<p>Strong intraregional and interregional (Metropolregion Hamburg, with 11 districts together in 3 Länder, 'functional urban area Hamburg')</p> <p>Strong development of 'multi-level governance' processes through 'flexible geometry',</p> <p>Extraregional with Copenhagen/Oresund and other metropolitan regions via IKM and METREX</p>	<p>Strong intraregional coordination function</p> <p>Strong interregional (Delta, Elat, Vanguard, Brainport South-East)</p> <p>starting extraregional Brainport</p>

6. Conclusion

The 'hollowing out' of the nation state (see Jessop, 2004) or rescaling of policy systems is a dynamic process going upwards driven by globalization and supra-national region building and downwards by sub-state regionalization (Keating, 2014). Resulting from social, cultural, economic and political factors in European countries specific competencies related to economic policy domains are rescaling to the regional level (OECD, 2010). Where initially the regional level adapted national policies and instruments, individual regions now have strengthened capabilities for tailor-made policies and have more weight in regional programming and policy coordination (Bachtler et al., 2003; Lagendijk, 2011).

It is clear from the case-studies that most countries actively regionalized aspect of economic policy (BRON). The case-studies are till a certain stage all in the process of institutional regionalisation. During the last 10 to 20 years a very dynamic process was taken place where regional boundaries were transformed, added and abolished. Some regions have known a process of decentralization, regionalization or re-institutionalization of their institutional structure. Looking to the five cases, all countries know a three-layered government structure with an administration on a national, regional and local level. But although the same basic institutional structure exist, there is a great variation in competencies among the studied NUTS 2-regions in Europa and a dynamic nature of institutional reforms during the last 10 to 15 years. In all countries of the case-studies various mechanisms are set in place that decentralized and regionalized part of economic policy making.

A stream of literature related to regional strategies focuses on the need for 'joint-up governance', 'place-based' approaches and contextual awareness in the delivery of regional policies (Barca, 2009). The delivery of 'place based' regional policy schemes requires the creation of cooperation initiatives between actors in a region stimulated

by a network of 'stakeholders' (European Commission, 2010). Empirical work throughout Europe shows that a large body of public, semi-public and private actors is active in permanent, temporary or provisional arrangements for the economic development of regions (see e.g. Cabus, 2002; Voets & De Rynck, 2006 for the case of Flanders). These (often complex) arrangements point to an increasingly 'multilevel and multiscale approach' of governance where different scales of government and governance interact with each other.

Institutional	Hamburg	Hovestaden	Skane	Noord-Brabant	Brabant-Wallon	Antwerpen
Competencies regional development	Full	Partly	Partly	Partly	Minimal	Minimal
Operationalization regional strategy	YES	YES	YES	YES, partly	NO	NO, partly
Multi-scalar involvement strategy (linkages)	YES	YES	YES	YES, partly	NO	YES, very limited
Horizontal	YES, partly Federal government	YES, National government / local government	YES, National government / local government	YES, subregions, local government,	YES, regional government in charge	NO, own strategy without interlinkages
Vertical	YES, business groups, adjacent regions	YES, business groups, adjacent regions,	YES, business groups, adjacent regions	YES, business groups, adjacent regions	NO	YES, partly, adjacent regions
Triple-helix	YES	YES, structural	YES, structural	YES, partly (structural)	NO	Partly
Institutional rescaling	NO	YES	YES	NO	NO	NO
Functional rescaling	YES	YES	YES	YES	YES	YES

Table 6: Overview multi-scalar regionalisation case-study regions, source: own compilation.

The province of Noord-Brabant, Hamburg, Copenhagen and the Skane-region all got more competencies related to economic development. The NUTS-2 provinces in Belgium are in this case less equipped. Following the previous section we conclude that opportunities to develop a 'place-based' development strategy are very dependent on the regionalization of competencies. But as Reid & Musyck point out, in the case of Wallonia, the autonomy of action *per se* is no guarantee of efficiency and effectiveness of a regional industrial and economic strategy. One of the key factors for a successful strategy and regional development is "a *certain cohesiveness of vision allied with institutional relationships within the region where the tasks and competencies of the various players are well-defined and complementary*" (Reid & Musyck, 2000, p. 197). This could relate to the concept of 'underdevelopment' of regions as stated by Hildreth (2013).

This paper connects the regionalisation of economic policies with the differentiated and rescaling institutional framework of NUTS-2 regions in Europe and the geographical scope of strategic policy initiatives targeting specific sectors and industries. Further research will focus on the motives of the rescaling of economic policy programs in general and the role of territorial policy communities herein. Furthermore the study will look into the geographical scope of the five regional economic policy programs and relate the sector-based initiatives to the differentiated knowledge bases. We then focus on the multi-scalar alignment processes of these sector-based initiatives within

these 'rescaled territories'. The completed paper will then focus on a new way of building regions (regionalization) with a focus (geographic scope) of economic programs of regional governments in Europe.

In this paper we argue for a regional economic policy program based on a differentiated set of instruments that reflect the industry-specific needs and specific knowledge bases of targeted sectors, realistic objectives based on the possibilities and competences of the regional institutional framework and ambitious actions towards cooperation between functional regions. The paper connects the geographical scope of policy initiatives and the differentiated knowledge base of chosen spearhead sectors.

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