

Cooperation on the Amsterdam-Utrecht-Eindhoven axis  
*Complementarity as a priority in regional economic  
development policy*

Master Thesis O.J.M. de Jong (360332)  
Erasmus School of Economics  
Urban, Port & Transport Economics  
Supervisors: -Dr. Alexander Otgaar  
                  -Dr. Erik Braun  
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## Preface

The hardest part of writing a thesis is narrowing down. When I started working on this thesis project almost a year ago I was already warned for the risk of trying to include everything that seems relevant in a topic where questions in many cases can be answered by ‘yes’, ‘no’ or ‘a bit of both’. I do however very much like these topics. Economic questions that have a political context and feature many stakeholders often make a very interesting analysis. And yes I fully admit that if I would have chosen a dataset and a research question on for instance *modal split* or some effect of pricing I presumably would have finished at an earlier point in time.

But I have enjoyed the process very much. Combining writing a thesis with working as a research assistant at Erasmus University / RHV led to some *kruisbestuiving* between the research ‘at work’, my thesis and the other way round. Another result of the chosen approach has been my next career step. As a *junior researcher* at RHV I will be able to continue researching these interesting topics, yet this time paid and with stricter time constraints.

The main purpose of a preface is however to thank people. And this is a chance that I also want to grab. First of all of word of thanks to my supervisors who sometimes brought up the *how is your thesis progressing* question during lunch, coffee break or social drinks. Thanks for that! Also a word of thanks for the rest of the staff at RHV. Next to that my parents (who also put up some constructive pressure), my girlfriend (who has been very understanding) and all my friends who provided me with useful insights and if needed some peer pressure.

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# 1. Introduction

‘The Eindhoven region is the smartest and the Utrecht region the highest educated’. This was the conclusion when the mayors of Utrecht and Eindhoven spoke together at the celebration of the one year alliance between the universities of Utrecht and Eindhoven and the Utrecht university hospital.<sup>1</sup> ‘The Netherlands is too small for competition, Eindhoven and Utrecht should cooperate more’ was the next conclusion of the mayors. The discussion went on and it was also concluded that more cities should be part of this cooperation.

Interesting remarks as the economic relationships between the most logical cities for this cooperation, Amsterdam, Utrecht and Eindhoven have been identified (Louter, 2002) as the *A2 axis* or *A2 corridor*. Most likely unknown to the two mayors the first observation looks like a claim to a certain (economic) complementarity between Utrecht and Eindhoven. If the mayors think of calling in their Amsterdam colleague matters get more complicated. Utrecht and Amsterdam are more of a substitute. This research is about this possible cooperation. Main aim of the research is to find out to which extent complementarity is a factor in regional economic development policy. Do these cities complement each other? And would taking complementarity as a factor in local economic policy make sense? This possible cooperation, the axis Amsterdam, Utrecht, Eindhoven, is the topic of this thesis.

## 1.1. *Research set-up*

The objective of this research is to analyze to what extent complementarity is a factor in economic policy pursued by the main cities in the polycentric urban region of the Amsterdam-Utrecht-Eindhoven axis. This in the context of new economic realities (the knowledge economy) where (economic) complementarity and substitutability are important determinants of regional economic competitiveness and therefore sustainable structural economic development. These cities are embedded in several networks, differing per economic activity or function. One of the constellations where there is economic interaction between these cities is on the A2 axis, an important North-South corridor in the Netherlands. The cities on this axis have varying (degrees of) specialization(s) and, related to this, possible synergy gains (complementarity). In

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<sup>1</sup>For a full report on the day, see the website of the Utrecht University newspaper: <http://www.dub.uu.nl/artikel/nieuws/samenwerking-eindhoven-krijgt-kleur.html>

an age where regional economic development (via the ‘proxy policy objective’ regional competitiveness) is deemed to be more and more important (think of the creation of for instance *economic boards*) it might be interesting to see if this (possible) complementarity with neighboring cities/regions is also translated into a goal of regional policy, or at least used as a preamble in (strategic) policy documents. Our main research question therefore is:

*Is complementarity a prioritized factor in (structural) regional economic development policy on the axis Amsterdam-Utrecht-Eindhoven?*

We will apply theoretical knowledge on several relevant topics concerning economic development. The research has a mere explorative character. This research is due to recent developments in rethinking the Dutch governance structure and fostering local economic competitiveness very relevant. For this research we have come up with the following hypothesis:

*Given the perceived benefits of regional economic complementarity we expect this concept to be a prioritized factor in regional economic development policy on the axis Amsterdam-Utrecht-Eindhoven.*

This hypothesis and research question is then cut up into several sub questions who address one specific issue out of the main research question and hypothesis.

- What is complementarity and how is it applied in regional economic development theory?
- What are (other) ‘classical’ and contemporary theoretical arguments for regional cooperation?
- How can the ‘Amsterdam-Utrecht-Eindhoven’ (conceptual) region best be defined and characterized?
- Is complementarity a (prioritized) factor in relevant local and regional economic development policy?
- What are possible policy actions that can be taken to foster complementarity in regional economic development policy?

## ***1.2. Outline of the thesis***

We start this thesis by discussing the theoretical side of regional economic cooperation. First we explain the concept of complementarity and apply it to regional economic development. Next, we discuss other reasons why cities opt to choose to work together on a regional scale. Most of these arguments are directly related to complementarity. This is why we will discuss regional economic competitiveness and themes with a direct connection to regional economic competitiveness.

Functional arguments to cooperate, think of more efficient provision of services, are discussed for the sake of completeness of a theoretical framework on regional cooperation. These theoretical arguments and their relationship with the concept of complementarity is however outside of scope of this thesis as we opt to focus on structural economic development (that benefits the competitiveness of a city/region).

In the research framework and methodology section we will develop our research framework for answering our main research question. We use the findings from the literature as building bricks for our complementarity approach to regional economic cooperation. Next we present the methods of analysis we will use in the case study.

In the empirical part of this thesis we will apply this complementarity approach to the example of the Amsterdam-Utrecht—Eindhoven corridor. In chapter 4 we will introduce this region. We will discuss the history of the concept ‘A2 Axis’ and we provide examples of this concept in policy practice. This chapter will also feature an overview of the basic (economic) characteristics of all the three cities and their respective policy on structural economic development. Special attention will be paid to specific policy that is geared towards the knowledge economy (captured in this thesis in more detail by the development of science parks and regional branding/profiling).

In chapter 5 we cross analyze the findings from chapter 4. By doing this we are able to assess if complementarity is a factor in the respective economic policy documents of the relevant policy bodies that make up for the Amsterdam-Utrecht-Eindhoven axis.

Chapter 6 will synthesize the main conclusions of our research and we will discuss some policy measures that could be taken to influence complementarity as factor in economic development policy on the Amsterdam-Utrecht-Eindhoven axis.



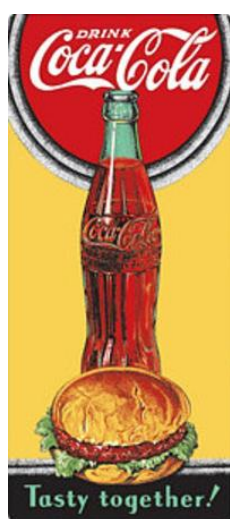
## 2. Theoretical Framework

In this chapter we will introduce and discuss a number of arguments why cities, regions or other geographical entities cooperate. Most attention will be paid to the concept of complementarity in regional economic development. Next to that we will also introduce other reasons why cities might cooperate. This chapter is structured as follows:

Core (top-layer)	Complementarity and regional economic development		
Context (fundaments) 'why and how to cooperate'	Regional competitiveness	Classification of regions and tasks for a region	Changing society & trust in regional cooperations

Complementarity serves as a main line of reasoning throughout the whole thesis and will therefore be introduced first. Complementarity is embedded in theories on regional competitiveness and the discussion of size, related to the provision of public services. This is why we will discuss these two lines as well.

### 2.1. *Complementarity in regional economic cooperation*



#### **The concept of complementarity**

The meaning of complementarity in can be gripped in two conditions. The first one is that A is not B. Also there need to be merits of combining A and B. A fairly easy to understand example of complementarity is found in the marketing of a well known soda manufacturer. Adding their cola to your meal makes for a combination that is more than the sum of the two separate elements, as can be seen in the old Coca Cola advertisement in the picture to the left. However silly, the example explains the second condition of complementarity very well. Coke and, for instance,

an assortment of French cheese is not very complementary. In the same fashion: having the same advertisement with both Coca Cola and Fanta creates no complementarity. Coca Cola and Fanta are substitutes.

In the field of theories on regional economic development complementarity has 'remained a rather vague concept' (Meijers, 2006, p2). Also the specific research topic has not been covered to a large extent, most attention is paid to specialization and cluster building, mainly the paradigm of Porter. If we for instance look at one of the most recent articles on regional economic complementarity, an *Urban Studies* article from 2010 by Van Oort et.al. we see that the same articles are used that were used by authors on the same topic almost a decade earlier. Hague and Kirk (2003) characterize complementarity as the idea that different settlements or regions can fulfill different and mutually beneficial roles, through simultaneously embracing the advantages of competition but also by overcoming the associated disadvantages.

Meijers (2006) drafts two important preconditions for cities in polycentric urban regions to be complementary. First, there must be differentiation between the cities in terms of urban functions or activities taking place in the centre of the city. This differentiation can also relate to differences in working environments or residential environments. Second, the geographical markets of demand for these urban functions/activities or environments must at least partly overlap. Activities undertaken in one city should also be offered to the other city and the other way round.

### **The merits of complementarity in regional development**

Lambooy (1973, p149) describes the merits of complementarity as follows: 'Specialization into complementary units creates a more stable structure and at the same time a more flexible one for adaptation to changing exogenous factors. In certain spatial entities in which specialization between complementary objects exists, it is, ceteris paribus, much easier to develop new specializations than in entities with the same population and a less diversified economic structure. Diversification and the possibility for specialization of the component parts are highly correlated'.

Meijers (2005) sees the merits of complementarity in the fact that citizens and companies can take advantage of the various functions that the other city has to offer. Both cities can specialize more as the demand market on which they build is larger given the overlapping of hinterlands. This means that companies, citizens and tourists can choose from a larger more specialized and diverse collection of urban functions, business milieus and residential milieus. Franz & Hornych (2010) explain that complementarity also allows cities (actors) to focus on their core competencies and refrain from activities where they have less qualities, and leave these to the other cities in a polycentric network. According to Meijers (2005) there is a strong link with agglomeration economies. These phenomena of scale and regional competitiveness are discussed later on in this theoretical chapter in more detail.

### **Measuring complementarity**

Specialisation can easily be measured by amongst others the location quotient (Atzema et.al, 2011) where the presence of a specific sector is weighed against the expected presence of that sector, based on for instance the national average. Measuring complementarity is a far more complex process. Meijers (2005, 2006) introduces correspondence analysis to quantify the degree of complementarity between cities in a region. The exact method of this correspondence analysis reaches beyond the scope of this but the main idea is that the method provided a single statistic (called the total inertia) that described the extent of differentiation in the profiles of a group of cities. The spread around a centroid (the average profile) is measured. The higher the distance from this central point the higher the complementarity. The highest attainable inertia value, -1, is not to be found in practice. This would imply that for instance one city in a region has all the schools, another one all the hospitals and yet another all the banks.

## ***2.2. Theoretical motives for cities and regions to cooperate***

### **The development of the field: early arguments for cooperation**

Cooperation is seen as a good thing. Irrespective of economic system cooperation between nations or regions is seen as to bring peace and progress. In this chapter we however will look for the theoretical justification for regional and metropolitan cooperation. It is important to note that the concept region(al) is here used to describe an geographical area (almost exclusively) within the boundaries of a single nation state.<sup>2</sup>

Regional cooperation has been studied for a long time now. In a 1932 article by Brocard & James the authors state that cooperation will develop naturally at a local level because individual actors develop ‘an ability to work together for a common aim’. Over time this cooperation between individual actors expands into economic activity within a region. The importance of formalized cooperation is stressed in the same article: ‘To an even greater extent than the nation as a whole, the regional economy depends for its complete development upon continuous contact with other regions, so that, by cooperating with them, it may facilitate the movement of commodities and of men’ (Brocard & James, 1932). National policy should therefore aim at encouraging the maximum coordination and interdependence of the various regions. Already in 1932 it was signalized that there is tension between the economic freedom of regions (and their policy) and the role of the central government as ‘conductor of the economic orchestra’. The final advice on the necessary conditions for regional cooperation is therefore: ‘The final aim of both national and regional policy must therefore be to develop among all regions an active cooperation which still leaves to each the liberty of action necessary for the best management of its affairs’ (Brocard & James, 1932). The remark that ‘all regions’ should cooperate can most likely be attributed to a, certainly back then, present feeling of being able to perfectly steer an economy. Contemporary scholars have also identified this aspect of regional cooperation, see for instance Andersen & Pierre (2010).

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<sup>2</sup> This to distinguish from ‘regional’ in the sense as a geographical region worldwide, for instance ‘the South East Asia region’.

Concluding one can say that in this early work regional cooperation is seen as key to prosperity and that the main policy actions should be to facilitate this cooperation and to adjust behavior of regions that is not in line with the development of all. A very positivist view, maybe affected by a feeling of being able to control the economy and therefore the prosperity of society. Yet the basic idea that cooperation has something to offer for both parties and that it should always be in the interest of both exists till this day.

Over time the motives for cooperation have evolved. Also the level of analysis changed. The region had already been established as unit of analysis, think of Chisholms *Hinterland*<sup>3</sup>, but judging urban developments, seen in for instance the northeast of the US (the ‘megalopolis in the Boston, New York, Washington corridor, there was room for another unit of analysis. Midway the twentieth century a new field had emerged within the economic geography. ‘Metropolitan governance (studies)’ excelled as a separate field of studies. In an early article on the subject, Gras (1922), the concept of metropolitan economy and governance is explained. The metropolitan economy is the concentration of the trade of a wide area in one big city. Gras (1922) sees the area of the metropolis as several hundreds of miles in diameter where the central city is the center, not only for local trade but also for ‘intermetropolitan’ trade. Economic actors will concentrate on the inter-metropolitan trade because of economies of scale and larger trade possibilities in metropolitan areas. The ‘modern’ conclusion would then be that (cooperating) metropolitan areas are able to attract more economic activity because more specialized services are available (see for instance Docherty et.al.(2004) for a contemporary article stressing this importance). But Gras (1922) already identified a ‘remarkable concentration of financial power in the metropolis’, posing the concept of the ‘critical mass’ as a motive for cooperation as often only larger (urban) areas can provide this. The scale argument is also found in Gottmann (1957) who adds the remark that ‘the concentration of cultural leadership makes it difficult for institutions such as the Ford Foundation or the R.C.A. Research Laboratories to operate from headquarters

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<sup>3</sup> The English geographer Chisholm coined this term in his (Handbook of Commercial Geography, 1888) to denote the area that is served by a seaport and does not necessarily have to be bound to an administrative area (e.g.. a single nation state)

located far from Megalopolis (the Boston-Washington Corridor is meant here, OdJ).’ Although not dubbing it ‘research and development’ Gottmann (1957) clearly identifies the still present tendency of major corporations to have activities higher up the value chain closer to the headquarters of the firm. Gottmann (1957) also identifies the future so to be called ‘Randstad’, but includes, contrary to current analysis, the Utrecht-Arnhem area in this ‘megalopolis’.

Next to the arguments of regional cooperation as to more effectively steer the economy (Brocard & James, 1932), the argument of scale (‘critical mass’) by a.o. Gras (1922) and Gottmann (1957) a third important argument developed. By interlocal cooperation there could be a more efficient provision of certain types of shared public goods. Oft this has to do with economies of scale, or better said: the minimum efficient scale (MES) (Ostrom et.al, 1961). Alternatively the concept of administrative efficienciess is used (Matkin & Frederickson, 2009). Indicators here are for instance the asset specificity of the service and its capital intensity (Leroux & Carr, 2007). Besides producing more efficient, regional cooperation in the provision of public services allows for better internalizing spillover problems, hence creating benefits for the population as a whole (Feiock, 2007). An extension of the minimum efficient scale is the collective action problem. A collective action problem is a situation where all actors would benefit from a certain action but no single actor is willing or able to take this action (and often solve a problem). Agreeing to cooperate on solving this problem can solve the obstacle of the collective action problem. Also connected with cooperation on the provision of public goods is bringing down transaction costs (Feiock, 2007). Transaction costs are influenced by the amount of available information and degree of certainty (Coase, 1937). Higher asset specificity, lesser degrees of available information and low degrees of certainty increase transaction costs hence the cost of providing a good. If governments are required to provide more services with a high degree of asset specificity more risk is involved hence higher transaction costs are likely to be found. Transaction cost theory can therefore explain service provision decisions (including the decision to cooperate) made by local governments (Brown & Potoskim, 2003).

## **Contemporary arguments for regional economic cooperation**

So far we have already discussed three theoretical arguments for regional economic cooperation. Cooperation can better steer the direction of the regional economies hence enhancing the national economy. Next to that cooperation can provide the ‘critical mass’ and cooperation can ensure a more economic provision of public goods and services. With the rise of (research) on innovation and regional competitiveness a number of new theoretical arguments have been found that support the need of regional economic cooperation. The division in time between arguments in favor of cooperation also marks the change from the concept of Fordist cities to post-Fordist cities. The Fordist city was characterized by large scale and gaining from the enormous amalgamation of capital and labor in a certain place (Paddison, 2001). The post-Fordist is founded on totally different principles where flexibility, knowledge and ability to adapt to new realities is more important than scale (Amin, 1994). It is interesting to note that there is a difference between scholars who see regional cooperation as a necessity in order to sustain in this globalised post-Fordistic world, a.o. Asheim (1996), ‘Successful competition requires regional cooperation in respect to both production and consumption’ (Blatter 2006; p123) or Rondinelli et.al (1998), and authors who have a more positive view on regional cooperation, and see it merely as a way to enhance the position of a region. These authors are the authors who are more popular among policymakers (think of for instance Glaeser and Florida).

The challenges and possibilities of globalization meant an increased level of competition between cities and regions. The idea of globally operating companies who are indifferent where to locate a specific activity<sup>4</sup> means that regions are increasingly competitors of each other when it comes to locational decisions of multinational companies (Malecki, 2007). Regional cooperation might then mitigate the competition between neighboring administrative regions (Andersen & Pierre, 2010) and prevent a ‘race to the bottom’ when it comes to attracting inward investment (Tewdwr-Jones & Phelps, 2000).

Besides preventing this ‘race to the bottom’ regional cooperation might create positive

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<sup>4</sup> Indifferent should here be understood as a company being indifferent of locating an activity like R&D in The Randstad, The Ruhrgebiet or the Copenhagen-Malmö region. There is therefore competition between these regions just as there is competition between different Chinese regions where to locate production facilities.

spillovers. Strategic investment in urban key assets in one place might create spillovers hence value for all the partners in the cooperation (Docherty et.al. 2004). Also regional cooperation might better support the evolution of highly specialized companies and services within the area (Heeg et.al., 2003). On the other hand: following the Jane Jacobs line of thought on industrial diversification more cooperation might stimulate the exchange of ideas between the different actors in an (urban) region. Ultimately this will then be the driver of economic prosperity of geographic regions (Feldman & Audretsch, 1999). The concept of specialization or diversification and its linkage to regional economic cooperation in the post-Fordist economy has ties with the aforementioned critical mass argument. Regional cooperation can provide the critical mass needed for having specific knowledge infrastructure (universities, research institutes) who can enhance the competitiveness of a region (Varga, 2000).

To summarize we can discern five major arguments in favor of some form of regional economic cooperation. First there is the argument of better coordination by cooperation. Instead of all regions performing actions on their own, with the scope of these actions being their own region, regions should cooperate and take each other into account. Regions should have a large degree of freedom in their economic choices but this might harm other regions' wellbeing, therefore the need of cooperation. A second argument is the argument of scale. Trade will focus there were the largest economic base is, enlarging this base by cooperation might then be a motive for regional economic cooperation. The third argument justifies regional cooperation by pointing out the more effective provision of public services than can be achieved by operating at a larger scale and working in cooperation. Also collective action problems can then be better addressed. A fourth argument merely has to do with the need of cooperating in order to prevent wasteful competition between regions and to better be able to attract inward investment. Finally, cooperation might give regions a better place in creating an attractive environment for a more knowledge based economy.



### **2.3. *Regional competitiveness and policy***

Regions are increasingly responsible for their own wellbeing (Brenner, 1999). As pointed out in the foregoing section national governments can to lesser extent steer the economic fortunes of a country. This makes regional competitiveness an important factor for policy and competitiveness has become a factor in regional cooperation (Meijers, 2007), as we will explain in this section. Since the beginning of the 1990's there seems to be an increasing competition between regions and cities within developed countries. Every region wants to replicate Silicon Valley. The concept was brought over from theory to policy making by one of the best known works of Michael Porter. In his 1990 *The Competitive Advantage of Nations* he introduces several concepts from business economics into explaining why some nations (or other geographical entities) outperform others.

As with many authors popular amongst policy makers, there has been a fair share of critique on both the theoretical framework and the policy making decisions based on these scientific concepts<sup>5</sup>. We will therefore start with fully explaining the concept of regional competitiveness and how to measure this regional competitiveness (as ranking is the most important aspect of competition). Next to that we discuss the toolkit for policy makers to steer regional competitiveness. Finally we will critically assess to what extent policy can, and in fact steers, regional competitiveness.

#### **The Concept**

There are several concepts of 'regional competitiveness' within the academic debate. Kitson et.al. (2004) use the following definition when they introduce the concept: 'At its simplest, regional (and urban) competitiveness might be defined as the success with which regions and cities compete with one another in some way. This might be over shares of (national, and especially international) export markets. Or it might be over attracting capital or workers.' Michael Porter, being a business economist, focuses on micro economic factors when explaining the concept of regional

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<sup>5</sup> Many of the more 'optimistic' theories that find their way to the desk of the policy maker are criticized by fellow scholars. For instance on Florida's *Rise of the Creative Class*: 'Well written in an almost chatty style, it reads like a series of well-crafted after-dinner speeches at various chamber of commerce dinners' (Marcuse, 2003).

competitiveness. Porter argues that firm competitiveness is a proxy for productiveness. A firm that is able to produce more with less input than others creates a competitive advantage over others. In Porters framework firm competitiveness also depends on the value of products and services produced i.e. their uniqueness and quality. (Bristow, 2005). Porter then copied these theories into economic geography. This lead to the following definition for regional competitiveness: ‘A region’s standard of living (wealth) is determined by the productivity with which it uses its human, capital, and natural resources. The appropriate definition of competitiveness is productivity’ (Porter, 2002, 3, in Bristow, 2005). Other researchers added to this concept by providing the theoretical link between ‘the firm’ and ‘the region’ as unit for competitive analysis. For instance both the firm and the region are ‘ensembles of competences that emerge from social interaction’ (Boschma, 2004, p.1004).

Michael Storper includes also another aspect related to competitiveness in his definition: ‘the capability of a region to attract and keep firms with stable or increasing market shares in an activity, while maintaining stable or increasing standards of living for those who participate in it’ (Storper, 1997, 264). The definition of Storper has been widely adopted within the academic world as it combines both micro- and macro- economic elements (Bristow, 2005). In this thesis we will use this definition by Storper when we talk about regional competitiveness.

## **Assessing regional competitiveness**

To gain better understanding of how regional competitiveness works out in practice we hereunder discuss how competitiveness is assessed in practice. In the section after this section we link this to what policy initiatives can steer this competitiveness.

### *What to measure*

Budd & Hirmis (2004) see regional competitiveness as the outcome of ‘traditional’ indicators as labor market conditions and transport costs supplemented by factors like company size, research and intensity, innovative capacity and export orientation. Malecki (2004) adds factors, for instance effective local governance, urban strategy, public–private cooperation, and institutional flexibility to this list. Another addition might be the degree to which the region is connected to similar regions elsewhere in

the global economy. Regions that combine a strong local knowledge base with a lot of interconnections to other regions with the same profile are in the best position (Lambregts, 2007). The range of soft factors was further increased by the works of Florida, for instance his 2003 *Cities and the Creative Class*, that added Florida's 3T's. Tolerance, talent and technology are, according to Florida, forming together the core of economic competitiveness (of cities).

A debate that still has to be concluded, if it ever will, is whether diversity or concentration of economic activity within a region is better for competition. The concept of *clusters*, turned almost into a religion by Michael Porter and his followers (Martin & Sunley, 2003), has been hailed as a tool to explain and enhance regional competitiveness. Both theories have empirical support and it mainly seems to a matter of what theoretical framework to choose. Opt for one to work with *Marshall Arrow Romer* externalities then he will find benefits of specialization, if one chooses to work more with the Jacobs type economics then diversity is key to competitiveness (Feldman & Audretsch, 1999).

#### *How to measure*

To allow for comparing cities (and thereby judging their competitiveness) one has to be able to rank cities. The aforementioned indicators might offer theoretical insights, oft they are not easy to quantify and operationalise. Also regional competitiveness is not sufficiently explained by looking at easily quantifiable figures like GDP and productivity (Huggins, 2003). Boschma (2004) argues that competition among firms (and in this case among regions) leads to different growth patterns. But just looking at this behavior is not enough when ranking regions as regions cannot enter or exit the market. Also lower growth rates in a region might not be explained by direct competition between two regions. As Boschma (2004) exemplifies: one can explain differing growth rates between Antwerp and Rotterdam by using 'port competition' but the growth difference between Silicon Valley and Sicily can no way be explained by the concept of regions in competition.

There are questions regarding causality for instance. If a region attracts a large multinational enterprise and this enterprise further enhances its competitiveness there is

not necessarily an increase in the welfare of a region (Bristow, 2005). Not only economic variables need to be included: political, social and cultural parameters are also needed to measure and explain competitiveness (Huggins, 2003). Localized tacit knowledge that cannot be replicated elsewhere might also explain competitiveness. Being tacit has both implications for benchmarking as for replication as a policy tool. In composing indexes there are always theoretical considerations over the weights of different indicators (Barkely & Dudensing, 2011)

Nevertheless a vast number of benchmarking studies have been performed. Among them studies on regional competitiveness and entrepreneurship (for instance Boschma et.al. 2006) and regional growth in the Netherlands, an often quoted early benchmarking study on US metropolitan areas (Kresl & Singh, 1999) , a statistically very extensive *EU Regional Competitiveness Index 2010*<sup>6</sup> (Anoni & Kozovska, 2010) up to more commercially oriented studies like the yearly *Atlas voor Gemeenten* which is popular among Dutch policy makers.

All these studies use the factors stated in the *what to measure* section in the same way. Every study uses GDP per capita, unemployment, employment in ‘innovative’ sectors as key economic indicators. Accessibility is oft included but used with proxies like ‘motorway index’ or ‘railway index combined’. In more recent studies accessibility includes variables on broadband internet connections and technological readiness. Soft factors often include the number of people with tertiary education, the number of knowledge institutions and proxy variables that try to capture *culture*.

## **Policy initiatives to steer competitiveness**

In the next section we will give an overview of the different policy options available to steer local competitiveness. The main objective is to ‘(enhance) the capability of a region to attract and keep firms with stable or increasing market shares in an activity, while maintaining stable or increasing standards of living for those who participate in it’ (Storper, 1997). Many advisors came up with methods how this could be achieved.

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<sup>6</sup> While the studies is statistically very advanced the ‘ranking’ itself is fairly limited. The regions get listed but in such a way that it is only appealing to economists and statisticians. One can however figure out that the geographic areas that are within the scope of this whole thesis rank #1 (Province Utrecht), 3 (Province Noord-Holland) and 9 (Province Noord Brabant) out of 268 NUTS2 regions.

As scientist we will focus, and stick to, proven ways of benefiting local competitiveness. This may therefore limit possible policy actions but adds to the quality of the suggested points for policy.

The comment above for instance prevents us from using standard consultancy solutions. We won't for instance state that creating 'clusters' is the best policy option. Although 'clusters' remain very popular among policy makers throughout the western world, within the academic world doubts have been raised over their validity in enhancing a regions competitiveness. Martin & Sunley (2003) conclude their article on clusters with notifying two major problems with using cluster theory as the ultimate policy solution in enhancing regional competitiveness. First the concept is too broad : 'It is being applied so widely that its explanation of causality and determination becomes overly stretched, thin and fractured' (Martin & Sunley, 2003, p.28). The second problem is 'that just because there is an association between some high-growth industries and various forms of geographical concentration does not mean that this concentration is the main cause of their economic growth or relative success. The empirical case for clustering remains in its infancy and repeatedly makes the mistake of jumping from particular associations to general causality' (Martin & Sunley, 2003, p.29).

With these warnings the concept of facilitating (and possibly attracting) several innovative and promising sectors remains standing. Boschma (2009) provides extensive scientifically backed policy advice. Boschma links regional economic performance with 'exploiting intangible assets such as tacit knowledge and institutions' (Boschma, 2009, p.2). Boschma acknowledges in this report (written for the OECD) that a major problem with advice on regional policy is that the empirical literature on the topic is rather fragmented and inconclusive.

Boschma however provides a useful how to. He states that the aim of local policy should be: 'The objective of regional innovation policy is to encourage and facilitate new ideas and innovation through the creation, diffusion and exploitation (or commercialization) of new knowledge (Boschma, 2009, p.21)

First of all regional public policy could (and should) 'support 'spin off firms'. These 'spinoffs are new firms that are founded by entrepreneurs that have acquired relevant experience as far as market and/or technical knowledge is concerned' (Boschma, 2009, p.22). These spin off firms outperform other start up firms as they build on knowledge and incentives provided their parent firms. Also they tend to locate next to their mother firms, ensuring that policy benefiting these firms actually benefits the region. These spin offs firms also tend to diversify the local economy, yet relating to an already existing core (related variety). Boschma (2009) suggests that spinoff policies of universities and research institutions that may contribute to the growth potential of spin-off ventures are also of importance. The link between universities, regional competitiveness and entrepreneurial behavior is empirically supported by, amongst others, research by Audretsch et.al. (2011).

A specific example where these spin off firms are facilitated is on science parks. These science parks provide the physical infrastructure to serve as catalytic incubator environment for the transformation of pure knowledge into production (Lofsten & Lindelof, 2002). Science parks can also be described as property-based ventures with clear links to university or other research institutions, where firms can be offered well-suited facilities from which to conduct their business (Ferguson & Olofsson, 2004).

Another policy instrument proposed by Boschma (2009) is encouraging labor mobility. Labor mobility is a crucial mechanism through which skills and knowledge is transferred from one company to another. Much of the success of Silicon Valley has been attributed to this phenomenon (of employees job hopping between different related firms within the region) and already identified by researchers in the early 1990's (c.f. Angel, 1991). A side effect of this policy, companies reluctant to invest in their employees as they might leave, should be offset by investing in education and lifelong learning by public policy (Boschma, 2009). Partially related to this is the importance of attracting (foreign) skilled labor as they might bring in valuable ideas.

The last advice Boschma (2009) gives is that public policy can support knowledge networks through which knowledge circulates and interactive learning takes place. This then benefits the diffusion of knowledge among related sectors and limits the

knowledge dominant position of the biggest firms within the sector. Also these (in)formal meetings and contacts might bring new ideas to the region. The size of the role of universities in these networks differs per scholar (Boschma, 2009, Huggins et.al. 2008). One last, and important, note made by Boschma (2009) is the fact that local governments should not target specific industries in detail with grants. This might prevent the important role that variety plays from happening. One should however understand that for most economic activity a certain critical mass is required to successfully foster economic activity of a specific nature into a region.

## **Conclusion**

We have seen that regional competitiveness remains a concept with many different explanations. It has been made very popular among policy makers. Using the concept had however been much harder. From a scientific perspective problems with causality and empirics prevent from deriving a generalized set of policy options that create a region that can easily withstand global competition. Boschma (2009) did derive some policy options, focusing on the soft factors of competitiveness.<sup>7</sup> Although most of the proposed policy options are acknowledged by the scarce empirical literature on regional policy we cannot state that regional competitiveness can be steered to full extent. This does however not mean that policy can play no role at all. There are a number of very important policy options available to regional policy makers. The direction of these policy points is clear, the exact execution of them is still under debate.

### **2.4. *Classification of regions and tasks for a region***

In this section we discuss two topics. We explain why the region has become an important unit of analysis and we classify the different types of regions or networks that might emerge. The second topic is the link with the size of a region. Which tasks related to the challenges of a modern region should be done at what level.

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<sup>7</sup> The policy options proposed by Boschma (2009) seem to fit well within the current era. Camagni & Capello (2009) provide an interesting analysis of this change in policy options over time (pages 10-13)

## **The emergence of regions**

All the lines of reasoning have at least one common characteristic: all modern scholars notion the lesser importance of the classic nation state. An influential work has been the 1993 article *Rise of the Region State* by Kenichi Ohmae who argues that the nation state is outdated as ‘it defines no meaningful flows of economic activity’ (Ohmae, 1993), p.78). Globalization meant a reshuffle of economic ‘units’ where the ‘region state’ emerges as new division.

The region state is linked to the world economy and less to the nation state (Ohmae, 1993). Ohmae (1993) even sketches a profile of the typical state. They tend to have somewhere between 5 and 20 million inhabitants (to ensure linkage of producers and consumers to the region) and needs to have infrastructure capable for linking the region to the world economy (Ohmae, 1993).<sup>8</sup> Keating (1997), a political scientist, opposed to Ohmae who worked at strategy consultant McKinsey, identifies three forces that lead to the decline of the classic centralized nation state: functional change, institutional restructuring and political mobilization.

The first one, functional change, is broadly the same as the argument put forward by Ohmae (1993). Firms are not longer bound to territorial borders but operate on a global scale which implies that local characteristics become more and more important to attract economic activity (Keating, 1997). Institutional restructuring was initiated by national governments modernizing and rationalizing, and therefore decentralizing, their set of tasks. The process was further stimulated, within Europe, by the increasing influence of the European Union (Keating, 1997). Within the European Union the region as an institution has a large influence (hence the EU Structural Funds and the allocation of these funds). The political mobilization refers to the larger role of politics in regions. Globalization leads to a stronger regional identity. The larger role for regions allowed to turn this stronger identity into politics (Keating, 1997).

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<sup>8</sup> Infrastructure is here understood as having a major airport, often a world class port and the professional services needed by multinational companies.



## **Classification of regions: the polycentric urban region**

Regions can be classified in several ways. In our research the *polycentric urban region* (PUR) is a very important concept. Parr (2004) summarizes the concept as a set of neighboring but spatially separate urban centers, existing as some identifiable entity. Bailey and Turok (2001) also see good physical connections (infrastructure) as an important characteristic of a PUR. Many cooperation entities of urban or metropolitan regions can be classified as a polycentric urban region. In the work of Parr the basic outline of a polycentric urban region is explained as follows. There is a set of urban systems that are separated from each other by open land but the urban centers are located near enough to each other to form a clustered distribution within the national space. This distribution can take several patterns: linear, circular or polygonal.

Bailey and Turok (2001) border such a polycentric urban region by setting a one hour travel time between city centres as a limit of spatial segregation. Parr (2004) stresses the importance of interaction between the cities in such a region. A PUR often has overlapping labor markets (seen for instance by commuting patterns). The relationships between these cities are not hierarchical but merely based on local specialization. The economic fortunes of one city in the PUR influence the wellbeing of other cities as there is interdependence among the cities. Urban relations are two way flows in a PUR (Batten, 1995). One can link this concept to the notion of complementarity between these cities. Cities can share specialized infrastructure, think of research institutes or universities. By encouraging interaction between neighboring locations, the argument is that each will develop specializations in areas in which it has a competitive advantage. Consequently, there will be some reorganization of activity within the region which leaves individual firms and the region as a whole in a stronger competitive position (Bailey and Turok, 2001, p700).

## **Efficient provision of public services and the factor of scale**

As pointed out in the sub question on the theoretical motives for cooperation between cities and regions provision of public services often involves economies of scale. Some services can already be offered with a small 'home base' where as others

require substantial scale to make provision of this service economically possible. Because of these differences there are two schools of theorists on public service provision and scale. On one hand there are scholars who favor centralization and consolidation of public services and on the other hand those who favor decentralization and fragmentation in the provision of public services.

Also this debate gets more and more influenced by the above mentioned rescaling of governments in general (Blatter, 2006). Political scientist Arjan Schakel nicely sums up the challenge of scale, regional government and public services: ‘The optimal jurisdictional size from a functional perspective is the one that internalizes externalities and reaps benefits of scale.’ (Schakel,2010,p.333)

### **Economies of scale & services provided**

Two other questions that are related to the ideal scale at which to govern a region are whether there are economies of scale and what kind of services should be decentralized, i.e. provided by a sub national government. Some services have the distinction of featuring high fixed costs combined with decreasing marginal variable costs, therefore making service provision at a larger scale desirable. Or put different: it costs relatively less to provide one unit extra of the service. Often the provision of utilities is named as an example of a service where economies of scale are present<sup>9</sup>. Most regions within the European Union however do not provide utilities, as in the wake of liberalization most of these services have been privatized. Still for services that regions however continue to perform we will try to establish whether there are economies of scale present. The question which services to provide at what level of government is under constant debate. Schakel (2010) tries to empirically test the theories put forward by Oates (1961). In particular he tries to test the ‘decentralization theorem’.

According to this theorem the level of ideal level of decentralization (hence part of the answer to the question at what scale to govern a region) depends on the heterogeneity of preferences<sup>10</sup>, inter-jurisdictional spillovers (externalities) and economies of scale

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<sup>9</sup> See for instance Kim (1988) on water supply or Kwoka (2005) on the distribution of electricity.

<sup>10</sup> This is the famous ‘voting with the feet’ theory by Tiebout (1956) that states the different preferences people have in the amount and composition of public services provided in their region. In the Tiebout model people will also base their locational decisions based on these preferences. Simply said: people

(Schakel, 2010). Applying this theorem is quite hard however. It is easy to distinguish public services that should always be provided at state level, think of defense and most forms of education<sup>11</sup>, and those that should always be provided on local level (for instance landscaping services, maintaining the local parks). Also redistribution of income (social security) is better done at a central level. The problem however is how to assign the whole basket of services to either national or sub national governments (Ahmad et.al. 1997). Due to this problem, and the earlier mentioned discussion on rescaling government scholars have proposed resigning governance by establishing more hybrid organizations only focusing on one service (Hooghe & Marks, 2003). From a theoretical point of view these organizations better fulfill the challenges posed by the heterogeneity of preferences, people can shop around for a basket of services (Blatter, 2006).

Theory that provides us with a blueprint of tasks to be performed by the modern region are not present as such. There is no literature present that creates a clear watershed between tasks that are to be performed by regions and not by local governments or national governments. Also this seems to be inevitable by the nature of the main paradigm these days, the ‘new regionalism’. ‘There is no set of overarching principles that can be institutionally and politically applied to all metropolitan areas that are engaged in new regionalism projects’ (Hamilton et.al., 2004, p.154)<sup>12</sup>

A complicating feature is also that ‘scale and scope economies vary by service component’ (Parks & Oakerson, 2000, p.171)<sup>13</sup>.

Some general remarks have been made however. Small, most often aligned to local, jurisdictions should ‘be able to manage labor-intensive services, which call for close

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who want a lot of public services go to regions where these are provided (of course with accompanying taxes) and those who do not want that amount of services leave for other regions.

<sup>11</sup> Assuming that there is need for central coordination as for instance minimum standards need to be ensured. Extensive knowledge of the local circumstances might enhance efficiency through customization but this debate is outside the scope of this paper.

<sup>12</sup> To make matters even more complicated: the debate between those in favor of centralization and those of decentralized governments has never been successfully concluded. Both schools of thought have done exactly the same case study on St Louis in the USA and concluded exactly the opposites (see Hamilton et.al. 2004 for an explanation).

<sup>13</sup> Parks and Oakerson (2000) use police services here as example. Patrols on the street are examples of local services whereas criminal investigation units are at least on a regional scale.

relationships between service deliverers and citizen consumers. Police, sanitation, and housing services are typical “street-level” bureaucracies’ (Savitch & Vogel, 2000).

The article also gives examples of tasks that should be done on a metropolitan/regional level. According to Savitch & Vogel (2000) ‘the metropolitan tier is supposed to better deal with issues that cut across a number of local jurisdictions or involve redistributive policies. Environmental problems, solid waste disposal, tax pooling, and transportation are generally regarded to be within the metropolitan sphere’.

Also of help in answering the question what services to be provided at what level of government is by assessing what has been found in articles that try to empirically test theories on decentralization. The aforementioned study by Schakel (2010) tried to do so. The methodology in this paper is however the other way round. Based on expert surveys the degree of decentralization is measured, not so much whether tasks expected to be performed sub-national were actually performed by the regions. In the same league of reasoning we can suggest that all services and tasks related to enhancing the competitiveness of regions should be done by regions. Wasn’t the major rationale for the new regionalism economic development and maintaining economic competitiveness in an increasingly globalizing economy (Hamilton et.al., 2004)?

To conclude we can state that there is no clear model that enables a definite division of tasks between the different levels of government. There are examples of tasks that are best served by local provision. Tasks that ‘belong’ to a metropolitan/regional governance level are environmental affairs, tax pooling, the provision of public transport, and according to most scholars, economic development. For the empirical part of this thesis we will focus mainly on the ‘economic development task’ and, as proper functioning (public transport) infrastructure is of importance in competitiveness, to a lesser extent public transport. The other functions, that are hardly present in the Dutch situation, are therefore out of scope.

## **Representing the region: exposure to the outside world**

The rise of new regionalism came at about the same time as the definite rise of European integration. For (impoverished) geographic regions in the European Union it became important to be visible. One third of the European Union budget is spend on social cohesion between the regions (Mohl & Hagen, 2010). Also national governments allocate funds for regional development. We will try to determine whether there are theoretical motives for the relationship between size and the successful application for funds. ‘Borrowed size’ is a possible advantage of joining up, something that has been seen in relationship with polycentric urban regions (Parr, 2004). Also size might matter when it comes to the locational decisions of inbound investors. An American consumer goods firm seeking for a location somewhere in North Western Europe most probably will not know the differences, further then maybe knowing the regions are in different countries, between the Randstad, The Ruhr Area or the Flemish diamond. Is it then sensible to be part of a larger, more known, regional entity?<sup>14</sup>

## **Acquiring EU & national funds**

It is an interesting thought whether optimal regional size in a governance perspective can partly be explained by the positive relationship between size and the succesfull acquisition of national and European funds. Not only poor regions in the periphery receive subsidies by the EU funds, also ‘rich’ regions in the northwestern part of the European Union acquire these funds.<sup>15</sup> For the simplicity of the discussion we refer here to ‘funds’ in general. These funds are made up by the EU Cohesion Fund (to benefit the poorest regions), the EU Social Fund, and, important for our case, the European Regional Development Fund

A lot of literature has been published on the question whether there is competition between regions over these EU funds. Marks (1996) has observed competition between member states over funds but also between sub-national governments. Regional government officials have to assure that their regions are on top of national

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<sup>14</sup> The Gemeente De Bilt understands this: the terrain currently occupied by the RIVM will be transformed into a science park. Wisely they understood that this could only be called ‘Utrecht Science Park Bilthoven’, as maybe ‘Utrecht Science Park’ might be known abroad but Bilthoven Science Park definitely would not.

<sup>15</sup> The Amsterdam Metropolitan Area (MRA) has a special section on its website where possible funds for local communities are listed. A lot of these funds are directly or indirectly funded by the European Union.

lists in order to make sure that their region gets funds from Brussels. Some regions also engage in direct representation in Brussels. There seems to be a direct link between the degree of centralization of the EU member state and the direct representation in Brussels. States that are relatively centralized in their governance model, like France, are far less directly represented at the EU than those who have a more federalist character (Hooghe & Marks, 1996).

A larger region might be able to maintain a more prominent representation in Brussels as this is a very costly process. Keating (1997) however states that there is no clear evidence that direct representation in Brussels and how successful funds can be acquired. According to Keating (1997) a good relationship with national governments remains far more important. To counter this, the, according to the authors, first empirical study on the question whether lobbying pays off, find ‘some evidence’ that lobbying pays off (Bodenstein & Kemmerling, 2011).

The link between fiscal transfers and representation in general has also been extensively studied. Sub-national governments that are relatively over-represented at the European Union receive significantly more fiscal transfers (Rodden, 2002). For our case this is of less importance: both the first and second chambers of parliament do not seem to be heavily influenced by regional lobbying and interests. Informal networks are then much more important.

### **Being visible for inbound investment**

In the introduction for this section we indicated that for an international company looking for a site in northwestern Europe the differences between cities might not directly be clear. London School of Economics geographer Cheshire makes a plea for larger areas when it comes to for instance strategic planning: ‘If you are a large company deciding where to locate a new facility you are probably interested in comparing the quality and cost of the labour supply in the metropolitan region as a whole, or in the transport infrastructure and cultural and leisure facilities of the metropolitan region as a whole’ (Cheshire, 1997, p14)

In an often cited article by John Dunning on the locational decisions of multinational firms (Dunning, 2009) several arguments for scaling up are mentioned. According to Dunning (2009) the location decision of multinational firms is for value added activities often based on local and regional factors. Is there good (knowledge) infrastructure, what is the quality of the local institutions, is the relevant cluster fostered? Most of these questions are interrelated with agglomeration economies. Given the nature of these economies it is clear that scaling up local government when it comes to attracting inbound investment by multinational firms pays off. Also operating at a larger scale when it comes to inbound investment might prevent wasteful duplication of efforts and resources to attract foreign direct investment (Fallon & Cook, 2010). Besides being recognized by possible investors it is important to have a strong position during the bargaining process when it comes to negotiating with the possible investor (Feath, 2008). Small jurisdictions might, due to their weak bargaining position, engage in an unwanted race for the bottom. Operating on a larger scale might prevent this.

Related to this is the argument that dealing with inbound investment on a larger scale enables offering better services to potential investors (Fuller et.al. 2003). This is because of the level of professionalism within such an organization and budgetary issues.

## **Conclusion**

We have tried to assess at what scale to govern a region. In answering the question it became clear that there is not a single conception of the perfect region that has the right scale for all aspects. The region has become an important geographical entity in today's globalised world. Putting this concept to work in a governance setting is however quite hard. Each public service has its own optimum scale. And often this scale does not correspond with clear jurisdictional boundaries. The classic economics textbook division between (public) goods that should be provided at national level and those that are better provided at local level are clear. The problem is however to assign every different task to its best governance level. And even if this division is made: services, regions and the outside world are not static. It is however clear that many tasks that relate to enhance the competitiveness of regions should be done by a

regional authority. We see a diffused picture when it comes to the issue of scale and successful acquisition of grants by the EU or national governments. Larger scale sub national governments that put forward more lobbying efforts might be more successful but evidence is fairly limited until now. In the acquisition of FDI there is a clear case for operating at a larger scale. Both visibility and professionalism in the process of acquiring FDI is enlarged by operating at a larger scale. Wasteful competition with neighboring local governments is limited and the bigger position gives a better bargaining position in negotiating with possible investors. In short: there is no blueprint for the perfect region but there are enough building bricks to construct one on a case by case basis.

## ***2.5. Changing society and the concept of trust in cooperation***

### **Changing society**

Not all cooperations evolve because of the clear economic benefit, and the other way round, some very sound combinations do fail because of reasons nowhere related to proper economic arguments. Answers might be found in for instance the influence of political agendas or because of other ‘soft factors’, like trust, or attitude. These phenomena are within the field of, amongst others, institutional economics.. Another factor, borrowed from governance and political science is the transformation of society. On one hand we have seen the more ‘hard’ factor changes, i.e. for instance rethinking the scale of government or the role of regions in a globalized world. On the other we find new models to classify today’s society. Classical hierarchical systems in society and government, and more specifically their interaction (Noordegraaf, 2004), have been replaced by new paradigms. Noordegraaf (2004) bundles them by the common denominator ‘post-X society’. Paradigms included range from Pine & Gilmore’s *Experience Economy* to the *veeleisende maatschappij* (demanding society) by Bovens.(Noordegraaf, 2004) Main message stemming from these ideas: the old hierarchical system where a top-down approach prevailed and everybody in society knew his role (which then could be drawn in a single diagram) has disappeared in modern day society. The three main managerial challenges in the post-X society: *bordering* policies and governance in the wake of vanishing borders, *canalling*



ambiguity of policy and governance, and *limiting* resistance rising from the doubted legitimacy of policy and governance (Noordegraaf, 2004).

## **Trust**

Trust in the context of *governance networks* is a main theme in the research of Erik-Hans Klijn of the Erasmus University Rotterdam. In the present day complex world with many actors involved in decision making governance networks arise (Klijn et.al. 2010). These governance networks have three distinguishing characteristics. First of all there are many actors involved. These actors are both public and private parties (private including the corporate world but also societal groups) and are connected because of their dependence on each other, in terms of resources and willingness, to successfully tackle a problem. Next to that governance networks tend to exist for a longer period of time and feature frequent interaction between the actors. Third they are dominated by so called 'wicked' problems: 'In other words, the solutions proposed for problems and challenges are contested because the different actors have divergent perceptions of the problem and solutions' (Klijn et.al. 2010, p195).

Trust in each other is in this context understood as a situation where one is willing to assume an open and vulnerable position. One expects that the other actor will not conduct opportunistic behavior 'even if the opportunity for it arises without having any guarantee that the other party will indeed act as expected' (Klijn et.al. 2010). Concluding, one actor believes and expects that the other actor will take the will take both actors' interests into account in the interaction.

Trust is then useful (and necessary) in cooperations because of two reasons. The first argument relates to transaction costs. More trust in a cooperation leads to lower transaction costs. A higher degree of trust corresponds to greater predictability in cooperations. ). In a situation 'where one actor assumes good intentions on the part of the other, the likelihood of unexpected interactions as a consequence of opportunistic behavior are smaller. Given the complexity of decision-making and interactions in governance networks, this could be a significant advantage' (Klijn et.al. 2010, p197). A second argument is the relationship between trust and the willingness to invest resources in the cooperation. A higher degree of trust between the actors leads to

actors willing to invest resources like money or knowledge, creating a stronger basis for cooperation.

## **Conclusion**

We have shown that also not only the economic world changed. In this section we showed that the environment for policy has changed. The public became more critical of government and governance and classic top-down networks that could shape regional economic development (think of nationwide industrialization policies) came under pressure. Politicians are more judged on results and this can limit both trust and refraining from opportunistic behavior in cooperation initiatives (on regional economic development). Specifically in situations where there are reasons present to show this behavior, like in a, the factor trust is very important for the success of cooperation processes.

## **3. Research framework and methodology**

### ***3.1. Introduction***

The main hypothesis of this thesis is that complementarity is not (yet) a prioritized factor in regional economic development policy on the Amsterdam-Utrecht-Eindhoven axis.

In this chapter we give substance to this hypothesis by using lessons derived from the theoretical framework as building bricks for our complementarity approach. To do so we do take the following steps:

- 1) We discuss the complementarity approach and why this is important for the two elements (science parks & regional branding) of our case.
- 2) Afterwards we derive indicators from this complementarity approach which we can use as tools in analyzing the elements of our case study.
- 3) We discuss the methodology of our case study
- 4) We select our case

### ***3.2. What is the complementarity approach and why is it important?***

At the beginning of the theoretical chapter we introduced complementarity. The two main conditions we digested were that A is not B and that the sum of A and B is more than two (=synergy). Hence the specialization should be related. The different profiles of the cities in a polycentric urban region then allow for gains by complementarity. Each city in the network can focus on its core competencies, and get even better in it (by specializing) and together the whole region can present a better package to the outside world (=more competitive). We use the definition of Storper for regional competitiveness ('the capability of a region to attract and keep firms with stable or increasing market shares in an activity, while maintaining stable or increasing standards of living for those who participate in it' (Storper, 1997, 264)) for our research. We use this definition as we try to see if a more pareto efficient situation can be achieved on the A2 axis when it comes to regional development. The specific

focus of one region should not harm the economic fortune of a region laying next to that region. In other words negative spillovers should be avoided when building on the economic competitiveness of cities in a polycentric urban region.

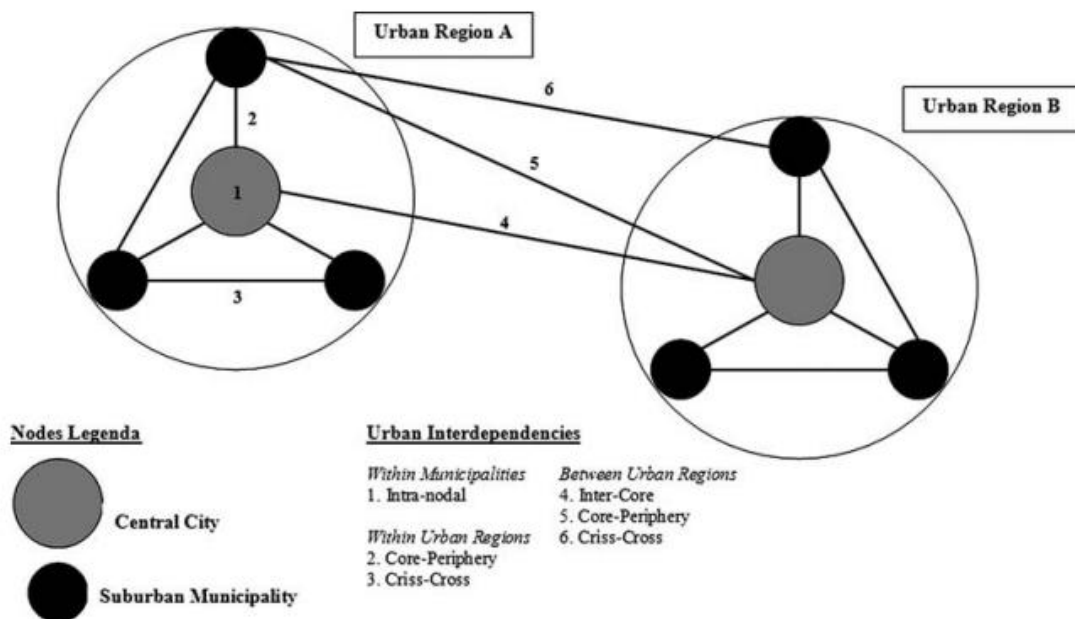
Given that we want to analyze a case where the concept of it being one region is questioned by some researchers we have to modify the idea of Storper. For the sake of this research we see it as one polycentric region that has several cores (i.e. core cities). In the theoretical part of this thesis we discussed the debate among scholars on specialization or diversification. On one hand we saw the school of Michael Porter, that has strong believes in clustering (=specialization) and on the other hand the Marshall-Arrow-Romer externalities whose believers see the merits of diversification. In theory these two seem to exclude each other for a large part. But in case of a polycentric region with several core cities it could be possible to have the best of both worlds. We saw in the literature that in a polycentric urban region cities can focus on their core competencies and by their interaction with the other centres within a PUR together have a very complete package of economic activities.

An important remark is off course that the different cores have to be bound to each other. How strong this bound should be, and what form it should take, is something that will be discussed later on in this chapter. If we then link these two concepts we come to the following aim of regional cooperation on economic development: an aim of regional cooperation on economic development (i.e. regional competitiveness) could then be to make better use of, and to enhance, complementarity (in economic profile) between the cores in a region.

By making use of this complementarity in partnerships gains can be made. Firstly it is making cross overs more likely (foster open innovation and offering all bricks to build new solutions for tomorrows problems). Next it makes the joint region more attractive for FDI, as a more complete package can be offered. If cooperating core cities are more or less the same they offer everything twice instead of offering a more diverse economy. This relates to the synergy related to complementarity as found in Meijers (2005).

This is something we could expect if a region/city with a strong focus on KIBS, Knowledge Intensive Business Services, (Jacobs et.al., 2013), cooperates on regional economic development with a region/city that is more focusing on (innovative and sustainable) technologies. In the 21st century the strict division between these sectors has vanished, these companies need each other and can together make the business climate in a region more attractive. Both for the competitiveness of companies who are already there as for new to locate companies. Also we see that stimulation of economic competitiveness is at the core of policy makers interest. Whether it is at a local or regional scale (think of *economic boards*), a national scale (opting for specific sectors, think of the Dutch *Pieken in de Delta* or the *Topsectorenbeleid*) or a European scale, one can think here of the *Europe INNOVA Cluster Excellence* programs by the DG Enterprise & Industry of the European Commission.

Once again, the idea of complementarity is that cities that interact within a region can together benefit of each other's related specialization. Having totally opposed profiles is not enough. The profiles should make for mutual (economic) relationships. By combining these specializations at the scale of a region the merits of complementary can be gained. On a smaller scale, of a city, or even a neighborhood, complementarity may exist. The picture hereunder shows possible relationships within polycentric urban regions.



**1 Relationships within a PUR, based on Van Oort et .al. 2010**

In our approach however we raise the bar a bit. The special focus on regional competitiveness and regions in today's knowledge economy asks for specialization to be able to be among the best of the best. This creates the need for special attention to the core competencies of a city.

### **3.3. *The complementarity approach and science parks***

In the literature review we saw that science parks, or *knowledge locations* as overarching denominator for planned locations of this type, are among the most popular policy tools for local development (Carvalho, 2013). As to be found in most literature, the word *science park* is used to describe a wide array of concepts. Link & Scott (2003) try to sketch the basics of a science park (as there is no general accepted definition). There should be a real estate development, an organizational program of activities for technology transfer and a partnership between academic institutions, government and the private sector. Link & Scott (2003) fully acknowledge that the concept science park is a bit hollowed out. They use examples of industrial parks that mainly rely on tenants engaged in applied research but still call themselves science parks. In our complementarity approach it is important to see if the science parks at the different core cities along an axis or corridor are overlapping or that they complement to each other. And more interestingly for a policy analysis, did the policy makers take the actions and presence of other cities with science parks in a region in mind.

If policy makers would use the exact same blueprint for every science park on this corridor the subsequent interaction might be very different. A local specialisation for science parks is then desired. This specialisation does not have to be genuine worldwide, but on a regional scale there should be no direct copy. There could be, but then you have two satellite locations and the whole question of coordination, cooperation and governance should be filled in totally different. We think that a local specialization that contributes to a regional related diversification would likely be translated into a priority in policy.

### ***3.4. The complementarity approach and regional profiling***

As seen in the theoretical framework the classic division of public governance has shifted. In a post-Fordist society, see the *Contemporary arguments for regional economic cooperation* section, the role of cities and regions in their own wellbeing has drastically changed. For instance the work of American economist Neil Brenner (1999 & 2004) shows a redivision of tasks formerly assigned to nation states. On one hand tasks are shifted upwards to supranational bodies (think of the European Union) and on the other hand tasks are shifted down towards cities and regions.

As shown earlier regions became more responsible for their own economic structure. Large EU funds were targeted at increasing the economic competitiveness of regions and regions (but most definitely also cities) had to create organizational capacity in order to cope with these new responsibilities. Within this era and scope where regions were, and are, believed to be in competition a new *métier* arrived. City marketing and city branding emerged. Cities ‘ must make themselves as attractive as possible in all respects: as a residence (also for the higher educated), as a location for business companies, as a location for investment, and as a city where business and non-business visitors like to stay for a few days’ (Van den Berg & Braun, 1999).

The city and region became brands for marketing purposes. Relying on proven corporate marketing techniques new instruments like *place brands* were developed. A place brand, according to Braun & Zenker (2010) is ‘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’. In our research we could see profiling of the cities on the A2 axis together as a form of *network brand*. Finnish researcher Seppe Rainisto (2003&2006) discusses a number of factors critical in successful branding. In this thesis some of these factors are relevant for the case. According to Rainisto (2006) the image of companies located in the region is important for the image of the region. Therefore strategic cooperation between a region and its companies can benefit city marketing efforts. In the same studies the

importance of public private cooperation is stated as this creates organizing capacity and trust in the efforts.

For our complementarity approach we look for the profiling of the core cities within a regional corridor. Are images genuine and credible, and in this context how do they compare to the image of your neighbor? A genuine image is seen as important in successful city branding (Braun, 2011). The image that is of importance in this research is the image that is actively projected in the government to business (G2B) sector or in the strategy documents of the relevant policy networks. One can think here of the vision documents of economic boards, often triple helix organizations. These vision documents do not provide a clear watershed to judge if complementarity exists yet they give some interesting insights.

The current and the desired image (in fact both can be perceived images), say something about where cities believe they are now and where they desire to be next. It gives a clue which sectors are deemed important and are to be prioritized. For a complementarity approach it is important to see how these current and future images (not necessarily realities of course) relate to each other. Do the policy documents show that the actions and presence of other cities was taken into account? And is establishing relationships with other neighboring cities a high priority on the (political) agenda?

If you want to be the same in economic focus (being it sectoral, being it specific activities) coordination and cooperation is much more desired. That being said, if the core cities together can create branding that makes sense as a whole, possible gains of this complementarity image can be expected. We relate here to the ‘borrowed size’ argument that we also saw in the discussion on the advantages of the polycentric urban region. Possible investors might then be more willing to come to one of the core cities as they see a region that is better able to provide these new to locate companies everything they need. If we judge crossovers between sectors important in modern economies one can argue that a polycentric region with a local specialization is better fit for these crossovers.



### 3.5. *The complementarity approach and regional economic governance*

In the literature review we paid much attention to the factor scale and its relation to economic governance. We looked at the functional perspective, where we asked the question at what scale services could best be provided and how this relates to the optimal size of jurisdictions. The latter part of this question was best answered by political scientist Schakel who concludes: ‘The optimal jurisdictional size from a functional perspective is the one that internalizes externalities and reaps benefits of scale’ (2010, p.333). We also concluded that this observation is correct is flawed to such extent that it differs per government activity. For this thesis we focus on regional economic development hence we can neglect part of this discussion.

Also we addressed the factor of scale and exposure to the outside world. Both to attract FDI and to attract funds from central and European government bodies. For acquiring these funds sub-national governments see the importance of being well represented at the ‘awarding’ government levels. In our complementarity approach this translated to possible joint representation as to amass critical mass. The same goes for attracting FDI, more specifically the type of companies you want to attract from a regional competitiveness perspective. Scholars like Heeg (2003) showed that larger entities can better ensure the infrastructure such companies are looking for in a region. Coordination and cooperation can better provide the needed *organizing capacity* (Van den Berg & Braun, 1999).

Governance should then be structured accordingly. It is important that the different government<sup>16</sup> bodies are complementary to each other. Both horizontal (i.e. bordering jurisdictions) and vertical (different layers of government). In the current discussion on rescaling government and scaling up jurisdictions the question whether borders are outdated is posed not enough. It might be a good idea that the governance of economic development is taken out of these geographically bound jurisdictions and put into more hybrid governance structures. These structures can then be scoped better to economic realities. If we look for instance at a corridor or a network of cities that

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<sup>16</sup> Here we use the word government as we discuss bodies with a legal basis and legally defined tasks and responsibilities.

runs along different jurisdictions the gains of complementarity can better be achieved if there is cooperation and coordination on specific topics. There is no need to merge all these jurisdictions in a new one, remember that every public service has its own scope and best size, but a hybrid structure where economic affairs can be discussed and coordinated might be very interesting. There are some important enablers for these kind of hybrid cooperations. As these cooperating forms are less integrated in current governance systems but more take the form of governance networks (as seen in the work by Klein et.al.) factors like trust are of great importance. The aforementioned factors do not directly have to do with the complementarity approach yet they are the enablers that make governance under these conditions happen.

### **3.6. *The indicators for the case study research***

To operationalize the complementarity approach we will look for complementarity and substitutability within the different topics of our case study. In our policy analysis we will look at how policy (both current policy as future visions of policy makers) relate to the concept of the complementarity approach. We check whether the results of these policies likely lead to more complementarity or that is has a substitute character in the interaction with the policy of the other core cities on the axis. Next to that we observe if policy makers put a high priority on cooperation with neighboring regions. They can either completely ignore the presence of their neighbors, they can see them as valuable partners or they can see them as competitors. Most likely one of these extremes will not occur but this attitude towards the other core cities is important for the likeliness of coordination and cooperation to achieve more complementarity. We can to some extent judge whether regional cooperation is a priority on the local political agendas. If one of the cities deems cooperation as really important (or necessary) it will most likely mention this need, or even possible cooperations will be named. To operationalize these quests we will for instance rely on counting the frequency of appearance of certain key words in relevant policy documents.

### **3.7. Methodology of the case study**

Every research has its most appropriate method of trying to answer the research question. For this research some methods render inevitably useless. Both the topic and the specific aspects make a pure quantitative approach undesirable. On one hand there is a lack of quantitative data and on the other hand a political context is hard to grip with quantitative methods.

Based on the work of Yin (2008) we can determine that a case study approach is suitable for the purpose of this study. Via two sources research data is gathered. The first and most important source of data is via policy analysis. For this research policy documents from all governance levels are analyzed. We will look at the presence and frequency of certain keywords in all the relevant documents. These documents are complemented by reports from other sources and news articles. To test and to better understand specific finesses in topics (informal) discussions with several stakeholders were held. We believe that this method offers a thorough approach to the research question of this thesis.

#### **Limitations of the chosen approach**

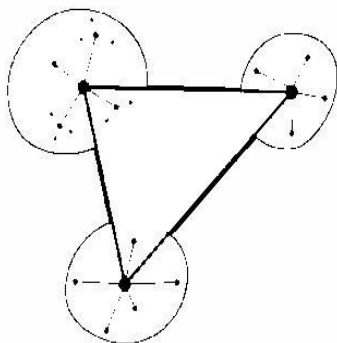
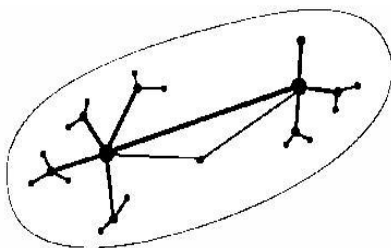
Also we have to discuss the possible limitations that arise from conducting this type of research with the aforementioned methodology. First of all we check the results of policy. We analyze the process leading to the results of policy making (the documents) only briefly. A risk of this approach is that we do not capture signals that striving for more complementarity was a factor of consideration during the making of the policy. To adjust for this risk we have chosen to work with complementarity as a *prioritized* factor in policy. The thought behind this is that if complementarity is judged to be very important or essential it will show up in the strategic policy documents.

A second issue might be in the fact that we primarily use strategic visions. We use (primarily) strategic documents because they allow best for seeing where a city or region is aiming for. The prioritizing of economic sectors and activities is not done in tactical or operational policy documents. We do use these documents for clarification

or to assess translation from the strategic long term plans into concrete points for policy action. Once again we would like to stress that we therefore include the word prioritized in our research question. To sum we do understand that a study with such a setup and a mere explorative character allows only for less definite conclusions to be drawn.

### 3.8. *Selected case*

We have chosen for the case of the Amsterdam-Utrecht-Eindhoven region and the underlying ‘A2-axis’ concept as case for the empirical part of this thesis. The region we want to have in our case study has to be a polycentric urban region and preferably a network city. In the section on the classification of region in the theoretical section we discussed the concept of the polycentric urban region. The network city was identified by amongst others Batten (1995) and is a derivative of the PUR concept. Network cities ‘evolve when two or more previously independent cities , potentially complementary in function, strive to cooperate and achieve significant scope economies aided by fast and reliable corridors of transport and communications



A graphic representation of the corridor model (above) and the network city model, based on Batten (1995), modification by author

infrastructure’ (Batten, 1995, p.313). In this model the horizontal relationships between cities are far more important than the classic (vertical) hierarchy that exists in the regional models<sup>17</sup>

The network cities concept is an extension of the corridor city model. In the corridor city model there are several interlinked cities who do not necessarily have to be among the same transport axis. The Dutch Randstad is in most literature named as the typical example of such a network city (Kloosterman & Lambregts, 2001). The concept of using corridors as units of geographic analysis has been known to economic geographers

for quite some time (Terlouw, 2011). The model has emerged to explain the

<sup>17</sup> Think for instance of the Central Place Theorem by Christaller. This model would predict one central city whereas the network city model allows for several ‘central places’.

phenomenon that along a transport axis between two major urban areas there are high levels of infrastructural, economic and demographic growth.

In the Amsterdam-Utrecht-Eindhoven case we see these transport axes. Both the A2 motorway and the main railway between the cities has a potential to fulfill the role of infrastructure that shapes a region (Van Oort & Raspe, 2005).

This case is interesting as it is located in a very competitive area of Northwestern Europe and it has three major cities on this 'axis' who are also very competitive yet they have varying degrees of complementarity and substitutability. Part of the axis has characteristics of being a (possible) daily urban system (Antikainen, 2005).

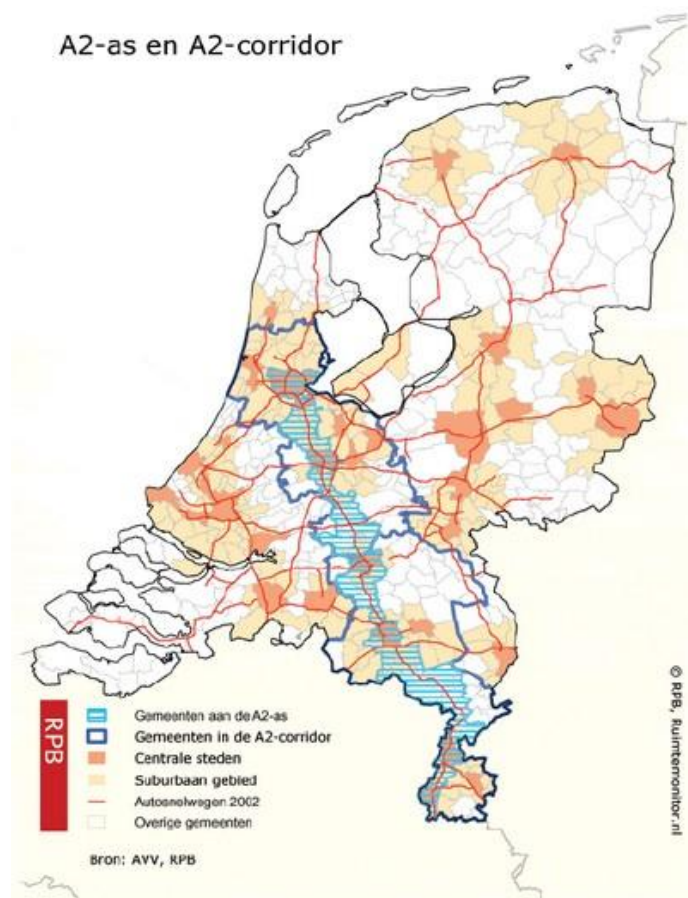
Next, these cities are looking at their profile and how they should steer economic development. Next to that Amsterdam and Utrecht are involved in a possible merger between their provinces which creates a very dynamic governance context.

## 4. Profile of the selected region

### 4.1. Introduction

In the last chapter we derived our complementarity approach and introduced our case. In this chapter we will profile our case. First we provide an introduction to the ‘A2 axis’. We discuss how this concept emerged and to what extent it can be seen in practice. We look for relevant policy that deals with the region as a whole. In the next step we zoom in on the respective core cities. We introduce Amsterdam, Utrecht and Eindhoven. Afterwards we list and analyze the policy these three cities have on science parks and regional branding / profiling.

### A brief history of the Amsterdam-Utrecht-Eindhoven corridor



2 A visualisation from the first report on the A2 axis and corridor by the (now defunct) Rijksplanbureau (2005)

The concept of the A2 axis / corridor first emerged in the early 1990's. The (former) Ministry for Transport, Public Works and Water Management (VWS) published, together with the Dutch Railways (NS) a study<sup>18</sup> on the corridor Amsterdam-Utrecht. This document, that merely is on urban planning and infrastructure recognizes the notion of such a corridor and its effects on zoning and the regional economy<sup>19</sup>. Interesting in this study is the justification of the existence of the corridor. Main emphasis is on the large flow of commuters between the two cities. This evidence is then used to show the need of heavily investing in both the rail and road infrastructure on this corridor. For a better understanding: in 1993 the railway Utrecht-Amsterdam only had two tracks (now doubled) and the A2 motorway (back then 2x3 lanes) is now 5 lanes wide per direction.

In 2002 the idea of the A2 corridor was 'upgraded' from a concept in regional planning to a concept in regional economics with strong links to national policy. *Bureau Louter*, a consultancy firm specialized in spatial economics, developed a 'heat map' of the Dutch economy<sup>20</sup> as requested by the Dutch ministry of Economic Affairs. This report stresses the linkage between road infrastructure and better than average economic achievement. Specifically the A2 is mentioned. Even more interesting is the reverse of causality: according to Bureau Louter (2002) the A2 as such seems to be able to be an endogenous growth factor. Also in the conclusions of this report the existence (and importance) of the A2 axis Amsterdam-Utrecht-Eindhoven is put forward. It is interesting to note that the report deals with explaining growth at different geographic locations but pays hardly any attention to the interaction between these geographic locations. Also the report makes it not very clear how such an axis can be typified. In the next section of this chapter we will discuss this in more detail. Whether the report is scientifically sound is outside the scope of this thesis, fact is that the report was immediately adapted by policy makers at all kind of different levels. In 2003 the Dutch business magazine FEM Business even dubbed this corridor to be 'the region with the closest resemblance of Silicon valley'<sup>21</sup>. The economic vision for

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<sup>18</sup> Corridor studie Amsterdam Utrecht (1993)

<sup>19</sup> 'De corridor Amsterdam-Utrecht werkt structurend op tal van van ruimtelijke en economische processen.' (Corridor studie Amsterdam-Utrecht (1993), p6)

<sup>20</sup> Bureau Louter (2002) *De economische hittekaart van Nederland: Waar de economie van Nederland groeit*

<sup>21</sup> FEM Business (13-09-2003, p20): 'De regio die nog het meest weg heeft van Silicon Valley ligt langs de snelweg A2, die begint in Amsterdam en via Utrecht naar Eindhoven voert.'

2020 by the Province of Utrecht sees the position of the Province of Utrecht alongside the A2 axis as one of its key selling points.<sup>22</sup> Also its position next to two of the main east-west corridors (A1 and A12) is named in the same document. Another example is the Brainport organization in its Brainport 2020 project where the A2 is presented as ‘knowledge axis’ which forms a spine for the Netherlands.<sup>23</sup>

## **The concept of the axis in policy making**

### *The railway corridor Amsterdam-Utrecht-Eindhoven*

The railway line between Amsterdam, Utrecht and Eindhoven has been destined as one of the most important railway lines in the Netherlands. Already in the first real strategic plan of the Dutch railways (*Spoor naar '75*) dating back to 1970 the corridor is mentioned. Also the doubling (from 2 to 4 tracks) of the railway tracks was made a key strategic project for the Dutch railways and the central government. In the next strategic plan (*Rail 21*) which was published in 1988 the Amsterdam-Utrecht-Eindhoven corridor would be served by the fastest intercity services at speeds up to 200 km/h because of its importance for the Dutch economy. The current government ambitions on railway traffic call for more frequent rail services within the broader Randstad.<sup>24</sup> The first railway line where this system will be implemented is the ‘A2 corridor’. Every hour there will be six intercity services and up to six local trains between these cities. In all kinds of publications the ‘A2 corridor’ is used as synonym for what is officially called passenger corridor Amsterdam-Utrecht-Eindhoven (*passagierscorridor Amsterdam-Utrecht-Eindhoven*).

### *Companies and the axis*

The three main cities along the axis have ordered a number of reports to see whether the economic interaction on the axis should be used in future policy making. So to ‘test’ whether the axis exists and if it needs policy attention. Utrecht University

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<sup>22</sup> ‘Utrecht ligt op meerdere ‘economische ontwikkelingsassen’. *De as Amsterdam-Utrecht-Eindhoven is de snelst groeiende economische as van Nederland*’ Focus op Kennis en Creativiteit: Economische Visie Provincie Utrecht 2020 (2011, p8)

<sup>23</sup> See: [http://www.brainport2020.nl/uitvoeringsprogramma/basics/toplocaties\\_voor\\_de\\_kenniseconomie/verhoeg\\_economische\\_kansen\\_van\\_de\\_a2-kennisas\\_door\\_versnelde\\_uitvoering\\_van\\_gebiedsopgaven](http://www.brainport2020.nl/uitvoeringsprogramma/basics/toplocaties_voor_de_kenniseconomie/verhoeg_economische_kansen_van_de_a2-kennisas_door_versnelde_uitvoering_van_gebiedsopgaven)

<sup>24</sup> As written down in the *Programma Hoogfrequent Spoorvervoer* where in the timeframe 2012-2020 over four billion EUR is to be spend on realizing ‘travelling without having to check a timetable’ . Originally it was planned that four railway lines would be upgraded for this ambition, current budget cuts make the realization of these plans less sure.



professor Atzema conducted extensive research on the three major cities along the A2 axis<sup>25</sup>. In this research special attention is paid to the company relations on the axis. The *Utrechtse clusters in bloei?* Research has even a chapter dedicated to the ‘A2 context’. Companies active on the A2 axis was asked if they had special relations with companies located at other locations along the A2 motorway. Furthermore it has been asked whether these relations have a purely business nature or that these relations are also used as knowledge partners. Also companies are questioned on how important the infrastructure is to them and how their perception of distance and travel time is in relation to possible constraints for cooperation.

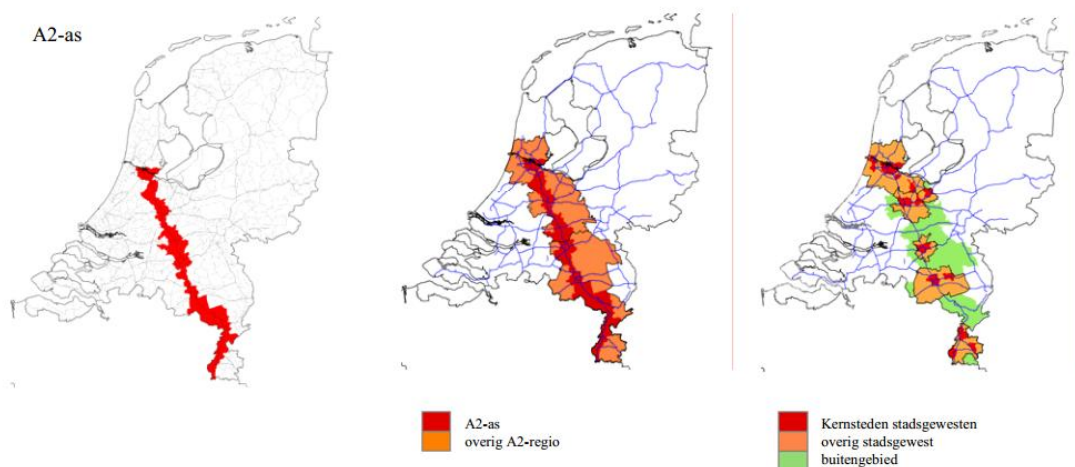
Main outcome of the studies is that the importance and existence of an A2 axis differs per cluster. According to *Clusters in bloei?* the construction and architecture cluster sees the A2 axis as a very important working area. The clusters health care, medtech and life sciences are more centered along one of the major cities on the axis, often Utrecht or Amsterdam with their university hospitals. Company – knowledge institutions relationships however often follow the A2 axis. In the *Clusters in bloei?* research it is indicated that a large number of companies name the technical university of Eindhoven as an important knowledge partner. An example of such a company is given with Cap Gemini, a consulting company that has its head office in Utrecht and a branch on the High Tech Campus in Eindhoven.

For the Netherlands a study by Louter e.a. (1999) found that economic growth in ‘postal code’ areas that are crossed by a motor way was three times higher than the Dutch average for the 1991-1995 timespan. Terlouw (2011) also explains the difficulties of matching the areas used for statistical analysis (often administrative borders) with the economic areas of the concept. Van Oort & Raspe (2005) who conducted an interesting study on both our research area and the corridor phenomenon distinguish between an ‘A2 axis’ and an ‘A2 corridor’. The axis being the

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<sup>25</sup> These reports are: *Ruimtelijk Economische Samenhang langs de A2* (ordered by the Gemeente Eindhoven), *Utrechtse clusters in bloei?* (Gemeente Utrecht) and *The Amsterdam Family of Clusters* (commanded by the Bestuursforum Schiphol). All reports were published in 2011.

communities that lay directly alongside the A2, and the corridor consisting of the COROP<sup>26</sup> areas that are crossed by the A2 motorway.



*The A2 axis and corridor. These pictures provide an interesting look at the problems of demarcating a region. Because of the use of COROP regions the axis becomes very thick and hard to turn into policy practice. (TNO, 2005)*

The A2 Corridor of Van Oort & Raspe (2005) includes, because they work with COROP regions, several communities in the upper north eastern part of the Noord-Brabant province who are not a member of Samenwerkingsverband Regio Eindhoven but, by their location, might be more interconnected with the Nijmegen urban area. Nijmegen however is part of the province of Gelderland and the Stadsregio Arnhem Nijmegen (SAN) which implies a problem when trying to turn the A2 Corridor into policy practice. A further proof that states the problems with operationalizing the corridor model was given in an interview with the CEO of the Dutch railways NS. When the CEO, Bert Meerstadt, introduced the ‘A2 corridor’ he explained it as the ‘railway line between Eindhoven and Alkmaar’.<sup>27</sup> Indeed the intercity service between (Maastricht/Heerlen)-Eindhoven-Utrecht-Amsterdam continues further north to Alkmaar but the A2 motorway stops on the edge of the Amsterdam city center rendering the metaphor ‘A2 corridor’ quite useless in this case. In later years the concept of the A2 corridor and its link to higher economic growth was debunked. In

<sup>26</sup> The COROP division of the Netherlands divides the Netherlands into 40 regions for statistical analysis (by a.o. Statistics Netherlands). In its original form each COROP region consisted of a central city and its service area. Due to rescaling governments and COROP divisions sometimes following provincial borders this principle does not always stand (anymore).

<sup>27</sup> Interview with nu.nl via <http://www.nu.nl/economie/3204092/vrees-trage-investeringen-spoor.html>

2005 the Dutch research institute TNO wrote a report for the Ministry of Economic Affairs on the matter and the main conclusion was not to include the A2 corridor as a concept in devising new policy on urban and regional planning (TNO, 2005). The A2 corridor concept could however be valuable as a marketing concept for international acquisition (TNO, 2005).

#### *Governance on the scale of the axis*

Currently economic development policy is developed by local communities, provinces and WGR+ regions. Economic policy is steered by national government to such extent that priority is given to initiatives that support the so called *Topsectoren*. These top sectors, nine in total, are arched by policy agenda's ICT, biobased economy, nano technology and attracting headquarters.<sup>28</sup>

In the proposed plans<sup>29</sup> on the future governance structure of the Netherlands economic development is to be a competence of provinces.

At this point in time there is no official coordination between the cities on the A2 axis. Only infrequent meetings are held where main action point include ordering more research to gain knowledge on the working of the axis.

## **4.2. City of Amsterdam**

### **Introduction**

Amsterdam is the largest city in the Netherlands with a metropolitan area (Metropool Regio Amsterdam) that has around 2 million inhabitants. The Amsterdam Metropolitan Area has a strong focus on services in its economic profile. This is the continuation of the Amsterdam tradition of being a city of trade. Twenty-seven percent of the added value generated in the MRA in 2011 is coming from the sectors financial services, business services and real estate.<sup>30</sup>

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<sup>28</sup> See <http://www.rijksoverheid.nl/onderwerpen/ondernemersklimaat-en-innovatie/investeren-in-topsectoren> for more information on the topic.

<sup>29</sup> *Bestuur in Samenhang: De bestuurlijke organisatie in Nederland*

<sup>30</sup> Economische Verkenningen Metropoolregio Amsterdam 2012

## Relevant policy networks

The city of Amsterdam is next to being a community part of several larger policy networks that are important in regional economic development policy. Amsterdam is the name giver of the *Metropoolregio Amsterdam* which is an informal (i.e. without strict legal basis in the Dutch governance system) cooperation between 36 communities, the provinces of North-Holland, Flevoland and the *Stadsregio Amsterdam* (SRA, ‘Amsterdam Cityregion’). The MRA cooperation is meant to work together, based on a shared vision, on a powerful and innovative economy, better infrastructure and enough and pleasant space to live, work and leisure. By joining forces better and faster decision making should be possible and the voice of the region should be heard louder at a national governance level.<sup>31</sup>

Within the MRA there are three boards that coordinate the activities of the MRA. The *Platform Regionaal Economische Structuur* (PRES, Platform Regional Economic Structure) deals with economic affairs and is chaired by the alderman for economic affairs of the City of Amsterdam. The PRES publishes the yearly MRA Economic Outlook (*Economische Verkenningen*) and coordinates projects like the Amsterdam Economic Board, Amsterdam Marketing and Amsterdam InBusiness.

The Amsterdam Economic Board is a triple helix organization with members of governance organizations, business leaders and representatives of the knowledge institutes (in the city of Amsterdam). The board is chaired by the mayor of Amsterdam and has as an important task to prioritize investments aimed at benefiting economic development of the MRA. The board works with the *Kennis en Innovatieagenda* (Knowledge and Innovationagenda) as its main guideline.

The organization Amsterdam Marketing is responsible for the coordination of city marketing in the whole *Metropool Amsterdam*.<sup>32</sup> To the general public this organization is most known for the I amsterdam campaign, the campaign with the

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<sup>31</sup> This is an English translation of the mission statement of the MRA, published in official documents and it’s website.

<sup>32</sup> In all communications of Amsterdam Marketing it is always referred to Metropool Amsterdam instead of Metropoolregio Amsterdam. The exact reason for this becomes not directly clear.

large sculptures around the city as icons.<sup>33</sup> The organization is also very active in the marketing towards (foreign) companies who it sees as one of its three target groups of city marketing. These initiatives aimed at companies are done in close cooperation with Amsterdam InBusiness. Amsterdam InBusiness is the organization that is responsible for attracting FDI for the whole MRA. The organization follows the branding and setup of Amsterdam Marketing and is staffed by civil servants of the different communities within the MRA, with a strong focus on employees of the economic affairs department of the City of Amsterdam.

### **Policy on science parks**

The foundations of the first science park in Amsterdam were laid in 1996 when the City of Amsterdam destined Science Park Amsterdam a project with importance for the whole city (*grootstedelijk project*).<sup>34</sup> The City of Amsterdam partnered with the University of Amsterdam and NWO, the Dutch organization for scientific research. The terrain where the science park was to be located was already occupied by several departments (a.o. biology and the center for mathematics & information (*CWI*)) of the University of Amsterdam. Since the transformation to a science park the whole faculty FNWI (science, mathematics & information sciences) has moved to SPA and since 2012 also the Amsterdam University College is located on campus. Yet more important, since 1996 also (spinoff) companies could locate on the SPA.

For our discussion on complementarity the sectoral focus of the SPA is very important. The sectoral focus of the SPA is linked to the clusters that are deemed important in the aforementioned *Kennis & Innovatieagenda* by the Amsterdam Economic Board. The clusters deemed important by the AEB are for a large part based on the clusters that were destined as key sectors for the Dutch economy by the national government (the so called Topsectorenbeleid). The SPA focuses on the clusters Red Life Sciences<sup>35</sup> and ICT/eScience. For both these clusters a cluster strategy was devised by the AEB<sup>36</sup>.

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<sup>33</sup> It is interesting to remark that the *i amsterdam* did make its way into a videoclip of American artist *Snoop Dogg*.

<sup>34</sup> The facts in this section are derived from <http://www.scienceparkamsterdam.nl/over-science-park/gebiedsontwikkeling> and the brochure *Science Park Amsterdam: Het Knooppunt van exacte wetenschappen en ondernemen*

<sup>35</sup> Red life sciences is primarily the medical and healthcare cluster.

<sup>36</sup> Called: *Clusterstrategie Rode Life Sciences: Focus op valorisatie* (2011) and *Clusterstrategie ICT/eScience* (2011)

Both strategy documents have clear ambitions of what they want to achieve with these clusters. In the red life sciences there is for instance the ambition to double the amount of workforce in this cluster and to attract at least one headquarter of a company in this cluster with a turnover of more than 1 billion euro. For the ICT cluster the Amsterdam metropolitan area should be within the top 20 worldwide for locations where new private R&D initiatives locate.

Translated to the (desired) focus of the SPA we see the following list of types of companies. For the ICT companies the SPA names a range of types of ICT companies that are located at the SPA. Network companies, website builders and hosting companies, software development and telecommunications are on the list.<sup>37</sup> A check of the occupants list at the SPA shows a large number of startups yet with varying degrees of innovation. Interesting names are TATA Telecommunications (yet with a very small presence), MoneYou (a financial services company, yet listed under ICT) but strangely enough AMS-IX, one of the backbones of the worldwide internet and icon for the Amsterdam ICT sector, is not named.

The focus of the red life sciences cluster on the SPA becomes not very clear from the website and brochures of the SPA. If we look however at a brochure<sup>38</sup> of the Amsterdam Innovation Motor on the red life sciences cluster there seems to be a focus on five ‘therapeutic and diagnostic areas: oncology, neurosciences, autoimmunity, infectious diseases and cardiovascular diseases. In addition, considerable activity exists in the field of medical technology.’ The list of companies present at the SPA and active in the red life sciences is fairly short but the focus of this list seems to be at companies who are active in oncology.

When we zoom out one step and look at the cluster strategies and the *Kennis & Innovatieagenda* it is of interest to see, irrespective of choices made for specific sectors, whether similar developments elsewhere on the axis Amsterdam-Utrecht-Eindhoven or broader within at least the Netherlands, are taken into account in these policy documents. If we want to judge for possible complementarity this is an important factor. In all three relevant documents, so the two specific cluster strategies

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<sup>37</sup> <http://www.scienceparkamsterdam.nl/ondernemen/bedrijven>

<sup>38</sup> AIM (2009) *Amsterdam Capital of Science: Life Sciences in Business*

and the overarching document, the outside world is treated very generic. For all three documents we looked up whether the words ‘Utrecht, Eindhoven, Brainport’ were present and then checked per case in what context the words were present.

In the *Kennis & Innovatieagenda* the word Utrecht was present once in a reference to a report by the Dutch planning bureau that showed the value of diversity that is present in the northern part of the Randstad. The word Eindhoven did not appear and Brainport appeared twice, but only in the context of naming the other two ‘top regions’ in the Netherlands (Seaport Rotterdam and Brainport).

In the cluster strategy for the red life sciences the word Utrecht is present twice. Both times this is because of cooperations between the university hospitals of the two cities. Eindhoven and Brainport are not mentioned in the report. The cluster strategy for the ICT does not contain the word Utrecht, nor Eindhoven, nor Brainport.

A further quick scan of these documents to see for the mentioning of other regions shows a very focus on the MRA. Also publications by the SPA seem to exclude everything beyond the limits of the Amsterdam metropolitan area.

Interestingly enough on the website of the SPA there is an interview where the interviewee, a manager at IBM, explains that the science parks in the Netherlands hardly cooperate and that this is unfavorable.<sup>39</sup> Also an aforementioned brochure on the Amsterdam red life sciences cluster discusses the importance and merits of frequent contacts ‘with the neighboring clusters such as Leiden, Rotterdam, Delft and Utrecht’<sup>40</sup>

## **Policy on regional branding**

The city of Amsterdam has, as shown in the introduction, a very large program on city marketing and profiling. The backgrounds of the development of the I amsterdam are

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<sup>39</sup> ‘Je hebt in Nederland veel universiteiten en science parken, maar die werken nauwelijks samen. Het bedrijfsleven en de overheid moeten samen met de academische wereld een agenda opstellen met concrete thema’s en samenwerkingsmodellen’; as said by Harry van Dorenmalen (IBM) in the april 2011 newsletter (‘De winnende broedplaats van de wereld’) of Science Park Amsterdam.

<sup>40</sup> AIM (2009) *Amsterdam Capital of Science: Life Sciences in Business*, p11.

very well described in the publication *The Making of...the city marketing of Amsterdam*<sup>41</sup>.

Given the focus on the knowledge economy in this thesis we merely focus on marketing aimed at attracting new companies. Next we look how the MRA sees itself, what are its key selling points and what the desired image of the region is. Also here complementarity can be looked after, do your profile yourself differently from your neighbors and is this more a coincidence or do you take the profiling of other cities into account?

The current image of Amsterdam, put forward by the relevant policy makers, can be captured by the (translated) text in the table hereunder.

<i>Profiling of the MRA</i>
Amsterdam (in <i>Kennis &amp; Innovatieagenda</i> )
‘The Amsterdam metropolitan region (MRA), the area stretching from Haarlem, via Amsterdam to Lelystad and from Zaandam and Haarlemmermeer to Hilversum, is of vital importance for the Dutch economy. 1,4 million people create 91 billion euros of added value (...). Internationally seen and in comparison with other world cities is the MRA ‘a small one’, yet one with a very strong name and reputation. This is because of the combination of a trade- and financial center, a strong creative sector and a broad array of other sectors. With a modern seaport, an international airport with an important hub function, one of the biggest internet hubs in the world (AMS-IX) and the Hilversum Mediapark, the region is physically and virtual well connected to the rest of the world. Amsterdam has a tradition of openness and an internationally appreciated supply of historical and contemporary culture, arts and design. Together with the unique greenblue surrounding, the diversity in living areas and a differentiated population the MRA is, for a reason, a very attractive international area to locate.’ <sup>42</sup>

In the same way the desired future image of the MRA can be captured:

<sup>41</sup> <http://www.iamsterdam.com/~media/PDF/the-making-of-the-city-marketing-definitief.pdf>

<sup>42</sup> Translated from section A *De regio Amsterdam als internationale metropool* (p5).



*Desired future image*

Amsterdam (in *Kennis & Innovatieagenda*)

‘The Amsterdam Metropolitan Area (MRA) has the ambition to be among the front runners of European Cities who are, as *global gateways*, the economic hotspots of Europe. This is the fundament of maintaining and improving welfare and well being in our region in a sustainable way. (...) Regional specialization: above average growth of the seven clusters<sup>43</sup> in the metropolitan area which is seen by the above average presence of these clusters as compared to the rest of the Netherlands. Internationalisation: the competitive position of the seven clusters is better and there is a significant growth in the share of new foreign firms in these important metropolitan clusters.’<sup>44</sup>

If we once again look at whether other cities are named in these plans the answers are already given in the section on science parks. Cooperation is deemed very important, but apparently only within the limits of the metropolitan area. In publications of Amsterdam Inbusiness, the FDI body of the MRA, other cities do appear but often only in the context of where a company was earlier located before it moved to Amsterdam<sup>45</sup>. In the brochures aimed at attracting FDI also the scale used is either the Amsterdam metropolitan area, or directly the whole of the Netherlands.<sup>46</sup> On a side note, in the specific brochure on the financial sector Nyenrode Business University in Breukelen is incorporated into the Amsterdam metropolitan area.

### **4.3. City of Utrecht**

#### **Introduction**

The city of Utrecht is the fourth largest city in the Netherlands. In 2010 it was named Europe’s most competitive region by the European Commission<sup>47</sup>. Utrecht has a very central location in the Netherlands and is a junction for several railway lines and

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<sup>43</sup> These clusters are: financial- and business services, logistics, ICT/eScience, creative industries, red life sciences, food&flowers, tourism & conferences.

<sup>44</sup> Translated from chapter 6 of the Kennisagenda (p32).

<sup>45</sup> AIB acquisitie- en investor development resultaten 2012

<sup>46</sup> See for instance: *AIB The financial and business sector in the Amsterdam metropolitan area*.

<sup>47</sup> IPSC report: EU Regional Competitiveness Index 2010 , the research was conducted by an Italian University and requested by the European Commission. Utrecht scored the highest attainable score of 100/100, Copenhagen was second with 96/100 points.

motorways. The city of Utrecht experiences a large inflow of daily commuters, higher than the daily outflow, in 2012 the number was around +50.000.<sup>48</sup> The economic profile of the city of Utrecht shows a strong position of the services and not for profit sector. Largest sector is the healthcare sector, in 2012 this sector accounted for 36.000 jobs. The sector trade has 28.000 jobs and the cluster advisory, research, business services, financial services, ICT together creates around 64.000 jobs.

In 2012 employment figures<sup>49</sup> in the main policy focus areas of the Province of Utrecht were as follows: *Health economics* 17% of total employment, *creative industries* 3,7% and *life sciences* 2,6%. Utrecht has an historic city centre and an university that dates back tot 1636. Utrecht University and several applied sciences institutions create both significant employment as well as a strong reputation as a city of knowledge.

### **Relevant policy networks**

The City of Utrecht forms part of the Bestuur Regio Utrecht (BRU). This cooperation of nine communities around the Utrecht has a legal status and a number of legal tasks. Main task is arranging public transport in the region. Other tasks include regional housing policy and economic development of the region. The legal basis of this cooperation (WGR+) is scheduled to be abolished by new national legislation on public governance below the national level. BRU however continues to develop new economic policy, for instance the plans on regional structural development and its accompanying economic development strategy is planned to be rewritten in 2013.<sup>50</sup>

Innovation and fostering an innovative competitive economy is since 2005 done via the *Taskforce Innovatie Regio Utrecht (TFI)*. The geographic scope of this taskforce is a bit complicated. In the strategic plan of the TFI<sup>51</sup> the ‘triangle Utrecht region’ is used to describe both the province of Utrecht and the *Gooi* region. The Gooi region is however part of the Province of North-Holland and hence only the chamber of commerce of the region is official partner of the TFI. The year 2013 will be the last

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<sup>48</sup> The figures in this section are derived from the *Utrecht in Cijfers 2013* publication by the City of Utrecht

<sup>49</sup> Derived from <http://www.taskforceinnovatie.nl/media/files/2012kvktfieconomie-prov-utrecht-okt-12.pdf>

<sup>50</sup> See: [http://regioutrecht.nl/Ruimtelijk\\_Beleid\\_Economische\\_Zaken\\_Wonen/Regionaal\\_Structuurplan](http://regioutrecht.nl/Ruimtelijk_Beleid_Economische_Zaken_Wonen/Regionaal_Structuurplan)

<sup>51</sup> *Motor voor duurzame innovatie: TFI 2009-2013*

year of the TFI, since late 2012 a spin off has been founded. The *Economic Board Utrecht* wants, via a triple helix structure, to facilitate and foster the economic competitiveness of the Utrecht region.

## **Policy on science parks**

In Utrecht the Utrecht Sciencepark is first of all a renaming operation of the current university complex 'De Uithof'. This university campus, of the Utrecht University, dates back to the early 1960's and houses a number of faculties, the university hospital and an increasing number of student flats.

In 2006 the university, the City of Utrecht, the Province of Utrecht, the Utrecht University hospital and the Hogeschool Utrecht (applied sciences institution) together formed the Utrecht Science Park (USP). Main ambition is to attract outside companies (both national and multinational) to the USP and to foster the creation of new knowledge at this location.<sup>52</sup> The whole Uithof is renovated, infrastructure connections to the campus are expanded (a new tramline), and is now also officially renamed into Utrecht Science Park.<sup>53</sup>

The profile<sup>54</sup> of the USP is based on two pillars namely *life sciences* and *sustainability*. Within these areas there is for the life sciences sector a strict focus. The USP focuses on *public health* and *cancer, regenerative medicine and stem cells*. This specialization is also seen at the accompanying research institutes.

It is interesting to note that the Utrecht University and the Utrecht University medical center have a strategic cooperation with the Eindhoven University of Technology. In early 2011 the 'classic' Utrecht University (and the associated UMC university hospital) established a durable relationship with one of the three Dutch technical universities, the TU/e. The Dutch ministry of Education, Culture and Science (OCW) has been stressing the need for cooperation between research institutes for quite some time now. In a same manner the universities of Rotterdam, Leiden and Delft

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<sup>52</sup> <http://www.utrechtsciencepark.nl/nl/22/over-utrecht-science-park/>

<sup>53</sup> The name Uithof however remains to be in use, both by students and citizens as by the local bus company who continues to mark 'Uithof' as a destination.

<sup>54</sup> The information in this section is mainly derived from the Dutch brochure of the Utrecht Science Park (<http://www.utrechtsciencepark.nl/ul/cms/fck-uploaded/media/BrochureDef05.04.2011.pdf>)

announced more cooperation. Also the research conducted should be, according to the ministry, more related to the *top sectors* that have been defined by the Dutch government. In the Utrecht University strategic plan for 2012-2016 (UU, 2012) the whole alliance is summarized. The universities will cooperate in the fields of research, education and knowledge valorisation. The cooperation will be based on complementarity.<sup>55</sup> In practice there are now two combined master programmes and extensive cooperation with the R&D department of Philips has been announced.

The document emphasises that both Utrecht and Eindhoven are among the most competitive regions in Europe<sup>56</sup> (UU, 2012) and that the creation of a *joint scientific research infrastructure* will further extend this position. The strategic document does not refer to any policy actions to be taken or taken by governmental institutions. Interestingly enough the cooperation might be used as a stepping stone for further cooperation. The (independent) magazine of Utrecht University reports that during the celebration of ‘one year strategic alliance’ both the mayor of Utrecht and Eindhoven stated that the cooperation should be seen in a broader context.<sup>57</sup> Recent steps have included the set up of a thesis competition that awards theses that link ‘Utrecht research’ with ‘Eindhoven research’. Next to that a joint masters programme has kicked off.<sup>58</sup>

The second pillar of the USP is sustainability. Here the focus is broader, where this wide range of competencies is used as unique selling point. The Utrecht University offers education and conducts research in a lot of fields and these are jointly used in themes on sustainability (according to the USP brochure). In practice we see that the USP has attracted a number of well known research institutes and companies. French

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<sup>55</sup> Although this concept is limited: in an article in the TU/e magazine an UU official states that Eindhoven was chosen over the other technical universities because of similarities in focus areas. The discussion between complementarity and diversification also plays a role here (TU/e cursor 26/01/2012 p.14/15)

<sup>56</sup> Most likely this claim is based on the EU *EU Regional Competitiveness Index 2010* report already mentioned in the theoretical section of this thesis.

<sup>57</sup> “Eindhoven is de slimste regio, Utrecht de best opgeleide”, zei burgemeester Aleid Wolfsen gevat. “Het science park is de kraamkamer voor innovatie en daar profiteert de stad van. Samen met Eindhoven is er een wereld te winnen.” Zijn Eindhovense collega Rob van Gijzel zag dat breder. “Nederland is te klein voor concurrentie. Wij moeten veel meer samenwerken. Niet alleen tussen Utrecht en Eindhoven, we moeten daar meer steden bij betrekken.” via <http://www.dub.uu.nl/artikel/nieuws/samenwerking-eindhoven-krijgt-kleur.html>

<sup>58</sup> See <http://www.uu.nl/NL/Informatie/studenten/actueel/Pages/Science-and-Technology-Student-Awards-uitgereikt.aspx>

food multinational Danone is building a large R&D facility and also Dutch research institutes TNO and Deltares have moved an important research facility on water management to the USP. In 2018 the RIVM, the Dutch institute on public health, is scheduled to move from neighbouring Bilthoven to the USP. The former location in Bilthoven will then be reformed into a satellite location of the USP.

By looking at the list of companies present at the USP we see that the sectoral focus works out for the companies present at the USP. Most companies are, based on their description, active in the focus areas.

Also in the case of Utrecht we want to know whether complementarity is a factor in the policy on science parks and cluster development. In the strategy plan 2009-2013 of the Taskforce Innovatie Regio Utrecht<sup>59</sup> we checked whether the other cities on the axis are mentioned. The word Amsterdam is mentioned four times. In one case very relevant: the Amsterdam Innovation Motor (AIM) is named as innovation partner. Brainport or Eindhoven is not mentioned. If we do the same exercise for the first major publication<sup>60</sup> of the successor of the TFI, the Economic Board Utrecht we find the following results. The word Amsterdam shows up five times. All five times it is a relevant case. The future ambitions of the EBU clearly state that cooperation with both the MRA and the Brainport Region should be stimulated. It has to be noted that the EBU also wants to increase relationships with the Foodvalley Wageningen and the Metropolitan Region Rotterdam The Hague (MRDH). Later on in the document the Brainport cooperation and the Amsterdam Economic Board get more attention because they are important regional networks and the EBU wants to play the role of liaison towards these networks. The general brochure of the USP also mentions<sup>61</sup> the importance of these networks already at the first page of the brochure. Interestingly enough the nearest competitors are included, those who have the same sectoral focus.

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<sup>59</sup> TFI (2009) *Motor voor Duurzame Innovatie TFI 2009-2013*

<sup>60</sup> EBU (2012) *Changing the way we realise economic growth Bouwstenen voor een economische agenda voor de regio Utrecht*

<sup>61</sup> . 'Ook is sprake van een intensieve samenwerking met de Life Sciences-parken van Leiden en Amsterdam en met de campussen van Delft/Rotterdam en WageningenUR voor activiteiten rond duurzaamheid'

## Policy on regional branding

The city marketing and profiling by the City of Utrecht has had a very complicated nature. When the City of Utrecht started with an official city marketing program in 2008 the mission of the program was to ‘profile Utrecht on a national and international level as a city with an appealing and competitive climate to locate, work, live, visit and invest’<sup>62</sup>. Large budgets were allocated, organizations set up and a corporate story was written.<sup>63</sup> When the City of Utrecht organized a discussion session<sup>64</sup> on the proposed discontinuation of the specific city marketing organization the perceived target groups of city marketing were limited. Almost all contributions from the ‘public’ were on the role that city marketing should play in attracting visitors and tourists to the city. Whereas attracting companies and investors were included in the mission for the city marketing program, when it was cancelled only the local tourism and hospitality industry was there to complain. An interesting remark made during the evening was that the current emphasis on Utrecht being a city of ‘knowledge and culture’ was only partially recognized by the local entrepreneurs. According to the spokesperson of all the ‘innercity associations’ (*Platform Binnenstad Utrecht*) the message of Utrecht being a perfect shopping destination was more recognizable and important than that of Utrecht being a city of knowledge.

The profiling of Utrecht to the outside world from an economic perspective is now increasingly seen as a task for the Economic Board Utrecht. The current, idealized, image of Utrecht, and the Utrecht region is seen in the table:

<i>The profile of the Utrecht region</i>
Utrecht (in <i>Changing the way we realise economic growth: Bouwstenen voor een economische agenda voor de regio Utrecht</i> )
The Utrecht region – that stretches from Woerden to Amersfoort and from Veenendaal to Hilversum – has managed to cope well with the economic restructuring of the ’70’s and ’80’s. Many industries have vanished but a thriving professional

<sup>62</sup> "Utrecht Nationaal en internationaal profileren als een stad met een aantrekkelijk concurrerend klimaat om te wonen, werken, leven, bezoeken en investeren". (Commissiebrief Stads promotie (number: 11.070320))

<sup>63</sup> Gemeente Utrecht (2009): Programma Stads promotie 2008-2011

<sup>64</sup> Raadsinformatieavond 6 september 2011, bijeenkomst ‘Stads promotie’. Summary and overview of presentations given are available on the website of the City of Utrecht

services economy has replaced these industries. Business services (research and analysis, management consultancy, PR and communication services, accountancy, legal, facilities, ICT), financial services (banks, pension funds, insurance), healthcare, education and governance make up for 65% of the Utrecht economy. Classic sectors like construction, transport, trade and industry are together still 1/3<sup>rd</sup> of the regional economy and remain important. Growth is in new domains like creative industry, sustainability and life sciences (...). The living climate is well graded and has a pleasant mix of culture, nature and urban amenities, and most jobs are within one hour of travel. Utrecht University is (...) best ranked university of the Netherlands. (...) Thanks to the presence of growth sectors, its central location and the favorable climate to locate the region performed economically very well over the last decades.<sup>65</sup>

The desired future image for Utrecht is less clear as it has not been written down in great detail. The publications by the Economic Board Utrecht do however offer some insights. The Board calls it ‘suggestions for agenda and ambitions’.

*Desired future image*

Utrecht (in *Changing the way we realise economic growth: Bouwstenen voor een economische agenda voor de regio Utrecht*)

The Utrecht region should go for the valorisation of crossovers by combining knowledge, experiences and competences. Sustainability is a key theme. The Utrecht region has many research institutes, service providers and engineering firms who can benefit of this. A second key theme is health. The ever expanding life sciences clusters can excel in veterinary diseases and cancer treatment on a Dutch, European and world level. A digital agenda could very well be linked to regions like Brainport or the *Noordvleugel*. In positioning the region it is key that the ‘Utrecht’ message is shouted instead of told.<sup>6667</sup>

<sup>65</sup> Translated from section 3.1 *Uitgangssituatie: een bloeiende basis* (p7) of the aforementioned report. The text in Dutch is longer (more detailed) hence the (...) in the translation.

<sup>66</sup> *Belangrijke doelgroepen moeten je kennen, dus er zal aandacht moeten zijn voor gerichte marketing van de kracht van de regio: “be good and tell it!”*. *Daaraan vooraf gaat een nog belangrijker opgave: “Be proud and tell it!” Utrecht is ondanks haar prestaties soms wat te bescheiden.* (p15)

<sup>67</sup> This is a summary and translation of section 3.3 of the *Changing the way we realise economic growth: Bouwstenen voor een economische agenda voor de regio Utrecht* document.

It is very interesting to see how the Economic Board Utrecht refers to other regions, specifically to Eindhoven and Amsterdam in its vision. The EBU combines in their vision profiling and being unique with doing this possibly together with other regions. One of the advices about what all action to be taken should keep in mind states that (translated)<sup>68</sup>: ‘the Utrecht region (should, OdJ) be profiled as a distinctive place to be for the respective theme, making it an attractive partner for companies or regions from outside, possibly in cooperation with other regions like the MRA, Foodvalley, Brainport of the southern part of the Randstad (*Zuidvleugel*).

#### **4.4. City of Eindhoven**

##### **Introduction**

The city of Eindhoven had to reinvent its economy. Traditionally an industrial city, home of Philips and truck manufacturer DAF, the economic future of the city looked bleak in the early 1990’s. Philips was closing down its factories in the region where it has started, moved its headquarters to Amsterdam and DAF went broke in 1991, but did manage to survive and to start over again. A number of communities around Eindhoven decided to join forces and to start, together with subsidies from the European Union, a fund aiming at structural economic development. This fund formed the basis of what is now known as the triple helix Brainport organization. In 2011 the Brainport region was named smartest region in the world by the US-based think tank Intelligent Community Forum.

##### **Relevant policy networks**

The City of Eindhoven is part of a cooperation with 21 communities in the Eindhoven region called the *Stadsregio Eindhoven* (SRE). As with its counterparts in the other cities on the axis this cooperation is aiming to create a sustainable and economically competitive region.<sup>69</sup> At this moment this cooperation has a legal basis (the SRE has a WGR+ status) but the SRE wants to continue this cooperation and after 2015

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<sup>68</sup> ‘De regio Utrecht profileren als onderscheidende ‘place to be’ voor het betreffende thema, waardoor ze aantrekkelijk wordt als samenwerkingspartner voor bedrijven of regio’s van buitenaf, al dan niet in samenwerking met andere regio’s (bijvoorbeeld MRA, Food Valley, Brainport, Zuidvleugel, etc.).’ (EBU, 2012, p16).

<sup>69</sup> <http://www.sre.nl/het-sre/wat-is-het-sre>



specifically focus on the topics of regional economy, infrastructure and zoning.<sup>70</sup> The SRE participates and partially facilitates the Brainport organization. The Brainport Development organization is the bureau that oversees and initiates all aspects of Brainport. Brainport Development has a triple helix structure and is chaired by the mayor of Eindhoven. In the board of the Brainport Foundation are also representatives from regional science institutes and business leaders.

### **Policy on science parks**

The City of Eindhoven has several facilities that qualify as science park. The aforementioned Eindhoven University of Technology has plans to transform its own campus into a science park. One could argue whether this is just marketing speak ('TU/e will be making its campus – originally a somewhat closed and mono-functional community – open to social partners and other users. With the arrival of new high-tech companies, research institutes, a university of applied sciences and housing, we speak not so much of a university campus but of a Science Park.')<sup>71</sup> or a clear example of a science park.

Also an already existing industrial park (Ekkersrijt) has been segmented into four areas to include a 'science park'. Ekkersrijt has a diverse group of tenants with companies ranging from the local IKEA to a plant for concrete building elements. For the 'science park' sector of Ekkersrijt a strict admission policy for new tenants was proposed.<sup>72</sup> In practice this policy seems not to be adhered that strict. Among the current companies located on the *Science Park Eindhoven* is a vendor of commercial coffee machines, the distribution centre of a Taiwanese computer manufacturer and the studios of Omroep Brabant. It is interesting to note however that the special entity set up to govern innovation in the Eindhoven region, Brainport, is active as an advisor in the Ekkersrijt Science Park development.

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<sup>70</sup> Transformatieplan SRE (june 2013)

<sup>71</sup> As written by the chairman of the TU/e executive board in the brochure *From university campus to Science Park: Summary of the Masterplan TU/e Science Park*, Eindhoven University of Technology (August 2012)

<sup>72</sup> Masterplan Bedrijventerrein Ekkersrijt: Eenheid in diversiteit (Grontmij, 2003)

The main success story is however the *High Tech Campus*. The High Tech Campus Eindhoven (HTCE) started as the main R&D facility of Philips called *Natlab*<sup>73</sup>. This was then transformed in the Philips High Tech Campus and after 2003 also non-Philips related companies could locate at the campus, based on the idea of open innovation. The campus was revamped, with investments of 500 million euro and in 2006 the first non Philips company opened up. In 2012 the campus, that was already in private hands, was sold to a private investor for an amount of over 400 million euro's. Philips remains one of the main tenants, and interestingly enough one of the reasons stated for the investor to buy the campus is to identify promising start-ups at an early stage.<sup>74</sup> Now over 8,000 researchers work on the HTCE and it has become one of the most important projects of the Brainport region.

The sectoral focus of the HTCE and the Brainport 2020 strategy match to a large extent. The general brochure of the HTCE states: 'The companies on the Campus focus on such fields of technology as High Tech Systems, Microsystems, Embedded Systems, Med Tech and Infotainment.'<sup>75</sup> The Brainport 2020 strategy focuses on: high tech systems, chemicals, lifetec (medical technology and cardiovascular), smart mobility, smart materials, energy, industrial design, food & technology, freshfood. This list is very long and not all clusters are present in the Brainport Eindhoven region, some clusters are more present in the Province of Limburg, who also was part of the strategy group.

In practice we see a very promising list of companies active at the HTCE. Several multinationals like engineering company ABB, consultancy firm Accenture, ict companies ASML, IBM, Intel, Philips and NXP are located at the campus. These large multinationals are complemented by a list of start-ups and SME's. Most of these companies are related to the sectoral focus of the Brainport cluster strategy.

The link with other regions or science parks is laid. Main focus of the HTCE, and also Brainport, is on the ELA-triangle. The Eindhoven-Leuven-Aachen triangle is presented as the key region for life sciences and Microsystems. In the general HTCE

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<sup>73</sup> The information in this section comes from the general brochure of HTCE and its website.

<sup>74</sup> See for instance NRC Handelsblad 29/03/2012 *Boekhoorn koopt High Tech Campus – 'lichtpuntje voor vastgoedmarkt'*

<sup>75</sup> High Tech Campus Eindhoven: "The smartest square km in the Netherlands", p2

brochure also the position of the campus along the A2 motorway is referred to as ‘the major Dutch traffic axis’. Specific references to Utrecht or Amsterdam are however not made.

### **Policy on regional branding**

The branding and long term vision for Brainport is a responsibility of the Brainport Development Company. Marketing and branding for the City of Eindhoven is done via EHV365 but has merely a focus on the city marketing towards visitors. If we use the Brainport 2020 strategy document as our reference to the idealized image of the region at this point in time we get the following result.

<i>The profile of the Brainport region</i>
Eindhoven (in <i>Brainport 2020</i> )
‘The strength of the region is in having two topsectors who play in the Champions League: High Tech Systems and Materials and Chemistry, including the strong Lifetec-cluster which is at the cross road of these sectors and the Life-sciences. Unique is the presence of big strong companies like ASML, Canon, DSM, Fuji, NXP, Philips and VDL, with a large network of high quality SME suppliers and an internationally recognized Design cluster. These companies are competitors yet cooperate together on new innovations at the brink of what is technologically possible. They are strong by cooperating in open innovation. Also they can call upon universities, hospitals and research institutes with a worldwide reputation. Next to that a well educated population. This makes the South-East of the Netherlands a place where companies and knowledge workers from the Netherlands and abroad like to locate. Also because they will find a green and warm surrounding with a human size and where living is pleasant.’ <sup>76</sup>

Eindhoven seems to very much follow one of the findings we showed in the theoretical section on place marketing. Regional companies with a worldwide known

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<sup>76</sup> This is a translation by the author of the ‘*wereldspelers in topsectoren*’ section (p3) of the *Brainport 2020 Summary*. It has to be noted that Brainport 2020 has the whole south-east of the Netherlands as geographical scope. The main focus however remains the Eindhoven area.

name are actively engaged in regional economic development and branding. The sectoral focus of the Brainport region is on high tech systems and lifetec.

The future image that the Brainport Eindhoven region desires looks as follows:

<i>Desired future image</i>
Eindhoven (in <i>Brainport 2020</i> )
In 2020 Southeast-Netherlands is in the top3 of technology regions in Europe. On a world scale a top 10 position is achieved (...) The added value for the <i>BV Nederland</i> has, in 2020, increased by 40 billion Euro to 136 billion Euro per year (...) The economy of Southeast-Netherlands grows with 3% per year, about twice as fast as average (...) There will be three large facilities for prototyping: for eHealth, smart mobility and (decentralized) sustainable energy production (...). In 2020 Southeast-Netherlands has almost full employment. Everybody is needed for employment: both skilled laborers as well as highly educated knowledge workers. <sup>77</sup>

If we judge the Brainport 2020 document on to what extent complementarity has been a factor we get the following results, based once again on checking the appearance of in this case the words ‘Utrecht, Amsterdam’.

Amsterdam is mentioned several times in the Brainport 2020 strategy document. It has to be noted that we used the summary of the plan as the full version is way too extensive for a good comparison with similar documents from other cities.

Amsterdam is named twice in a very interesting manner. The (decrease in) travel time between the *Zuidas*, the Amsterdam city area where many KIBS are located, and Eindhoven is used as a policy objective for the 2020 strategy. It has to be noted that also the travel time to the campus of the RWTH in Aachen and the university campus in Leuven is mentioned as policy objective but the notion of the *Zuidas* is very interesting in this context. From a complementarity point of view this might indicate an apparent economic complementarity between Eindhoven and Amsterdam. Utrecht is not mentioned in the document.

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<sup>77</sup> Summary *Brainport 2020*, page 3. This is a translation of the main ambitions.

## **5. Cross-case analysis: complementarity in practice**

In this chapter we will compare the findings from our case study. We will cross analyze our findings on complementarity as a factor in policy on science parks and regional branding.

### **5.1. *Cross analysis of science parks***

Each city on the axis has one or more locations destined as science park and has used this concept in its policy on innovation, competitiveness and/or cluster building.

Is complementarity a factor in policy on the matter?

The Amsterdam Metropolitan Area (MRA) has a very static view on the area outside Amsterdam. Competition is on a global scale where Amsterdam seems to focus on competition with other world cities. The other regions on the axis are not mentioned. Orientation is either on the metropolitan area itself or on cities like London, New York or Paris, not on possible competitors within the Netherlands. In the strategy policy for the clusters that are the focus of the Science Park Amsterdam complementarity or cooperation outside the MRA is not a policy aim, or even mentioned. Strangely enough, in practice we see that the intensive contacts with other cities that are active in for instance the red life sciences clusters are mentioned (as a sales argument). Brainport (Eindhoven) and the High Tech Campus Eindhoven do focus on other regions in policy but the ELA-triangle gets much more policy attention. The A2 axis is mentioned in the sales brochure of the HTCE but more to underline the central location in the Netherlands.

The Utrecht region is actively thinking on complementarity and specialization as a factor in policy making. Both in strategy policy as in day to day practice there is at least a one way willingness to cooperate. Also the cooperation between the universities of Utrecht and Eindhoven, where complementarity is seen as a very important factor in the cooperation, is institutionalised also in local politics. Already in the introduction of this thesis we showed the quotes by the mayors of the two cities and the kind words on how the two cities very well complement each other.

Interestingly enough the economic agenda (2012-2018) of the City of Utrecht calls for more cooperation (and to some extent integration) with the northern part of the Randstad and does not even mention Eindhoven as needed or desired partner<sup>78</sup>.

From a functional perspective we do see crossovers and possible combinations. In the table hereunder the specific focus of the science parks is compared.

Science Park Amsterdam	Utrecht Science Park	High Tech Campus Eindhoven
ICT, oncology, neurosciences, autoimmunity, infectious diseases cardiovascular diseases. medical technology	Sustainability, public health, oncology, regenerative medicine, stem cells	High Tech Systems, microsystems, embedded systems, medical technology, infotainment

Both Amsterdam and Utrecht focus on oncology. In practice we see that the (university) hospitals in both cities have recently found each other and have intentions to set up two satellite locations of a new joint institute on cancer research.<sup>79</sup> These relations are however not mentioned in policy on science parks or cluster building. So in practice we see that relationships are built but adaption to policy has yet to take place. Given our earlier findings on the merits of polycentric urban regions in specialisation cooperation could better facilitate the environment or highly specific infrastructure that might be needed for this research. Also the aforementioned cooperation with a complementary character between the universities of Utrecht and Eindhoven is shown in the profiles of the science parks. The strong presence of firms in the medical technology industry complements the research that is done in Utrecht, and of course Amsterdam. An important difference between the science parks is the

<sup>78</sup> 'In 2018 is de economische samenwerking binnen Noordvleugel van de Randstad versterkt en de onderlinge concurrentie verminderd. Er is een duidelijk gezamenlijk optreden naar buiten toe, terwijl wel recht wordt gedaan aan de verschillende eigen kwaliteiten binnen de Noordvleugel van de Randstad.' in *Economische Agenda Utrecht 2012-2018* p.18

<sup>79</sup> <http://www.umcutrecht.nl/zorg/nieuws/2013/01/avl-en-umc-starten-nieuw-kankercentrum.htm>

presence of many large multinational firms at the HTCE whereas at the USP only one (Danone) and at the SPA in practice none is present.

The lack of coordination in policy on science parks and cluster building is recognized by stakeholders. For instance in the life sciences cluster, national level policy discusses local specialization and cooperation. Life Sciences & Health has been classified as one of the nine *topsectoren* (top sectors) on which future nationwide economic policy will focus. In the accompanying report on the sector and actions to be taken (*Topsectorplan Life Sciences & Health: Voor een gezond en welvarend Nederland*) cooperation and coordination within the sector is a major topic.

In this document it is stated that only cooperation can ensure the success of the sector (p.41). Local clusters should be connected based on the strengths of these local entities. In the *actieagenda* in the respective chapter (p.41) it is advised that the sector will decide upon local strengths and will initiate cooperation if desired fruitful.

Another indicator that complementarity is not a factor in policy on science parks is in the behaviour of local administrations when companies are looking to locate new facilities. A very recent example is the bidding war that was initiated when Dutch high tech company ASML (from the Eindhoven region, with research facilities also at the HTCE) announced their intention to establish a new research lab on nanolithography technology. The cities of Amsterdam, Eindhoven, Nijmegen and Aachen were interested in acquiring this institute (where ASML invests EUR 30 mln and which creates 100 jobs in research). According to ASML officials their location decision was a ‘competitive procedure’<sup>80</sup> and all cities submitted ‘bids’. In the end Amsterdam (in fact the Science Park Amsterdam) was chosen ‘because of its well developed research agenda with thoroughness and creativity’.

Both from the perspective of ASML (bargaining power) and the cities who submitted a bid (creation of new jobs, positive exposure for the responsible alderman) what happened is very well understandable. From a macro perspective one can argue whether this is a good thing. Possible cooperation to achieve more complementarity is

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<sup>80</sup> NRC Handelsblad (27-05-2013): *Amsterdam wint strijd om technologisch instituut ASML*.

hampered by these actions as it puts pressure on the trust between the partnering cities or regions.

*To sum: complementarity is not a prioritized factor in policy on science parks and cluster building in the three cities. All three cities have policy on the matter and broadly speaking complementarity is not a factor. In the Utrecht region the belief that neighbouring regions should be seen at least as conversation partners is the most developed. The MRA is mainly focussed on competition on a global scale.*

*In practice cooperation on the basis of complementarity exists and more possible fields for cooperation can be distinguished.. This notion has however not really found its way to the relevant policy networks. A factor that might partially explain the less cooperative behaviour is the competition that emerges over new to locate companies. The need for coordination and cooperation is understood but not put to practice (yet).*

## **5.2. Cross analysis of regional profiling**

For all three cities on the axis we looked at how they profile themselves and which economic sectors are prioritized in (strategic) policy. Also here we check to what extent the (desired) image is complementary and whether these images see the surrounding area as static or that surrounding regions are taken into account in the policy by the respective cities/regions.

The three documents we used for this analysis are, for Amsterdam the *Kennis & Innovatieagenda* (2011) by the Amsterdam Economic Board, for Utrecht the *Changing the way we realise economic growth: Bouwstenen voor een economische agenda voor de regio Utrecht* (2012) by the Economic Board Utrecht and for Eindhoven we use the *Brainport 2020: Top Economy, Smart Society* (2011) document by Brainport Development NV. Both the MRA and the Brainport region have an integrated package on branding, profiling and economic development with *Brainport* and *Iamsterdam* as overarching theme for all activities.

For a better understanding of the economic profile of the respective cities we hereunder present a table with employment figures in ten important clusters for the



cities of Amsterdam, Utrecht and Eindhoven. These figures, including figures for the whole A2 axis are derived from studies by Atzema conducted for the City of Eindhoven.

<b>2010 Employment in 10 clusters alongside the A2 axis (Atzema, 2011b, modified by author)</b>				
<b>Sector</b>	<b>MRA (N)</b>	<b>UTR (N)</b>	<b>BRE (N)</b>	<b>A2 Zone Totaal (N)</b>
High Tech	12.857	5.604	15.350	39.891
ICT	45.291	44.802	18.593	122.856
Design	19.908	7.269	5.983	37.229
Food	14.492	6.806	9.684	36.565
Automotive	2.557	2.750	6.118	14.188
Life Tec	3.731	1.255	3.675	10.759
Energy	4.024	900	1.445	10.615
KIBS	87.108	40.078	19.519	167.144
Media	28.574	4.896	2.138	37.720
Finance	27.879	18.546	6.048	61.756
Total 10 clusters	246.421	132.906	88.553	538.723
Total economy	1.222.053	665.195	480.555	2.848.312

We see clear patterns emerge. Employment in professional services is spatially concentrated in the MRA and the Utrecht region with a lesser presence of these sectors in Brainport Eindhoven. The high tech sector, automotive and life tec has a relatively (as percentage of total employment) strong presence in the Brainport region.

In the table hereunder the results of a word count in all the three documents are shown. We checked for several relevant keywords, both the English word and the nearest Dutch translation. The idea of this word check is to give some insight in the main focus of the vision. A remark is that once again we used the summary version of

the *Brainport 2020* document because the summary is comparable in length with the other visions. The Brainport 2020 vision is 24 pages long (summary), the Utrecht document is 22 pages and the document of the MRA is 21 pages (odd sized document).

Keyword:	MRA	Utrecht region	Brainport region
‘techn(ology)’	Yes, 9x	Yes, 24x	Yes, 39x
‘creativity’	Yes, 30x	Yes, 12x	Yes, 1x
‘life sciences’	Yes, 17x	Yes, 12x	Yes, 2x
‘(provision of) services’	Yes, 48x	Yes, 43x	Yes, 3x
‘R&D’	Yes, 23x	No	Yes, 14x
‘health’	Yes, 7x	Yes, 17x	Yes, 4x
‘competition’ & ‘competitiveness’	Yes, 41x	Yes, 4x	Yes, 9x
‘unique’ & ‘distinctive’	Yes, 11x	Yes, 10x	Yes, 4x
‘complementarity’	No	No	No

The first six keywords are used to check for the main dimensions of the profile whereas the last three keywords were used to check if the documents are indeed comparable, and relevant, in this context.

We do see an overlap in the profiling of Utrecht and Amsterdam and see a more complementary profile in the vision of Brainport Eindhoven. If we zoom a bit further in and look at the visions in a more qualitative way we see an interesting difference in the role that is assigned to local companies. Brainport Eindhoven sees the presence of worldwide known technology companies as key in its profiling (and competitiveness). What also strikes is the way both ‘Amsterdam’ and ‘Utrecht’ claim the city of Hilversum and the media cluster that is present in the city. Given the presence of many jobs related to media in Hilversum these claims are logical. If both cities see creative industries as a (future) key sector they are of course interested in counting these ‘Hilversum jobs’. The City of Hilversum is part of the MRA but is just as close

to Amsterdam as it is to Utrecht. Besides, the chamber of commerce for Hilversum and the Hilversum (Gooi) region is a strategic partner of the Economic Board Utrecht.

In the discussion on relevant policy in each of the three cities we already checked whether the names of the other cities on the axis appear in the vision documents. The vision document for the Utrecht region is the only one that discusses its neighboring regions and the possibilities for cooperation. The Brainport 2020 document mentions other regions and cities but these are part of the ELA-triangle. Complementarity is not even used as a word in the documents.

Judging the future desired images of the cities once again Amsterdam and Utrecht are, for instance in life sciences, focusing on the same niches (a.o. cancer research). If Amsterdam wants to achieve regional specialization in all seven clusters and the region Utrecht also wants to specialize in one of these sectors (red life sciences) then it might very well be that competition over jobs and companies will rise. Given the value of proximity in the knowledge economy and the results of studies on the (re)location behavior of knowledge intensive companies (a.o. Stam, 2007), it is very well likely that ‘new’ jobs in either Utrecht or Amsterdam are just relocated jobs. The year report on acquisition for 2012 of Amsterdam Inbusiness shows that of the 1344 new jobs created by newcomers in the MRA 260 of these jobs are at companies previously located in the Utrecht region.<sup>81</sup> The idea that these effects are unwanted has been acknowledged at a national level.<sup>82</sup>

*To sum we see differences in focus of the vision of Eindhoven on one hand and the ones of Utrecht and Amsterdam on the other hand. The Brainport 2020 vision is focused on the Eindhoven region being a region of high tech. Amsterdam and Utrecht have a profile more focused on professional services, health and creative industries. Possible conflicts of interest between these cities are far more likely to occur. The Eindhoven region has from a functional perspective a much more complementary*

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<sup>81</sup> <http://www.oa-amstelveen.nl/oa/files/file/analyse%20resultaten%20aib%202012.pdf>

<sup>82</sup> In the cost-benefit analysis of the proposed merger between the provinces Noord-Holland, Utrecht and Flevoland (*Maatschappelijke Business case Noordvleugelprovincie – Eindrapportage*, 2013) the possibility of coordinating these economic visions by these development boards better, is seen as a possible gain of a merger between provinces.

*character, vision and ambition. Both Eindhoven and Amsterdam have an integrated package where branding and profiling come together (i.e. Amsterdam and Brainport), Utrecht lacks this integrated umbrella.*

*The factor complementarity has not really been a prioritized factor in the policy itself. Only the Utrecht region has developed some thoughts on complementarity in its strategic vision. The unwanted effects of choosing a largely overlapping focus have been acknowledged but so far did not make it into the policy (priority) of the respective cities/regions.*

We have seen that on this axis no organized consultation or coordination on policy making exists.

Infrequent meeting with for instance mayors of the large cities on the axis are held and the idea of the 'A2-axis' also seems to be present in the minds of relevant stakeholders.

Based on what we saw in the case and the clear points of departure that the economic profile of the northern part and the southern part of the axis offer at least consultation on complementarity might be beneficial. In the current case innovation and competitiveness is very much organized by local networks (government, education and corporate world) and interlocal cooperation between communities.

It might be an interesting idea to connect the economic boards of the three core cities if these economic boards get enough competencies and members. An option could be to create a *corridor table*. In this platform shared issues could be discussed. One could think of issues related to the infrastructure on the axis or better coordination when applying for funds for innovation programs, for instance funds by the European Union.

Together the three cities can make a very interesting proposition for companies, both present as new to locate companies, can then be made. This could result in, or be supported by, a joint *brand* for the whole network. Joint efforts in acquisition (on a global scale) could then better be made.

Critical for these efforts will however be the factor trust. Given the higher degree of competition between the cities of Amsterdam and Utrecht it is very important that a

body like the *corridor table* should be a place where strategic issues can be discussed without having to fear opportunistic behavior on current affairs.

## 6. Synthesis and conclusions

### 6.1. *Introduction*

This research has dealt with the question of complementarity and substitutability in regional economic development. A changed world calls for new governance structures that can accommodate these challenges in regional economic development. This is why our main research question has been:

*Is complementarity a factor in (structural) regional economic development policy on the axis Amsterdam-Utrecht-Eindhoven?*

Out of this research question we developed our main hypothesis for this research:

*Given the perceived benefits of regional economic complementarity we expect this concept to be a prioritized factor in regional economic development policy on the axis Amsterdam-Utrecht-Eindhoven.*

For our research framework we discussed how complementarity is important for the topics of our case study (a competitive regional economy captured by policy on science parks and regional branding). We discussed our methodology and chose a case where we could check for complementarity as a factor in regional economic policy.

In chapter 4 we introduced the cities/regions of our case study and analyzed relevant policy networks and policy on science parks / cluster building and branding / regional profiling. In chapter 5 we cross analyzed our findings from chapter 4.

This chapter is structured as follows. In the next paragraph we discuss how this research contributes to the theories on regional economic development and regional cooperation. Next we will give a synthesis of our empirical research and afterwards we will answer the main research question and conclude.

## 6.2. *Synthesis of the theoretical framework*

For the literature review of this thesis we came up with two sub questions

- What is complementarity and how is it applied in regional economic development theory?
- What are (other) ‘classical’ and contemporary theoretical arguments for regional cooperation?

At the start of the literature review we discerned a number of theoretical arguments why regions should cooperate. We started with an introduction to complementarity and how it can be used in regional economic development. We mentioned that the concept of complementarity in relation to regional economic development has remained fuzzy in scientific literature. The benefits of complementarity have been identified as for instance better adaption to a changing economic environment, being able to focus on core competencies and having a larger and more specialized urban set of functions where possible investors can choose for. In early articles on the matter cooperation on economic development was seen as a necessity for prosperity. Coordination and cooperation should ensure better outcomes for the nation as a whole while allowing regions managing their own affairs as much as possible. In the current debate on rescaling governance these arguments appear as well.

We discussed issues of scale, both in providing public services as in being able to represent to the outside world. This formed a bridge to the topic of regional competitiveness. In this part we introduced the definition of Storper for regional competitiveness: ‘the capability of a region to attract and keep firms with stable or increasing market shares in an activity, while maintaining stable or increasing standards of living for those who participate in it’. Next to that we discussed the debate on specialization (clustering) versus diversification (complementarity).

In our literature review we saw that these two are really ‘versus’. We believe that in our case of a polycentric region with several cores these two don’t necessarily have to cancel each other out. If a region is understood as an entity where there are at least economic relationships between the different cores and these core cities do offer gains

of complementarity better results for this region as a whole can be made. Next we concluded that for these cooperations to achieve more complementarity theories from other (economic) disciplines have to be included..

We added the factor trust as an important enabler of complementarity. If one city can trust the other city in the sense that that city will refrain from opportunistic behavior when trying to establish a base for cooperation to achieve more complementarity success is more likely to be achieved. Current theories on complementarity in regional economic cooperation do not really stress this factor.

When establishing the research framework we discussed the question *How can the 'Amsterdam-Utrecht-Eindhoven' (conceptual) region best be defined and characterized?* We used the building bricks from the literature review and saw that the axis can be seen as a polycentric urban region.

### **6.3. *Synthesis of the empirical research***

In our empirical research we used the complementarity approach from our research framework to analyze policy on science parks / cluster building and city marketing / regional branding on the Amsterdam-Utrecht-Eindhoven axis. We set out to discuss the following sub-questions:

- Is complementarity a prioritized factor in relevant local and regional economic development policy?
- What are possible policy actions that can be taken to foster complementarity in regional economic development policy?

For each topic we checked whether the results of these policies most likely lead to more complementarity or that is has a substitute character in the interaction with the policy of the other core cities on the axis. In other words we checked for functional complementarity and we checked whether complementarity was an important, prioritized, factor in the policy (making/result).

In our first focus point, policy on science parks / cluster building, we observed a varying degree to what extent complementarity is a factor in the relevant policy.



Grosso modo in none of the cities complementarity has been an important factor in policy on structural economic development. Within the strategic policy of the Amsterdam metropolitan region the outside world is seen as static and competition is believed to be with other metropolitan areas on a global scale. The Utrecht region has the most references to other regions and the need and willingness to cooperate with neighbors is here the most developed. The Brainport (Eindhoven) region differs in scope and scale of its largest science park (the High Tech Campus Eindhoven).

Still, from a functional perspective there seems to be complementarity possible. The science parks in Amsterdam and Utrecht have a focus on healthcare research and the Brainport region has a strong presence of firms and research institutes in the healthcare technology sector (think of Philips a.o.). The universities of Utrecht and Eindhoven already cooperate together with Philips and the university hospital of Utrecht on a complementary basis. Policy to facilitate these kind of cooperations or even the notion of complementarity has so far failed to be materialized.

The second focus point has been regional branding / profiling. The findings largely resemble our findings on policy regarding science parks and cluster building. It is interesting that the Brainport Eindhoven region primarily focuses on Eindhoven Leuven Aachen triangle (ELAT) as its regional scope for cooperation. This relationship is merely based on these cities having the same focus. Based on the profiles and visions of the cities complementarity along the axis exists. Amsterdam and Utrecht have both in their profile and vision a strong focus on KIBS. The Brainport profiling and vision is centered around R&D and several high-tech sectors. In some details (think of the travel distance between the High Tech Campus Eindhoven to the Amsterdam *Zuidas* as an indicator for policy success) we find indications that complementarity might become a factor considered by policy makers but so far it has not been a prioritized factor in the (visible) policy results.

## 6.4. *Conclusions*

This research has set out to answer the following question: *Is complementarity a prioritized factor in (structural) regional economic development policy on the axis Amsterdam-Utrecht-Eindhoven?*

Already in the section on methodology we discussed the limitations of this explorative research and to what extent hard conclusions can be drawn. Still, given these limitations, based on our empirical findings we can, with some reservations, conclude that there is a mostly negative answer to our research question.

Complementarity has not been a prioritized factor in relevant (economic) policy. We have found clear examples where the local policy choices still allow for regional complementarity but judging the results of policy by the different cities the cities have opted not to make complementarity a prioritized policy focus point.

The policy of the Amsterdam metropolitan region is to a large extent focused on the MRA itself and the position of the Amsterdam region in the worldwide economy. Competition is with the world, not with neighboring regions in the relevant policy documents. Given the image that Amsterdam has and wants this is understandable.

The Brainport region has mostly another regional focus. Utrecht has the most dynamic vision of its neighboring regions and relevant policy calls for more coordination and cooperation with these regions. This might partially be explained by the location of Utrecht as the city at the middle of the axis and the close distance to the city of Amsterdam. The resemblance of Utrecht and Amsterdam might cause the attitude of the Utrecht region. For Utrecht the challenge is largest, to some extent one can see a Utrecht is in all these cases the smaller brother of Amsterdam.

When we link this to the concept of the A2 axis we see that the axis is recognized as concept but has not been included in relevant strategic policy. The A2 is used as a valuable asset in economic policy but in the first place because it is an important infrastructure corridor in the Netherlands. All cities clearly have their own networks and these networks likely differ per cluster. Hence we reject our hypothesis that *given the perceived benefits of regional economic complementarity we expect this concept to be a prioritized factor in regional economic development policy on the axis Amsterdam-Utrecht-Eindhoven.*

On the A2-axis we do however see several cooperation initiatives, these are however not embedded in policy, leaving a possible task for policy intervention as a tool to further facilitate fruitful cooperations. We discussed the possibility of a *corridor table* where the economic boards of the three cities can discuss affairs that are of joint interest or require joint action. A final, yet very important, remark is that complementarity on the axis as such is between the northern part and the southern part. We saw both by the focus of the respective science parks as by the profiling of the cities that the Brainport Eindhoven region is much more a complement to Amsterdam and Utrecht. The cities of Amsterdam and Utrecht and to lesser extent the region around these cities are much more each other's substitute than complement.

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