Structural change in European border zone agglomerations

A comparative analysis between Copenhagen and Saarbrücken

BTH Karlskrona
Jan-Philipp Exner / Ergin Yücel
Structural change in European border zone agglomerations

A comparative analysis between Copenhagen and Saarbrücken

Master Thesis

Jan-Philipp Exner
Ergin Yücel

Supervisor:
Prof. Jan-Evert Nilsson

BLEKINGE INSTITUTE OF TECHNOLOGY
SCHOOL OF TECHNOCULTURE, HUMANITIES, AND PLANNING
European Spatial Planning and Regional Development
Karlskrona, Sweden
2008
ACKNOWLEDGEMENTS

We would like to thank all of the people who helped us to accomplish our thesis. We are very thankful to our supervisor Jan-Evert Nilsson for helping, supporting and giving us useful ideas in the process of working with the thesis. Many thanks are also due to the ESP Department, including Eric Markus and Vicky Gatzouras, for supporting us during our work. We would also like to express our appreciation to the Office for Planning and Building Affairs and the Administrative Department of Regional Development in the Regionalverband Saarbrücken for providing us useful information and suggestions. In the end, we would like to thank all of our friends and classmates, including our peer group members Natalia Ryzhkova and Gbemi Falade, who have offered valuable comments throughout the writing of our thesis. Without cooperation and contribution of our classmates, teachers and professors, we would not have been able to develop our thesis in this way. Therefore we would like to take this opportunity to express our gratitude to all of them.
# Table of Contents

I. **INTRODUCTION BODY** ................................................................................................................. 1  
   A. **ABSTRACT** ....................................................................................................................... 1  
   B. **INTRODUCTION** ............................................................................................................... 3  
   C. **METHODOLOGY** ............................................................................................................. 6  

II. **THEORETICAL FRAMEWORK** ................................................................................................. 8  
   A. **KONDRATIEFF THEORY** ................................................................................................. 8  
   B. **CLUSTER THEORY** ......................................................................................................... 13  
   C. **CREATIVE CLASS THEORY** ......................................................................................... 18  

III. **STUDY CASES** ......................................................................................................................... 25  
   A. **A SHORT COMPARISON** ............................................................................................... 25  
   B. **STUDY OBJECT SAARBRÜCKEN** ................................................................................ 31  
      1. **CHARACTERISATION OF THE CITY** ......................................................................... 31  
      2. **STRUCTURAL CHANGE IN THE ECONOMY** ............................................................. 38  
      3. **THE CROSS-BORDER AMBITIONS** ............................................................................ 55  
   C. **STUDY OBJECT COPENHAGEN** ................................................................................... 59  
      1. **CHARACTERISATION OF THE CITY** ......................................................................... 59  
      2. **TRANSFORMATION OF THE ECONOMY** ................................................................. 63  
      3. **THE CROSS-BORDER AMBITIONS** ............................................................................ 75  

IV. **COMPARISON BODY** ............................................................................................................... 81  
   A. **INTRODUCTION** ............................................................................................................... 81  
   B. **CROSS-BORDER INTEGRATION PROCESS** ................................................................. 88  
   C. **CREATIVE CLASS POTENTIAL** .................................................................................... 91  

V. **CONCLUSION** .......................................................................................................................... 98  

VI. **APPENDIX** ............................................................................................................................. 103  
   A. **REFERENCES** ............................................................................................................... 103  
   B. **LIST OF FIGURES** ........................................................................................................ 113
I. INTRODUCTION BODY

A. ABSTRACT

In this study we made an investigation on the transformation of economic structure of two border city regions, Saarbrücken and Copenhagen. The motivation for a comparative analysis is that they have similar industrial background. Both city regions were dynamic in the first half of the 20th century however in the second half they slowed down and gradually lost some of their industrial base. This decline of industry also brought some transformation of the economic structure. To some extent they followed similar trends such as decline of industry and rise of service sector. However there are differences as well, like the diversification of economy, dependence on industry, potential for attracting the creative class and so on.

Another reason for comparison is that they are both border regions and have a potential to integrate with the other side of the border. Saarbrücken has increased its interaction with the French region Lorraine and the opening of the High Speed Railway East to Paris is likely to contribute to this interaction and may lead to integration. Copenhagen, too, has been increasing its interaction with Malmo and Lund on the Swedish side. Especially after the opening of the Öresund Bridge in 2000 this interaction even got accelerated and seems to evolve towards integration. We have discussed this cross-border interaction and tried to identify to what extend these regions integrated with the other side of the border. Furthermore we tried to reveal the similarities and the differences in this integration processes in both border regions.

As theoretical approach we have chosen Kondratieff Wave Theory, Porter’s Cluster Theory and Florida’s Creative Class Theory as these theories seem to explain the developments in the two regions quite well. The Wave theory makes up the theoretical framework as it reflects a global shift in the western economies especially in the old industrial zones. The two other theories
points out to more specific developments in two regions such as emergence of high tech sectors as a result of creative class.

Our overall conclusion is that the two regions have similarities in their transformation but also differences. Every region has its own transformation story as some local elements are involved in the process. It is not possible to have identical developments, however regions can induce similar development with the more dynamic regions in case they create similar conditions for new sectors. And it is increasingly easier to do so as the globalisation makes the production factors more mobile.
B. INTRODUCTION

The twentieth century witnessed rapid changes in the social and economic life of human kind. Although there were some parts of the world that are closed to external effects and interaction with other parts of the earth, the capitalist western world was considerably open to changes, influences and interactions from abroad. With the growing impact of globalization, the mobility of production factors, namely labour and capital, became increasingly easier. As a consequence the industrialization process changed direction and was even reversed in some parts of the western world, especially in the metropolitan urban areas, due to either increasing costs of land or the expectations of investors to better exploit the comparative advantage of developing regions. Moreover “the development of our society towards an information society is an inevitable trend whereas all terms of society and economy are effected” as the European Commission stated in the Lisbon Agenda (European Commission, 1993).

Copenhagen in Denmark and Saarbrücken in Germany are examples of regions that have been undergoing some transformation and restructuring in their economies and industries. In this study we will analyze the changes in the economic life of these two regions in the last half century, putting more emphasis on the last three decades. We will try to identify what kind of path they have followed so far and what benefits they gained or what loses they have had to face. The focus of our research will be to investigate both areas and their ways of restructuring their economies. In this context, the influence of the Lisbon Agenda will be discussed, in which the European Union declares the ambition to make Europe the most competitive economic zone in the world, with more and better jobs. The impact of this agenda in the policy making and on the actual development of the economy will also be researched, particularly for Saarbrücken.
These two regions seem to have somewhat similar stories in terms of their economic transformation in the last half century. Both regions were industrialized and relatively prosperous (for example unemployment was lower) in the first half of the twentieth century, though Saarbrücken suffered from two World Wars at the times. However in the second half, especially in the sixties, seventies and eighties these two regions seem to have been stagnant in their economic activities. They lost some of their manufacturing plants and factories (in Saarbrücken in particular mining and steel industry) via closures or reduction of the capacities. Some companies which had previously been located in Copenhagen started to move out to either neighbouring towns or other countries. A similar pattern was observed in Saarbrücken as well. It had a developed mining and steel industry at the time and these mining areas and steel factories have been closed down gradually.

Interestingly some other industrial regions in the advanced countries had similar problems. Regions with mature industries had to restructure their economies or had to undergo painful transformations, which put many people into unemployment. Copenhagen and Saarbrücken have also been suffering from de-industrialization and they have been trying to switch to new sectors. Therefore it seems that this deindustrialization process did not occur in isolation, that is only in Copenhagen or in Saarbrücken; rather the deindustrialization process of these regions reflects the global shift in the advanced economies. Therefore a comparison of their transformation could give us interesting insights into the processes of regional development.

In addition, these two regions share a common and important characteristic. They are both cross-border regions. Saarbrücken is on the border of Germany to France and Copenhagen is on the border of Denmark to Sweden. Both regions have high potential to grow into transnational or cross-border regions. With the support of the European Union (EU), some initiatives have been taken to make these two regions grow across the borders. Opening of Öresund Bridge between Denmark and Sweden made a considerable contribution to these efforts. Saarbrücken also wants to establish a cross-border agglomeration with the counterparts on the French side. This is another
motivation of this paper: by comparing these two regions we hope to analyze/investigate their patterns of development posed by the cross-border interactions.

In the following chapters, we will first give a brief description and historical background of the theories that make up the framework of this study. The theoretical framework will help us identify and categorize the driving forces of development in the respective regions. After the theory part, we will present the two study cases in more detail. We will describe the regions and discuss their transformation in the last few decades. Then at the end of each region we will adjoin the cross-border interactions and the potential of growing into bi-national economic zones. Ambitions about these cross-border regions and future plans will also be presented. After presentation of the two regions a comparison part will follow. In this part the reader will have the opportunity to see the similarities and the differences in the transformation process of the two regions more clearly. The development process of the regions will be compared and the driving factors behind the recent booming of Copenhagen region will be investigated. In the last chapter we will offer the concluding remarks.
C. METHODOLOGY

As for the methodology of this study, we use both qualitative and quantitative information. We first make a literature review in order to grasp the historical development of the economies and the manufacturing industries. In the first section of this thesis, we will employ the three theories in order to understand and explain the changes in the economic life of these two regions. The Kondratieff theory will be the main framework for the two theories of Porter and Florida. All three will make up the perspectives through which to look at the regions and they are supposed to serve as the methodological and conceptual basis. The study will also try to reveal if the principles that were presented in some of the theories for regional development, such as Florida’s model, were followed and applied by the respective regions and to what extend the regions have been successful in transforming the economies by doing so. In other words, the two latter theories will function as tools to explain the specific development in both cities. The order of the presentation of the theories also reflects the chronological order in which they were generated, which at the same time reflects the changes in economy.

The second section includes the analysis of both study cases. In order to do that we collect data about the indicators like for example GDP per capita, employment, population growth and demographic changes from the statistical databases of the respective cities, regions and/or countries. This data constitutes the quantitative part of the information used in this study. The main sources of the information we benefit from are the library of the Blekinge Institute of Technology, the library of the Technical University of Kaiserslautern, the library of the University of the Saarland, the statistical agencies of the Saarland and the Öresund region and internet sources such as article databases and electronic journals. An analysis of the indicators will be made and they will be interpreted according to the concepts and theories employed in the study.
In addition to that, the specific case of the location close to the border will be mentioned and the possible chances and obstacles that this could bring with will be observed. The developments in the economies of these two regions seem, to some extent, to comply with some of the theories. However we acknowledge that in social sciences theories usually do not explain the cases one hundred percent. We do not expect such a tight fit between the cases and theories as in natural sciences. Yet theories could help us figure out and compile the main elements of the transformation in these regions.

The subsequent figure depicts the structure of our thesis.

**Figure 1: Organisation of the Thesis**

*Source: Own graphic*
II. THEORETICAL FRAMEWORK

A. KONDRAIEFF THEORY

A Russian economist, Nicolai Kondratieff, started to study patterns of economic fluctuations in the twenties. He spent the decade by observing the industrial output in western capitalist economies such as England, France, Germany and the United States, trying to find out some long-term patterns of production. In his initial attempts, it became apparent to Kondratieff that industrial revolution made a one and a half century long expansion in output. In order to have an unbiased picture of real tendency in the output, Kondratieff got rid of the up-going trend in the output caused by industrial revolution by removing the growth trend from the data through using some statistical techniques. Then, he realized that a curve was cycling or fluctuating up and down around the main trend. These long fluctuations of 40-60 years were loose rather than being tight. This cycle or wave was more visible in the production of goods that are basic needs of the industry such as iron and coal. This long wave is called ‘Kondratieff wave’ or ‘Kondratieff cycle’ since he was the first to draw attention to such a universal tendency in the production (Meadows & Donelly, 1998).

Although Kondratieff observed more or less a certain pattern, namely a cycle around the main trend, this cycle was not in an absolute shape or not repeating in a regular manner like pendulum. However, it was still possible for Kondratieff to formulate the wave as follows: the wave consists of peaks and troughs; and from one peak to another, going through a trough, roughly is fifty to sixty years and repeats itself. In the twenties, when Kondratieff first discovered the waves, the previous trough, so the depression, had been observed a few decades ago, namely in the 1880s and 1890s. This depression not only took in industrial production but also was fostered by financial panics in the western capitalist world. Some banks went bankrupt, like Baring Brothers (an old and famous bank in England). Thus Kondratieff predicted that the next downturn, after a peak, would emerge in the thirties. He made this prediction in the
beginning of the second half of the twenties (Reati, 2004). Kondratieff was not taken seriously by other western economists at that time. Actually not so many people knew about him at the time. He became more famous after his books were translated into English. However as he predicted the ‘Great depression’ starting in 1929, he became more well known. During this time, the industrial output declined sharply in the western world. Though, Kondratieff, who had foreseen the depression, witnessed only part of this decline.

Kondratieff was a pioneer in discovering the economic cycles, but he was not alone. Another economist, Joseph Schumpeter, found a similar pattern. According to his hypothesis technology runs in fifty-year-waves. He argues that, roughly every half a century, some changes in the operating way of the hardware of an economy take place. However this is an adoption of industry, an innovation in the operating system of the industry rather than being an invention, since human creativity does not seem to fluctuate very much; it has followed, more or less, a steady path. Some periods are significant in the way that economic production is radically changed through industrial transformations. The historically distinct industrial transformations are as follows: “mechanization of textile production in 1780s, railroads and steel in the 1840s, electricity in the 1890s, electronics and computers in the fifties” (Meadows & Donelly, 1998). Between these milestones of industrial development, technologies, of course, did not stop advancing, a lot of improvements in the technologies were made but these improvements did not replace the existing technologies at the time.

Schumpeter discovered that upturns in economic activity develops with boosts of technical transformation, or vice versa. He regarded the upturns in economic activity as a result or fruit of boosts in technological transformation. His assumption was that economic growth was stimulated by new technologies. In today’s long wave theory the relation between economic growth and technological advancement is regarded as two-way, meaning that the causality is not very certain. We cannot say that one of them definitely comes first and leads to the other. However we see that they follow each other, if there is one of them, and then, the other will emerge soon as well. In other words,
economic growth opens the doors for investment in research and development activities and this, more or less, results in some innovation and hence innovation causes growth by diffusing into economic activity (Meadows & Donelly, 1998).

The difference between Kondratieff and Schumpeter is that Schumpeter identified cycles in technical application and Kondratieff found them in industrial production. Interestingly enough, a similar pattern of cycles was also found in politics by social scientists independent from economic cycles. In 1926, economist Nikolayev Kondratieff identified the longest and so far the most powerful economic cycle. Therefore the cycle was named “Kondratieff cycle”. It has a wavelength of 50 to 60 years. A wavelength is the distance from one peak to another peak, which includes a trough in between. Time of maximum economic performance is depicted as a peak. In contrast a minimum economic performance corresponds to the deepest point of the trough. 1972 was the year when the last peak was observed (Sharr, 1994). Taking 1972 as the peak point, the Kondratieff cycle predicts that after 30 years, namely around year 2000, the general economic activity would decrease all over the world and, consequently, a shortage in financial markets would be inevitable. And this has been gradually taking place since the seventies. Since about year 2000 is the deepest point of trough, we can predict that an upswing will follow and more prosperous days will come again. Thus unemployment will likely be lower in the period after 2000 than the period before 2000 (Sharr, 1994). One might even argue that the collapse of the economic system of Soviet Union in the beginning of nineties complies with the Kondratieff wave theory since after 1972 the slope of economic activity was downwards.

However economic cycles are not expected to pursue their paths with an exact precision. And no scientist argues that such a tight follow-up exists. In addition to their own effects of cycles, there is also an effect of their interaction upon each other. This effect could sometimes be the result of cycles working against each other or they could make a bigger affect by strengthening each other. Cycles can also be weakened by other types of disturbances such as wars (Sharr, 1994). However, looking at historical evidence, we can say that the “cycles exert a recurrent effect on the economic health of governments” (Sharr,
1994). And this effect is powerful and felt by business and people as well. Therefore the ability of people, businesses and governments to finance their services and developments is effected by cycles. For this reason, recessions have usually a cyclical character rather than just coming about by chance.

As we mentioned before, 1972 was a peak in the economic performance for the Kondratieff cycle. Assuming the length of the Kondratieff cycle is 60 years, and if we go back 30 years, which is half a wave length, from 1972, we must reach a deep point in the cycle, around 1945, the end of World War Two. The subsequent figure 2 will show this picture. And an upswing should have started after 1945 according to the Kondratieff theory. In fact the overall world economy was really destroyed during the World War II and after the war, fifties and sixties were economically prosperous times in many countries, at least in the western world. Actual fact on the ground really seems to be relevant to the theoretical upward slope of the Kondratieff cycle. However, as the Kondratieff wave theory suggests, this up going trend during the 30 years in the global economy was not a steady state. Then the downwards slope followed the upwards slope after 1972.

![Kondratieff Wave](image)

**Figure 2: Kondratieff Wave**

Source: (Answers.com, 2008)

Looking at historical developments we can see that the Kondratieff cycle predicted the good and bad times of economy. The Kondratieff cycle foresaw
the economic recession which came after 1972 and before that it had even foreseen the economic boom in the fifties and sixties (Sharr, 1994). Seeing these historical facts about ups and downs in the economy, one can argue that people, as individuals, do not have a very significant effect on the performance of the economy. The economy seems to follow a pattern of its own without individuals being able to change its direction from up to down or vice versa. So roughly speaking, people do not seem to have much control over the trajectory of the economy.

Kondratieff describes the move of the economy in waves and on the beginning of a new upswing, the economy performance improves. Of course, sometimes the development does not follow exactly those waves, but usually, such trends could be identified. These upswings in these waves are often supported by the intention of new technologies or the appearance of new sectors. And if there is a boom for a new economy, it is often comes along with clusters which emerge around this new sector. In this phase, the growth in the employment is comparatively the highest. Does the development of the product or the sector go further, the specification is getting higher and the outsourcing or automating could develop. Hence, the benefit for the regions seems to be the best on the beginning of an upswing. Thus, such upswings are designated because they could bring, with clusters for example, employment and welfare to the region. The subsequent chapter describes the cluster theory and the Creative Class theory is potential reasons for new upswings.
B. CLUSTER THEORY

Economic competitiveness is a very important factor in the process of globalization and, as Porter identifies, it induces “winners” but also “losers”. By asking the question “Why are some countries successful and others not” (Porter, 1991, p. 21), he defined the cluster theory in the beginning of the nineties. He figured out that some products are attached to specific regions, like Silicon Valley or Hollywood, and he explained why these areas have specific advantages compared to others. These advantages are the reason why the importance of having such clusters for regional development is growing.

First, it has to be pointed out, what is considered to be a cluster. The word cluster itself describes a dense bunch of specific things (Encarta, 2008) – in this case of companies and institutes or other facilities. Hence, the economic structure was described as a geographical concentration of companies and institutes in a specific branch of economy, which are together in cooperation and competition (Porter, 1998). A cluster is a big network as well where its parts synergies emerge. They are often also labelled by technology leadership and specialization of some companies or facilities (Weidemann, 2005). But since there is no clear definition of a cluster itself, it is difficult to identify them.

There is much literature on the topic of clusters, the reason being that clusters seem to be very important in the economy, especially in the last years. But the question is what is it that makes clusters so effective? The point of departure for understanding the economical success of clusters is why there could be an advantage from many smaller companies in a cluster compared to a big single one. It is often considered, that the network and connections inside the clusters are very important. These could be aspects like personal contacts, common product development or shared research facilities. There is a combination of cooperation and competition inside the cluster which is very important. There is often a value-added chain of one or more goods in a cluster, which is another of the characteristics of the concept. The product is not fixed; it passes through several steps of manufacturing levels with an appreciation value. Local knowledge, relationships and non replicable things are also
important. The induced knowledge-spillover is a factor of success, too (Technische Universität Berlin, 2004). He further mentions three supplementary steps which should work in a cluster: increasing productivity, driving pace of innovation and stimulating new business. The circumstances for clusters are good where many branches meet (Porter, 1991). A big melting pot of different companies, thoughts and ideas could be good for innovation and creativity in the cluster. Hence, there are many variations of different kinds of cluster, but the crucial point is the massive networking between the members.

These networks could be built by various elements. These are most often the employed in the companies, in the R&D facilities or other institutes. The basis of a cluster is a bunch of companies and suppliers. Among these are also institutes and service providers such as, for example, lawyers and planners. But the configuration depends massively on the structure of the cluster. These clusters are usually no fixed organizations like associations with variable forms of cooperation. Additionally, there could be governmental institutions, special agencies, think tanks, vocational training providers and associations (Porter, 1998). These organizations function to generate a circulation of knowledge between the members. There are organizations that need not be part of the product development process but should exist in the surrounding innovative milieus. These induce an economic area which is good for the whole product process in the cluster. In that way, the competitors induce competition which results in better products.

However, cluster development and fostering is although all of the previous mentioned benefiting factors a difficult task. There have been no studies about the creation of clusters with the aim of policies for examples, although this is often the wish and the goal of the economy. All of the well known cluster are grown up and just later supported by policies. Most of the clusters appear from former developed cores or around facilities like universities. It is as well crucial, that many of the new dynamic clusters have emerged from places with no industry. Such was, for example, the case in Silicon Valley. Sometimes, clusters have emerged around universities or research facilities. In most cases, clusters have enjoyed good location factors such as closeness to knowledge facilities.
and skilled workers, two very important circumstances. An important fostering point is the flow of circulating knowledge in such clusters, which should be boosted as far as possible. This is often supported by the combination of competition and cooperation between the elements of a cluster, because this combination induces such a circulation of knowledge.

A strong will and a comprehensive plan could support a cluster. Investments, especially in the areas of Research & Development, can boost the cluster development. There are unfortunately no studies about costs and benefits of such investments but more money can foster the development and can improve for example the physical infrastructure. Planned start-up parks or business development agencies to encourage spin-offs could also do their contribution. These agencies could make it easier for potential spin off companies and could reduce many obstacles form them by entering the economic market. A business friendly environment is likely to help the development.

As mentioned before, capital is an important aspect for cluster development. In other words, there is a need for enough venture capital for supporting the development. Such capital should be managed by the business development agencies. The cluster coordination could be fostered by venture funds in the future. However, the existence of capital is not an essential precondition. In order to support cluster, Fasbender has mentioned as well that the often existing good ideas for developing a cluster need a good management. If possible, common initiatives with agencies, companies and R&D facilities are very good, and economy and government should work together to improve the circumstances for clusters. A good and intensive concept of marketing must also exist for the cluster (Hessenforum 2004, 2004). If possible, it is a good thing to pick up some typical regional elements to create a brand and to embed it in the regional profile. There seem to be many possibilities for fostering clusters, but the critical point is that there are no clear studies about the correlation of input and output values of investments in clusters. And of course because of that, there are no studies about failed cluster creations, which could be useful hints for upcoming cluster initiatives. It has to be
taken into account as well, that often a dynamic economy in the region itself could be the main driving force behind the development of clusters, instead of some policies or some plans to create clusters.

The reason “why” clusters are desired is that they bring many advantages to their city or region. Besides the benefiting factors for the host location, such as creation of jobs and improved welfare are the advantages for the companies which participate in the clusters. Cluster in new dynamic branches can be beneficial for example in terms of renewing the economy partly and helping to get over the structural change. However, there are no significant studies about failed clusters and there is only a weak connection between the types of interactions.

Porter has argued that “a cluster allows each member to benefit as it had a greater scale or as it had joined with others without sacrificing its flexibility” (Porter, 1998). The key element is the combination of competition and cooperation. This combination is helpful for identifying new trends and for generating knowledge and innovation. It is often the case, that such conglomerates are very dynamic and have a higher competitiveness. The higher diversity makes clusters also less vulnerable for crisis (Weidemann, 2005, p. 1). Another important point is the appearing interdigitation as a result of the multiple interactions between the elements of a cluster, which makes outsourcing very complicated and cost-intensive. This fact acts like “glue” for the companies and makes it hard to outsource things out of value chain. In cases of handling the structural change of the development, to invest in cluster initiatives can, but does not have to be a helpful idea.

Despite the prominence of the topic of clusters in literature and in economy, there are some obstacles with the “panacea” clusters. The crucial point is that clusters are a comparatively new field of research. There are some studies about successful cluster initiatives but no work done about initiatives that failed and the reasons for their failure. As Weidemann has pointed out, not every cluster initiative has been successful (2005). Moreover because of the often mentioned connection to R&D investments, there is another problem. The logical correlation between income and outcome factors is not clear and
hence it is very difficult to measure the investments made in cluster and the outcome factors. In other words, the success of a cluster is not really measurable in figures (Technische Universität Berlin, 2004). Furthermore, many cities and regions set up their own strategies to build clusters rather than to support them and it is doubtful if they will work exactly in the way they are expected to.

Literature on the topic has, however, emphasized some points, which are considered important. The critical mass of the involved actors is important and so is a strong will combined with help from the entrepreneurs as well as other facilities. If there is an existing core which wants to be developed, clusters need constant management and professional care. The cluster needs its own “care taker” (Weidemann, 2005, p. 7). Further, it is important that the cluster does not focus on a mono structure and it has a connection with the region - in terms of employment market, R&D investments and various kinds of cooperations. A combination with image and marketing campaigns is also important. Another point is that, according to Kondratieff, new industries could easier grow on places, where there is no strong dependence on older ones. This was the case in Silicon Valley and partly in Copenhagen. From this perspective, the circumstances in the still quite industrial influenced Saarland are not that good.

Porter pointed out this importance heavily and he argues besides that the paradox that the competitive advantages in times of the globalization are often heavily local (1998). This is complying with Florida’s Creative Class theory, which describes the significance of being an attractive place for the Creative Class. Especially clusters in new and dynamic branches need employees with a high educational level. Thus, the existence of a Creative Class could be a precondition for such knowledge-based clusters. Though, the crucial point is that clusters usually emerge and cannot be created from the sketch, despite the wishful thinking of politicians. Furthermore, it is often not clear, what will be the outputs of such policies. It is just possible to start a process by providing suitable conditions, like enough venture capital or the existing of a Creative Class for example. Hence, this could be a reason why for example the big biotech cluster is emerged in Copenhagen. There is a good life quality and many well educated students in the Öresund region as benefiting factors.
C. CREATIVE CLASS THEORY

The Creative Class Theory developed by Richard Florida is a new theory and has been established since 2002. Florida argues in his popular book “The Rise of the Creative Class” that in 2002 more than 50% of all salaries belong to the dynamic growing creative sector (Pollath & Spörli, 2007). He also discusses that the mobility of people and companies are the greatest characteristics of modern society (Florida, 2007). Thus, they could decide where they want to live and cities which are able to attract them could benefit from that. Furthermore, the importance of this topic is also identified by the European Union, which takes care about innovativeness and creativity by establishing the Lisbon Agenda. Hence, the importance of the Creative Class Theory is growing and its influence on city and regional development is also increasing.

When Florida writes about the Creative Class, he is referring to people with creative work, like designers, artists or engineers. Florida has argued, that human “creativity is an ultimate human resource” (2002a, p. xiii). He considers that people are the motor force of this development (2002a) and compared to old industrial goods, the outsourcing process is more complicated. The basic question about this Creative Class for him is: Where do they live and why (2002a, p. 217)? Creativity is regarded as a regional advantage and the crucial element in the competition between nations and cities (2002a). Hence, the urban life quality is regarded as the most important location factor for attracting them and hence the most important thing to achieve (Siebel, 2006).

At this point it is interesting to discuss why Florida considers the creativity of human beings as the ultimate resource and why its importance is currently growing. The answer lies in the development of the economy in the last decades which shows the rising relevance of the creative sector compared to other sectors. The impact of globalization and the growing importance of creativity are two of the reasons for the Creative Class Theory. This globalisation induces a liberalisation of goods, services, capital, organisations and manufacturing operations beyond national borders according to Siebel. Along with both developments come with a structural change in society, and develop
a more service- and knowledge-based society. Knowledge and creativity are considered as the upcoming driving forces of economy (Siebel, 2006). They also postulate more jobs in the creative sectors. This growing importance of these both factors complies also with the principles of the Kondratieff theory. As mentioned before, a new upswing of the cycle with IT is rising and this economy creates a demand for highly skilled and creative employees - the Creative Class. However, Siebel identified another crucial point, which shows that people and companies in the creative sectors concentrate on specific places, even streets of houses, even in times of globalisation. He argues, that people want to belong to the Creative Class (2006). The “heart” of the Creative Class is made up of three main groups of people (Pollath & Spörl, 2007) which are the rational innovators (engineers, scientists), the creative middle (Designer, Architects) and artists (musicians, actors). It is important to note, however, that it is difficult to divide a heterogeneous group such as creative people into a class. Florida has argued that it is not enough to foster only well paid creative jobs. The salaries and working conditions for the second big sector - the service class-- have also to be improved to avoid social problems (Florida, 2007).

Having repeatedly referred to the idea of a Creative Class in the above discussion, it has to be made clear what the Creative Class and its members are. The task is to clarify what people and cities count as “creative” and belong to the Creative Class and consider if there is an alternative way of ranking them. Florida has ranked them by the creativity index.
The index consists of three major elements: Talents, Technology and Tolerance - ‘The 3 Ts’. These three make up the creativity index rank, which contains the following indicators (Florida, 2002a):

1. Creativity index: Identifies the share of the workforce and the jobs of the Creative Class in the economy. The human capital in the region is measured in the talent index for example, which is based on people with bachelor or higher degree.

2. Technology index: Measures the high-tech industry in the area. It uses for example the Milken High Tech Index which is composed the high-tech industrial output as percentage of the total industrial output and the percentage of the regions high tech industrial output compared to the national percentage. There is as well the innovation index, which shows the patents and high-tech patents per capita.

3. Diversity index: This index is mainly composed of Melting pot index, gay index and bohemian index which shows the percentage of dissenters in the society and which is an indicator for the openness of the society.

Florida has also mentioned that there must be a combination of these indicators in order to be an attractive place the way it can be observed in San Francisco, U.S. (Florida, 2002a). If they are high just at one indicator, like Pittsburgh in the Technology Index, and do not rank high with regard to Talents and Tolerance, the city will not be able to be that attractive. Copenhagen for example has always ranked high in Florida’s indexes. The city is considered, for its importance in the global scale, by Porter as third-tier city¹ (Florida, 2007). Economists did a study about this attractiveness with German cities, which unfortunately does not

¹ Florida divided the most important capitals of the world in four tiers according to their global importance. The first tier includes cities like London and New York, the second are cities like Los Angeles or Frankfurt and the third for example San Francisco, Moscow and as well Copenhagen (Florida, 2002a).
include Saarbrücken as part of the study but it presents Munich as a creativity winner (Frankfurter Allgemeine Zeitung, 2008).

Having defined the Creative Class it is relevant to discuss how cities and regions can achieve a high ranking in such indexes. What are the key factors of being innovative, and how can cities/regions reach top positions in the three T scoreboards? The cities should ask themselves how they can attract the right people and what measures can be taken to educate more people to be creative. For Florida, examples like Austin/Texas or Dublin are cities that made their way towards creative cities due Florida’s principle (2002a). Others argue that cities have to be cool, manageable and safe. In addition, cities need opposites, a balance between chaos and order (Pollath & Spörl, 2007) to be magnets for the Creative Class. Florida considers attractive universities as one of the basic points for creativity, because they are very important for attaining all Ts on the same high level (2002a). However, cities cannot be reduced to one single measure; they “should develop craft strategies, that are unique to their region, emphasize their strengths and what is authentic, real and different” (Florida, 2007, p. 271). Hence, investment in creativity is considered for Florida as a resource of the future (2002a), although the fact that there are no clear observations made about such a correlation.

Hence, there are circumstances that can be erroneous, such as too many wrong investments in “useless” things like big stadiums, according to Florida. Another danger is a less open minded society, which is stuck in old traditions and is thus underweighting the tolerance factor (Florida, 2002a, p. 303). But on the other hand, the regional profile is an important factor as a unique selling point, so there is a complicated task. An interesting observation about the three Ts levels is Silicon Valley, which ranks high in most of the rankings, but the exorbitant huge housing prices and the raising inequality are inducing a weaker position in the future (Florida, 2007).

In addition to the previously mentioned problems that may occur, there are also obstacles while trying to be a creative city and attract the “right” people. Though, attracting the creative is not the all purpose tool for urban and regional questions. However, it is a widespread estimation in the literature that
attracting the Creative Class will have a growing importance for the economic development in the next years. Many have argued, that young, dynamic and creative “second cities are coming” (Pollath & Spörl, 2007, p. 102). Around the world, cities and regions are trying to achieve higher competitiveness for creativity and life quality, sometimes connected with measures for structural change like “IBA Emscher Park” in the German Ruhr Area (Siebel, 2006). This could also be formulated in the opposite direction such as the Creative Class can help to transform the economy and to induce a new dynamic development in the economy. The observation has been made that the traditional way, that is, people follow the jobs, has turned 180 degrees into “jobs follow people”, (Garmise, 2005, p. 89). This shows the growing importance of the cities as economy locations in times of globalization. There will eventually be a competition for attracting the members of the Creative Class and every city which wants a prosperous economic development has to take part in it, no matter if it wants to or not (Florida, 2002a).

Globalisation goes hand in hand with a higher mobility of people and goods. Hence, creative clusters could move very easily as well, because the small and medium sized companies are more mobile compared to for example the old steelworks in the industrialisation. Thus, cities or regions has to try to attract them and are in the competition with the neighbour cities and regions. As mentioned in the previous section, there is a correlation between economic wave upswings and emerging clusters. In addition, it could be expected, that Creative Classes induce new clusters and new clusters attract creative people. Hence, new cluster could emerge, where people want to live and so there could induce for economic upswings.

However, the adaptability of Creative Class theory has to be handled carefully. The differences in the economy between the U.S., Germany and Denmark are significant. For example, the Creative Class in Germany had about 18% of the whole workforce in 2005 whereas other countries had about 30%. Furthermore, the German economy is much more productive and industry based and the typical “hire and fire” is not as easy as in the two other mentioned states. Additionally, there is in Germany the specific situation of the
principle of the equality of living conditions and the reunification. The federal states of Eastern Germany are still highly subsidised from money which should bring them to the standard of the Western German federal states. However, it can be observed that the influence of creativity according to Florida’s principles is growing and that “jobs follow people” is becoming true more and more in Germany, despite it is still on an early stage (Kröhnert, Morgenstern, & Klingholz, 2007, pp. 10-26). In order to be successful in this strong competition, Pollath & Spörle argue, that there is no simple master plan which is easy to adapt; there have to be creative regional solutions, which match each specific case (2007).

Another crucial point is that creativity will be good for the economy, but not without doubt for society as well (Florida, 2002a). The service economy might be more unfair than older types of economy (Siebel, 2006). The gap in society can be wider. Furthermore, there could be a ruinous competition between cities. There have to be cities from where the people are coming and they will be losers of the competition. Besides that, Florida discusses how to attract the “right people” (2002a, pp. 281-283). Young, well educated mobile people can search for the place they want and hence, they want to be attracted by cities.

It seems that the Creative Class is more likely to induce clusters and economic development compared to some policies. However, not every region could make every cluster, sometimes they just appear. This new clusters in innovative branches could be the spring for new upswings or emergence of new economic waves. The theory of Kondratieff showed that mostly these upswings will bring more employment to a city or region and that older industries like steel or car manufacturing for example probably do not have the same effect. They are on a peak of their wave and could do well, but because of the missing dynamism and their high automating processes, they usually will not induce a growth of jobs.

Florida has often mentioned the extremely high paybacks of investment in R&D, education and creativity but there are two obstacles. The first one is that there are no observations which show clear input and output values. The German city of Berlin for example is ranking on the top positions in all of the
three indexes in Germany but the economic development in the bygone years was one of the worst compared to other big cities (Kröhnert, Morgenstern, & Klingholz, 2007). Thus, the history with the reunification is a very special case for the city and the development will probably continue in the future – but nobody knows for sure to what extent. And of course, it is sometimes not possible to hold creative people in the city; they could move away and this will result no output value for the city. There will be a combination of three elements as task for the cities in the future: to create a Creative Class, to attract it and just as important as well - to keep it. However, if most of the cities will think in this way, there will be a strong, risky competition with both winners and losers.
III. STUDY CASES

A. A SHORT COMPARISON

The foregoing chapter introduced the theoretical framework for the two study cases Copenhagen and Saarbrücken. These theories will act as the glasses through which to look at the cities and regions. Subsequently, a detailed analysis of both study cases will be offered with the background of these theories. First, there will be a short introduction of the two cases. The main body of the analysis contains information about the cities Copenhagen and Saarbrücken itself. Additionally, some information about the cross-border region between Denmark and Sweden and between Germany and France will be given. The first concentration is on the city itself and later the focus will be on the cross-border dimension. The two cities studied are situated in central Europe. The following map shows their location. Copenhagen as the capital of Denmark is situated on the Eastern Sea and is more focussed on northern capitals and cities like Hamburg, Malmo, Gothenburg and Oslo. Saarbrücken is being located in the centre of the European continent with a strong linkage to Paris, Luxemburg, Strasbourg and Frankfurt for example.
Figure 3: Overview of Europe: the two study cases

Source: (Stubbs, 2008)

The focus of the study will be on the City of Copenhagen as well as the Copenhagen Metropolitan Region (CMR) and the cross-border relation with Malmo and in the Öresund. The main focus in Saarbrücken is on the Regionalverband (RV) Saarbrücken [Regional Association Saarbrücken] and the cross-border agglomeration Saar Moselle as well as the region Saar-Lor-Lux. The following box will give a short overview of the population, area sizes and the density of the various regions.
**Table 1: Overview in numbers in 2007**

<table>
<thead>
<tr>
<th>Name</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copenhagen city</td>
<td>501,158</td>
</tr>
<tr>
<td>Copenhagen Metropolitan Region</td>
<td>1,834,492</td>
</tr>
<tr>
<td>Hovedstadenregion Copenhagen (since 2007)</td>
<td>1,645,825</td>
</tr>
<tr>
<td>Regionalverband Saarbrücken</td>
<td>339,874</td>
</tr>
<tr>
<td>Agglomeration Copenhagen-Malmö-Lund</td>
<td>872,831</td>
</tr>
<tr>
<td>Agglomeration Saar-Moselle/Eurodistrict</td>
<td>~650,000</td>
</tr>
<tr>
<td>Region Öresund</td>
<td>3,598,410</td>
</tr>
<tr>
<td>Region Saar-Lor-Lux</td>
<td>3,851,862</td>
</tr>
<tr>
<td>Greater Region Saar-Lor-Lux</td>
<td>11,331,214</td>
</tr>
</tbody>
</table>

Figure 4: Overview in numbers in 2007

Source: (Tourist Information Copenhagen, 2008), (Öresund Network AB, 2008), (City of Copenhagen, 2008a), (City of Lund, 2008), (Regionalverband Saarbrücken, 2007)

To get an impression of size of population besides the numbers, the following figure five could clarify the sizes of the cities and the considered cross-border areas. The smallest units are the city regions of Saarbrücken and Copenhagen, which are the basis for the structural analysis of this thesis. The next unit is the cross-border dimension, which contains the respective partners of France (the seven French neighbour communities) and Sweden (Malmo). The bigger pink body in Denmark is the Hovedstad Copenhagen, which was founded in 2007 and is almost the same with the former Copenhagen Metropolitan Region. The upcoming areas are the bigger European regions, which are often used to describe the greater space surrounding the core regions. The region Saar-Lor-Lux is however more a geopolitical and economical structure compared to the more historical connected Öresund Region. The Great Region Saar-Lor-Lux was enhanced and also includes now the German Rhineland-Palatine and the southern part of Belgium (Wallonia) and has, as could be observed on the next figure, very big dimensions (Grand Duchy of Luxemburg, 2008).
It has also to be clarified, what kind of administrative body it is talked about. For Saarbrücken it is, as mentioned before, the RV Saarbrücken, which contains the city itself and some neighbouring communities. The city of Saarbrücken is the capital of the federal state Saarland, which is very focussed on its capital. The economic structure of the city and its quite small federal state allows for some comparisons between both and to look for missing data on the level of the federal state. Furthermore, the area around Saarbrücken is considered as concentration area. Because of the vague definition of this agglomeration, however, there are no clear borders for that. Though, the principle of the metropolitan areas ought to solve such problems and give such areas a specific area and basis for an administrative body. The study case of Copenhagen describes the CMR and the City of Copenhagen. The CMR describes rather the same area like the new founded Hovedstadregion Copenhagen.
Subsequent following will be a short comparison of both cities in numbers. The following indicators will show some evidences about some relevant facts of the cities. The unemployment rate for example in Copenhagen and in Denmark is lower than in Saarbrücken and in Germany, respectively. It is interesting to see, that Saarbrücken developed better than Germany and Copenhagen developed a bit worse than Denmark, but still the convergence between Saarbrücken and Copenhagen is comparatively low.

![Graph 1: Trend of unemployment rates](image)

Graph 1: Trend of unemployment rates

Source: (City of Copenhagen, 2008a), (Regionalverband Saarbrücken, 2007), (Federal Agency for Employment, 2008)

The following indicator shows the trend of the GDP\(^2\). Here the GDP per capita, as well, in Copenhagen is much higher. Its number is significantly rising in the last years, whereas the levels of Denmark as well as the rates from Saarbrücken and Germany are not that dynamic. Though, as it could be observed as well in graph two, the GDP per capita in Saarbrücken is doing better than the average in Germany. However, the high number of Copenhagen is offset by the fact, that the living costs in Copenhagen are one of the highest in Europe (City Mayor Economics, 2008).

\(^2\) Gross Domestic Product: Gross domestic product is an aggregate measure of production equal to the sum of the gross values added of all resident institutional units engaged in production (OECD, 2001a).
Graph 2: GDP/head in €
The last indicator shows the population Growth in both areas in the last decade and the main states. As mentioned in the chapter of both study cases, the development is much better in Copenhagen with a plus of about 3% after a long loss of population until the nineties. Saarbrücken however had the same negative development in the last decades of the twentieth century but has not been able to turn the trend. Whereas Copenhagen develops quite in the same numbers as Denmark, Saarbrücken is significantly under the German average. As it is pointed out in study cases, the situation could worsen.

Graph 3: Population growth 1997 - 2004
B. STUDY OBJECT SAARBRÜCKEN

1. CHARACTERISATION OF THE CITY

The Saarland and its capital are situated in south-west Germany close to the French border. It is together with Berlin, Hamburg and Bremen one of the smallest federal states in Germany. The upcoming figure shows the location in the southwest of Germany.

![Map of the German Federal States](image)

**Figure 6: Map of the German Federal States**

*Source: (Deutscher Volksschulverband, 2008)*
The federal state of the Saarland is divided in 6 counties. These are mapped in the next figure. The capital is Saarbrücken, which makes up together with some smaller neighbouring communities the RV Saarbrücken, is shown in the upcoming figure. It is comparable with an administrative district. The city itself has about 180.000 inhabitants and is the biggest district in terms of population and area, the RV Saarbrücken has about 350.000 and the federal country roundabout 1.000.000.

Figure 7: Regionalverband Saarbrücken in the Saarland
Source: (Ministry for Research and Education, 2008)

The region is situated in the middle of Europe. Whether you take the Pentagon or the Blue Banana, the region is located directly in the middle (Faludi, 2002). If there would be a direct line as well between the Brussels, Luxembourg and Strasbourg - Saarbrücken would be part of it on the middle between these important European Union cities. A formative element is the river Saar, too. It flows through the German and the French parts, serves as an important traffic river and has given the name to the region. However, besides the fact that the


4 The “Blue Banana” from Schön and the “Pentagon” from Brunet are both spatial metaphors to describe the European body.
city is capital of its Federal State, it is situated on the periphery of Germany, on the border. In addition, there are two major things which shaping the area. One is the strong influence of the industry, primarily coal- and steel industry. The second characteristic is the long changeful history together with France. In the last 200 years, the region changed its nationality for eight times.

The city and its whole region have a comparably good accessibility. The connection over highways is very good, because there is an extremely high concentration of road connections to every direction in this area. Among these are direct connections to the city and to the new train station in Saarbrücken. The new Eurobahnhof [Euro train station] in Saarbrücken connects the city to the High-speed Railway East since 2007, which makes it possible to reach Frankfurt and, in particular, Paris in less than 2 hours (Saarland - Ministry of Economy and Science, 2008). The train connections to other cities in the region are good as well. The city region contains the International Airport of Saarbrücken, which carried about 350,000 in 2007. It is well connected with more than 50 destinations and the passenger numbers are growing (Airport Saarbrücken Association, 2008). There are also a lot of surrounding airports in less than 2 hours journey time, including important ones like Frankfurt, Frankfurt-Hahn, Luxembourg, Metz-Nancy or Strasbourg. Furthermore, the airport Zweibrücken in Rhineland Palatine is just 30 km away.

The both subsequent pictures show the population development in the federal state and its capital. These show for both in the last 30 years a constant decline, with the exception from the middle of the eighties to the nineties. The loss of population was in the capital even stronger than in federal state, because some people moved out to the suburbs. Because the predictions are as well quite alarming, the potential problems will be mentioned in the end of this chapter.
Graph 4: Population development in the Saarland

Source: (Hohnhort, 2007, p. 75)

Graph 5: Population development in the Regionalverband Saarbrücken

Source: (Regionalverband Saarbrücken, 2006)
The subsequent statistics aim to give a short overview of the city region, the federal state and Germany as a whole and their relationship. In the upcoming analysis, some data concerning the whole Federal State Saarland will also be offered. These numbers, it should be mentioned, are partly similar to the RV Saarbrücken, because the structure of them is comparable. This is also suggested by the fact that half of the people in the Saarland are working in the RV (Allesklar.com, 2006b). The Gross Domestic Product (GDP) figures in 2005 show that Saarland and Saarbrücken are located around the German average, whereas the federal state is below the country level and the city is above it.

![Comparison of GDP](image)

**Graph 6: Comparison GDP / head in €**

*Source: (Initiative neue soziale Marktwirtschaft; Wirtschaftswoche, 2008a), (Initiative neue soziale Marktwirtschaft; Wirtschaftswoche, 2008b), (Auswärtiges Amt [Federal Foreign Office], 2008)*

The unemployment rate in 2006 clarifies, that this level lies a bit over the German and Saarland levels. This complies with the observations that the unemployment rates in cities are often below the country average, like the Copenhagen figure also indicates graph 7.
The development of the population between 1995 and 2003 shows another picture and one of the biggest problems of the region. The city and region is losing population and will continue doing so in the future as well. The Saarland is the federal state with the highest population losses in percentage in Germany with the exception of the eastern German federal states. The outflow of population in Saarbrücken is as well one of the highest among western German cities and about on the same level with the old industrialized cities in the Ruhr area.
Subsequently will be introduced a short description with some historical facts of the region and the city. The first mention was in 999 as “Castellum Sarabrucca”. The village grew and received city rights in 1312. About 300 years later, in 1617, the castle of Saarbrücken was constructed. In 1677, a big fire destroyed most parts of the city. Between 1801 and 1815, the whole greater region was under French government. In the following years, it belonged to Prussia and partly to Bavaria. In the wars between 1870 and World War I, there were big battles in Saarbrücken, mainly between the German and the French, and a lot of devastation. In the years between 1919 and 1935, the region was annexed by the French economy, but it joined later with a referendum Third Reich. During World War II, the city experienced big devastation. After 1945, it was about ten years under French and International administration and since 1957, after a second big referendum, the Saarland and Saarbrücken as its capital reunited as Federal State of Germany Republic. The aggregation of the City of Saarbrücken and its eight neighbouring cities and communities united to the Urban Association of Saarbrücken [Stadtverband Saarbrücken] in 1974. The association was renamed as RV Saarbrücken in 2008.

Conclusively, the Saarland has a changeful history and was for about 150 years the apple of discord between Germany and France. This was primarily because of its strong mining- and steel-industry. However these struggles have calmed down in the last 50 years especially with the foundation of the European Community for Steel and Coal. Though, during the centuries, Saarbrücken shared a very strong connection to the French neighbouring region Lorraine. Both regions shared mostly the same culture and partly also the same dialect. This strong connection is seen today as an advantage to position the region on the European map. This historical account suggested that the connection with the federal state of the Saarland and its capital of Saarbrücken with the French Lorraine is very crucial.
2. STRUCTURAL CHANGE IN THE ECONOMY

The development of the economy in Saarbrücken and its federal state Saarland is very close connected to the mining and steel industry. In order to understand the transformation of the economy, a description of the mining and steel economy in the Saarland will follow. Coal and steel industries have had a crucial impact on the development of the region in the last 200 years; for the German part the coal played a more important role and in the French part the iron ores. Though, the development was quite similar with the neighbouring areas. The industry was at this time quite strong but a lot of money was wasted by the wars and taken away by the industrials, a situation that was not directly helpful to the people, who did not directly benefit from the industry. However, in the times of industrialisation, the economy in the region was after the Ruhr area the second most important coal and mining area in Germany. These mining and steel sectors have been successful and could be also considered in a way as clusters, because they had and still have strong networks between several companies and suppliers. Besides the growing steel industry, which started to go down in the beginning of the seventies, the mining industry got problems earlier, particularly because of the cheaper coal from overseas.

According to Dörenbächer, the age of the mining industry in the Saarland had some different phases of decline (2007). It started between the years after joining the Federal Republic of Germany 1957 and the middle of the sixties. At this time there was the end of expansive conveyance of the coal. 60,000 miners in 1957 (this was the climax) were reduced to 4000 in 2005. 25 mines in the cross-border region were reduced to just one in Germany. Ten years later came the crisis for the steel industry because of overproductions and too high costs. The second phase was between the middle of the sixties and the middle of the seventies. The decline of the mining industry was obvious and there was the effort for diversification of the industry with car factories. However, the years between 1974 and 1981 showed a last expansion of coal industry because of the energy crisis, and this even induced some more jobs in the

---

5 Both are described in the German language with the term: Montanindustrie
mining industry. After this, the second downfall of the mining industry and along with that the constant decline of the steel industry hit the region very hard and the unemployment rates rose until the middle of the nineties. The city of Saarbrücken was hit hardly by this decline, because many steelworks and supplying companies were located there. Since the existence of the Saarland, the mining sector is declining and inducing problems. The subsidies for the mining economy are safe until 2012 for the last mine facility in Saarland Ensdorf, and the definite breakdown will be for whole Germany in 2018. However, this is a political decision and nobody knows what will happen if another party with other ideas come into power. The last years have been influenced by a reorganization of the German mining industry. The Government decided to break down to conveyance on a very low level. However in the beginning of 2008, there are still 10.000 employees connected to this economical sector. It has to be taken in account that it is hard to cope with coal industry, because it is a very long range economy with a need for a lot of investment in diverse facilities. Because of the long history of the sector in the region, many people still feel connected to this industry and fear the total breakdown. However, especially in the last years, some resistance has grown in the population, especially because some mining induced earthquakes which reached in their peaks 4.0 on the Richter Scale (Focus Online, 2008).

The economic development from the middle of the seventies has also been affected by the decline of the whole industrial sector. While the mining industry fell deeper into depression, the steel industry did the same. This was up from the beginning of the seventies. This comes along with a rise of unemployment. The numbers grew from 4000 in 1970, up to 56.500 in 1997 to 50.000 today. The rate in the Saarland was higher than the average in Germany for about 30 years. The numbers however have been for the last ten years under the German average which complies as well with the relatively well economic development. The city of Saarbrücken is also doing better in the last decade (Lerch, 2007), though, that the rate is still higher compared to the neighbouring

---

6 About 5000 employees in mine Ensdorf and approximated 5000 in supplier companies (Focus Online, 2008)
federal states of Germany and Luxemburg. The one exception is the French Lorraine as I could be seen on graph ten.

Graph 9: Comparison of unemployment rates in the last decades

Source: (Federal Office for Building and Regional Planning, 2004), (Allesklar.com, 2006a), (Federal Agency for Employment, 2008)

Graph 10: Comparison of unemployment rates with the neighbours in 2007

Source: (Federal Agency for Employment, 2008), (Chambre Régional de Lorraine, 2008)

7 All date before 1990 is based on only Western Germany. After 1990 the whole reunited Germany is basis for the data. Data for the RV before 84 is missing.
The upcoming figure clarifies the change of economic structure in the Saarland and the weight of the sectors. The decrease of employees from the secondary sector is very obvious whereas the tertiary sector has the highest growth rate.

Graph 11: Sectors of the economy in the Saarland

Source: (Lerch, 2007, p. 123)

Graph twelve shows the direct connections between 1970 and 2006 in terms of employees. The obvious fact is that most parts of the secondary sector lost about 50% of their employees whereas the service sector nearly doubled. The other high loss in the secondary sector is mostly in the steel industries whereas the car industry grew. The growth of the tertiary sector is the biggest and accompanying with the shift in the global economy. However, many jobs of the tertiary sector in the economy of the Saarland are just outsourced from the secondary sector. It is often just a displacement of jobs and these are still connected to the industry sector. Hence, the industrial sector is still very important (Lerch, 2007).

---

8 Here: Primary Sector: Agriculture, Fishery and Forestry; Secondary Sector: Industry and Mining, Tertiary Sector: Service orientated branches
Graph 12: Numbers of employees in different sectors in the Saarland

Source: (Dörenbächer, 2007, p. 121)

Also the shift in the economic system has been strong in the last decades. The following table shows the change in the Gross value added\(^9\) amount between 1994 and 2002 in the RV Saarbrücken in percentage. A leakage with more than 20% in the secondary sector is facing a plus in the same amount in the tertiary sector.

Graph 13: Comparison Sectors between 1994 and 2002 in the Regionalverband Saarbrücken

Source: (Federal Office for Building and Regional Planning, 2004)

\(^9\)Gross value added is the value of output less the value of intermediate consumption; it is a measure of the contribution to GDP made by an individual producer (OECD, 2001b)
In the middle of the seventies came a massive decline of the whole secondary sector. The tertiary sector grew significantly in this time. The low point for the industry was in the middle of the eighties. This could be explained with the Waves Theory of Kondratieff because steel and mining industry had their peak in the fifties and sixties and they were at this time on the way down. Since then, city and region tried to do more for structural change to avoid the existing high unemployment, the negative migration, the closing of factories and the economic stagnation. During this time, the new idea was to focus on car factories and supplying industry, which was quite successful. The car manufacturing factory Ford in the neighbour city Saarlouis, for example is now the biggest employer in the region. Furthermore, the federal state and the city invested heavily in academic education, particularly in the University of the Saarland in Saarbrücken.

There was a “small come back” at the end of the seventies and beginning of the eighties in the mining and the steel industries. This come back was just a small boost for the economy. Another benefiting factor was the further diversification with car-factories like Ford at the end of the sixties and suppliers like Bosch and ZF, which have been in the last decades quiet successfully (Giersch, 2007). This car industries developed successful structures like cluster according to Porter, which are partly highly innovative now. The car factory developed as most important industrial sector. However, the employees just in the mining and steel sector reduced from 80,000 during the peak in the Saarland to about 27,000 today whereas the car industry and its suppliers include 42,000 employees (Lerch, 2007). This difference underlines the dominance of the car sector for the industrial economy at the moment.
Though, the following decline of the secondary sector hit the whole region all the more harder. Saarbrücken had long time a strong economic development in the industrialisation until the sixties, but because of several wars and changes of the nationality, was not able to benefit from that like other regions did at the time. Hence, the hard impact of structural and demographical change, which leads to a decrease of population and jobs hit the city and region very hard (Gatzweiler, 2003).

The structural change showed its influences mainly decrease of the former dominating mining and steel industry. Though, there have been some measures by the government to avoid negative impacts or economic crisis due this shift in economy, because massive changes in economy often induce massive problems in the society (Lerch, 2007). The so called “mining politics” of the federal state was about reducing the negative impacts of the mining and steel crisis. These policies implied giving subsidies to the companies and trying to soften the social problems. Though, social subsidies in structural change are good in social terms, they could detain the restructure of this sector of the economy because inefficient companies could survive longer which could hide the need for the restructuring of the industry and economy. Another issue was the regional business development policies, whose main aim was to attract and support new companies. From 1980 until 2007, the Federal State spends 205 million for that where as 52 million came from the European Union. This should aim in particular for strengthen existing clusters or cluster like structures. Nowadays however, the soft location factors’ role is growing and hard to define.

Besides the numbers of employment, it is also important to take a look at the development of the welfare in the region. This could be done by comparing the indicators of the GDP. The next tables show the relation between the GDP of Germany, the Saarland and the city of Saarbrücken. As graph six shows, the city of Saarbrücken has a higher GDP in average than the rest of the Federal state. The gap between the federal state and Germany seems to close and the development in terms of GDP is quite good in Saarbrücken in the recent years. A reason for this could be the good development of the economy.
Graph 14: Comparison of GDP in €


The figure graph fifteen of the GDP growth shows, that the federal state grew under the German average in the nineties. This development was similar in Saarbrücken as well. These problems could be explained mainly with the process of the restructure in the economy. However, the growth seems to be more stabilized since 2000.

Graph 15: Comparison GDP growth

Besides the shift in economy, there has been a shift in the education as well. Of course, one is conditioning each other and jobs in the service sector create a higher demand for high qualified employees. The subsequent figure of the educational levels shows the strong decrease of people without education, who worked before very often in the steel or mining industry, where often no specific education was needed. The number of people with an academic degree and further education however are growing. Take a look on the people who leave school shows that about 20% of them have the ability to go to university, whereas 10% finish school without any degree (Federal Office for Building and Regional Planning, 2004).

![Development of educational levels](attachment:graph.png)

**Graph 16: Educational levels in the Saarland,**

**Source:** (Federal Office for Building and Regional Planning, 2004)

Another interesting number is, that the Saarland has within its 20.000 students with 15,6% the highest number of foreign students in Western Germany, which could underlining the fact, that the University of the Saarland in Saarbrücken has a good international reputation and is able to attract well educated people (Initiative neue soziale Marktwirtschaft; Wirtschaftswoche, 2007).
There are some obstacles which will occur while transforming the economy in the Saarland. The two biggest are the demographic development and the huge debts of Federal State and city of Saarbrücken. The first point will show up specific development in terms of the shrinking population in the Saarland and its capital. The special situation of the first demographic aspect is that it is worse than in all of the neighbouring countries. The population of the Federal State is less than in the sixties, whereof the average western German state has a gain of more than 20% (Hohnhort, 2007). While the years of the German Wirtschaftswunder\textsuperscript{10} there was a quite big immigration from other European states to work in the various factories but after this years, the moving-in calmed down. There are since 1971 more deaths and births per year in the natural population development. The birth number per year decreased from about 20,000 in 1966 down to 7,879 in 2002, which is about 40% of the old level (Hohnhort, 2007). The population is declining from a last peak in the middle of the nineties which was induced by a lot of immigrants constantly to about 1,060,000 at the moment.

For example, the RV Saarbrücken lost population significantly like described in graph five and will lose until 2020 approximated 12,000 citizens. However, it is argued by some scientist, that the cities will have a comeback in the future and the remaining people will again tend to move more to the cities. Though, a positive input from natural ways will be very doubtful, because the birth-rate is with about 1,4 since some decades on a very low level (Hohnhort, 2007). In 2006, the fertilisation rate was with 1,26 child per woman on an extremely low level (Federal Office for Building and Regional Planning, 2004). Furthermore, graph seventeen shows that the migration rate at the moment is, at the best, balanced which is not which is not adding to the population. Especially in the beginning and middle of the nineties, the growth in the population was induced by the positive migration to the Saarland. The rate of foreign born people in the RV Saarbrücken in 2004 was 11,3% (Federal Office for Building and Regional Planning, 2004). Even a big immigration could just at best

\textsuperscript{10}[Economic miracle ] - Successful years of the German economy after the second World War
be enough to stable the actual number of citizens, but this prediction is very doubtful.

Graph 17: Moving in population and moving out population

Source: (Regionalverband Saarbrücken, 2006)

Thus, it has to be taken in account, the predictions always have smaller or bigger variations, tough, predictions in population matters are often quite accurate (Hohnhort, 2007). The problem is, that a slightly and constant loose of population, could weaken the region and it something has to be done to handle this situation (Hohnhort, 2007). Too much land use and infrastructure consumption will be too expensive for a shrinking population, in terms of high fixing costs which are going to increase for example. In structural change connected with loose of population, deconstruction of buildings and facilities together with a concentration on the remaining cores is often seen and necessary to preserve social and economical competitiveness. This will contain social, economic and ecological aspects as well. Thus, a shrinking region or city could be not attractive as the growing ones and so there could be a lack of attractiveness. It will be very hard to break out of this vicious circle, because the demographic problems will increase for the reason of the very low birth rate and the migration rate. The suburbanization process weakened the cities as well in the bygone decades. Because of that, it is important bring this into the minds of the politicians and citizens to induce to awareness to produce solutions or at least adequate reactions.

Another problem while transforming the structure of economy is to overcome the physical aftermaths of the long industrial age in the landscape.
This was in the case of the Saarland mostly environmental pollution and a lot of industrial relics like old factories and mines. Whereas parts of them could be used after a transformation as industrial and cultural heritages, like the UNESCO World Heritage Völklinger Hütte, are the bulk of them still a big problem. These areas are often deformedly, polluted and situated often close to the centres in the city and are not appropriate to afford good areas for living and working. New revitalisation projects aim to foster the live quality in the region. Besides the project in Völklingen, successful revitalisation tasks have been as well the Saarterassen [Saar terraces] and the Eurobahnhof [Euro train station] in Saarbrücken. Another big project will be the Stadtmitte am Fluss [Citycenter on the river] where the city highway should be tunnelled and this will create a new high quality urban space on the riverside (Koebnick, 2008). These soft locations factors should attract the well educated people by offering them an attractive working place and should aim for, according to Florida, the jobs will follow people.

Though, there second big obstacles for achieving a successful structural change is the lack of money. The biggest problem is the huge and massive debts in Saarland and its capital Saarbrücken. The credit quote of 22% in the budget of the Saarland in 2007 makes it nearly impossible to cope with in the future (Lerch, 2007). This means that more than one fifth of the budget could not be used. Further, the average debts per capita in the Saarland are 9.327€ much higher than the German average with 6.991 € in 2007. The total amount of debts for the Federal State are nearly 10 billion Euro, which is huge amount for a comparable small state and confines frame of action massively (Initiative neue soziale Marktwirtschaft; Wirtschaftswoche, 2008b). The Saarland often tried to get special funds from the German Government because of its special situation, but although they get some money in the bygone years, it is not sure if they will get some more in the future, especially because of the austerity program of the German Government at the moment. An evidence for the bad economic situation of the Saarland and its capital could be, that since the foundation of Saarland 50 years ago, the region was dominated mostly be the coal and steel crisis and by a big shrinking process. This very strong influence of the structural
change could be an explanation for the huge debts and the lack of money for Federal State and city (Dörrenbächer, 2007). However, several rankings showed that the Saarland and its capital Saarbrücken has in spite of its problems especially in the last years a good economic development and is ranking high in dynamic statistics which could be a good sign for the future (Initiative neue soziale Marktwirtschaft; Wirtschaftswoche, 2008a).

Another occurring possible danger for the future is the too strong focus on the car and supplier industries. In 2007, 42,000 are employed in this sector and its importance is quite high and a crisis in this sector would result in big problems (Schulz & Dörrenbächer, 2007). The wave of this industry could be seen on the peak according to Kondratieff, which could mean that there will be some downswing in the future. There is also the danger of displacement of jobs in cheaper countries which would hit the region very hard. An interesting fact is that the region was in the lucky situation that Ford produced just the Focus in the factory Saarlouis close to Saarbrücken. In the last years, the Focus was the only successful car product of Ford whereas the rest had massive problems (Lerch, 2007). On the other hand, this example shows as well, that the car industry could still bring welfare to country, but nobody knows how long it will last and when the sector will go down and when massive outsourcing will come.

Another problem in the future could be the fact, that city and region are not well known as interesting and attractive business location with a specific image. The degree of popularity is quite low and the image is not the best and still very close connected to the old industry. The region had a lot of problems but there are however some thriving branches and an auspicious IT and Nano sector. Still, it is hard to cope with strong industrial backgrounds background of industry, but some measures are promising and could help the region to come on their way up. Another crucial point is the fact, that the Saarland had the fewest company foundations in all German federal states in 2004 with 33,7 per 10.000, whereas the German Average was 46. This could be an indicator for the fact, that there is still a traditional thinking of employment and the risk mentality for creating new companies is not very distinct (Initiative neue soziale Marktwirtschaft; Wirtschaftswoche, 2008b).
The current picture is that the economy and industry are doing quite well, especially the steel companies like Saarstahl or Dillinger Hütte have a small boom at the moment because the worldwide demand for steel is quite high. However, the shift in the economy in terms of employed people is still moving towards the service sector. Inside this steel sector, there are as well good cluster structures which are successful in their niches on the world market. It could be observed as well, that the demand for same materials have waves, like the ones explained by Kondratieff and these could swap together. But this economic upswing is attend just by a small growth of jobs in this sector and heavily depends on the worldwide demand for steel products. The car economy and has the strongest influence and is biggest employer.

Despite the smaller importance of steel and coal industry compared to the bygone decades, the economy of the Saarland and also Saarbrücken is still heavily influenced by the industrial elements, like the car industry. It contains about a third of every working place in the secondary sector in the Saarland, (Giersch, 2007). Hence, there are strong dependences still for the industrial sector. For example, an approximately part of the 42,000 employees is direct or indirect connected to the car factory, at least 5000 employees of the suppliers for the mining industry and several outsourced companies which have a strong connection to the industrial sector (Schulz & Dörrenbächer, 2007). And especially in this car sector, the competition with Middle and Eastern Europe countries and the Asian states will arise. Hence, according to Kondratieff there is the danger that the “product” of regions with a strong industrial background industrialised regions is the product often on the end of a cycle and the mass production goes to cheaper periphery.

Like mentioned in the previous chapter of the theories, many scientists like Krätke are arguing, that knowledge intensive economies have the best growth chances and hence the best job possibilities (2007). Hence, there is a will in Saarbrücken and in the Saarland to foster new industries and to develop new branches and clusters. In order to do that, the expenditure for R&D should be boosted as well, because it was only 1,1% of the GDP in 2007, whereas the average of Germany was 2,5, which is as well not yet the planned aim of the
Lisbon Agenda with 3% of the national GDP per year (Thomas, 2007). However, there is no clear direct scientific proved correlation between R&D expenditure and output but a higher rate would improve at least the financial situation in the universities and could improve their competitiveness. Because of this reason, the Government set up an Innovation Strategy in 2001, whose aim should be to develop new innovative branches, clusters and innovative milieus\textsuperscript{11} (Saarland State Government, 2007). It is a strategic framework to improve innovation and competitiveness for more and better jobs in the region according to the principles of the Lisbon Agenda and altogether for mastering structural change (Saarland - Ministry for Economy and Science, 2001). As well the indicators for the three Ts should be improved by about 100 million in the next years (Saarländischer Rundfunk [Saarland Broadcasting], 2007). Aim of this strategic framework is to develop a stronger triple helix structure, which contains the cooperation between the universities and R&D facilities, the connected industry and the government (Saarland - Ministry for Economy and Science, 2001). However, whether this very structured program will be as successful as expected is disputable. It is probably too structured for achieving innovation and creativity, whereas this is quite coming more from a bottom-up process and not from a top-down. The strategy contains no information about how to attract creativity according to Florida’s principles although this strategy is considered as answer for the structural change and the partly low attractiveness compared to the other federal states (Saarländischer Rundfunk [Saarland Broadcasting], 2008). Though, as mentioned in the theories part, creating cluster should not be the aim of the strategy, identifying local resources and to foster them seems to be more promising.

\textsuperscript{11} Innovative milieu: defined network of creative and innovative actors (Weyber-Bleye, 2005)
This strategy identifies already among others three comparable strong existing innovative clusters, whereas the reputation in the Informatics sector of the University of the Saarland is quite good:

- It.saarland (IT and informatics)
- Biokom.saarland (biomedicine and nanotechnology)
- Automotive.saarland (car industry and suppliers)

The structural change process in the Saarland and its capital Saarbrücken can be seen behind the background of Kondratieff’s Theory of the long waves. As explained in theories, he identified waves of about 50 years which grew with new technological developments and how they describe the living cycle of a product. In the last 50 years, the traditional industry core in the region with coal and steel industries are on the downwards cycle and are losing importance. The development at the beginning start of a wave is often very innovative but the more it goes towards to mass production of the product, it will be on the old centres to cost intensive and is going to be switched region or countries (Häußermann, 1992). This was the case in the Saarland both for mining and the steel industry. Coal digging and steel production was cheaper somewhere of the world and accordingly produced there.

Against the background of that, it could be the case that the car manufacturing industry and its suppliers, which grew up from the sixties and seventies and are now something like the backbone of the economy, could be on a peak and according to Kondratieff’s Wave Theory could go down in the future because of the same reason. This would have very strong affects, because this sector is the most important in the economy of the Saarland. So the region could consider looking for new dynamic and employee intensive branches. The growth in specific phases that Kondratieff mentioned was the start point for further developments. However, nobody knows where such new dynamic structures could occur in the future. Though, is has to be taken in account as well, the not only R&D is the key for well educated people but the school education is part of it, too in order to take care for enough highly skilled
people. And compared to the direct investments in R&D and the economy, there is in this field a big free range. Auspicious new branches in the region are the IT sector and as well surface technologies which could act as basis innovations for new growth cores or even clusters in Saarbrücken and the surrounding region.
3. THE CROSS-BORDER AMBITIONS

The history of the cross-border relations is long and changeful. The region had a common history in historical terms with the strong influence of the Romans and the Carolingians in the last centuries. After that, the nationality changed often and there have been a lot of wars in the 150 years between the beginning of the industrialisation and the Second World War. Despite that, there developed especially area along the border between Saarland, Lorraine and Luxemburg a comparable structure of traditions and language. After these eventful years, the cooperation amplified with establishing the European Coal and Steel Community which set up as well the region Saar-Lor-Lux between Saarland, Lorraine and Luxemburg (Grand Duchy of Luxemburg, 2008). Aim of this administrative construction was and still is to improve living conditions and competitiveness in the region and develop common solution strategies. The history in these parts is in terms of the economy very similar, especially with the Saarland and the French Lorraine. Luxemburg is as well comparable because of it had many steel works as well, but because of its welfare and location for EU institutions and bank headquarters, there are a lot of differences as well. The region Saar-Lor-Lux included later on also Rhineland-Palatine on the German side and the Wallonia in Belgium. However, the connections within this administrative unit sometimes don’t seem that strong.

The region Saarbrücken and its French neighbour communities can be contemplated as cross-border agglomeration. Especially on the border close to Saarbrücken, the urban body overlaps the border. Contrary to Saar-Lor-Lux, this region could be more considered as functional region. In front of the growing background of the metropolitan regions, it is will of the politicians to create a cross-border agglomeration to position the region on the European map. As Krätke mentioned, Europe has metropolitan areas which are concentrations of knowledge intensive services and of the research intensive industry. This concentration should be strengthened that these areas could act as motors for growth (2007). Kaiser is agreeing him and says that Metropolitan areas are considered as rooms for innovation and creativity will be more important in society today (2000). Because of this, the cross-border region wants to position
on the map in order to be more economical competitive and to attract more well educated people according to the will of the government. Furthermore, the EU is supporting metropolitan regions with the ESDP and with funds (Stephan, 2007). Hence, this is a way to acquire funds over. There is the will to establish a cross-border agglomeration Saar Moselle with a common overall concept. However, there is the curious situation, that the region is too small to be metropolitan region in terms of the German definition\textsuperscript{12}. Thus, the Agglomeration Saar-Moselle Est is considered from the French site as metropolitan area, which means, that the German side gets funds from the French side (Mergele, 2008).

To support this cross-border agglomeration, the Verein Zukunft Saar Moselle Avenir [Association Future Saar Moselle] was created in 1997 to improve the integration process for the approximated one million inhabitants who are living in this area.

Another important project for the German-French integration is the High-Speed Railway East which connects Paris and Saarbrücken in less than two hours. This is considered as great chance for the city to position itself as gate to France. However, the second axis of this High Speed Railway towards Strasbourg and Stuttgart could be a hard competitor for being this first gate to France. These cities Stuttgart and Strasbourg have already the significant advantage of being location for many headquarter functions, whereas this factor is mostly missing in Saar Moselle.

A further project inside the Greater Region Saar-Lor-Lux has been the established city network Quattropole. The four members are Saarbrücken, Luxembourg, Metz and Trier. Aim of this organisation is to found a virtual metropolitan area and to improve the competitiveness of the member cities. Common projects will be developed with the emphasis on communication technologies (Quattropole, 2008). One specific project was as well the election of the Greater Region Luxembourg as European Capital of Culture in 2007. The events in this region have been connected to some of the partner cities from

\textsuperscript{12} The definition of metropolitan area according to the German Government: is as follows “spatial and functional locations, which have an outstanding position in the international context. They should act as engines in social, economic and cultural context and aim for more competitiveness in European context and for European integration.
the Quattropole Network to create a common value. However, the direct output from such large scale events in the Greater Region is not very clear and will be investigated by upcoming studies.

It is the aim of the German and French partners to establish a cross-border agglomeration with an administrative manifestation, too. Because of that, there was the idea to establish a new administrative construction to have a safer legitimated environment in the core of the agglomeration and to support the functional region. Cross-border cooperation like that is also supported by the Agreement of Karlsruhe (MOT, 1996). Like pointed out before, the Greater Region Saar-Lor-Lux is a big administrative area and very hard to catch for its citizens. Hence, there was a will to support a smaller functional unit, like an agglomeration or metropolitan region. According to Krätke and Florida, metropolitan areas are and will be a magnet and a good matrix for a knowledge economy with more and better jobs which complies with the Lisbon Agenda. Furthermore, the globalisation is supporting metropolisation (2007). Hence, there was the will to establish a cross-border agglomeration in the area Saar Moselle to strengthen the economy and to help it to restructure itself. A agglomeration should aim for more intensive interdependence of stream of commuters and shopping and leisure activities and as well for an European integration of different cultures and nationalities. In addition, Degemann and Wirz concede a double bridge head function to this area for both countries (2002).
Due to the previous mentioned problems in this chapter, there is a specific approach to establish the agglomeration Saar - Moselle. It is consisting of three main pillows (Verein Zukunft Saar Moselle Avenir [Association Future Saar Moselle], 2007):

1. The first point is to create a coherent overall concept for the cross-border agglomeration. This will contain the desired structure of the region and the economy and the guidelines for planning as well. Because diversity of the involved actors and their different tensions, this is a difficult task which is still elaborated at the moment.

2. The second point is to establish the Eurodistrikt Saar Moselle, which will act as administrative core of the greater agglomeration. This administrative union will ease the cross-border cohabitation for the citizens.

3. The region takes part on the metropolitan-project for the agglomeration Saarbrücken Moselle Est which is founded by the French Government.

Projects to support this agglomeration are the education system, common image campaigns or online tourism guides for example. The aim of this is a better cooperation of both sides and thus a better and stronger economy and as well connections which should improve the living conditions in the region and attract more people. This agglomeration with a common vision should act as a showcase for German French cooperation. However, there will be especially at this point a rising competition. The regions to compete with will be for example the Trinational Eurodistrikt Basel or the Eurodistrikt Strasbourg-Ortenau.
C. STUDY OBJECT COPENHAGEN

1. CHARACTERISATION OF THE CITY

Copenhagen is the capital of Denmark and together with Stockholm the biggest city in Scandinavia. It is situated on the east side of Denmark and bordering to Sweden. The subsequent map will display the location of Copenhagen in Denmark.

Figure 8: Copenhagen's location in Denmark

Source: (European Commission, 2008)

Before transforming to the Hovedstadsregion [Capital region] by the readjustment of the local units in Denmark in 2007, the large urban region of Copenhagen was called Copenhagen Metropolitan Region. The CMR includes three counties, Copenhagen, Fredriksborg and Roskilde and is shown on the following figure. This area is administered by two municipalities, Copenhagen and Fredriksborg. Counties and municipalities are different level of
administration and independent from each other. The population of CMR is 1.8 million. 80% of the population lives in the city of Copenhagen or in its suburbs.

Copenhagen was founded in the twelfth century while building a castle on the Öresund. The situation was suitable for the development because it was on the middle between the diocesan towns Roskilde and Lund on a strait. Because of that fact, it developed later on a strong harbour. The city experienced while its long history several epidemics and wars and was partly occupied by the Swedes. Later on, Copenhagen was the major player in the industrialization process of whole Denmark. Starting from end of nineteenth century to beginning of twentieth century an import substitution process was observed in Copenhagen which took the form of large scale manufacturing plants. Import substitution process replaced the imported goods from abroad with the domestically produced goods in Copenhagen, which had not been produced in Denmark before, such as electric motors, tobacco, footwear, cement for example. Copenhagen was home to some particular sectors for a long time, like
engineering, tobacco and printing industries at that time. Copenhagen took a big share in the manufacturing sector of Denmark in 1895, a figure more than one third of the production of the country (Nilsson, 1998). In the beginning of twentieth century Copenhagen strengthened its position in the industry by increasing employment 70% up to 1914. As a consequence the share of region in the industry base of the country did also rise sharply up to 50% of Denmark. Copenhagen retained this strong position almost five decades, until the mid sixties. (Nilsson, 1998).

The population development shows a different picture compared to Saarbrücken. First, that the demographical predictions for Denmark are more positive than for Germany. Whereas natural birth rate in Germany and most of its regions is between is 1,2 and 1,4 children per women, the rate in Denmark is at about 2 (Die Zeit, 2006). As it could be seen on graph 18, the population in Denmark was quite stagnant in the seventies, though the trend in population seems to go upwards in the last decades. The City of Copenhagen however had its peak in the population in the fifties with about 700.000 inhabitants. Since then, there was a constant decline until the middle of the nineties. Reason for this could be the migration out of Copenhagen towards the suburbs and other parts of the country because of the problems in the economy. Since 1994, the population of the city centre rose again and reached the number 500.000 in 2001. As it could be seen on graph 19 these are the years which have been accompanied with a massive decline of the unemployment rate. As well the whole country benefited from a higher immigration. Hence, these years seemed to be successful for Copenhagen and Denmark. They have been very attractive for immigrants and had a low unemployment rate.
Graph 18: Population development in Denmark

Source: (City of Copenhagen, 2008a)

Graph 19: Population development in the City of Copenhagen

Source: (City of Copenhagen, 2008a)
2. TRANSFORMATION OF THE ECONOMY

With the beginning of the second half of the twentieth century the structure of economy in Copenhagen began to change. Industrial production started to geographically decentralize from central Copenhagen to suburbs and neighbouring cities in Zealand. This came along with the moving of some inhabitants to these regions. The industrial production continued to grow outside central areas of Copenhagen. As a consequence the industry gradually lost its importance in Copenhagen. Instead service sector took over the leadership in employment. Most other parts of Denmark, including peripheral areas benefited from this dispersion and they fostered their industry in contrast to Copenhagen (Nilsson, 1998).

Copenhagen continued to lose its industrial base in the sixties as well. The de-industrialization in that decade was caused by the inability of domestic manufacturers to compete with their international rivals. There was an efficiency and rationalization problem with the Danish companies. Although some efforts took place to re-structure the industries, closure of some plants could not be prevented. The de-industrialization process even continued in seventies and eighties. 38% of the labour force in the industry of the year 1972 was left unemployed as a consequence of the closures between 1972 and 1988 (Nilsson, 1998). More than one third of jobs in manufacturing industry were lost to other regions in Denmark or outside the country. Closures were the alarm of the fact that companies were not efficient enough thus more than 40% of these companies went bankrupt.

Some companies relocated their business to other regions of Denmark as a restructuring process. When relocation patterns of Danish companies investigated, it is found that most Danish companies relocate their business within the same regions. Only 10% of the companies were estimated to move from one municipality to another at that time. Out of this small number of companies only 40% moved between counties. However 80% of these cross-county moves took place within the CMR. Eventually, in the period of 1972-1988, CMR only lost 0.6% of the companies to the other regions of Denmark (Nilsson, 1998).
This de-industrialization process in the CMR had some significant features, one of which is that companies remaining in the region had slower growth rates than those in other regions. The companies which had business in the CMR have higher proportion in making cutbacks in their business than the companies in other parts of the country. In the CMR, 40% of the companies increased their labour from 1972 to 1980. However at the same period 60% of the companies in the region shrank their work force (Nilsson, 1998).

As a result of both closures of companies and decrease of work force at the remaining ones from 1972 to 1988, the total decrease was half of the labour force in the industry in the region in 1972 terms. Along the way, also new start ups and new formations took place in the region. The employment figure at these new companies in the industry sector from 1972 to 1980 was 16% of the employment of 1972 figures in the region. If we sum up these numbers we find out that from 1972 to 1988 the employment in the industry in the CMR decreased by 34% of the employment in 1972. This of course decreased the share of CMR in the industrial employment in the country from 37% to 27% during the period 1972-1988. The central part of the CMR felt this decrease in the industrial employment more than peripheral parts of region. The ratio of decline of the industrial employment in the city of Copenhagen was 60% of total employment at the beginning of the period. Industrial decline did not take place in isolation. It was accompanied by a decrease in the population in the CMR. In this period the population of the CMR dropped by 3%. The decrease in industrial employment and population hit the central parts of city of Copenhagen the most and Copenhagen lost its attractiveness as a consequence of many low income earners and nascent slums (Nilsson, 1998).

Since the seventies, industrial regions and metropolitan cities such as conurbations have undergone structural transformation processes. However the ways of their transformation have different stories; industrial regions developed through the expansion of relocated businesses from other regions. In contrast, growth of existing companies within expansive market areas led to the expansion of conurbations. Besides, new enterprises in product areas that were
supposed to have a bright market future were added to existing companies (Nilsson, 1998).

In the past, the CMR had a low economic growth for some decades. The economic growth in Copenhagen was lower than in Denmark. The growth in production per capita in the CMR from 1979 to 1994 counted only for 60% of corresponding national rate in the same period. This difference in economic performance between the CMR and Denmark is also apparent in the employment figures. Between 1979 and 1994, employment increased by three percent in Denmark while it decreased by the same rate in the CMR. In this era, some parts of Danish economy, particularly dynamic sectors, seemed to move from east of Denmark, namely the conurbations on Zealand, to west of the country, namely the rural regions like Ribe, Viborg and Ringkobing on Jutland. This process led CMR to lose ground to other regions of Denmark (Nilsson, 1998). Unemployment has fallen significantly in Denmark in recent years, and the trend has been more pronounced in Copenhagen than in the rest of the country. From 2001 to 2004 unemployment in Copenhagen has increased a little.

**Comparsion of unemployment rates**

*Graph 20: Comparison of unemployment rates*

*Source: (City of Copenhagen, 2008b)*
The CMR witnessed a significant de-industrialization process, as mentioned before. From 1979 to 1994 manufacturing industries reduced their production by 14%. As a consequence employment declined by 28% in the region. This decline of employment in the furniture, textiles and clothing, and the food industries were more apparent or extensive than in the other sectors. However there was one sector going up, in the opposite direction in contrast to declining industries. The Chemical industry was growing in the CMR in that period. But the growth rate of the chemical sector in the CMR was lower than the rate of growth of the same sector in whole Denmark. The success of the pharmaceutical industry was the main driving force behind the growth of the chemical industry in the CMR. The pharmaceutical industry had the appropriate conditions in the CMR for growth because most research intensive sectors were located in or close to the CMR. The probably most known company of them are Novo Nordisk, Leo and Lundbeck. As an important localization factor, closeness to the hospitals and research institutes in the CMR led to growth of chemical industry (Nilsson, 1998).

The CMR is dominant in the research field of Denmark. The CMR is home to 62,2% of the people who work in the research and development field in Denmark. However, the share of the CMR only accounts for 33,3% in the population of Denmark. GDP has also a similar figure. The CMR creates 34,7% of GDP of Denmark. The CMR has a very strong position in the country when it comes to research and development; 64,4% of the total R&D expenditure of Denmark is spent in the CMR. The CMR has even stronger position if we take the rate of graduate engineers into account. The CMR accounts for 71% of the engineers who are active in the industry (Nilsson, 1998). This dominance makes the CMR unrivalled player in the research based industrial production of Denmark. The numbers and statistics from high-tech industry also confirm the dominance of the CMR in Denmark in research oriented sectors; majority of high-tech companies in Denmark and half of the employees of these companies were operating in the CMR in 1987. According to this picture, Nilsson (1998) argues that in the eighties, industry in Denmark did not have adequate performance in exploiting the opportunities
offered by technical developments which had been generated during the past few decades.

As a consequence, the growth rate of industrial production was low in the CMR during the eighties. In the business life of Denmark, the factor of research oriented industry was still not big enough at the time. Another interesting fact is, that despite the restructure process in the economy and the partly high unemployment Copenhagen developed to one of the most expensive cities of the world.

The capital of Denmark is after Oslo the second most expensive city in Europe and the fourth most expensive city in the world. In addition, it is also considered as one of the richest cities in the world, because of the high GDP per capita (City Mayor Economics, 2008). As the capital city, Copenhagen has relatively many workplaces in the fields of public administration and finance, as well as services for businesses and institutions. In contrast, very few manufacturing enterprises have remained in the city.

Graph 21: Places of work by industry January 2004,
Source: (City of Copenhagen, 2008b)
In the eighties production and employment declined in the industry in the CMR. In contrast, the private service sector enjoyed a growth era at the same time. In the CMR, the production of private service sector increased by 38%. Therefore the decline in industry was compensated by the rise of the service sector to some extent. However the increase in employment was not that bright; it was only 2% (Nilsson, 1998). The de-industrialization of the CMR had some affect on the economy of Denmark and it was accompanied by the increase in private service sector and the production of this sector geographically concentrated in Denmark. The interesting point is that production of service sector rose sharply while the employment in this sector rose slightly. This indicates that the sector in the CMR had been quitting the services with lower added value and shifting to the services with higher added value. As a consequence, though private service production rose in most regions of Denmark, service production with qualified elements had a stronger position in the sector in the CMR than it had in the other parts of Denmark.
After the Second World War many jobs were created in the CMR by the expansion of both public and private service sector. At the same era there has been a decline in the manufacturing sector, leading to a considerable restructure of industry. This process of expansion of service sector, restructuring of economy and deindustrialization was observed not only in the CMR but also in many other metropolitan regions in the western world, namely in Europe and in North America (Winther, 2001). It seems like the developments in the CMR is not unique but global. These developments can be interpreted as the influence of worldwide developments which are related to Kondratieff Theory.

In the sixties some research were done about the economic growth in Denmark and it was revealed that Copenhagen was not the centre of economic growth. However public opinion was the opposite until the seventies. People believed that Copenhagen was leader in the economic growth in Denmark. Copenhagen’s image was perceived to be an industrial city since the first industrial revolution. It is argued that Denmark had a straightforward relation in terms of centre-periphery structure. Copenhagen had a concentration of manufacturing industry after the Second World War and it was centre of economic growth. The perception was in this way. This pattern in the centre-periphery structure started to change in the sixties. And the diminishing of this pattern was even stronger in the seventies and eighties. As a result of relocation of industrial plants from Copenhagen to west of Denmark, Copenhagen also lost the industrial jobs to west of Denmark. Besides, in the seventies and eighties, new businesses were created and existing ones increased their capacities and therefore industrial jobs also moved to southern and western parts of Jutland (Winther, 2001).

Post war era firm closures and reduction in the capacities dominated the process in the CMR. This led to the perception that the CMR was in recession and losing manufacturing jobs was seen as a natural result. Starting from late sixties, during seventies and eighties, the number of manufacturing firms, industrial production and jobs in the manufacturing industry declined considerably. This declining trend even continued into the beginning of nineties at a lower rate. Looking at aggregate facts, it is possible to say that the region
underwent an economic recession at the time. The recession in the manufacturing industry was particularly significant in the wood and furniture industry, textiles and wearing apparel industry, and, to some extent, in food processing industry. However not all the manufacturing sector was declining, or the numbers should not mean that there was no dynamic development in the region (Winther, 2001).

The aggregate numbers and indicators made people interpret the big picture as region undergoing a deindustrialization. The reason for this interpretation was probably that the number of total manufacturing jobs (employment in the industry) taken into account rather than central economic variables, probably because of data not being available. However by the arrival of new data in the early eighties, it became clear that firm closures, which was due to relocation of manufacturing plants, and downsizing of existing firms led to decline of number of manufacturing jobs. The discussion about decline of industry jobs in CMR continued in the eighties and in the nineties; however the view of development of manufacturing industry in the CMR somewhat differentiated. The industrial plants in the CMR were being moved and located in Jutland, in the peripheral regions and as a consequence the number of jobs in the manufacturing sector of the CMR continued to decline. At the same time some dynamic development was also observed. This combination of persistent slowdown and some dynamic development was then considered a process of both deindustrialization and restructuring of economy. New firms were established in some new industries and sectors according to new information about the business life. The new dynamic sectors were chemicals (particularly pharmaceuticals) and metal goods industry such as equipments for measurement and electronic goods. The shift in the industry from manufacturing towards service sector was accompanied with a process of restructuring in the industry. This restructuring took the form of shift from labour intensive industries towards more knowledge and capital intensive industries. Because of firm closures the CMR had some job loss in aggregate; however some dynamic development also occurred in the region. In the eighties new industries gained momentum and new firm establishments were quite common,
particularly in the high-tech industries. Besides, there are likely to be different patterns in different parts of the CMR. It is not a uniform area. The surrounding municipalities were less affected from the decline in the manufacturing industry, while the central part of Copenhagen had the recession in the manufacturing sector and the major decline in the employment. In some cases the municipalities around central Copenhagen had even an increase in the employment in the manufacturing industry. This pattern of contrasting centre-periphery relation in the manufacturing employment was also seen in many North American and European cities (Winther, 2001).

![Comparison of educational levels](image)

**Graph 23: Educational levels in Copenhagen and Denmark in percentage**

*Source: (City of Copenhagen, 2008a)*

The comparison of Copenhagen and Denmark in terms of educational level reveals that Copenhagen has a higher rate of people with bachelors’ degree in its population. But when it comes to basic education or vocational education the rate of students to population in Denmark is higher than the rate in Copenhagen.

Usually conurbations or metropolitan regions, such as the CMR have a diversified economic structure. This diversity gives the metropolitan regions opportunity to integrate new technologies into their production systems, or adapt the region to new developments and innovations. The regions’ capacity
to derive production from the new knowledge is a plus for the regions because as the accumulation of new information and knowledge increases the potential of the metropolitan regions for production also increases. Besides, the conditions for the mature business areas have changed in the post war era. As a consequence, the companies which have businesses in the mature industries in the metropolitan regions had to undergo gradual downsizing (Nilsson, 1998). The decline of industry in Copenhagen in the post war era can be seen as a reflection of this global trend. And the decline of the mature industries in the metropolitan regions can be explained, to some extent, with the Kondratieff perspective which foresees up and downs in the economic performance every 25-30 years.

According to Nilsson the pressure for transformation in the structure of the industry and economy comes from elements that change the conditions for production in the mature industries (1998). In addition to that, he argues, factors that increase the amount of industrial innovation also contributes to the transformation process of structure of the industry. In the CMR, as well, the mature businesses lost the favourable production conditions for themselves gradually. This changing situation led to pressure to adapt to new conditions and as a consequence considerable cutbacks were made. This development led to deindustrialization in the CMR, because the mature industry in the region preferred to close down the plants instead of switching to newer manufacturing technologies. While losing the mature industries, the CMR also had increase in the production of knowledge and research based industry. This development can be seen as a consequence of concentration the ‘Creative Class’ in Copenhagen. As Florida argues, knowledge will be the ultimate resource in the future and attracting creative and dynamic people could benefit the economy. Hence, the economy of Copenhagen could have benefited from the inflow of many creative people and companies. In addition to that, many research facilities were located in Copenhagen which strengthened the opportunities for R&D. However this growth was not enough to compensate for the decrease in the mature industries. However the service sector also increased in the CMR at the same time and the extent of increase in the contribution of
this sector to GRP\textsuperscript{13} was as much as the amount of decrease in the contribution of industrial sector to GRP (Nilsson, 1998).

Deindustrialization in a broad range of area in the CMR took place as a consequence of the pressure for a change. The industrial development in the CMR in all areas was lower than the national industrial development in Denmark. Several factors, such as the inability of companies to adapt to changes happening outside themselves and the conditions that are not favourable for production, led to labour-intensive companies, which are also considered mature industries, to shrink and downsize. In addition to that, merchants injected considerable amount of capital in the city which helped to grow service sector. Combination of these developments forced companies to relocate their plants to other regions in the country. There were significant amount of technical advances in the research institutes of the city; however the growth of the chemical sector in the city was lower than the national average, which shows that the business life was not capable enough to convert technical advances into innovative or new forms of production (Nilsson, 1998). Enterprises and companies in the CMR did not benefit enough from technical advances and resources of the region’s research institutes and universities in the eighties and nineties.

Denmark is considered to be successful in the medical and health care complex, and some companies had good positions and high shares in their specific sectors as a consequence of their appropriate strategies, however it is not easy to argue that Copenhagen is successful at the same rate (Nilsson, 1998). The reason is that the growth rate of medical and health care industry in the CMR was lower than the other parts of Denmark and it was still relatively not big in the nineties (Nilsson, 1998). There were some businesses in the service sector in the CMR that had higher growth than the other parts of Denmark, such as hotel trade, business services, wholesaling and retailing. The CMR has become a centre in the country for the service sector as a result of, among other things, the lack of ability of the industry in the region of innovation and creativity.

\textsuperscript{13} GRP: Gross Regional Product: a measure of total income in a given area (SFRA, 2001)
On a global scale there are two significant trends for old industrial regions. The regions which were able to convert research findings into industrial production gradually became centers for innovation and technology based companies. The regions which failed to benefit sufficiently from the research environment within their borders gradually became centers for service sector on a national and international scale. The CMR seems to comply with the second trend in the nineties (Nilsson, 1998).
3. THE CROSS-BORDER AMBITIONS

The history of the Öresund region is quoted as “a love/hate relationship” by the official website of the region (Öresund Network, 2006). In the 15th century there was Kalmar Union in northern Europe, consisting of Denmark, Sweden and Norway and it was ruled by Danish Queen Margrethe I, at this time. Sweden left this union in 1523 and this break up also started the dissolution of the union eventually (Öresund Network, 2006). The following centuries witnessed several wars between Denmark and Sweden that were made for the rule of Scandinavia. As a consequence of these wars, Sweden captured and retained eastern parts of Denmark, including Skåne. In 1658 the Swedish king marched with his army towards Copenhagen. This threat ended up in an agreement between both countries. The Öresund strait was accepted as a border between Denmark and Sweden. Skåne converted into a province in the Swedish Kingdom from a central part of Denmark (Öresund Network, 2006). The diplomatic tension weakened between Denmark and Sweden during the following centuries and Skåne gradually integrated into Sweden. The Öresund region is located in northern Europe, in Scandinavia and consists of parts from two countries: southern Sweden (Skåne) and eastern Denmark (Sjælland, Lolland-Falster, Møn and Bornholm). The number of inhabitants in the Öresund region is approximately 3.5 million. The distribution of the population is, 2.4 million people live on the Danish side and 1.1 million people live on the Swedish side. The size of the land that Öresund region covers is 20.859 km squares (Öresund Network, 2006). The Öresund region has some densely populated towns. Copenhagen is capital of Denmark and it has the biggest population in Scandinavia. Its population together with its suburbs is roughly 1.9 million. Roskilde and Helsingör are the two towns in the western part of the region (Sjælland), on the Danish side. On the Danish island Bornholm lies the town of Ronne. On the Swedish side, in the eastern part (Skåne) is Malmö. The number of inhabitants is 265,000 and Malmö is the third biggest city in Sweden in terms of population. Lund is the second biggest city in Skåne, with its world famous Lund University. Other major towns in the region are Helsingborg, Ystad, Hässleholm and Kristianstad.
In the 19th century, Scandinavianism, a new movement dreaming a common Scandinavian nation, emerged and became popular. As a result, a bridge that will link the two sides over the Öresund strait was proposed at the end of 19th century. This proposal did not receive considerable political support until the eighties. Eventually, an agreement for a bridge across the Öresund was signed by the Swedish and Danish governments in 1991. The bridge was opened in 2000, and decreased the time spent on the journey between the two countries on less than a half hour. In addition to that, the bridge triggered and contributed to the emerging of a new region. Inhabitants are now able to live on one side and work on the other side. Copenhagen is connected to the southern part of Skåne with a regional express train connection. The bridge provides opportunity for a common labour market, common labour force, common job pool etc. The construction of the bridge was very important for the cross national integration in the area. The following numbers will give an impression of the development of this traffic link. The traffic over the bridge has been increasing every year. The number of daily commuters across the Öresund strait in 1999 was 2800. However, 9400 people commuted daily across the bridge in 2005 (Øresund Network, 2006). This means that the commuter traffic increased threefold in just 6 years which marks a huge growth.

The Öresund Bridge now connects Denmark and Sweden. The length of the bridge is 16 km and it consists of road and rail link. It connects Copenhagen in Denmark with Malmo in Sweden. The bridge is called ‘Öresund Bridge’ by the public however the official name is ‘The Öresund fixed link. The name ‘Öresund’ comes from the strait between Denmark and Sweden and this strait has one of the highest shipping traffic in the world (Øresund Network, 2006). This link consists of a 4-km long submerged tunnel, a 4-km long artificial island and an 8-km long bridge. The Öresund link has a railway line on it and this railway is operated by the Danish and Swedish rail companies jointly. The link was opened on July 1st 2000.
In the beginning of the year 2004, 166,000 people crossed the city limits in order to work in Copenhagen, whereas 102,000 people from Copenhagen travelled in the opposite direction to workplaces outside the city which shows, that there is a bigger inflow of commuters than an outflow. The subsequent figures identifies as well, that Copenhagen is attractive for the Swedes, because the bulk of the daily commuters are Swedish.

![Graph 24: Daily commuters divided through countries](image)

**Source:** (Öresund Region, 2008)

The next figure clarifies as well the point of the integration process of the region, because many Danes are moving to Sweden. This could be explained by the fact, that the housing prices and living costs in Sweden are lower than in Denmark. And the bridge reduced the commuting time substantially compared to the ferry connections before. In the first five years after the construction, the number of Danes who moved out increased by four times.
Graph 25: Danes moved to Sweden

Source: (Öresund Region, 2008)

The daily commuting number was 4000 people in the first year 2001. In 2006, this number increased up to 15,800 per day which means a plus of nearly 400%. This shows an increasing integration and the importance of the Öresund as a transport hub. However, this could also show that the bridge could reach its capacity limits in the next years. (Öresund Region, 2007).

Graph 26: Yearly traffic on the Öresund bridge

Source: (Öresundsbro Konsortiet, 2008)
Already 32% of the companies in Skåne have some form of operations in Denmark and 17% of the Danish companies are active in Skåne. This is as well an indicator for the attractiveness of the Copenhagen region (Öresund Region, 2007). Though, there are still obstacles for the moving between the countries. This is for example the different tax systems. However, the potential for a higher integration is given, especially before the background of the increasing traffic and importance of the Öresund as traffic link between north and central Europe. In addition, the bridge between Rödby (Denmark) and Puttgarden (Germany) which is going to be constructed in 2018 could increase this position. Öresund region is one of the most interesting and unique regions in the world since parts from 2 different countries form one metropolitan area. Following the opening of the bridge, attempts and efforts for the integration across the borders of the countries and regional cooperation replaced the power struggles of two countries in the past.

Both cities have a history with an industrial background. Their transformation processes were accompanied by a high unemployment in the bygone decades. Malmo for example had the highest unemployment in Sweden in the beginning of the nineties. However, the rates decreased since the middle of the nineties sharply. The next figure will show a comparison of the unemployment rates of the both members of the Öresund region in these two countries. With 1995 as point of departure, they started from the same level. Copenhagen’s unemployment rate decreased stronger but grew a bit since 2001. Malmo’s development was not that strong, but it seems that the gap is closing.
The comparison of the rates in the Öresund Region shows, that all are on a quite low level. The rate for Malmo is still on a higher level compared to the other average numbers but the Swedish city continued decreasing. Both cities were able to reduce their unemployment rate within the last ten years for about 50% while restructuring the economy.
IV. COMPARISON BODY

A. INTRODUCTION

So far the two cases, namely Saarbrücken and Copenhagen have been treated separately. In this section of the paper the two cases will be handled together in order to have a comparative analysis. Some important characteristics of both regions were already discussed and explained to some extent. In this section we will sometimes refer to the information presented in the previous chapters. Both Saarbrücken and Copenhagen had manufacturing industries in the 20th century. Saarbrücken was a typical region of mining and steel industries. In the seventies car industry and suppliers for the car industry also located in Saarbrücken. Copenhagen also had manufacturing industries such as, tobacco, furniture, textile, cement and motor industry. All these industries are considered traditional or mature manufacturing industries.

After the Second World War, a trend in old industrial regions emerged. This trend basically can be explained as follows: traditional industrial regions started to lose their dynamism and manufacturing moved to some other regions which had cost advantage and which did not have long industrial history and background before. This trend was observed both in Copenhagen and Saarbrücken in parallel to many other traditional industrial regions in the world. They gradually lost some of their industries and factories. However, the industrial sector was more diversified in Copenhagen, than in Saarbrücken, which was focused on steel and mining industries. Kondratieff wave theory can roughly explain this situation. According to wave theory every 50 to 60 years a wave will be completed in the economic performance and some industrial techniques will be replaced. We can interpret the declining industries in Copenhagen and Saarbrücken as the reflection of down swing of Kondratieff waves in economic performance. This down swing usually brings some transformation in the structure of the economy which could be painful at times due to its side effects like unemployment in the short run and negative immigration caused by this
unemployment. However in the long run transformation in the structure of the economy could even lead to better economic figures for the region because the transformation of the economy is more than just closing down of old factories.

Both Copenhagen and Saarbrücken have been restructuring and transforming their economies for a few decades. There are some features that they share and there are also some points in which they differ. In both regions service sector has grown in terms of employment and production. While Saarbrücken had a gradual, slow and smooth growth in the employment of service sector, Copenhagen experienced a more accelerated increase in the employment in the service sector as it attracted both private companies and also serves as the capital city, which contributes to the number of people in the public services. Copenhagen became a national service centre as Saarbrücken had a growth in service sector that only meets the needs of its own region.

In both regions the manufacturing industry declined and shrank. However the downsizing in employment numbers in the manufacturing industry in Copenhagen is bigger than the downsizing in Saarbrücken, in absolute numbers and in proportion to the population of the region. The reason is that Saarbrücken has still a considerable size of steel and car industries as the major employers in the region. The car industry, that are the Ford Company, Bosch and ZF for example and its suppliers, small and medium size enterprises, are still utilizing their capacity to a high extent and they still have not experienced a crisis or stagnation in their business. However it could be the case that the car industry in Saarbrücken is at its peak and likely to slow down in the coming years, if we look at it from the Kondratieff wave perspective. Copenhagen seems to have come out of stagnation and the dependence on the industry almost more than a decade ago. New sectors with high value added emerged such as, biotechnology, IT, logistic and sectors of supporting services. Thus, the degree of dependence of Saarbrücken on the industry is higher than that of Copenhagen. The prosperous economic development of Copenhagen is also reflected by the unemployment numbers, which decreased since the middle of the nineties.
Whereas the rate in 1995 was still higher in Copenhagen than in Saarbrücken, the rate was much lower in 2005.

Graph 29: Comparison unemployment rates Saarbrücken and Copenhagen 1995 - 2005
Source: (Statistical Office Copenhagen, 2005), (Regionalverband Saarbrücken, 2007)

This positive development of the employment market could be a reason as well for a higher attractiveness of the city which led to more immigration - or maybe the other way around. Taking a look on the comparison of the population development shows that the unemployment rate in Copenhagen declined at the same time as the population growth started. Saarbrücken on the other hand does not show this correlation and got into more disadvantageous situation in terms of population and unemployment figures.
Another important difference between Copenhagen and Saarbrücken is the fiscal situation of the administrative bodies in the respective regions. The state of Saarland has a debt of almost 10 billion euro. This is a huge amount of debts for such a small state in Germany. As mentioned in chapter III, the budget includes about 20% of interests per year. Hence, there is a need for taking efficient measures and to cooperate with private investors in order to widen the tax base because the present structure of the region does not seem to be enough to overcome the fiscal difficulties. Although the state of Saarland has a strategy to make Saarbrücken a centre for innovation it has a fiscal constraint. With such a huge amount of debt the state of Saarland will probably have to have some surpluses in its budget in the coming years in order to decrease its debt. Otherwise the state of Saarland might end up in a financial crisis. This unpleasant probability is likely to block the attempts of the state for an innovative region. By this, we do not mean that a state with a financial surplus can ‘definitely’ induce some innovative sectors. What we mean is that a state with a huge amount of debt is less likely to invest in new, innovative sectors or give subsidies for such a sector. In contrast, Copenhagen does not have a huge amount of debt. In case of need, the city of Copenhagen can support or subsidize some sectors in order to...
to stimulate the growth in that particular sector. In the past, the city did already subsidize ship construction industry for some time. The financial situation of the city of Copenhagen is suitable for subsidising.

Another important point that should be compared is the diversity of industries in both regions. Saarbrücken has had coal mines and steel industry for a long time. In the sixties car industry and the small and medium size suppliers for the car industry were added to the industry base in Saarbrücken. These are the major sectors and they have being dominating the labour market in terms of employment figures. On the other hand, Copenhagen has had a diverse manufacturing sector ranging from textiles, furniture, cement, footwear, chemicals, cement, motor industry and shipbuilding industry etc. In the seventies and eighties some of these manufacturing industries shrank. However new industries were emerging, while some sectors were shrinking or disappearing. Biotechnology, IT, pharmaceutical technology, functional food development, logistics and some other service sectors are the new stars of the economy in Copenhagen. This switch from manufacturing towards a more knowledge-based industries and service sector indicates that the diversity in Copenhagen did not decrease. There was always a wider range of sectors in Copenhagen than in Saarbrücken. This reduces the risk of being hit by a crisis or recession in one sector. As it is stated in the famous metaphor, Copenhagen does not put all the eggs in one basket. This difference in diversity between two regions is, of course, somewhat related to the population sizes of two regions. The CMR is like four to five times bigger than Regionalverband Saarbrücken in terms of population. Thus Copenhagen is more likely to be more diverse in terms of sectors it hosts in the city region. Another reason could be the fact that service sector is more mobile and easier to establish than the manufacturing sector. For many service sector activities, some office buildings, some furniture and computers are enough material for a start. However the industries in Saarbrücken are not very mobile or easily replaceable with another sector. It is not easy to close down or open a new one of coal mines, steel factory and car factory. These are industries which require a lot of investment and once the investment is made, it is not easy to move or close down it in a short time. This is
why these industries are called ‘heavy industries’ in literature. This could be another explanation for why Saarbrücken does not have as diverse sectors as Copenhagen does.

Two regions differ to some extent in terms of the history of political stability as well. Copenhagen has existed as an important Danish city for almost a thousand year since the times of Vikings. And for the last several centuries it is the capital of Denmark. Saarbrücken had many changes in the country it belongs to several times. Even in the last two century Saarbrücken had eight changes of nationality. And several referendums were held in the region in order to determine in which country the folks of the region want to be. First and Second world wars also changed the ruler nation of the region. Another similarity and the ‘difference in similarity’ are being cross-border regions. Both Saarbrücken and Copenhagen are border regions. Saarbrücken is on the French border and Copenhagen is on the coast of Öresund strait and Sweden is just across the strait. However there is also some difference. Geographically both regions seem like periphery, but in fact Copenhagen is the core of the country in terms of services, politics, education and R&D etc. Copenhagen is the capital of Denmark and it is the only dominant city in the country. It has no competitor at its level. In the public opinion the rival of Copenhagen is Stockholm, the capital city of Sweden, not another Danish city. In the last a few years Stockholm has been promoting itself as the ‘Capital of Scandinavia’. This, of course, received criticism and refusal from the Copenhagen side. Probably the disagreement on the issue of capital of Scandinavia cannot be called tension but, for sure Danes would prefer to call Copenhagen as the ‘capital of Scandinavia’ rather than Stockholm.

If we look at Saarbrücken, it is also capital of a state in Germany, namely Saarland. However it is a real peripheral region in Germany, though it can be considered in the middle of Europe. Saarbrücken is not dominant in the country, though it is dominant in the federal state. Copenhagen is home to headquarters or regional offices of many international companies which have business in Nordic countries. However Saarbrücken does not have the same opportunity to promote itself as a headquarter region for the companies doing business in
Germany or in France. It has strong rivals on both sides. Neighbouring regions like Metz, Trier, Luxemburg or Strasbourg are likely to attract the investors to their regions. In addition, bigger dynamic German cities like Frankfurt or Stuttgart are the dominant cities in the southwest of Germany. In this context Saarbrücken seems quite peripheral region both in geographical and business terms.

Another difference appears in the access to transportation. As mentioned before Copenhagen has the Kastrup Airport, which has the highest air traffic in Scandinavia. The airport of Saarbrücken is relatively small and does not have as many connections as Copenhagen Airport does. Besides Copenhagen has a harbour and it has a long tradition of ship transportation. The biggest shipping company in the world, Maersk, was established in Copenhagen and still has its headquarters in Copenhagen. This gives Copenhagen a strong position as a harbour city. In addition to that Copenhagen is between continental Europe and other Scandinavian countries. The only road connection from continental Europe to Sweden, Norway and Finland passes through Copenhagen which gives Copenhagen a unique position for being a transportation and distribution centre. In the recent years, Copenhagen has really become a centre for logistic companies and a distribution centre for retail and wholesale companies. Saarbrücken, though it seems like it is at the heart of Europe, has not been considered by the transportation companies as a strategic logistic centre. Therefore a logistic cluster did not emerge in Saarbrücken like in Copenhagen. However, the city could benefit from a stronger connection between Eastern and Western Europe. In such a case Eastern Europe will connect to Paris via Saarbrucken and this could induce a logistics cluster.
B. CROSS-BORDER INTEGRATION PROCESS

Another similarity between these two city regions is the cross-border interaction and further integration. However the regions are not identical in this aspect either. Saarbrücken is trying to integrate with the neighbouring French communities. The new concept of a cross-border agglomeration and a Eurodistrikt is applied in the case of Saarbrücken. And this effort to create a multinational region is supported by European Union as the EU emphasizes the importance of the regions and aims at strengthening them. In this context the European Union even promotes its policies with the following approach: Europe of the regions. In addition to the efforts of the German - French agglomeration, the concept, Eurodistrikt, may even turn to a bi-national regional administrative unit. And if this happens, it would probably aim for avoiding double structures, like emergency supply on both sides, for example. However all these efforts and demand for integration is coming from administrative level rather than ordinary folks. The administrative bodies such as mayors, governors, regional agencies are taking initiative for integration. But the pressure from the citizens is not that strong as it could be assumed. The main driving forces for the integration are induced by both governments. It would not be wrong if we call the integration process in Saarbrücken a top-down process. This mainly top-down process is confirmed by the fact that the bilingual education is not as good as it is shown in commercials and advertised in policy documents. The major part of the population on the German side is not able to speak French fluently. Furthermore, the question if the people are ready enough to consider themselves as cross-border agglomeration and are open to French and international influences, remains unanswered. There is still quite conservative way of thinking in this region. Besides, the integration process is accompanied by several problems. One of the biggest obstacles is the different administrative structures. There are two big countries with own planning system and philosophy and, for example in the area of the prospective Eurodistrikt, one German partner has to deal with approximated seven French partners. In addition to that, elections and political arbitrariness could change the mood and involved partners radically.
The case of Copenhagen is a bit different. Copenhagen is integrating with the Swedish Malmo-Lund gradually because there is a need for this integration on the ground. After the opening of the Öresund Bridge in 2000 some Danish people started to move to Malmo and its suburbs as the accommodation and housing on the Swedish side is more affordable. And the number of the movers increases every year. Besides, the number of commuters increases as well every year. More and more people live on Swedish side while they continue working on Danish side. The benefactors are not only Danes, but also Swedes. Some Swedish people now find jobs in Copenhagen and commute to their jobs every day. There is now a move towards a common labour market in the Öresund region. Swedes also cross the bridge for entertainment as Copenhagen is the biggest centre for arts, culture and show business in the surrounding area. Therefore there is a need and pressure for integration between two sides. The process is a bottom-up process. The administrative level people just follow the developments and make regulations and take some measures for the integration to go smoothly. For example the Danish side compensates and pays the Swedish side since now thousands of Danes are living in Sweden and sending their kids to kindergarten in Sweden but paying the tax to the country they work in, that is Denmark. Thus in the case of Copenhagen administrative level follows the integration brought and forced by the ordinary citizens. Another difference is that the integration of Öresund region has a milestone that is the opening of Öresund Bridge. After this event the integration got accelerated as the travel time between two countries decreased sharply as road and rail road replaced ferry connections.

Saarbrücken, as mentioned in chapter III, had eventful political history with a lot of tension and wars, however the regions on the border have very similar culture and history and partly same labour markets. This strong connection is reflected by the number of commuters, which are from the French part to the Saarland – and mainly into the capital Saarbrücken. There are about 21,000 commuters, who are coming everyday from the French Lorraine. These commuting flows are mainly in the agglomeration Saarbrücken Moselle Est. Besides, some of French institutions and agencies are located in Saarbrucken,
such as the Centre Juridique Franco-Allemand [German – French centre of laws], the German – French academic institute and the French Chamber of Commerce. This will most probably contribute to the integration of both sides.

Furthermore, on the greater Saar-Lor-Lux region as well a lot of commuting takes place. In particular Luxemburg has a high number of commuters in 2005, about 60,000 coming from Lorraine and 5000 from the Saarland (Grand Duchy of Luxemburg, 2008). The question with such a big cross-border region is that what the cost and benefits of integration are. The direct benefit for the population is not very clear and not tangible for the population. It was often argued that this network is inflexible and not strong enough, some regional administrations put very little effort and there are too many different political wills (Saarländischer Rundfunk [Saarland Broadcasting ], 2008). Whether the city of Saarbrücken and its greater agglomeration will benefit from the Greater Region Saar-Lor-Lux is disputable. Compared to Copenhagen, it is obvious that one strong central marketing organization like Copenhagen Capacity is missing. There are, at least in Saarbrücken, the gwSaar and the French CAPEM, but their connection could be improved. A common employment agency, as well, in the cross-border region could strengthen the cross-border cooperation.

The business life has also similarities on both sides of Öresund strait. Biotechnology industry has a strong existence on both sides and they can be considered as one cluster in two countries. In the case of Saarbrücken, the French side also has a similar car industry and its suppliers as in German side. Smart cars, the sub brand of Mercedes, are produced in the French side for example. Thus, Saarbrücken does also have homogenous neighbours in terms of industry. In addition to that, both regions try to enhance their cooperation in new high tech sectors. Increasing number of commuters give the regions opportunity to attract or benefit from the talented people on the other side of the border. This is likely to enlarge the creative class hinterland of the regions.
C. CREATIVE CLASS POTENTIAL

In terms of Creative Class and the new high tech industries the two regions have a bit different paths. In Copenhagen some clusters like biotechnology and IT started to emerge firstly. Then the city of Copenhagen established the marketing agency for the region, the Copenhagen Capacity (Cop-Cap). Now the Cop-Cap promotes Copenhagen and tries to attract foreign investors to the region to make investments in high tech businesses, like biotechnology. There was an appropriate milieu in Copenhagen for a high tech industry, like biotechnology to emerge. Most research and development institutes (62% of them (Pollath & Spörl, 2007)) and most well know Danish universities are in the CMR. There are also a number of hospitals in the region. Such a geographical closeness, cooperation, interaction and even some competition is likely to give birth to a biotechnology cluster. This is also what Michael Porter sees as essential for the emergence of a cluster. And that is more or less what happened in Copenhagen. The emergence process of high tech industries in Copenhagen could be classified as a bottom-up process.

In Saarbrücken they followed, kind of an opposite path. First, the federal state of Saarland made an Innovation strategy in 2001 for having new high tech industries in the region. Having been influenced by the Lisbon agenda, the federal state wants to become a centre of an IT cluster. Therefore they wrote down some strategies before a considerable number of IT companies appeared in the region. Whether this strategy will achieve its aims or not is not certain yet. However, it seems like the federal state government wants to make the university in the region as the basis for the new high tech industries. There are also a number of other regions which make such strategies in order to have rising and dynamic high tech industries. Actually it has been quite common for many regions to set certain goals for having some desired industries. However as Michael Porter warns, trying to have every industry may end up in failure. Porter recommends that every region focuses on their resources and make more realistic strategies rather than having very high objectives. In a way, the efforts
for a new IT industry in Saarbrücken could be classified as a top-down process, because the strategy and intention comes primarily from administration.

Another important difference is the trend of population in the regions. The population of Saarbrücken has been declining since sixties, though in the eighties and beginning of nineties it also increased for some time. The trend in Copenhagen is almost opposite. The population has been increasing, though in the eighties it decreased for some time, as could be seen on graph number six. The decline in the population of Saarbrücken could be explained with the decrease of employment opportunities to some extent. As it was mentioned in the Saarbrücken chapter, Saarbrücken has traditionally been a coal mining region. However the number of mines has been declining from 24 to 1 at present. Thus the number of people employed in these mines has also declined from 42,000 to 4,000. The steel industry has also experienced a similar decrease in the employment numbers. These figures point out an enormous amount of employment loss in the region. It is likely that people who were left unemployed after the closures of the mines, moved to some other regions in the country that are economically more dynamic and could offer employment opportunities. Saarbrücken could not replace the mining industry with another industry that could employee as many people as the mines fired. At this point lack of a considerable size of Creative Class is felt in Saarbrücken. A Creative Class people with new and innovative ideas could lead Saarbrücken to new sectors and industries which did not exist in the region before. For example in the last a few decades an IT industry emerged in Munich.

In contrast to Saarbrücken, Copenhagen did not have a declining population problem, except some years. Although the region was not very dynamic in the seventies and eighties, some transformation was going on gradually and while some sectors were shrinking some new sectors were expanding like service sector and chemical sector. As a consequence Copenhagen managed to keep its population at a certain level and boosted it in the last decade. Keeping the population in the city region helped Copenhagen also preserve its creative people who have talents and university degrees.
Another difference is the attractiveness of the two regions for people. Copenhagen has many more advantages than Saarbrücken in this issue. First of all, it is bigger than Saarbrücken in terms of population. The number of events, festivals, theatres, entertainment and cultural activities is by far in front of Saarbrücken. As Florida mentions, creative people are attracted to places with high living standards and life quality. These are considered, together with the three Ts, as the key elements for attracting the Creative Class. Therefore, he argues that cities with higher living standards will attract and retain the Creative Class, which induces new innovative sectors. Besides, Copenhagen has more universities with a good reputation. There are also more research and development institutions in Copenhagen where Creative Class people can be offered jobs. This is another reason for Creative Class and talented people to settle in Copenhagen.

Florida tried to measure the attractiveness of cities and countries by different indicators. However, his principles were basically formulated for the cities in the USA, thus they might not be applicable in the case of Saarbrücken and Copenhagen due to structural and historical differences among Denmark, Germany and USA, though some similarities also exist. For instance, some services concentrate in some certain cities in Germany, though service based economy is still in an early stage. And the principle “jobs follow people” is becoming more and more reality in Germany as well (Kröhnert, Morgenstem, & Klingholz, 2007). According to Florida’s Global Creativity Index Denmark ranks sixth, and Germany tenth (Florida, The Flight of the Creative Class, 2007). The next section will offer a comparison about the three Ts of Florida. The data does not totally reflect his indicators. Some of the basic indicators have been picked up and they will be subject to our comparison. However, they have sometimes been not totally suitable and several indicators on both sides are not available or not comparable. In spite of this shortage, the relationship will be identified as accurately as possible. A similar approach was used in the study of Roland Berger Strategic Consultants, which compared the German Federal States and modified the indicators of Florida. The following numbers are hints for an analysis of regions which will show the respective strength and weaknesses.
The first indicator is the technology index. One factor for comparison could be the intensity of employed people in the research & development activities. One difference could be the existence of the Medicon Valley in the Öresund region, which employs about 36,000 highly skilled and innovative people in about 200 companies (Ertl, 2007). A comparable cluster does not exist in the region of Saarbrücken. Besides, Copenhagen has an outstanding position in the number of the announced patents per capita which is one of the highest in Europe (Ertl, 2007). The Saarland has 47 patents and 4 high tech patents per 100,000 and ranks on a comparatively lower position among the federal states in Germany (Kröhnert, Morgenstem, & Klingholz, 2007). In addition to that, the Öresund region has a very good position in Europe in the number of citations per publication. In 2007 Saarland spent 1,1% of its GDP in R&D activities, which is comparatively a low rate. The expenditure of Denmark in R&D was 2,3% which was more than twice as high as the percentage of Saarland and two third of this expenditure was made in the CMR (Copenhagen Capacity, 2007). The numbers presented indicate that the technology level is comparatively higher in Denmark and Copenhagen according to Florida’s principles and could be improved in Saarbrücken, particularly through the private and public R&D investments, which is low at present.

There are indicators for the talent factor as well, in which Copenhagen ranks quite high. In Copenhagen 32,5% of the people have an academic degree and the corresponding figure is 10,1% in the Saarland (Ertl, 2007) & (Initiative neue soziale Marktwirtschaft; Wirtschaftswoche, 2008a). However, the numbers might change due to the different definitions of academic degrees in the respective countries. Hence, the gap may not be as big as the numbers imply, but, of course, the rates in Copenhagen would still be higher. The percentage of the people who are regarded as Creative Class in the working population, as well, is quite different in two regions. The Creative Class in the Regionalverband Saarbrücken in 2005 was 14,3%, more than in the Federal state but below the German average of 17,6% (Kröhnert, Morgenstem, & Klingholz, 2007). In Denmark 40% of the employed people are from Creative Class, whereas the percentage of the creative and knowledge intensive jobs in
Copenhagen counts for 62,5% (Ertl, 2007). However, we analyzed different studies and partly different indicators and although the results differ, the gap between Copenhagen and Saarbrücken is quite obvious.

The number of students shows the creative potential in the whole Öresund region as well. The universities in Copenhagen have about 50,000 students and an excellent reputation. The whole Öresund region has about 20 universities and approximately 142,000 students (Ertl, 2007). The University of the Saarland in Saarbrücken with about 15,000 students is much smaller, but has a good reputation and is member of the German Exzellenz Initiative [Excellency Initiative]. The number of students for the whole Saarland counts about 20,000 in 2007. Together with the French Lorraine and Luxemburg, the whole region has about 80,000 students (Federal Agency for Statistics - Saarland, 2008). Though some definitions of indicators may differ due to large span in the Creative Class, on average, the trend and the high number of students show that the talent index in Copenhagen is much higher than in Saarbrücken.

The tolerance index is very hard to specify. Various definitions in different studies about the Creative Class exist and the correlation between the included numbers doesn’t seem to be very clear. To index for the tolerance, different indicators are used according to different studies. The following indicators could give a brief overview. The percentage of foreign born students for example is not part of Florida’s theory but of course a reasonable complement and gives indication of the diversity of the region. The percentage of foreigners of the whole Saarland is 8,3% and the ratio of foreign born students on the universities of the Saarland is 15,8%, which is a quite high number for Germany (Kröhnert, Morgenstern, & Klingholz, 2007). The foreigners in Copenhagen count for 4,3% of the total population in 2005 (Statistical Office Copenhagen, 2005). The higher rate in the Saarland could be explained with the industrial background in the last century, because many guest workers from Italy and Turkey came to the region.
The other indicators for the tolerance index are hard to catch but it is usually accepted that Copenhagen is a quite open city. Nordic countries, including Denmark, are traditionally very open. Copenhagen has the alternative quarter Christiania and many popular festivals are held, such as the Roskilde Festival and the people consider themselves as the happiest people in the world (Ertl, 2007). The high percentage of English speaking population (80%) makes it very easy for foreigners to immigrate as well. However, immigration law of Denmark is one of the strictest in Europe (IsoPlan Consult, 2003). Saarbrücken has some good initiatives as well; there are numerous German – French institutions in the region which could strengthen the bicultural interaction potential.

In spite of quite restrictive immigration policy, the environment for immigrants seems quite open and tolerant for immigrants in Copenhagen. This may be related to the position of Copenhagen as a transport hub of Scandinavia for a long time. Being a harbour city brings, as in Hamburg, a lot of foreign influences to the city and makes the inhabitants more used to them. Although the indicators for tolerance in Saarbrücken do not seem as good as in Copenhagen, the region has a quite strong connection to France and many cross-border relations take place. This could be a good starting point to enhance the bicultural interaction in the region and to attract immigrants.

Summing up all these figures, Copenhagen seems much more attractive than Saarbrücken in terms of the indicators of the Creative Class theory. This complies with the fact that many companies moved their headquarters to the city and considered Copenhagen as a good location for the future (Ertl, 2007). Especially the talent and technology indexes are on a significantly higher level in the Danish capital. Also many headquarters of well know companies settle there. This could be explained by the fact that Copenhagen is a capital city and whoever wants to penetrate Denmark has to penetrate its capital. Saarbrücken does not seem as attractive as Copenhagen for international companies, because not many of them settled in the region. The tolerance factor is hard to evaluate, because it is hard to prove its effects. Copenhagen, as a big city and capital, will likely to continue to be attractive in the future for immigrants but the restrictive immigration policy could hinder this trend.
Saarbrücken wants to position itself as a tolerant city with a lot of bicultural influences. Whether these efforts will be successful or not is not certain yet. Most indicators for attractiveness and creativity in Saarbrücken are lower than in Copenhagen and as well as lower than in the competing regions in Germany. This conclusion about the Creative Class is complying with the result that has been reached by the Berlin-Institut about the Saarland (Kröhner, Morgenstern, & Klingholz, 2007).
V. CONCLUSION

In this study we have discussed the transformation of economies in two border city regions, namely Saarbrücken and Copenhagen. As explained before, the motivation to compare these two city regions were the similarities in their economies in the past and similar opportunities in the future in terms of cross-border integration and the possible economic benefits that might come from this integration. These regions are similar in the sense that they both had strong industrial background during the twentieth century and experienced a transformation of their economy. They had some traditional primary and secondary sectors in their regions such as coal mines, steel industry, car industry and its small and medium sized suppliers, motor industry, textile industry, furniture industry, food industry and ship building for example. And these sectors took a big share in the employment. The industry in Saarbrücken was and is concentrated on some industries like steel and car industries and coal mines. In contrast, Copenhagen had a more diversified industrial sector and even today it has a more diversified service and high tech sector.

However towards the end of the twentieth century and at the beginning of twenty-first century some transformation has taken place in these city regions. The share of industry in the employment of these city regions declined gradually. And the share of service sector and some new high tech sectors such as IT, biotechnology, chemicals and functional food, in the employment of these regions have increased. This trend in the employment patterns reveals us a structural change in the economies of these city regions, which is not a temporary phenomenon. These two regions have been undergoing some transformations in the past decades. One of the most significant features of this transformation was deindustrialization process which started roughly a century after industrialization process of the regions.
We treated the transformation of the regions in the framework of Kondratieff perspective. As explained in the theory chapter, Kondratieff wave theory argues that there will be up and downs in the economic performance of the regions in a repeating manner. From one peak to another peak is assumed to take from 50 to 60 years. Every peak comes with a technological change. We think that, as an overall trend, the deindustrialization process in these city regions is a manifestation of a global trend which can be attributed to Kondratieff waves, because the structure of the production and the technology used for production of goods and services have changed to some extent in both city regions.

It seems to us, that Porter’s Cluster Theory and Florida’s Creative Class theory are also relevant in the process of restructuring of the economies of these two regions. Some clusters, more so in Copenhagen, emerged in these regions. For instance, biotechnology and IT clusters in Copenhagen and car industry suppliers’ clusters in Saarbrücken emerged. These developments can be somewhat explained with the cluster theory. In some of the sectors in these city regions, we see some features that were described in the Porter’s cluster theory.

Florida’s Creative Class theory also has a say in the developments of the regions we treat. Copenhagen has had some new high tech sectors in the recent years such as IT, biotechnology and pharmaceutical industry for example. In doing so Copenhagen definitely benefited from its well educated, highly skilled labour force which can be named “Creative Class”, that is Florida’s concept. Copenhagen has some characteristics which make it attractive for the creative people such as its educational strength, its universities, research institutes, its high living standards, access to a big airport, diverse cultural activities such as music festivals, theatres, shows and entertainment life for example. As a consequence Copenhagen has had a considerable number of creative people. As Florida argues, jobs followed these creative people and many high tech companies made investment in the region. Due to these developments Copenhagen has been enjoying an economic boom for almost a decade.
Saarbrücken, though it has not been benefiting from a Creative Class as much as Copenhagen managed to do, takes Creative Class theory seriously. The authorities of Saarbrücken are concerned about the economic structure of the city region, which is not very diverse. The lack of diversity can be explained, to some extent, with the higher dependence on industry compared to other German regions. The car industry, in particular, leads to such dependence because of its large scale. As a solution they would like to have a Creative Class in their region in order to induce development in the innovative sectors. For this reason a strategy was made for Saarbrücken. The influence of Lisbon Agenda and the Porter’s cluster theory in this strategy document is apparent. The strategy also had some ideas which can be seen in Florida’s Creative Class theory later on.

Despite similarities, we also identified differences between the regions themselves and between the restructuring processes of their economies. To some extent they have similarities like the decline of industry and rise of service sector. However the size of change of the numbers in the employment in the industry and in the service sectors and even the proportion of these figures to respective populations in these regions developed differently. What we mean by this is simply that Copenhagen has made a more significant change in its economic structure. The industry is not dominant anymore and Copenhagen cannot be considered as dependent on the industry in terms of employment. Service sectors and new high tech sectors now take the lion’s share in the employment figures. Saarbrücken, in contrast, still has a considerable size of industry and industry still employees majority of labour force in the region, though the region has been moving towards more service oriented sectors. Actually, the unemployment rate in Copenhagen was even higher than in Saarbrücken in the middle of the eighties and the loss of population was as well higher, as it could be seen on figures graph number 30.

Cross-border integration is an important aspect of the two regions. However Copenhagen seems to have a higher potential in this aspect because the only road and rail road connection between Denmark and Sweden and even between continental Europe and Scandinavia passes through
Copenhagen. The number of people settling or working on the other side is increasing considerably every year. This remarks an apparent interaction which is also regarded “integration” by the public. Opening of the Öresund Bridge has been a milestone for this integration. Therefore even further increase in the interaction may be observed in the coming years. The integration between Saarbrücken and the French side grows gradually and has no similar turning point like Copenhagen had after the construction of the Öresund Bridge. However, the connection on the High Speed Railway East could be a benefiting factor for the region, but it has strong competition from the alternative axis between Strasbourg and Stuttgart.

These differences give us some messages in terms of regional development. Although they have similarities, the transformation process of every region could be regarded as unique since they have some regional and local elements. For instance coal mines in Saarbrücken cannot be ignored in the economy of the region and since these mines are natural resources they cannot be created somewhere else by human attempts. In our theoretical framework, we consider the developments in the two regions are connected with three theories: Kondratieff Wave Theory, Cluster Theory and Creative Class Theory. We can classify them into two groups in terms of their characteristics:

1. Wave Theory
2. Cluster Theory and Creative Class Theory.

The Wave Theory describes national and global trends in the economy and industry rather than regional trends. Thus the regions are usually passive against waves. They either take advantage of these waves or hit by these waves. The second group, Cluster and Creative Class theory, however, gives regions some kind of guidelines and leaves room for some action. Regions can be active and affect the economy and the transformation of their regions to some extent by taking the principles of these theories into account. Trying to attract well educated, highly skilled people can induce economic development and probably high tech clusters in the regions. Offering high living standards, cultural activities, events, festivals, entertainment possibilities can
make a city attractive for Creative Class and if they settle in a region, they can induce economic development and more jobs via new innovative sectors. Besides clusters are likely to emerge where the creative people settle and where the technology advances. Copenhagen seems to have done comparatively quite well in this aspect at least in the last two decades. Biotechnology, IT, chemicals, logistic, finance and service sectors enjoyed a boom from the middle of nineties, which decreased the unemployment in the region. Saarbrücken is eager to achieve a similar success, though it hasn’t done quite well so far.

Our observation is that the transformation process in Copenhagen and Saarbrücken has common characteristics but diverged in some aspects. There are several likely reasons for divergence. First and foremost, Copenhagen is the capital and biggest city in Denmark and it is the only metropolitan region. As a consequence it is the center for higher education, research and development activities, high tech companies and services. It has the busiest airport in Scandinavia, it has an attractive milieu for creative people and it has a business friendly legislation. In contrast Saarbrücken is a smaller city region in terms of population. It is a centre for higher education, for R&D or for the service sector, but on a smaller scale. Therefore it has not attracted considerable amount of creative people and high tech companies so far and it still has the strong connection to and dependency on the industry, however an IT and Nano sector seem to be emerging in the recent years.

Our overall conclusion is that there has been some transformation going on in the economies of Saarbrücken and Copenhagen in parallel to many other metropolitan regions in the world. However every region has its own transformation story and although there are common characteristics, there are differences as well. Access to transportation, to higher education, having competition from the surrounding regions or being attractive for Creative Class people, for example, have impact on the transformation of the economies in Saarbrücken and in Copenhagen and even in other regions. Every characteristic leaves its own sign on the economic development and on the transformation of different sectors and hence on the society as a whole.
VI. APPENDIX

A. REFERENCES


http://ranking.faz.net/staedte/article.php?txtid=studie


http://www.grossregion.net/de/grande_region/index_history.html

http://www.grossregion.net/de/grande_region/index_3A4B432AA60F4FA3A40BEBD5B804FE27.html


http://www.srs.fs.usda.gov/sustain/data/authors/glossary.htm


www.saarbruecken.de/deepweb/cms/servlet/download?pubid=4173


http://www.edinphoto.org.uk/0_MAPS/0_map_europe_political_2001_enlarged.jpg


http://www.visitcopenhagen.com/tourist/about_copenhagen/basic_facts/location_and_size


B. LIST OF FIGURES

Figure 1: Organisation of the Thesis ................................................................................ 7
Figure 2: Kondratieff Wave ............................................................................................ 11
Figure 3: Overview of Europe: the two study cases .................................................. 26
Figure 4: Overview in numbers in 2007 ........................................................................ 27
Figure 5: Comparison of the region sizes ................................................................... 28
Figure 6: Map of the German Federal States ............................................................. 31
Figure 7: Regionalverband Saarbrücken in the Saarland ........................................ 32
Figure 8: Copenhagen’s location in Denmark............................................................ 59
Figure 9: Greater Copenhagen Region and former Copenhagen Metropolitan Region .......................................................................................................................... 60

Graph 1: Trend of unemployment rates ..................................................................... 29
Graph 2: GDP/head in € .............................................................................................. 30
Graph 3: Population growth 1997 -2004................................................................. 30
Graph 4: Population development in the Saarland .................................................. 34
Graph 5: Population development in the Regionalverband Saarbrücken .......... 34
Graph 6: Comparison GDP / head in € ....................................................................... 35
Graph 7: Unemployment rate ...................................................................................... 36
Graph 8: Population Development 1995 – 2003 ......................................................... 36
Graph 9: Comparison of unemployment rates in the last decades ....................... 40
Graph 10: Comparison of unemployment rates with the neighbours in 2007 .... 40
Graph 11: Sectors of the economy in the Saarland .................................................. 41
Graph 12: Numbers of employees in different sectors in the Saarland ............... 42
Graph 13: Comparison Sectors between 1994 and 2002 in the Regionalverband Saarbrücken .................................................................................................................... 42
Graph 14: Comparison of GDP in € ............................................................................. 45
Graph 15: Comparison GDP growth ........................................................................ 45
Graph 16: Educational levels in the Saarland ........................................................... 46
Graph 17: Moving in population and moving out population ................................ 48
Graph 18: Population development in Denmark ..................................................... 62
Graph 19: Population development in the City of Copenhagen ......................... 62
Graph 20: Comparison of unemployment rates ....................................................... 65
Graph 21: Places of work by industry January 2004, ................................................ 67
Graph 22: Jobs by industry in Copenhagen 2004 ..................................................... 68
Graph 23: Educational levels in Copenhagen and Denmark in percentage .... 71
Graph 24: Daily commuters divided through countries ........................................... 77
Graph 25: Danes moved to Sweden .......................................................................... 78
Graph 26: Yearly traffic on the Öresund bridge ........................................................ 78
Graph 27: Comparison of unemployment rates in Copenhagen and Malmo ... 80
Graph 28: Trend of unemployment rates ................................................................... 80
Graph 29: Comparison unemployment rates Saarbrücken and Copenhagen 1995 – 2005 ...................................................................................................................... 83
Graph 30: Comparison population development 1975-2005 ................................. 84