



LUNDS
UNIVERSITET

THE DYNAMICS OF CROSS-BORDER REGIONAL INNOVATION SYSTEMS

**A Study of the Effects of the Border Control on
the Øresund region**

Pernille Wissing Madsen

Department of Human Geography
SGEM08
Spring 2017

Examiner: Karl-Johan Lundquist
Supervisor: Teis Hansen

PREFACE

The present work is the conclusion of the master of science programme in Human Geography completed at Lund University. The project is framed 30 ECTS points and it completes the requirements for the master programme.

Through the courses *SGEM21 Geographies of Economies* and *SGEM23 Geographies of Economies: Urban and Regional Planning*, the interest in economic geography emerged for me and procured into the present project. Understanding the spatiality of economic activity is different from my previous studies, but nevertheless not less interesting and a challenging task.

I would like to thank the individuals, who gave life to the project. Firstly, the interviewees, who took time out of their busy schedules to provide me with insight, which cannot be procured through a book. Lastly, I would like to thank my supervisor for his supervision, the ongoing discussions and for making the project possible. I have beneficially listened to all your inputs.

Pernille Wissing Madsen
29th of May 2017
Copenhagen

ABSTRACT

In autumn and winter 2015/2016, the Swedish government introduced a border control between the Danish and Swedish side of the Øresund region, which ended almost 60 years of free mobility between the two countries. The scope of the present study is to examine how the introduction of the border control has altered the conditions within the cross-border Regional Innovation System (RIS) of the Øresund region. The main emphasis of the study is to investigate of how the dimensions of the cross-border RIS influence each other and subsequently the entirety of the cross-border RIS. The theoretical framework has been adopted from Trippl's concept of cross-border RIS and the further conceptualisation by Lundquist and Trippl of the concept of stage of integration. However, the case of the border control identifies a limitation within these conceptualisations. The concept of cross-border RIS is linear and static and thus inapt to apply upon the present empirical case. Instead, the thesis applies a dynamic approach by adapting recent discussions within proximity literature unto the concept of cross-border RIS. The empirical evidence is comprised of nine semistructured interviews with central actors in the Øresund to investigate this dynamic approach. The thesis concludes that the external condition of the border control facilitates changes between the dimensions of the cross-border RIS within a complex structure. Through these changes an interrelated nature between the dimensions emerge. The alterations to the dimensions prove to change the foundation of the Øresund region. It becomes evident that the border control has worsened the state of the Øresund region, however, it still must be characterised as a semi-integrated system. Nevertheless, the thesis show that the concept of cross-border RIS is inherently dynamic and propose that future research should embrace this approach.

KEY WORDS

Cross-border Regional Innovation Systems, Dynamic, Proximity, the Øresund region

TABLE OF CONTENT

PREFACE	1
ABSTRACT	2
1. INTRODUCTION	4
1.1. <i>Research Questions</i>	6
1.2. <i>Structure of the thesis</i>	6
2. CONTEXTUALISATION	8
2.1. <i>The Øresund Region</i>	8
2.2. <i>The ID and Border Control</i>	10
2.3. <i>Previous Studies</i>	12
3. THEORETICAL FRAMEWORK	13
3.1. <i>The Theoretical Background: The Development of Innovation Systems</i>	13
3.2. <i>(The Static) Cross-border Regional Innovation Systems</i>	15
3.3. <i>The Dynamic Approach: The Co-Evolution of Proximity</i>	20
3.4. <i>Operationalisation: The Interrelatedness of Dimensions</i>	21
4. METHODOLOGY	22
4.1. <i>Critical Realism</i>	22
4.2. <i>The Research Design</i>	23
4.3. <i>The Qualitative Methodology</i>	24
4.3.1. <i>Interviews</i>	25
4.3.2. <i>Transcription</i>	27
4.4. <i>The Analytical Strategy</i>	28
4.5. <i>Methodological Considerations and Limitations</i>	29
5. ANALYSIS	31
6. THE BORDER CONTROL AND THE AFFECTED DIMENSIONS	32
6.1. <i>Sub-Conclusion</i>	34
7. THE CO-EVOLUTION OF THE DIMENSIONS	35
7.1. <i>The Interrelated Changes of the Accessibility Dimension</i>	35
7.2. <i>The Interrelated Changes of the Governance Dimension</i>	39
7.3. <i>The Dynamic Model of the Dimensions</i>	43
7.4. <i>Sub-Conclusion</i>	44
8. DYNAMIC DIMENSIONS AND THE STAGE OF INTEGRATION	45
8.1. <i>The Dynamic Nature of the Dimensions</i>	45
8.2. <i>The (Dynamic) Stage of Integration</i>	48
8.3. <i>The (Actual) Stage of Integration</i>	51
8.4. <i>Sub-Conclusion</i>	53
9. DISCUSSION	54
10. CONCLUSION	57
10.1. <i>Directions for Future Research</i>	59
11. BIBLIOGRAPHY	60

APPENDIXES

Appendix I: Interview Guides

Appendix II: Interview Transcriptions

1. INTRODUCTION

Within the last 40 years, strong tendencies of regionalism have ensured an enlargement of regional projects and collaboration and stressed the regional level as a substantial driver of economic development and growth (Karlsson et al. 2015; Makkonen & Rohde 2016). This focus on economic development and growth permeated the field of economic geography and sparked an immense interest to investigate the factors of regional economic development. However, the attention on cross-border regions arose much later and is still somewhat limited as the border continues to propose as a barrier of localised economic activity. Nevertheless, though the emphasis on transfrontier mobility and increasing regional focus from the European Union, cross-border regions have grown in numbers over the last decades (Perkmann 2003; Makkonen & Rohde 2016).

The academic attention to the cross-border regions and economic activity has been examined from an array of approaches. However, many of these studies have been limited to commuting and shopping. An increasing interest in mechanisms of innovative systems as significant drivers for economic activity and regional development proposed a new perspective upon the study of cross-border regionalism (Makkonen & Rohde 2016). Through these considerations, the concept of *cross-border Regional Innovation Systems* (RIS) emerged. The most extensive conceptualisation of the emergence and development of cross-border RIS was developed by Michaela Tripl through a combination of the cross-border framework, regional innovation systems, and proximity (Tripl 2010). This first conceptualisation identified five key determinants, later expanded to six, for the emergence and development of a cross-border RIS. These determinants were dubbed *dimensions*. To examine the state of a cross-border region and its economic integration, Karl-Johan Lundquist and Tripl (2013) further conceptualised cross-border RIS to include the concept of *stage of integration*. However, the concept of cross-border RIS is characterised by a lack of empirical studies, which ignites the question of why this is. Is it lack of appropriate empirical evidence or difficulties applying the theoretical framework (Makkonen & Rohde 2016)?

Since 1954, a protocol has ensured free travel for all Nordic residents within the Nordic countries without passport or other identification papers. However, the level of interaction within the Øresund region was limited preceding the construction of the Øresund Bridge. The fixed link was decided upon in 1991 and in July 2000, the Øresund Bridge became a reality (Lundquist & Winther 2006).

The construction of a fixed link provided new possibilities of creating a cross-border space where social, human, and economic capital could be exchanged. Already within its first years of existence, the fixed link radically changed the interaction between the two countries, which rapidly exceeded all expectations and prognoses (Hansen 2013). Thus, the fixed link vastly changed the conditions in the region and manifested the Øresund region as the posterchild for European cross-border collaboration. In recent times, the region has been characterised by a strong driver for economic activity within both the Danish and Swedish sides.

However, increasing issues in the global world have proposed several new and external concerns for the further development and integration of the Øresund Region and other European transfrontier regions. The increasing conflicts and warfare in the Middle East have created a vast flood of refugees towards Europe, which staggered the European governments. As a reaction against the vastly increasing number of asylum seekers at the borders, many of the European governments explored the possibility of introducing border control between the internal border of the European Union. In the autumn and winter of 2015-2016, the Swedish government introduced the border control between Denmark and Sweden. Firstly, this included a passport control when crossing the strait, but in January 2016, the Swedish government imposed a transporter responsibility upon the transport companies, which resulted in the introduction of an ID control for the ferry and train travel. Hence, travels from Denmark to Sweden became extensively tedious with extended travel time. The border control rapidly became the subject of much critique from commuters, the business community, and the regional politicians as many argued that it harmed the regional integration and economic activity.

In recent years, new winds have started to blow within the academic literature of proximity. These winds have widely criticised the inherently static theorisation of economic and knowledge activity. It is argued the static conceptualisation stagnates the possibility to apply theoretical frameworks unto empirical cases as the theoretical does not consider the interrelated nature of reality. Instead, the new dynamic winds underpinned that contextual changeability and the interrelatedness of mechanisms must be embraced and implemented within the realm of contemporary economic geography (Balland et al. 2015). As the conceptualisation of cross-border RIS is founded in relation to the realm of proximity, the dynamic line of thoughts must be applied upon the concept of cross-border RIS.

The introduction of the border control between Sweden and Denmark postulates an interesting case to investigate the application of the dynamic approach unto a cross-border RIS. Previous studies of

the cross-border RIS focus either on the development of one specific dimension or how such region can be examined through growth and development (Makkonen & Rohde 2016). However, it still remains an enigma how the dimensions influence the entirety of a cross-border RIS. The composition and structure between the dimensions constitute the state of such region, but the mutual interrelation between the dimensions or combined impact have not been explored sufficiently.

The introduction of border control suggests vastly changed conditions for the dimensions of the cross-border RIS and therefore, the case of the border control proposes a unique opportunity to unfold the dynamic approach as it exemplifies the changeability of reality. The dynamic approach dictates that changes to one or more key determinants indicate changes to the remaining dimensions. By understanding how the border control facilitate change to one or more dimensions and how these influences the remaining and the entirety of the cross-border RIS will provide much needed empirical evidence to the concept of cross-border RIS.

The present study must therefore embrace this opportunity to investigate how the border control influences the dimensions, their mutual interplay, and subsequently the regional development.

The following problem formulation and sub-questions shape the foundation for the present study.

1.1. Research Questions

Problem Formulation

How, if at all, does the introduction of the border control influence the interplay between different dimensions of the cross-border regional innovation system and thus the stage of integration of the Øresund region?

To fully answer the problem formulation, three sub-questions have been formulated to shape the direction and substance of the analysis.

Sub-questions

- 1. How, if at all, has the border control directly affected the dimensions of the Øresund region?*
- 2. Have the changed dimension(s) affected the additional dimensions?*
- 3. How do the changes in dimensions alter the stage of integration for the Øresund region?*

1.2. Structure of the thesis

The formulated research questions propose the backbone of the present thesis. The ensuing chapters will form the path towards answering these questions. Firstly, the project must set the scene of the empirical case. It is of great importance to get familiarised with the context to grasp the significance

of the methodological and theoretical considerations. The contextualisation will shortly outline the recent development of the Øresund region and develop further upon how the border control materialises within the region. Following the contextualising chapter, the theoretical framework will be unfolded. Answering the problem formulation, a variety of concepts must be understood and discussed. First, the chapter will examine the conceptual emergence of the cross-border regional innovation system and investigate the characteristics of the concept. This allows a deeper understanding of the cross-border RIS, dimensions, and stage of integration. However, as mentioned above, these concepts are formulated through a static approach, the theoretical chapter will conclude with an introduction of how the dynamic approach will affect these concepts including the introduction of the concept of *co-evolution*. This concept will ensure that the theoretical framework is applicable to the investigation of the interrelatedness of the dimensions and thus the stage of integration.

Being an empirical study, the methodology chapter will follow the theoretical chapter and describe and discuss the methodological approach taken to collect and analyse the empirical material of the present thesis.

Subsequently, the analysis and discussion will unfold. Informed by the theoretical framework and the empirical material, the problem formulation and the sub-questions will be scrutinised. The analysis will be threefold as informed by the sub-questions. Firstly, the analysis will examine which dimensions and how, were directly affected by the introduction of the border control. The second analytical section, will take point of departure within these dimensions and examine how these changes have influenced the other dimensions. By identifying co-evolutionary relations between the dimensions, the analysis will unravel the influence of the border control upon the cross-border RIS of the Øresund region. The third section will examine how the changes to the dimensions influence the development of the entirety of the cross-border RIS. This is ensured by a discussion, which will reflect upon others aspects of the Øresund region than what has been investigated through the analysis. Lastly, a conclusion will unify and conclude the thesis and propose directions for further research.

2. CONTEXTUALISATION

The Øresund region is a complex region with a variety of actors and vast history of interaction - much of which is beyond the scope of this study. Nonetheless, the dynamic approach applied in this study demands that the societal context is outlined to construct a foundation for the analysis of the contemporary region. Therefore, the following chapter will outline the recent development of the Øresund region, the history of interaction, key actors, and other societal aspects relevant for the region. Furthermore, the chapter will outline the context of the border control to ensure an understanding of how it has materialised within the region.

2.1. The Øresund Region

The region comprises of the eastern part of Denmark and the southern part of Sweden. However, the precise geographical boundaries of the region have been subject to an array of discussions. The core of the region is made up by the two urban areas of Copenhagen and Malmö-Lund, which often is regarded as the extent of the Øresund region. Nonetheless, the region is also considered to include the entirety of Scania on the Swedish side and all of Zealand, Bornholm, Møn, and Lolland-Falster on the Danish side. The region is connected by the Øresund bridge between Copenhagen and Malmö as well as ferries between Elsinore and Helsingborg. Prior to the establishment of the bridge, the level of interaction was minimal. However, interaction increased drastically after the construction of the fixed link.

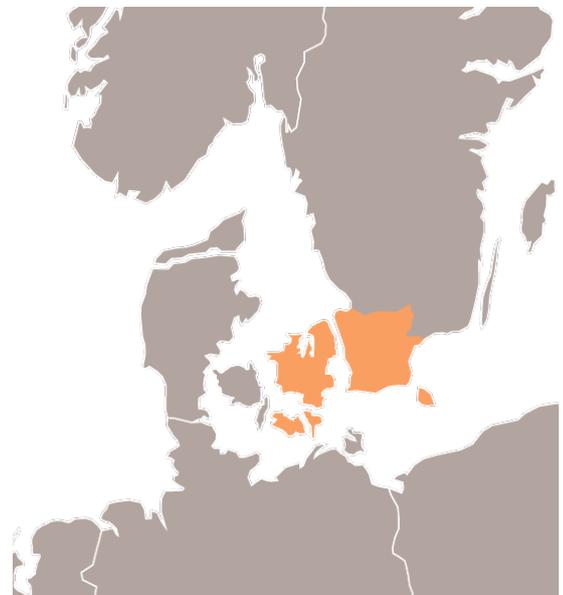


Figure 2.1 - Map of the Øresund region
Source: <http://www.greatercph.com/about>

The construction of the fixed link gave rise to different initiatives to enhance the transfrontier interaction and integration such as political and scientific bridging organisations. The first political bridging organisation was the Øresund Consortium, which promoted cross-border collaboration and aided different actors to establish transfrontier collaborations internally. This gave rise to an array of cluster organisations amongst others things. However, only one of these cluster organisations exists currently. After approximately 20 years of existence, the Øresund Consortium was dissolved and from the ashes, the Greater Copenhagen and Skåne Committee emerged. The political organisation

was established in 2015 and formalised a clear geographical definition of the region. The committee is composed of the three regions, Skåne, Hovedstaden, and Sjælland and the 79 municipalities within these regions. The region is referred to as Greater Copenhagen in the political collaboration. As a relatively new organisation, Greater Copenhagen & Skåne Committee had an immense task in establishing themselves and deciding upon their specific focus in policy structures. The organisation's proposed action plan for 2017 denoted a stronger international focus for the region contrary to the internal emphasis, which the Øresund Consortium promoted (Committee 2016).

The Øresund region has a strong knowledge sector, which is suggested by the vast amount of universities, educational institutions, and science parks (Lundquist & Trippel 2009). The region hosts approximately 160.000 students distributed over 12 universities (Kommune 2015). The knowledge powerhouses of the region include Lund University, Copenhagen University, the Technical University of Denmark, Malmö Högskola, and the Swedish University of Agricultural Science. Several attempts have been made to formalised collaboration between the knowledge organisations of the region. For instance, the Öresund University, which was a consortium between 11 universities, but it eventually dissolved.

The vast geographical area of the region denotes varying industrial and economic bases. Whereas the urban areas of Copenhagen, Malmö, and Lund have an immense amount of high-tech businesses, creative industries, and advanced business services, the rest of the region is characterised by low-tech industries and production (Lundquist & Trippel 2009).

Being a cross-border region, the Øresund region is comprised of two different nation states and hence two different set of structures and systems. At first glance, the two nations seem alike. However, discrepancies become evident upon further inspection of the two structures (Lundquist & Trippel 2009). Already in considering the composition of the Øresund region, the differences become noticeable. The Danish innovative system is much more decentralised than the Swedish. The Swedish centralised system relies mainly upon Stockholm as the driver of the innovation system and thus neglecting the peripheral regions such as Scania (Lundquist & Winther 2006). Even though, the Danish system is more decentralised, Copenhagen is still a strong driver within the Danish system and therefore obtain a higher priority within the national policy structures than Scania does in the Swedish policy structures (Ibid.).

The focus within the present study is the border control. However, there is an array of other border hindrances to be identified and observed within the Øresund region. These border hindrances include taxation for cross-border employees, issues with pensions, unemployment insurance fund (A-kasse) and so forth. However, these have gained little focus from many actors as they are less salient in the everyday life contrary to the border control itself. Nevertheless, it is important to draw attention to these other hindrances in order to depict the transboundary setting as nuanced as possible.

2.2. The ID and Border Control

Strong winds of globalisation and connectivity have roamed the world over the last 30 years. However, wars and conflicts in the Middle East confronted the European countries with vast flows of refugees and immigrants. Many member states had difficulties managing the vast flow of people and thus the European Union authorised an introduction of temporary border controls internally in the EU as an exception to the Schengen Agreement¹. Several member states, including Sweden and Denmark, were granted permission to reintroduce a temporary border control.

In practice, the permission is valid for three months at the time and subsequently, the member state must decide on whether they wish to prolong the border control or not.

The ID and border control in the Øresund region was introduced by the Swedish government and vary from other border controls in EU as the Swedish government imposed a transporter responsibility on the actors transporting people across the border. The responsibility implies that if the haulier (DSB, Scandlines etc.) transported any humans without valid identification into Sweden they would be given an enormous fine. As a measure to avoid a fine, DSB and other transboundary transporters introduced an ID control to travel from Denmark to Sweden.

Thus, the border and the ID control should not be confused. The border control refers to the control, which the Swedish police conducts at Hyllie station in Sweden and at the payment facilities at the bridge and ferries. The ID-control is the control, where security companies inspect IDs at Copenhagen Airport train station and prior to entering the ferries. The majority of critique regarding the controls has been directed at the ID control as it mostly generates the extended travel time and complicates travels. It should be noted that the controls are only carried out from Denmark to Sweden. Figure 2.2 shows map depicting the presence of ID and border controls within the Øresund region.

¹ European Union: *Temporary Reintroduction of Border Control*: https://ec.europa.eu/home-affairs/what-we-do/policies/borders-and-visas/schengen/reintroduction-border-control_en [Accessed 3rd of May 17]



Figure 2.2 - Map of the ID and border control in and around the Øresund region – I: ID controls & G: Border controls
Source: Øresundsinstittutet 2016, p.4

Within the present project, the ID and border control have not been as strongly disconnected from each other as some actors within the region do not have the same perception of the situation as well as being able to see the difference as it does not influence their opinion of the situation.

The issues of the prolonged travel are especially salient for the train travel within the Øresund region. Whereas the car and ferry travel have more or less adapted well to the border control, the train system was not geared for the introduction of both the ID and border control.

Conducting research within social science and especially within a current topic has its benefits and disadvantages as the context and circumstances are constantly changing. The present study is no exception. On May 2nd 2017, the Swedish government stated that the ID-control would cease with immediate effect². The decision was made as Sweden has experienced a declining number of refugees and thus the European Union has argued that border control within the Schengen Area was no longer needed. However, in the same statement, the Swedish government declared that the border control would be strengthened. The full extent and practical implications are not fully known. Within the same statement, the Swedish government maintained that, if needed, the ID controls could be

² Regeringskansliet: Regeringen skärper gränskontrollerna, <http://www.regeringen.se/pressmeddelanden/2017/05/regeringen-skarper-granskontrollerna/> [Accessed 22nd May 2017]

reinstated. Even though, it was excellent news for the commuters by train, the travel time is still prolonged as DSB and Skånetrafiken will require some time to change the time tables for the trains³.

2.3. Previous Studies

The Swedish ID and border control and its effects have concerned many since its reinstatement. Various actors within the region have explored and investigated its direct effects. These analyses have varied between the issues for businesses, commuters, the economic costs and so forth (Øresundsinstitutet 2016b; Nielsen & Hauch 2016; Tryding & Andersson 2016). The issues of the border control have especially caught the attention of the business world within the region. For instance, both Dansk Erhverv and Sydsvenska Industri- och Handelkammarn have touched upon the consequences of the ID and border controls upon both the Danish and Swedish businesses. The majority of these analyses conclude that the border control is harmful for the economic activity within the Øresund region.

³ Politiken: DSB skal lave en helt ny køreplan for øresundstogene,
<http://politiken.dk/indland/art5932469/DSB-skal-lave-en-helt-ny-k%C3%B8replan-for-%C3%B8resundstogene> [Accessed 2nd May 2017]

3. THEORETICAL FRAMEWORK

Introduction

The theoretical framework of the present thesis will take point of departure in the concept of *cross-border Regional Innovation Systems* (RIS) and *proximity*. The combination of these two concept is not novel and has been presented and examined by Trippel (2010) and developed further by Lundquist and Trippel (2013). However, the current proximity literature has become increasingly occupied with applying a dynamic approach and thus the foundation constructed by Trippel (2010) is no longer relatable in the current academic discourse. Instead, we must develop away from a static and linear approach to cross-border RIS by scrutinising how the new approach to proximity alters the concept of cross-border RIS. The dynamic approach to proximity, as informed here by Balland et al. (2015) and Broekel (2012), will give an additional perspective to develop upon the concept of cross-border RIS. This will enable the analysis to explore the interrelational character of cross-border RIS and how the border control has influenced the Øresund region.

Employing a dynamic approach requires an exploration on how the concepts of cross-border RIS has developed. Thus, the ensuing chapter will first give an account of the emergence of the concept of innovation systems and how the concepts of *regional innovation systems* developed into a cross-border context. The second section will conceptualise and operationalise the concepts of cross-border RIS by discussing the concepts within a dynamic approach. Lastly, an operationalisation of the theoretical framework will be given.

3.1. The Theoretical Background: The Development of Innovation Systems

The acknowledgement of innovation as a central aspect for growth, is no new thought and started to gain increasing interest around 1950s (Asheim et al. 2016). The understanding of innovation as a driver of growth has undergone different stages of development. In the tentative beginnings of the conceptualisation, the innovation processes were exclusively understood and applied in a business framework. Innovation was perceived as a way for companies to gain a competitive advantage in the development of inventions and the subsequent commercialisation. These premiere conceptualisations of the innovation process were understood as a linear process. The first generation of innovation models was pulled from a scientific basis, where the process started with research and development, which led to new inventions that could be produced and later commercialised (Ibid.). The second

generation of innovation model restructured the first model and was pulled by a market needs, where these needs were the determining factor for the development of products instead of research. However, as the interest in the innovation process grew, it was recognised that innovation was a much more complex and interlaced process with a vast array of actors interacting (Asheim et al. 2016). Thus, a new perception of the innovation process emerged, which included a large framework to structure and systemised the variety of actors and their mutual interaction in terms of learning processes and knowledge exchange (Ibid.). Through these considerations the concepts of national and region innovation systems emerged (Asheim et al. 2015). The concept of RIS is characterised by the four subsystems (dimensions): knowledge generation, knowledge application, regional policy, and socio-cultural factors (Kiryushin et al. 2013; Makkonen & Rohde 2016). However, other external influences are also present within any given RIS. Both international institutions and NIS impact the subsystems of the RIS.

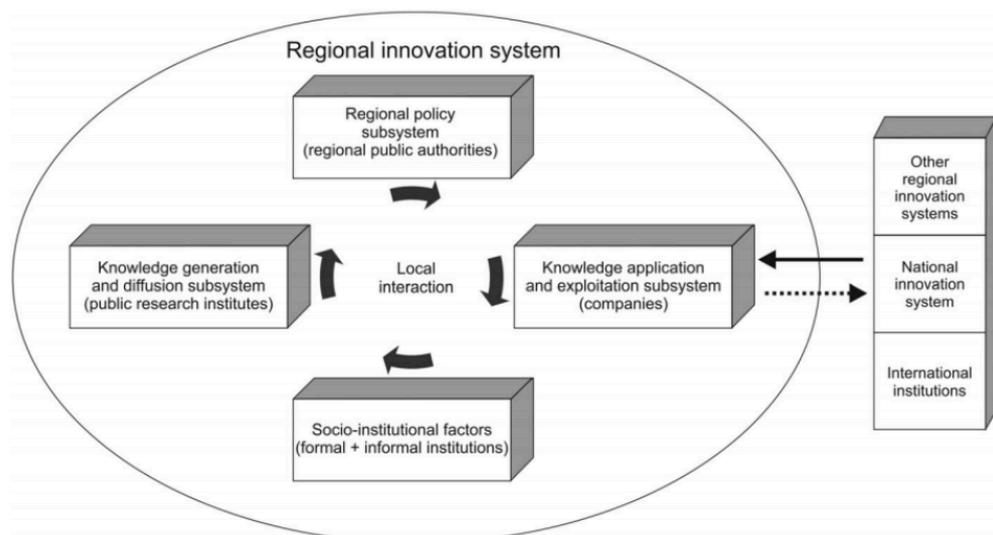


Figure 3.1 - Regional Innovation system
Source: Makkonen & Rohde 2016, p.1625

As the concept of RIS began to be explored both theoretically and empirically, new approaches emerged. The application of macroeconomic contexts gave emergence to the employment of RIS into the cross-border areas (Asheim et al. 2016). The application of RIS and its sub-systems into a cross-border context, enabled Trippel to construct the foundation for cross-border regional innovation systems (Makkonen & Rohde 2016).

3.2. (The Static) Cross-border Regional Innovation Systems

As mentioned above, Trippl's concept of cross-border regional innovation systems was developed by combining the concepts of cross-border regions and regional innovation systems and adding the concept of proximity (Trippl, 2010; Boschma 2005; Makkonen & Rohde 2016). Through Trippl's conceptualisation of the cross-border RIS, she expanded upon the dimensions of RIS and developed five dimensions of cross-border RIS. The dimensions should be understood as key determinants for the development of cross-border RIS. The five dimensions are: (1) *Knowledge Infrastructure dimension*, (2) *Business dimension*, (3) *Relational dimension*, (4) *Socio-institutional dimension*, and (5) *Governance dimension*. In further studies and conceptualisation, Lundquist and Trippl (2009; 2013) added an additional dimension, the *Accessibility dimension* under the argument that the physical and functional distance also plays an immense factor in a cross-border context.

Being intertwined and affected by the different types of proximity, the cross-border RIS dimensions can only be fully understood, if the application of proximity is understood. The concept of proximity refers to the complex relation between actors and the distance, which occur amongst them. The emergence of proximity focused solely on the geographical aspects, but eventually other factors gained interest. Ron Boschma (2005) developed the most widely applied conceptualisation by arguing for five different types of proximity: *cognitive*, *organisational*, *social*, *institutional*, and *geographical*. Oversimplified, proximity is about finding the appropriate distance between the actors to foster the optimal interaction and knowledge sharing. Within the concept of cross-border RIS, proximity is applied through this notion of distance. The dimensions are explored through the different distances of proximity, yet without proximity being the central element. In a cross-border RIS context, the different types of proximity are not limited to one specific dimension. Instead, the different types of proximity can be factors for several of the different dimensions.

In order to analyse and investigate how the different dimensions interact and mutually influence each other, we must gain knowledge of what characterises the dimensions.

The Accessibility Dimension

The accessibility dimension refers to the geographical predicaments of the cross-border region and the conditions for traveling between the two nations. However, the absolute distance is of no interest in this dimension. Rather, the actual time and cost are significant in determining the accessibility of

a region. The accessibility dimension relies on the geographical proximity and is studied through the ease of cross-border traffic (Lundquist & Trippel 2013; Makkonen et al. 2016).

The Knowledge Infrastructure Dimension

The knowledge infrastructure dimension constitutes an important role in a cross-border RIS to underpin the quest for constant innovation. Trippel (2010) argues that “[...] for a strong cross-border RIS to emerge, it seems to be of utmost importance that the cross-border region hosts an advanced scientific base and a well-developed innovation-relation infrastructure [...]” (Trippel 2010, p.152). However, the element of an advanced scientific base in the region does not automatically establish a knowledge infrastructure across the border. Instead, an interaction through specialised bridging organisation or networks must be present to establish a knowledge infrastructure.

Within the proximity framework, the knowledge infrastructure dimension taps into the cognitive proximity, which relates to the distance and interaction between the science bases and the functionality and balance of the knowledge infrastructure (Makkonen et al. 2016). If the science bases are too similar, no fruitful interaction will occur as well as collaboration will be obstructed, if there is too much of a cognitive discrepancy (Ibid.). To pinpoint and outline the knowledge infrastructure between the science bases shows to be a challenging task, however immensely significant. One approach to investigate this dimension is to consider the extent of collaboration on scientific publications (Hansen 2013), number of exchange students across the border or exploring how the collaboration occur within the everyday interaction.

The Business Dimension

The business dimension deals with the inclination of innovative and knowledge intensive companies to pursue the cross-border context (Trippel 2010). The dimension is connected to cognitive proximity (Makkonen et al. 2016). The essential flow of knowledge and learning between innovative companies are reliant upon the similar levels of innovative capacities and performance. The dimension is empirically examined through the similarities and differences between the industrial and economic bases. Through the concept of related variety, the business dimension is determined by whether the two adjacent regions too similar or different to establish strong integrations, which lend the line of through from the concept of related variety (van Oort et al. 2012). Furthermore, the existing patterns of trade flows across the border are of great importance to assessing the business dimension of a cross-border region.

The Relational Dimension

Localised knowledge sharing is crucial for the development of a cross-border region. However, to ensure a successful interaction, similarities between the innovative performances are necessary. A discrepancy between innovative relations and performances on the different sides of the border will hinder a flow of knowledge between the actors. The dimension can be investigated through an array of factors. For instance, labour mobility, student exchange, networking, and trade relations (Trippel 2010). Yet, it should not be mistaken as the rule. The relational dimension can take many shapes within different regions as the transfrontier relations can embody a variety of roles. Lastly, the dimension should be considered through the cognitive proximity. The cognitive proximity further underpins the relational dimension by focusing on the intangible distance of the relational perspective.

The Institutional dimension

The institutional dimension refers to two types of proximity: social and institutional proximity (Trippel 2010). The dimension can be argued to include two aspects: the formal and the informal. The formal institutional setting refers to the similarities and dissimilarities in regulation and political structures, while the informal institutional setting refers to the social and cultural aspects. The latter are elementary for the development of cross-border regions as collaboration across the border is not facilitated, if there are too great differences in regards to various aspects such as language, history, beliefs, and values (Ibid.). The historical trajectories of the RIS of each side are telling in relation to the progression of the institutional dimension. Thus, the political and industrial intensions and structures are important to consider in the institutional dimension (ibid.). The institutional dimension is detectable through considering elements of trust between the inhabitants and joint institutions for enhancing collaboration as well as the political and social characteristics of the two regions. If both the informal and formal institutions of the two countries vary too greatly from each other no fruitful connection can be made. On the contrary, two too similar countries cannot learn from each other and cooperation would be obsolete.

The Governance Dimension

The innovative performance of a cross-border region also depends on the nature of the policy structures and governmental interest in the transfrontier collaboration. If the interest to collaborate is non-existent, insignificant or asymmetrical, the cross-border policies for innovation are most likely ineffective or non-existing. The political climate and cross-border collaboration organisation equip the actors within the region with a formal structure of enhancing their innovative collaboration

(Makkonen et al. 2016). The way, which these political organisations develop and deploy their cross-border policies are of great importance. Are they formed from a top-down system or are the regional stakeholders present in the development of the policies? This dimension is affected by the formal institutional proximity.

Following the conceptualisation of the above dimensions, Lundquist and Trippel (2009; 2013) further expanded the conceptual framework of cross-border RIS by theorising the progression of cross-border RIS development. As the dimensions serve as developmental determinants, Lundquist and Trippel’s concept of stages of integration explores how cross-border RIS develop in relation to the degrees of interaction across the border. The concept includes three stages: (1) *weakly integrated*, (2) *semi-integrated*, and (3) *strongly integrated systems*. Lundquist and Trippel (2009; 2013) constructed a model, which illustrates the three different stages of integration in a cross-border RIS context (see Figure 3.2). The three stages of integration should be viewed as ideal. In other words, the conceptual model proposes a more distinct process than can actually be detected in the real world (Ibid.)

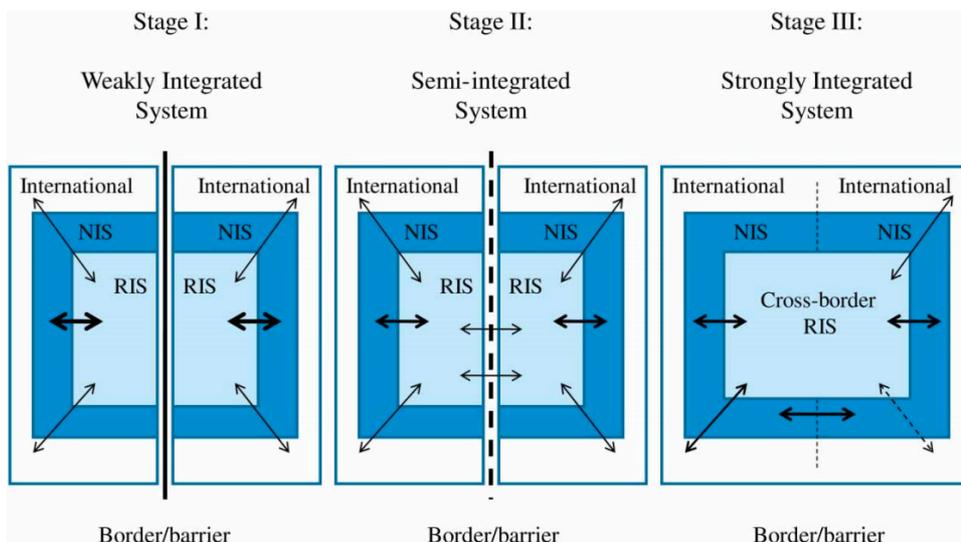


Figure 3.2 - Stage of Integration
 Source: Lundquist & Trippel 2013, p.455

As the concept of stages of integration refers to the degrees of interaction, “The weakly integrated systems are characterised by low levels of cross-border economic relations in general and a lack of knowledge interactions and innovation linkages in particular.” (Lundquist & Trippel 2013, p.455). Lundquist and Trippel (2013) identify two reasons of a weakly integrated system: either there are no

synergies or the existing synergies are under-exploited. The weakly integrated system is thus characterised by being an asymmetrical cost-driven system.

The second stage, the semi-integrated system, is characterised by collaboration across the border within selected segments of the economy (Makkonen & Rohde 2016). These segments exhibit strong network and cluster collaborations across the border, but the remainder of the segments in the region are still characterised by limited interaction. Lundquist and Trippl argue that, in this stage, the innovation activity could be characterised as “[...] isolated ‘islands of innovation’ in an otherwise fragmented cross border innovation system.” (Lundquist & Trippl 2013, p.457). Within this stage the region exhibits an emerging knowledge-driven system.

In the third stage, the strongly integrated system, the two RIS on each side of the border have increasingly merged together into one (Lundquist & Trippl 2013). The region exhibits a high accessibility as well as experiencing stable and intensive flows of knowledge and can be characterised as a symmetrical innovation-driven system. However, Lundquist and Trippl (2013) argue that the third stage of integration is a utopian image and will most likely solely be visible in the development of strategies and visions for the regions.

Before we can operationalise the theoretical framework for the present thesis, there is a necessity to formulate some critique of the framework presented above. The present critique is devised by following the dynamic argumentation employed by Balland et al. (2015) and Broekel (2012). Their critique towards the concept of proximity underscores the fact that the changes to the context are not in a linear manner. They argue that the five types of proximity as developed by Boschma (2005) and their underlying processes cannot fully be understood, if it is not explored through the interactions between the other types (Balland et al. 2015). Through the interplay between the types of proximity, they argue that the causality between proximity and knowledge sharing becomes stronger.

The concept of stages of integration operates within a context, where the regions evolve from one stage to another in a linear direction, where the possibility of moving backwards in the stages is neglected. However, this simplistic understanding is rejected by the dynamic approach. Rather, applying a dynamic approach entails an understanding of more constant movement in the stages of integration. Hence, we cannot solely assume that cross-border RIS move towards a strongly integrated system. Instead, we must acknowledge and explore the changing nature of the cross-border RIS. Thus, the interrelations between the different dimensions of cross-border RIS are essential in

order to understand the predicaments of cross-border RIS as it enables a deeper understanding of how such regions develop.

3.3. The Dynamic Approach: The Co-Evolution of Proximity

The above critique shaped by a dynamic approach to proximity, underpins the necessity to explore the interaction between the dimensions in order to gain a deeper understanding of the concept of cross-border RIS. However, investigating the interaction and mutual relations between the six dimensions of cross-border RIS have not yet been done – neither theoretical nor empirical. Therefore, there is a need to conceptualise a theoretical framework to explore the trans-dimensional interaction to apply it to the empirical context of the Øresund region and the border control. Within the conceptual framework of dynamic proximity, Tom Broekel (2012) has examined and proposed the concept of *co-evolution* of proximity types. The present theoretical conceptualisation of cross-border RIS dimensions will be done through Broekel's co-evolutionary framework.

Broekel (2012) explores how the dynamics of proximity changes over time by investigating how the different types of proximity are interrelated. Rejecting the static approach to proximity enables Broekel to conceptualise how the different types of proximity develop, when the context changes. His conceptualisation shows how the dynamics between proximities alter the structures of proximities within networks and proposes three types of dynamic interaction: 1) *simultaneous (short-termed) co-evolution*, *long-term co-evolution*, and *temporal autocorrelation* (Broekel 2012). The strong temporal aspect of Broekel's concept aligns with the dynamic approach. We must consider how the proximity structures alter over time, which will have an effect for temporal framework. The mechanisms behind collaborations change and the repercussion will have varying time frames.

According to Broekel (2012), the simultaneous co-evolution describes when the correlation between the different forms of proximity becomes detectable within a short-termed time frame. However, if the correlation becomes visible within a longer time frame, it can be characterised as a long-term co-evolution. Lastly, temporal autocorrelation refers to, when one proximity type changes in one time period and also changes in the following time period without the interference of other types of proximity. The projections of these changes therefore might alter through different time frames (Broekel 2012). Broekel's framework is immensely relevant to include in the present study of the

introduction of the border control in the Øresund region. However, as the thesis focus on the influence of the border control, the co-evolution of temporal autocorrelation will not be included.

3.4. Operationalisation: The Interrelatedness of Dimensions

The new discussions that have occurred within the field of proximity must not be ignored in the concept of cross-border regional innovation systems. Instead, the concept of cross-border RIS must adapt and consider the dynamic approach as a core element to further understanding the concept. Thus, applying the dynamic conceptual framework by Broekel (2012) and Balland et al. (2015) into a cross-border RIS framework will enable the present study to explore how the border control has influenced and facilitated co-evolutions between the dimensions. The premise and catalyst of the present study is the emergence of an external influence, which can be considered to shift the structure of the cross-border RIS dimensions. However, within the dynamic approach, the changes in the interplay cannot solely be ascribed to external influences. Rather, it is also the product of the changing interrelations between the dimensions within the existing structure (Balland et al. 2015).

However, the above scrutinising and following critique of existing conceptualisation the cross-border should not be understood as a rejection of prior conceptualisations as developed by Trippel (2010) and Lundquist and Trippel (2013). Instead, it should be considered as a further enlightenment of the concept in order to further being able to understand the complex nature of the cross-border regional innovation systems. The existing conceptualisation of cross-border RIS and proximity have provided an excellent foundation for injecting both Balland et al. (2015) and Broekel's (2012) dynamic framework.

It must be emphasised that the scope of the study is not to explore the dynamic types of proximity, but rather investigating how the changes in perception of the concept of proximity have affect the conceptualisation of cross-border regional innovation systems. The analysis will employ this mind-set and scrutinise the empirical evidence to further develop upon the understanding of cross-border RIS. Therefore, the concept of proximity will not participate as a central element within the analysis.

4. METHODOLOGY

An empirical approach must be taken in order to answer the research questions. Examining the Øresund region requires an appropriate methodology. Strong empirical evidence is important to examine the effects of the border control through the dynamic approach.

The present chapter will describe and discussed the methodological framework of the thesis. The methodological framework will be elaborated upon through four sections. The first section will discuss how critical realism will shape the thesis and the repercussions, which follows the application of this philosophy of science. The second section will describe and outline the analytical design that has shaped the collection of the empirical material. The third section will give an account of and discuss the methods employed. The fourth and last section will discuss several methodological considerations and limitations of the overall approach of the study.

4.1. Critical Realism

The heart of the study is to examine the interplays between dimensions and how this interrelated nature influences the development of a cross-border regional innovation system. Identifying such relations within a social structure demands a fundamental understanding of mechanisms, their causal powers, and structures. Critical Realism provides a philosophy of social science, which equips the thesis with a foundation to analyse and gain further knowledge of cross-border RIS through the concept of *causality*.

Critical realism is characterised by a stratified ontology, which distinguishes between three domains of reality: the *real*, the *actual*, and the *empirical* (Sayer 2000). Structures, mechanisms, and their causal power exist in the real domain, but are not observable by humans. The interaction within the real domain causes occurrences and events in the actual domain regardless of these being detectable or not. Lastly, the empirical domain encompasses the experiences, which can be observed directly by the humans (Roberts 2014). The epistemology of critical realism rejects that knowledge regarding the complexity of a social phenomenon will exhaust and ever become fully developed. On the contrary, critical realists believe in the need to continuously research about mechanisms within a variety of contexts (Ibid.). Furthermore, one should consider *epistemic fallacy* and ensure that no such error is present.

Critical realism equips researchers with a framework of studying the complex and messy nature of social processes and phenomena (Sayer 2000). One of the central characteristics of critical realism is causality. Critical realists deny a simplistic understanding of causation. Social structures are ‘open’ and hence inherently complex and context-dependent. Thus, the mere notion of ‘A causes B to do something’ cannot fully determine the causal powers of a structure as it does not rely on the deeper social processes (Sayer 2000; Roberts 2014). Instead, the critical realist must abstract the underlying structures, mechanisms, and causal powers. The analysis of mechanisms relies on an investigation of the events and objects and their mutual relationship. Through such an examination, it becomes possible to abstract the mechanisms and structures. Through the method of abstraction, the mechanisms of the real domain can be detected through concrete phenomena and event, and thus obtain knowledge of these underlying structures (Yeung 1997). Figure 4.1 and Figure 4.2 illustrate the critical realist’s view of causation and how it is applied in the present thesis. The effects of the border control must be understood as context-dependent and not fully derived from within the structure. Within the present study, the border control is characterised as an external condition, which influences the events and thus the structure and mechanisms.

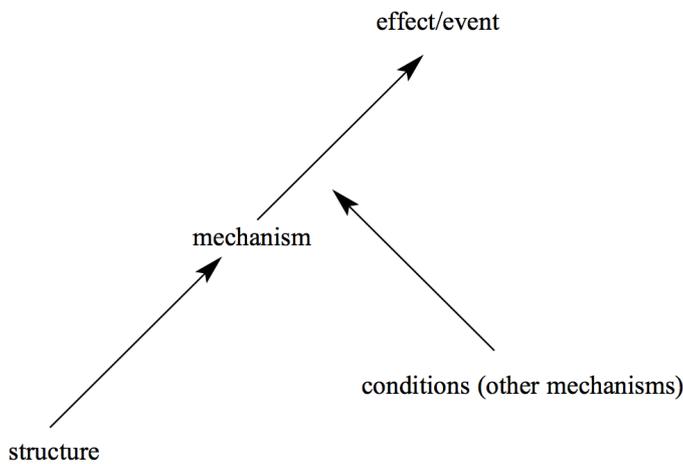


Figure 4.1 - Critical realist view of causation
 Source: Sayer 2000, p.15

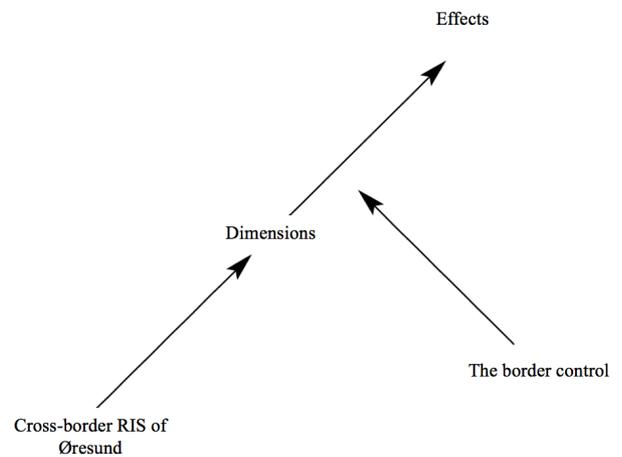


Figure 4.2 - The applied causality

4.2. The Research Design

Considering the theoretical and ontological foundation of the thesis as explored above, the following section will outline the research design, which shapes the present thesis. The research design must expand upon how the formulated problem formulation and aim of the study will be investigated empirically (Flick 2009). The empirical scrutiny of how the dynamic approach can be applied to the

concept of cross-border RIS is done through a *case study* of the Øresund region and the introduction of the border control. However, there are several types of case studies, which will have varying influence on the research design. This study employs a combination of the *critical* and *revelatory* case study (Bryman 2012). The combination of these types provides a foundation of a case study, which both allows the thesis to investigate the theoretical framework, while acknowledging the nature of the case. The usage of the case study engenders the possibility of unfolding an intensive analysis that will enable a new theoretical reasoning on the foundation of the empirical (Ibid.).

However, the application of a case study design does not equip the researcher with specific methods. Furthermore, applying critical realism underpins that no specific methodology should be utilised. Instead, the critical realists reject the formulated and ‘cook-book’ methods. Hence, there must be found a methodology, which is optimal for investigating the specific context of the Øresund region and the border control (Yeung 1997; 2003). However, before choosing such methodology, it is important to understand the methodological context of cross-border RIS. As a concept, it has been the subject of a limited amount of empirical studies (Makkonen et al. 2016). This provides a fragmented foundation to build the present research framework upon. Furthermore, employing the dynamic approach gives a new perspective on cross-border RIS and thus also on the research design. The economic activity of the Øresund region relies on an open structure, which entails both cultural, social, and political aspects. Exploring these elements must be done through an in-depth method (Yeung 2003). Previous studies on cross-border RIS have been done through both qualitative and quantitative methodologies (Makkonen & Rohde 2016). In the present context of the Øresund region the available quantitative material is antiquated and thus not applicable for the present study. Instead, to ensure an in-depth methodology, the present study is of a qualitative nature.

4.3. The Qualitative Methodology

Following Martin Packer (2011), qualitative research equips the researcher to collect empirical material about human beings and their subjectivity. Employing a qualitative methodology enables the project to gain a deeper understanding of the actors’ interpretation of the empirical and actual domain. The qualitative methodology encompasses an array of methods ranging from focus groups to participant observations (Packer 2011; Bryman 2012). The present study employs the method of interviews. This qualitative method provides the present study with a foundation for abstraction as

profound insights into the empirical, and to some extent the actual domain, materialise through the reflections of the interviewees (Roberts 2014).

When collecting empirical material, several choices are made – both overall considerations and minor details. Each of these choices has impact upon the output and the subsequent analysis. The implications and consequences of the different choices must be reflected upon to fully understand the empirical material that derives from the collection. The following section will outline and discuss the employed method of interviews and concurrently discuss the research progress.

4.3.1. Interviews

The primary data collection has exclusively been semi-structured interview within the present thesis. The semistructured interview is characterised by a loose setting, where the interview does not follow a specific or strict interview guide. Instead, the interviewer formulates a series of topics to be discussed throughout the interview (Packer 2011). The semistructured interview provides ample latitude for the interviewees to influence the interview and their answers. This creates a situation, where the output of the interview reflects the interviewee and not the interviewer.

Nine semistructured interviews have been conducted with different actors within the region. The nine interviewees are identified in the below Table 4.1.

Table 4.1 - Interviewees and their organisations

Interviewee	Organisation
Britt Andresen	<i>Øresundsinstittutet</i>
Julie Pedersen	<i>Region Hovedstaden</i>
Thomas Steffensen	<i>Øresunddirekt</i>
Petter Hartman	<i>Medicon Valley Alliance</i>
Anonymous	<i>Greater Copenhagen and Skåne Committee</i>
Micael Gustafsson	<i>Clusterland Sweden</i>
Per Tryding	<i>Sydsvenska Industri- och Handelskammaren</i>
Arian Ratkoceri	<i>Malmö Stad</i>
Lisa Thelin	<i>Lund University</i>

Prior to conducting the interviews, the different actor groups were categorised into three groups: administration, businesses, and universities. Such triangulation aided the process to find key actors and ensured that the various actors of the region were represented within the study (Yeung 2003). The triangulation of the actors within the region allow the construction of a wide and nuanced

foundation to build the analysis upon. Furthermore, to gain understanding of the region, it is necessary to include both Swedish and Danish actors.

The specific interviewees were selected through different methods. Some were approached as they embodied an organisation and some for their personal experience and knowledge. They were found through desk research, a previous analysis of the key actors of the Øresund region by Øresundsintituttet (2016), and lastly snowballing. Snowballing is a process, where interviewees recommend other key actors that could have relevance for the project. The possible interviewees were approached by email. If they did not answer the first email, they received an additional email. Lastly, if their telephone number was available online and they had not replied, they would be tried to be reach by phone. Approximately 60 percent of the approached individuals replied or were willing to be interviewed.

The duration of interviews varied between 30 and 90 minutes. All the interviews followed the same structure. On beforehand, an interview guide was composed specific for each of the interviewees in regards to their sector, professional profile, and other relevant aspects. The interview guides were constructed from the same skeleton and altered to match the interviewees' specifications. As the interviews were semistructured, the interview guide was formed around topics rather than questions, which provide ample latitude for the interviewees, while still ensuring an upper-hand for the interviewer. To aid in the interview situation, several open-ended questions were added under each topic. The collection of interview guides can be viewed in Appendix I.

The interviews were conducted in Danish both with the Danish and Swedish interviewees. When interviewing the Swedish interviewees, key words were changed into Swedish to ensure a stronger sense of understanding as well as securing a stronger connection with the interviewee. Only one of the Swedish interviewees was very uncomfortable conducting the interview in a combination between Danish and Swedish. The remainder of the Swedish interviewees did not seem uneasy throughout the bilingual interview. Choosing to conduct the interviews with the Swedish informants in a bilingual fashion may undeniable have affected the interview situation. The interview situation is about establishing a relationship between the interviewer and interviewee and ensuring that the interviewee is comfortable with sharing. If the interviewees do not seem comfortable with the Danish language, the situation is not favourable and the outcome will not be as strong as it could be. However, in the present study, the interaction between the Danish and Swedish actors is the core of the study,

including the significance of sharing a linguistic foundation. If the interviews were conducted in English, the approach to the interviews and maybe the interviewees approach to me as an interviewer would have changed.

Each interview commenced by asking the interviewees, if they or their organisation wished to be anonymous as well as a confirmation, if the interview could be recorded. All the interviewees declined anonymity except one and the same person did not wish to be recorded.

The dilemma of anonymity indicates different complex aspects of the interview situation. By providing anonymity to the interviewee, he/she can be more bluntly and answer more critically to the questions. This is especially something, which must be considered when the interviewees are employed closely to the political context. The political actors are players within a game, which is much more sensitive to various interpretations of the social world. Therefore, it may become more difficult to gain nuanced reflections from these actors. In the present project, the issue of the political sphere became evident especially through one of the interviews. The interviewee exhibited signs of being uncomfortable with just the simplest questions, denied answering or refrained from becoming concrete. The vagueness of the responses gave rise to an array of questions in regards to the reality, which was not articulated, but still became visible through the avoidance of specific topics.

4.3.2. Transcription

All the recorded interviews have been transcribed. The process of transcription is complex and several approaches can be taken. Through transcription, one commences the difficult process of transforming spoken language into a textual form (Kvale 1996). According to Kvale (1996), there is no specific or correct method for transcribing. Instead the researcher must consider what the transcribed material should be used for and who the receiver of the material is. For the present study, the transcriptions have been selective. Selective transcription is the process, where the transcription is compiled by a combination of a summary of the interview and selected quotes. Selective transcription is less time consuming than complete transcription, while still ensuring a strong textual material. However, there are some consequences that must be considered when choosing to transcribe selectively. Firstly, the textual material will not be entirely consistent with the oral material and thus some good points may possibly be neglected as it does not reach the written form. Secondly, selective transcription requires that the transcriber listen and reflect theoretically in relation to the oral material while transforming

it into written form. This process demands a much more observant transcriber. Thus, transcribing selectively initiates the analytical process rather than solely processing the data (Packer 2011).

As the interviews were conducted in Danish and Swedish, the quotes within the analysis have been translated by the author. The transcribed interviews can be viewed in Appendix II.

4.4. The Analytical Strategy

The empirical material from the interviews was examined closely with scrutiny. An effective measure for processing and interpreting textual qualitative material is the method of coding. As underpinned by Miles and Huberman (1984), “Coding is analysis” (Miles & Huberman, 1984, p. 56 in Packer 2011, p.57). However, there are several approaches to the process of coding varying on the level of detail. The present analytical strategy is informed by varying forms of coding and abstraction (Flick 2009; Packer 2011).

The material was examined in several sessions. The first session gained an overview of the interviewees and the overall region, whereas the second session of close reading focused on each dimension. Interesting and relevant quotes and notes, which gave an insight into the development of the given dimension, were outlined. Through such a categorisation, it became possible to gain an overview of how the dimensions were influenced by the border control. The third examination of empirical material focused on the interrelational nature of the dimensions. The last close reading of the material searched for clues of how the region was progressing following the introduction of the border control.

The applied process of coding as outlined above illustrates the combined usage of different coding processes. Whereas the premiere coding resembles an explicit coding to categories the textual material, the ensuing processes focused on transcending these categories and raise to a higher level of abstraction (Packer 2011). Analysing the material through abstraction enhances the possibility of identifying the mechanisms of the dimensions’ co-evolution and the influence on the cross-border RIS. However, we must ensure that the causality of abstraction does not fall victim to causal erroneous conclusions. Instead, the aspect of validity must be considered (Bryman 2012). The realistic abstraction emerge, when it is evident that the mechanisms of causality cannot be affected by others and thus emerge powerful and robust (Yeung 1997).

4.5. Methodological Considerations and Limitations

There are various methodological considerations and limitations, which must be outlined. Firstly, the renunciation of the quantitative methodology has influenced the study. However, the time frame for the study is limited and choices must be made. Yet, if a quantitative approach was taken it could have expanded the empirical foundation. The present empirical material gains an in-depth perspective from a few key actors and sectors within the region, whereas the quantitative could provide a wider perspective, which would encompass much more actors and sectors. Additionally, investigating the effects of the border from a quantitative framework would enable an application of the analytical framework proposed by Makkonen et al. (2016) and examine how this approach would embrace the dynamic nature of the cross-border RIS.

Secondly, the positionality of the author should not be neglected. Being an inhabitant of the field of the study, any researcher will always have a biased approach to the field. I have been a commuter across the Danish and Swedish border and experienced the border control at first-hand. Even though, this aspect has not been the main motivational driver of the choice of the study, it cannot be denied to have had an influence upon the choices I have made as well as how I will analyse and understand the empirical material (Butler 2001).

However, it must not be neglected that the biased nature is also present in all the interviewees as they also are intertwined in the region. Each of them has their own agenda for agreeing to the interview and have power to construct their own image of the Øresund region and the effects of the border control. As a researcher, we must be critical and reflective of the statements of the interviewees.

Thirdly, the contemporary nature of the study proposes difficulties in the collection and interpretation of the empirical material. The ever-changing nature of the social world ensures that the initial context of the present study is no longer consistent with the present context. The crude condition of conducting research within social science is its dynamic nature. Choosing a topic as the border control illustrates just that as the context constantly change. Thus, as researchers, we must be prepared for and embrace these changing conditions. The removal of the ID control is an excellent example hereof. There was always the possibility of the removal of the border control as it was should be either renewed or removed in the beginning of May 2017. However, the removal of the ID control surprised the author and proposed a challenging task as all the empirical material was collected at the time.

Hence, the following analysis should be considered to unfold through the context prior to the 2nd of May 2017 as that is the context the empirical material exemplifies.

5. ANALYSIS

Introduction

The analysis unfolds using the above theoretical and methodological frameworks as the building blocks for investigating the research questions. The main focus of the analysis is to explore and discuss how the introduction of the border control within the Øresund region have contributed to a correlational development of the dimensions and thus informing a new foundation of the Øresund region's stage of integration. The analysis is shaped by the dynamic approach and must stay true to its principals. The analysis will unfold through three sections.

The first section will examine how the border control has directly influenced the dimensions of the Øresund region. Without establishing this perspective, it becomes impossible to unravel how the dimensions mutually influence each other.

The second section will expand upon the first analysis and investigate how these directly affected dimensions have facilitated changes and thus identifying the interrelated nature of the dimensions. However, it is a complex structure and thus to be able to unravel the structure and identify the mechanisms of interrelatedness, a simplistic approach must be applied. As paradoxical as this statement is, nevertheless it is a necessary approach. A simplistic approach denotes a simplification of the structure to be able to fully expand upon the mechanisms of correlation.

The third section will build upon the conclusions of the two prior analyses and further examine how the dimensions work together to assess how the entirety of the Øresund region develops.

However, before commencing the analysis, one significant premises must be considered. The dynamic approach rejects any static approach, which limits the dynamic nature of the subject of the study. Thus, examining and answering the question of how the dimensions interact and influence each other cannot be done through the perception that they either weaken or strengthen each other. Rather, we must surpass the mere dichotomy between inhibiting and favouring factors as it does not provide a favourable foundation to fully apply a dynamic approach.

6. THE BORDER CONTROL AND THE AFFECTED DIMENSIONS

The reintroduction of the border control proposed a new context for the cross-border regional innovation system of the Øresund region. This new context has manifested itself in various ways within the dimensions and the subsequent economic structure of the Øresund region. However, adapting the dynamic approach onto the static concept of cross-border RIS appears as a difficult task. The first step is to understand how the mechanisms of the dimensions have changed after the introduction of the border control.

However, prior to investigating the connections between the dimensions, we must identify which dimensions that have been directly affected the border control and, in addition, how these were affected. The directly affected dimensions must be identified by the observable changes in the fabric of the dimensions. Within the empirical material, two dimensions can be argued to be directly affected: the accessibility and the governance dimensions. The following will examine how the border control has influenced these dimensions and their mechanisms.

The Accessibility Dimension

The direct effects of the border control are easily detected within the accessibility dimension. Even though Makkonen et al. (2016) argue that “Inside the Schengen Area, [...] measuring the ease of cross-border traffic is less acute.” (Makkonen et al. 2016, p.9), the changed context of the region demands a new focus on the accessibility dimension – also within the Schengen Area.

After the introduction of the border control, train commuters quickly experienced limitations in mobility. The combination of the ID control at the Copenhagen Airport station, the border control at Hyllie station, and the reduced frequency of trains extended travel time by train immensely. According to a study by Øresundsinstittet, 322.000 less jobs could be reached within an hour with train from Malmö C due to the border control (Øresundsinstittet 2016b, p.13). For some, the train travel increased with approximately additional 40 min. The decline in mobility has proven to influence the accessibility dimension within a short time frame. Already six months after the introduction of the border control, a decline in train commuting was visible.

However, as noted previously, not all types of commuters were affected by the border control. The ferries between Elsinore and Helsingborg were not noticeable affected and the travel with car across

the bridge was prolonged with a maximum of 15 min prolonged travel time due to the border control. Nevertheless, the dynamics and mechanisms of the accessibility dimension have undeniably been altered due to the border control as the interviewees unison stated that the struggles of the region originated from the prolonged travel time (App. II).

The Governance Dimension

The border control was instated by the Swedish government and thus it poses a question of whether the introduction of an external political condition influences the regional structures. The policy structures of a cross-border region are acknowledged by previous studies to be of great importance for the innovative capacity and its role within the bilateral cooperation between Denmark and Sweden is no exception (Lundquist & Winther 2006).

There are several aspects, where the border control can be argued to have influenced the governance dimension. In a transfrontier context, the cross-border RIS of the Øresund region is subject to the conditions provided by the Swedish and Danish national innovation systems and the position, which the given region plays within its NIS. The distortion of relevance between Scania, Zealand, and Copenhagen within their respective NIS indicates an asymmetrical interest from the national governments. This has, and continually will, propose an issue with the governmental collaboration and interest for the region – regardless of the border control (Ibid.). The discrepancy between the two regions became increasingly visible by the border control. “It [the border control] is a political instrument, which they [the Swedish government] use to strengthen national borders” (App. II, Thelin, p. 26). The border control embodies an increasing lack of interest from the Swedish government, which is further underpinned by the neglected role of Scania within the Swedish NIS. According to the interviewees, the lack of support from the Swedish government obscures the establishment of a transfrontier collaboration (App. II). The national political climate of the cross-border region stagnated following instatement of the border control. “There is a political game. From Danish side, they have continuously said that ‘We need to remove the ID control’. When they had that opinion [from the beginning], it is difficult to bend and say ‘Now we start to negotiate from the stand point from the situation, where we have an ID control’.” (App. II, Andresen, p. 3). The political pride upholds a problematic dialog between the two national governments and locks the Øresund region into a certain predicament. After some time, a dialog slowly commenced between the two governments to focus upon the regional development (App. II).

However, whereas the national interest and dialog following the border control declined, the regional political collaboration increased. The establishment of Greater Copenhagen and Skåne Committee manifested a stronger regional willpower to collaborate across the border and a new political era for the region. The organisation was launched just as the border control was introduced, which have placed new perspectives and struggles unto the committee's table. "If anything, it [the border control] creates more unity between the Danish and Swedish part [...] because there is really something to fight together for against the Swedish and Danish government." (App. II, Pedersen, p. 6). The emphasis on regional unity underpins a regional policy structure that has become increasingly engaged in the cross-border collaboration following the border control.

6.1. Sub-Conclusion

The direct effects of the border control upon the two dimensions illustrate the surface of how the cross-border RIS of the Øresund region has changed. Furthermore, it illustrates the versatile changes of the border control. As underpinned by the governance dimension, the border control must not only be understood as hindrance of the accessibility dimension, but rather it poses much more complex changes to the region.

However, following the dynamic approach, the interrelation between the two dimensions must not be denied or ignored. The limited accessibility acted partly as a catalyst in the stagnated dialog between the national governments. On the other hand, the accessibility dimension has been influenced by the governance dimensions as regional actors have fought for an increase in accessibility by changing how the controls were conducted. The simultaneous nature of their co-evolution is observable through the short time frame, which they have influenced in each other.

7. THE CO-EVOLUTION OF THE DIMENSIONS

The direct changes of the dimensions in relation to the border control as unravelled above is merely partially and too limited to ensure a fully dynamic approach to the cross-border RIS of the Øresund region. Instead, the structures and the mechanisms present in the cross-border RIS must be explored. The following section will investigate how the alterations in the accessibility and governance dimensions have influenced the other dimensions and what characterises their co-evolutionary relations.

7.1. The Interrelated Changes of the Accessibility Dimension

The practical repercussions of the border and ID control have undeniable had consequences for the other of the cross-border RIS dimensions. The identification of the interrelations between accessibility and other dimensions is illustrated in the below Figure 7.1.

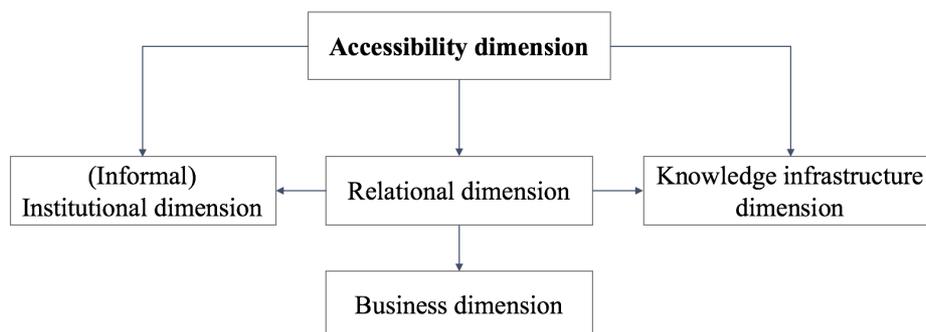


Figure 7.1 - The interrelated nature of the accessibility dimension

The Accessibility and Relational Dimensions

Throughout the empirical material, the interviewees unanimously argued that “The greatest issue of the border control is that it hinders the meeting between people.” (App. II, Gustafsson, p. 18). Thus, the co-evolution between the relational and accessibility dimension is the most salient as the possibility for face-to-face interaction has limited through the prolonged travel and the following 12 percent decline in volume of train travel (Øresundsinstittet 2016b).

The co-evolution between the accessibility and relational dimensions emerge through several indicators. Firstly, the accessibility dimension quickly influenced the composition of the transfrontier workforce. The interviewees could confirm that the interest for recruiting across the border has

drastically declined and companies receive less job applications from citizens in the adjacent region as well as an increase in terminations from workers from across the region has become visible since the introduction of the border control (App. II). The relational dimension embodies the region's innovative relations and thus the decline in labour mobility strongly hinders the occurrence of knowledge spill overs and subsequently the innovative behaviour. However, the localised knowledge flows are not solely determined by the labour mobility.

The establishment and continuation of cross-border networks equally embodies an observable nature of the local flows of knowledge and spill overs (Kiryushin et al. 2013). Medicon Valley Alliance is the only existing transfrontier cluster organisation, which successfully encompasses both Danish and Swedish actors. However, other organisations have established a variety of networks, which attends to actors across the region. According to the interviewees, the existing networks have not experienced any major distress after the border control. Instead, the establishment of new networks and collaborative partnerships have become increasingly difficult (App. II). When people has not yet found the purpose in collaborating across, the prolonged travel time proposes a serious hindrance for people to meet and thus proposes issues for ensuring localised knowledge flows. Consequently, the social aspects are of great importance within the relational dimension. However, several interviewees argued that they no longer prioritise social engagements across the border, because of the prolonged travel time (App. II). The issues with the decline of informal networks will evidently alter the relational nature of the Øresund region as "In the end, it is the personal relations, which form the base of the collaboration in the large projects." (App. II, Hartmann, p. 12).

Hence, the struggles of establishing new relations, both formal and informal, limit the distribution of knowledge and the potential for further knowledge generation and new ventures (Lundquist & Tripp 2009). Thus, it becomes evident that the relational dimension is inherently spatial. People must have a face-to-face interaction for the cross-border RIS to prevail. In other words, if people do not meet either in a professional or social setting, the establishment of new relations fails and subsequently limits the flow of knowledge. The changes in the relational dimension due to the limited mobility became visible shortly after the instatement of the border control. Therefore, the co-evolution between the accessibility and relational dimension is of a simultaneous nature. However, the full effect within the knowledge generation and flow are yet to be fully visible.

The drastic changes to the cross-border workforce and difficulties for utilising the specialised from the adjacent region can be argued to influence the economic and industrial structures of the region. Thus, the interrelation between the accessibility and relational dimensions has facilitated another co-evolutionary relation between the relational and business dimension. The changes in the localised knowledge flows reflect an economic relation and thus proposes changes within the business dimension. The changes to the business dimension should therefore not be perceived as the changes due to the accessibility dimension, but rather how the accessibility dimension has influenced the relational and thus the business dimension. The long-term co-evolutionary relation between these dimensions denote tendencies, which will have consequences for the business dimension. The drastic decline of cross-border employment limits an exchange of specialised knowledge and thus will limit the similarities of the industrial structures. Additionally, the business dimension relies on trade flows. “However, the willingness to invest and take risks [across the border] will be more difficult to build up again as the issues are relational.” (App. II, Hartman, p. 14). The synergies will decline and thus proposing asymmetrical linkages between the neighbouring regions (Trippel 2010; App. II).

The Accessibility and Institutional Dimensions

The limitation of mobility will undoubtedly influence the institutional dimension. The co-evolution between the accessibility and institutional dimensions refers to the informal aspects of the institutional dimension. The two regions and their inhabitants have interacted over the last 3-400 years (App. II). Thus, the informal institution such as language, culture, values, and beliefs are perceived to be similar. The construction of the fixed link increased accessibility and enabled people to become even more similar. “We had reached a point, where we were very close to thinking that we [Danes and Swedes] were very similar. Now, it [the border control] is a very tangible manifestation that we are two different countries.” (App. II, Steffensen, p. 8). This development is further underpinned by another interviewee, who argues that “If we don’t succeed with that [people meeting across the border] we continue to produce the idea of differences between Denmark and Sweden.” (App. II, Gustafsson, p. 18). The endurance of national and cultural identities produces an institutional distance between the two adjacent regions, which eventually will propose difficulties of upholding a strong collaboration. However, the above quotes additionally underpin how the interrelations between the accessibility and institutional dimension are strongly connected to the relational dimension.

The necessity and significance of the social and cultural similarities within knowledge sharing and mutual learning become a product of triangulation between the three dimensions. In other words, the visibility of the effects of the border control within the institutional dimension must be examined through the interaction of the accessibility and relational dimensions: Through the limited mobility and interaction, a constant reproduction and anchoring of the institutional distances impede the innovative behaviour.

Additionally, the informal institutional dimension is embodied through the social acceptance of the cross-border integration and must therefore be treated as an essential element in the determination of the changes in the institutional dimension (Makkonen et al. 2016). The interviewees dispute whether the declined mobility has changed the acceptance of the region. Some argue that the citizens of the region have increased their acceptance for the region as a resistance of the border control, whereas others have experienced an increased indifference towards the transfrontier collaboration (App. II). The reason for this dissent can be ascribed to the fact that the interviewees have daily contact with varying groups. For instance, political organisations are deeply rooted within the spatial restrictions of the region as well as work with the core of transfrontier collaboration and thus work with people who are enthusiastic about the region. Nonetheless, the acceptance and willingness to pursuit the cross-border collaboration has begun to change.

The above interrelational nature between the institutional, accessibility, and relational dimensions has yet to become fully visible. The above mentioned is rather tendencies, which the interviewees have identified. Nevertheless, the long-term co-evolution of the accessibility and institutional dimension cannot be ignored. The interviewees identified these tendencies and thus the co-evolution is not insignificant for the effects of the border control. The informal aspects of the institutional dimension merely change slowly.

The Accessibility and Knowledge Infrastructure Dimensions

The Øresund region is argued to have an exceptional knowledge infrastructure with a vast array of universities, educational institutions, and science parks (Lundquist & Trippel 2009). The establishment of the bridge increased the scientific collaboration and was amplified through various specific endeavours to promote scientific interaction (Hansen 2013). Following the logic of Hansen (2013), the prolonged travel time across the border must influence the scientific collaboration and the

corresponding knowledge infrastructure as very few of the formalised organisation continually exists and thus the dimension must rely on the functional distance.

Within the empirical material, the practical issues of the ID and border control act as inhibiting factors maintaining of and establishing scientific collaboration across the border. The struggle to unite the personal life with work life propose issues for the enthusiasm of the transfrontier collaboration. As an interviewee from Lund University underpinned: “Do you have the project on the other side of the strait, then it is very difficult to solve it [the organisation of it].” (App. II, Thelin, p. 25).

Again, the relational dimension plays a significant role in understanding the influence of the accessibility dimension upon the knowledge infrastructure. The relational aspects of knowledge flows underpin the importance of establishing relations to ensure a strong collaboration within the science base and knowledge infrastructure. The relational dimension becomes essential, when constructing knowledge networks and partnership, which is of great importance, when establishing and maintaining scientific synergies (Lundquist & Trippel 2013). However, as an interviewee has observed: “[...] many of my project leaders see that now, it becomes dysfunctional, because it has been difficult to create these alliances. They have felt the changes over the last year and a half.” (App. II, Thelin, p. 24). The simultaneous nature of the interaction between the accessibility and relational dimensions illustrates in a tangible and simultaneous fashion the effect the border control has had upon the knowledge infrastructure dimension. This is further emphasised by Petter Hartman from Medicon Valley Alliance. “It is important to invite the students, PhD, master, etc, into mentor programmes and other similar initiatives to ignite their enthusiasm [for cross-border collaboration]. It is more difficult than before the ID control, but also more important than before.” (App. II, Hartman, p. 12).

7.2. The Interrelated Changes of the Governance Dimension

The undeniable changes within the policy structures and governance dimension are materialised by the declining interest in the Øresund region by the governments. These changes to the governance dimension must be assumed to influence other dimensions. These co-evolutions must be identified. Resembling the figure regarding the interrelated nature of the accessibility dimension, Figure 7.2 provides an overview of the empirically identified co-evolutions between the dimensions.

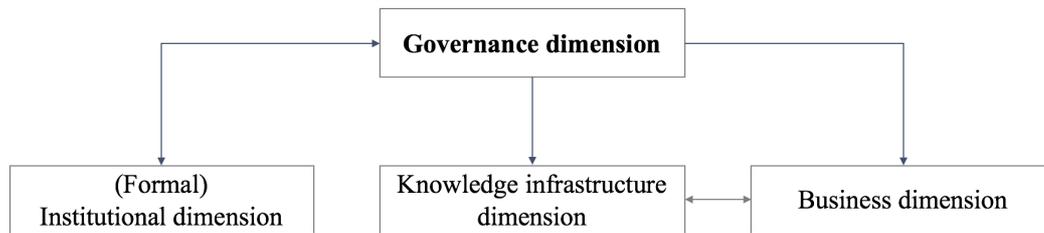


Figure 7.2 - The interrelated nature of the governance dimension

The Governance and Institutional Dimensions

The governance and institutional dimensions are strongly connected. Their mutual relationship might be a given. Nevertheless, it is an important co-evolution, which occur between the two dimensions. The fixation of joint innovative policies within the governance dimension and similarities and dissimilarities in the legislative structures within the institutional dimension emphasise the strong connectivity of the two dimensions. The complex interrelation between the two dimensions becomes especially evident in how the political systems have handled the governance conflict following the introduction of the border control. Neither the Danish nor the Swedish government wished to deny that the border control has been a hindering factor for integration. On the other hand, they are not willing to engage in a discussion about it as “There are many different politics involved in relation to immigration and differences.” (App. II, Pedersen, p. 5). Additionally, the lack of priority from the Swedish government, which became increasingly visible due to the border control, indicates substantial differences in the embeddedness of the neighbouring region within their respective NIS. According to an interviewee, Denmark and Sweden are characterised by vastly different systems, which inhibits the possibility of altering the conditions of the border control (App. II). Thus, the struggling governance and institutional dimensions mutually influence each other by constructing an increasing institutional distance followed by the dissimilarities in the systems.

The interaction between the governance and accessibility dimensions reveals another effect of the border control in relation to the institutional dimension. Following the ID control, the commuters “(...) felt that they have become the victims in a [political] game.” (App. II, Andresen, p. 4). Several interviewees argued that the lack of interest from the national governments, prolonged travel and border control planted a mistrust in the political and legislative structure. In other words, a distrust in the formal institutions of the region has emerged following the border control.

The above suggest that the co-evolution of the governance and institutional dimension can be argued to be of a simultaneous nature. However, the two dimensions' co-evolution exists beyond the issues of the border control and conversely, may also be evidence of a co-evolution, which was already emerging, but materialised following the introduction of the border control. Nevertheless, the differences of the legislative structure became evident shortly after the border control emerged. Equally, the mistrust of the governments and legislative structures quickly became visible, which indicates that the co-evolution in relation to the border control in fact is of a simultaneous nature. Furthermore, it is important to note that the co-evolution between the two dimensions is not one-way. On the other hand, the causality can be reversed. The institutional settings through the NIS also determine the changes of the governance dimension.

The Governance and Knowledge Infrastructure Dimensions

The mutual relationship between the governance and knowledge infrastructure dimension is not difficult to envision. The knowledge infrastructure in a region is inherently policy driven as there is a need to establish bridging organisations to promote and facilitate collaboration across the border (Trippel 2010; Hansen 2013). The political institutions have previously collaborated to enhance the knowledge infrastructure of the Øresund region. An excellent example of the prior interrelated nature between the two dimensions is the procurement and establishment of MAX IV and ESS in Lund as a cross-border project. The transfrontier collaborative efforts between the national governments denoted a strong support for the regional development. However, following the border control and the stagnant political debate and interest, issues for enhancing and developing the transfrontier knowledge infrastructure has emerged as “The national governments no longer see each other as partners in a common project. Instead they see each other as competitors.” (App. II, Hartman, p. 12). The efforts to collaborate across the border and materialise the knowledge infrastructure are being eclipsed by the competitive behaviour, which is further underpinned by Lisa Thelin. “When they [the Swedish government] says that it is research and collaboration, which should drive growth, then they do not mean it. What they mean is that the important thing is the Swedish [research].” (App. II, Thelin, p. 26).

This competitive political behaviour and lack of interest for the transfrontier region following the border control become especially salient recently, when the European Union had to relocate The European Medicines Agency. Both the Øresund region and Stockholm offered to host the agency, instead of collaborating for the greater good of both countries and stand stronger (App. II). This case

painfully visualise how the changed governance dimension influence the conditions of the region through the knowledge infrastructure dimension. The co-evolution between the governance and knowledge infrastructure dimension is characterised by a long-termed nature as the full repercussion of these changes is not fully visible within the knowledge infrastructure dimension. However, the interviewees are observing these emerging tendencies (App. II).

Furthermore, the case of the relocation of the European Medicines Agency equally had repercussions for the business dimension. The flow of knowledge will be limited and thus the cognitive foundation of the region will change. The close simultaneous interrelation between the business and knowledge infrastructure dimension is further illustrated by the strong connection made between the educational institutions and business community within the Øresund region and must not be neglected.

The Governance and Business Dimensions

The business dimension must be considered through the willingness of the companies to take part in the innovative strategies and mutual learning. The process of the implementation of the border control was characterised by strong top-down direction of the local actors. The regional actors were disregarded from a national level, which additionally emphasises the restricted support from the national governments. The top-down direction becomes especially prevalent within the argument of how the border control is an instrument to strengthen the Swedish national borders.

The limited focus of the Øresund region within the national government can in theory be argued to restrict the trade flows and innovative behaviour across the border. For some interviewees, this proved to be true (App. II). However, several other interviewees have experienced the contrary. For some, the interest and willpower from the business community have increased following the border control. The border control and the limited focus from the governments have left parts of the business community “(...) a little pissed-off and [they] think: Now we really should work against the system and do this anyway.” (App. II, Gustafsson, p. 18). This willpower to struggle against the political conditions emphasis the effect of the governance dimension on other dimensions. Whereas in some instances, the strong top-down direction can be argued to limit the cross-border knowledge and trade flows, the border control has shown to spark a reflection on the regional importance between the actors (App. II). The business community has provided their transfrontier employees with alternative transportation and a flexible work schedules to maintain the specialised knowledge flow. However, this willpower is of a short-lived nature. The interviewees further argued that the continuation of

border control can make the will to disrupt the policy structure fade as it becomes too expensive and tiresome for the business community. Thus, in a longer time frame, the continuation of the border control will erode the private knowledge sharing across the border.

The co-evolution between the governance and business dimension is of a somewhat long-termed nature as the changes in mechanisms are emerging, nevertheless changes in the similarities and dissimilarities of the industrial and economic bases are not yet visible. Furthermore, the short-lived willpower of the business community suggests that the co-evolution will eventually alter in a coming period. Hence, making the co-evolution increasingly complex.

7.3. The Dynamic Model of the Dimensions

The above analysis has identified a variety of interrelated co-evolutions between the dimensions and thus established a foundation for understanding the influence, which the border control has had upon the region. However, the disconnection of the effects caused by the accessibility and governance dimensions cannot depict the full dynamic nature of the dimensions and thus the cross-border RIS and thus we must combine the two models into one. However, two aspects are significant to consider prior to assembling the two distinct models into one.

Firstly, we must expand upon the complex structure, which a model of the interrelated dimensions will depict. There are overlaps between the affected dimensions. For instance, the accessibility dimension influences the institutional dimension in one way, while the governance dimension influences the institutional dimension in another way. However, the different changes in the institutional dimension still constitute the dynamic institutional dimension. Additionally, one dimension is not necessarily the sole causal influence of the changes occurring in another or more. Rather, the dimensions and their mutual influence occur as an interlaced network resembling a crisscross pattern. A combined model will make such complexities clear.

Secondly, the temporal premise of the co-evolution must be considered. The co-evolution of the dimensions does not become visible within the same time frame. The varying temporal aspects of the interrelations must be embraced to fully understand the dynamics of the cross-border RIS. Combining Figure 7.1 and Figure 7.2, while considering these two aspects constitute the foundation for visualising the complex dynamic model (see Figure 7.3).

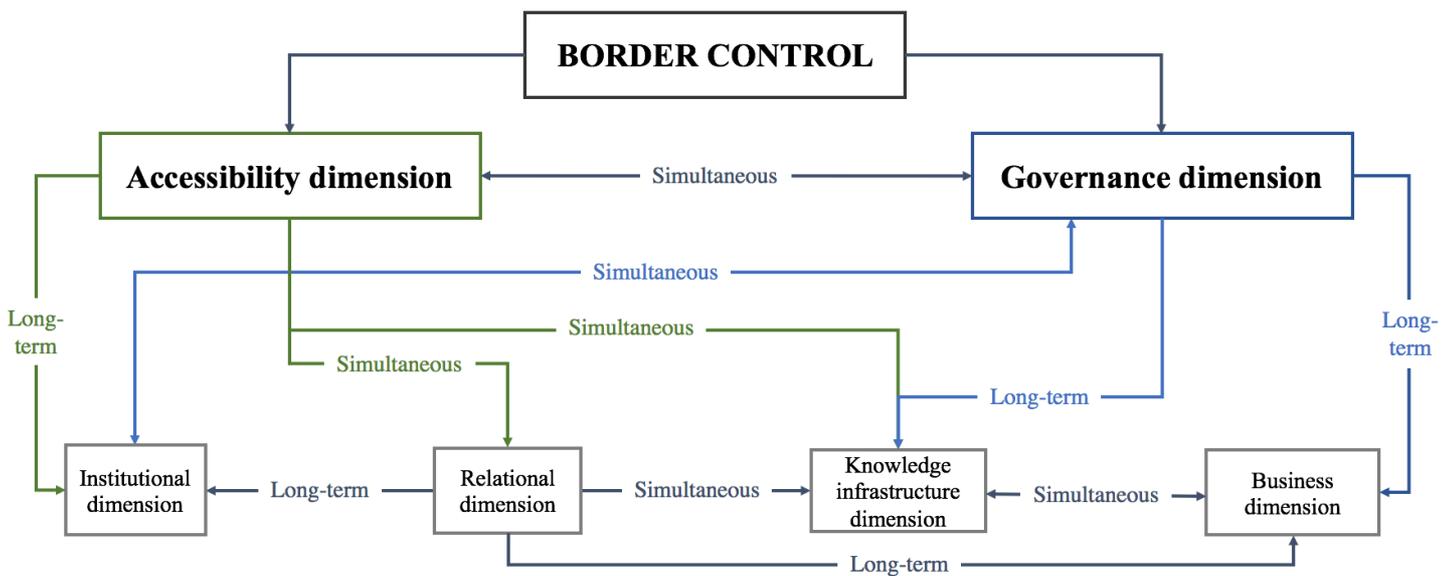


Figure 7.3 - The dynamic nature of the Øresund region's RIS and the border control

7.4. Sub-Conclusion

The border control has undeniably had an effect upon the dimensions of the cross-border regional innovation system within the Øresund region. The introduction of the border control directly influenced the accessibility and governance dimensions. The salient changes to these dimensions further influenced and changed other dimensions. The interrelated nature of the dimensions is a complex structure with multiple connections and nodes. The above Figure 7.3 illustrates that the co-evolution of dimensions is not only limited to the alterations of one dimension, which influences another. Rather, the interaction between two dimensions can facilitate changes for an additional dimension.

Furthermore, the influence of the border control upon the dimensions and their mutual relation manifest itself in various time frames. Whereas, some changes became visible shortly after the introduction of the border control, others are merely tendencies. Other dimensions are caught between a simultaneous and long-term co-evolution and must embrace both interrelated elements. These varying time frames increase the complexity of the dynamic nature of the cross-border RIS. Nonetheless, the above cement the dynamic nature of the cross-border RIS and proposes the question of how a dynamic understanding of the determining factors of such region influences the entirety of the system.

8. DYNAMIC DIMENSIONS AND THE STAGE OF INTEGRATION

The dimensions of a cross-border regional innovation system are the determining factors for the establishment and development of the system. The changes, which occur due to the interrelated nature of these dimensions must be considered in relation to the entirety of the cross-border RIS of the Øresund region. Figure 7.3 provides a stepping stone into investigating how the introduction of the border control has influenced the entirety region. Therefore, the concept of stage of integration must be applied.

However, the static and linear cross-border approach as developed by Lundquist and Trippel's (2013) is difficult to apply unto the dynamic approach as investigated in the above analysis. Hence, the following section will first analyse and discuss the dynamic nature of the dimension to be able to assess their progression within the concept of stage of integration. This will shape the assessment of how the border control has influenced the stage of integration of the Øresund region.

Previous studies have been done to ascertain the stage of integration within the Øresund region. According to Lundquist and Trippel (2009; 2013), the Øresund region can be described as a semi-integrated system following the construction of the fixed link. The following analysis and discussion will take point of departure within their analysis as the context of the region prior to the border control. Therefore, the following analysis will not itself assess the stage of integration before the introduction of the border control.

8.1. The Dynamic Nature of the Dimensions

The applied causality stresses that structures are interrelated with its mechanisms (Sayer 2000). Therefore, it must be assumed that the interrelational nature of the dimensions plays a significant role in how the stage of integration varies. The framework proposed by Makkonen et al. (2016) provides an insight into how the dimensions influence the stage of integration. This framework equips the concept of dimensions with a differential and changeable model to examine the state of a cross-border RIS. Yet, precisely how the dimensions influence the stage of integration is not scrutinised. The previous difficulties to investigate these shortcomings can be argued to stem from the application of the inapt static approach.

Figure 7.3 unfolds the interrelated nature of the dimensions after the introduction of the border control. However, assessing the stage of integration from the figure is a difficult task as it does not fully embrace the changeability, which is required by the dynamic approach. Instead, we must consider the model to be more flexible. The ever-changing dimensions must be examined through an imagery that can encompass this changeable nature. Hence, the relationship between the mechanisms and the stage of integration must be perceived as a machine. This machine is comprised of cogwheels where each dimension must be considered as a cogwheel. When assembled, these cogwheels constitute the cross-border RIS and the current stage of integration. Each cogwheel can turn and impact the other cogwheels to make them turn. However, some of the cogwheels are easier turned, whereas others are characterised by inertia and takes longer and much more force to turn. Additionally, some has a higher influence on other cogwheels than others as they are more tightly intertwined. The same dynamic line of thought should be applied onto the question of how the changed dimensions influence the cross-border RIS's stage of integration. Thus, it becomes evident that we must examine the dynamic nature of the dimensions as the changeability of the dimensions shapes the foundation upon which the stage of integration unfolds. In the following, the varying dynamic nature of the dimensions will be analysed and discussed.

The accessibility dimension is argued above to have a great influence on the other dimensions. However, the level of dynamic nature of the accessibility dimension is characterised to be low (Makkonen et al. 2016). Changes in mobility are uncommon and require largescale infrastructural investments or other legislative efforts as either shown through the construction of the bridge or the introduction of the border control. Several interviewees argued that the levels of mobility prior to the border control was a given and hence the reduction of mobility seemed as lightning from a clear sky (App. II). The assumed stability of the accessibility dimension within the Øresund region played a significant role in how the interviewees received the border control and the subsequent influence on the other dimensions. The anticipation of inertia equipped the situation with high levels of instability. In other words, as the high mobility across the border was considered as a given, the effects of the border control became much more salient (App. II.).

The simultaneous nature of the co-evolution between the relational and accessibility dimensions suggests that the relational dimension can be characterised by a highly dynamic nature. The changeability of the dimension is ascribed to the fluid nature of relations and knowledge flows (Balland et al. 2015). However, following the interviewees, a different perspective emerges. For some

the relational aspects are highly dynamic, while others argue that the relational-based collaboration is the strongest and most stable collaboration, they have experienced in the Øresund region (App. II). Hence, the nature of the linkages determines the dynamic nature of the relational dimension. This dispute becomes especially prevalent, when encompassing the knowledge infrastructure and business dimensions. Within these dimensions, the relational aspects are increasingly becoming more institutionalised through formalised partnerships (App. II). Thus, the established networks and partnerships are much more stable. Whereas, the simultaneous nature of the relational dimension can be described as highly dynamic, the long-term co-evolution of the relational dimension is characterised by increased inertia.

Considering the knowledge infrastructure and business dimensions, assessing their level of dynamic nature becomes difficult. The two are closely intertwined with the relational dimension. When focusing on establishing and maintaining the strong specialised knowledge sharing and generation, which is central for both the business and knowledge infrastructure dimensions, it becomes evident that they are of a highly dynamic nature. However, upon further investigation it becomes evident that there are differences between their approach to such knowledge flows. “There is promiscuity amongst researchers. First they are there, then they are another place. However, businesses often want a longer perspective.” (App. II, Anonymous, p. 28). The quote suggests that the business dimension more strongly strives for inertia rather than the knowledge infrastructure dimension. However, following Micael Gustafsson, the roles were reversed (App. II). Thus, the dynamic nature of either dimensions must be considered as changeable in relation to the nature of the linkage.

The dynamic nature of the governance dimension is anchored within the dynamics of the given political structures. According to Petter Hartman, changes in policy structures rely on the given composition of the political systems (App. II.). After elections, new political agendas emerge and may alter the previous policy structure. Furthermore, the policy structures include a variety of other elements to consider, for instance, immigration and taxation. Such changeability, within the governance dimension, suggests a level of moderate dynamic nature. The focus on the cross-border region in the governance dimension is never constant, while it still is characterised and influenced by the inertia of the institutional dimension. Hence, the political focus and interest is pulled from an array of agendas and projects, where some elements must succumb under the importance of other projects or agendas. The dynamics of the governance dimension depends on the current political composition and context, and is expected to alter occasionally. Furthermore, in the present case, the

governance dimension is characterised by being strongly divided between the regional and national levels, which pull in the dimension in various directions. Therefore, the governance dimension can be characterised by a moderate dynamic nature.

Finally, the dynamic nature of the institutional dimension must be considered. Both elements of the institutional dimension can be argued to be characterised by inertia (Balland et al. 2015). Especially, the formal aspects of the dimension are stable as changes to the political and legislative systems are minimal. Nonetheless, the co-evolution between the institutional and governance dimensions as being somewhat simultaneous. However, this relies stronger upon the causality from the institutional to the governance rather than the other way around.

The informal institutional setting can be more dynamic, but it depends on the context. Within the present case, the indicated changes to the informal setting are only assumptions from the interviewees and changes due to the border control are not visible currently. Nevertheless, the interviewees underpinned the importance of the institutional setting – regardless of its dynamic nature.

8.2. The (Dynamic) Stage of Integration

The dimensions' varying levels of dynamic nature reflect the significant question of how the dimensions influence the stage of integration. At first glance, one might suggest that the more dynamic the dimensions are, the more influence it will have upon the stage of integration.

However, the inertia of the accessibility dimension tells another tale. The accessibility has undeniably had an immense influence on the regional development, which suggests that the accessibility dimension has firmly acted from a semi-integrated into a weakly integrated dimension. Even though the accessibility dimension is characterised by a low dynamic nature, the vast changes due to the border control has proven to influence the region greatly through the co-evolutions of the other dimensions.

On the other hand, the relational dimension is characterised by a mainly high dynamic nature, but still proposes changes to the region after the border control. Yet, the co-evolution between the relational, knowledge, and business dimensions are characterised by a somewhat long-term nature, which suggests an emerging inertia within the relational dimension. The co-evolution between the relational, business and knowledge infrastructure dimensions emphasises the importance of cross-border knowledge flows. Even though the analysis indicates a vast reduction of the cross-border

knowledge, the interviewees stated that knowledge is generated and shared across the border (App. II). This suggests that the issues of the accessibility and relational dimensions have not yet eroded the foundation of knowledge sharing even though it has become harder within in the Øresund region as many aspects of the business and knowledge infrastructure dimensions are characterised by inertia. Again, the temporal aspects tentatively suggest that the relational, business, and knowledge infrastructure dimensions are changing to a worsened stage of integration, but not as comprehensively as the accessibility dimension.

The changes in the governance dimension cannot be denied to have altered the regional development. It is evident that the asymmetrical interest from the national governments and subsequent joint policy structures have changed the dimension from a semi-integrated towards a weaker integrated system. However, considering the increased regional interest, the dimension remains semi-integrated. Furthermore, the moderate dynamic nature of the governance dimension and the long-term co-evolution between the governance, business, and knowledge infrastructure dimensions indicate an inertia of the stage of integration for the co-evolutions of the governance dimension.

The limited changes to the institutional dimension and its low dynamic nature further underpins the above. The institutional dimension is not strongly influenced by the accessibility dimension and only to some extent by the governance dimension after the introduction of the border control and thus it must continually be characterised as semi-integrated. However, the long-term co-evolution between the dimensions indicates an incipient increasing institutional distance between Denmark and Sweden, which suggests a movement from a declining stage of integration.

Table 8.1 - Overview of the dynamic nature and stage of integration of the dimensions

Dimensions	Dynamic nature	Stage of integration
<i>Accessibility</i>	Low, but increasing	Strong simultaneous influence From semi to weakly integration
<i>Relational</i>	Mainly high, but in few instances low	Simultaneous influence Indications present for semi to weakly integrated
<i>Business</i>	Both high and low depending on the co-evolution	Long-term influence Indications present for changes, but not enough to change from strongly to semi-integrated
<i>Knowledge infrastructure</i>	Both high and low depending on the co-evolution	Long-term influence Indications present for changes, but not enough to change from strongly to semi-integrated
<i>Governance</i>	Moderate	Both simultaneous and long-term influence Indications present for semi to weaker integrated.
<i>Institutional</i>	Low	Long-term influence Tentative indicators present for changing from semi to weakly integrated

Table 8.1 summarizes how the dynamic nature of the dimensions and their influence on the stage of integration of the Øresund region. Throughout the above and the in table, it becomes evident that the dynamic nature plays a significant role in how the dimensions influence the stage of integration.

Prior to examining this relation, it was assumed that the more dynamic, the more influence the dimension has upon the cross-border RIS. However, it seems to be the contrary. The interviewees argued that the dynamic nature of the relational and governance dimension was expected. Thus, indicating that the cross-border RIS is more aware of the frequent changes within highly dynamic dimensions and therefore are better equipped for handling their dynamic nature. The highly dynamic dimensions become an inherent part of the regional integration and thus refrain from stunning the system. Instead, when the dimensions shown in the present case of the accessibility dimension. Of course, there are differences in magnitude of the changes. After the border control, the changes to the accessibility dimension were immense. However, other changes, such as changing in the train or ferry

schedules that would prolong or shorten the travel with 10 min, are not bound to have the same affects. Nonetheless, as shown through the changes in the relational dimension, the cross-border RIS are better equipped to cope with the constant changes of the highly dynamic dimensions and thus they do not influence the stage of integration in as drastically as the more stable dimensions such as the accessibility or institutional dimensions.

8.3. The (Actual) Stage of Integration

The above suggests that the Øresund region is moving from a semi-integrated to a weakly integrated system after the introduction of the border control. The conceptualisation of stages of integration is based on an ideal model, whereas the present case illustrates a much more complex reality (Lundquist & Trippl 2013). As the dimensions are not equally dynamic and alters through various time frames, it becomes difficult to assess the stage of integration from such a dynamic standpoint. This is emphasised through the above approach to examine the dynamic nature of the dimensions. If we should assess the stage of integration, we must transcend the approach of the dimensions and approach the entirety of the system. Using the same comparison as in the beginning, to see how the turns of the cogwheels have altered the machine, we must look at the machine.

The interviewees agree that the conditions of the Øresund region have worsened following the border control. However, the extent of the changes varies and is disputed. Some interviewees argue that “We don’t have integration. We have border hindrances. We have a Berlin wall. It [the border control] becomes the symbol that the vision [for the region] is not a reality.” (App. II, Hartman, p. 13), which strongly emphasise that the border control has changed the system into a weakly integrated one. However, others argue that “We must acknowledge, if it hasn’t already happened, that there will come scratches in the surface of the idea that we are one region. But that does not mean that people will not work for it.” (App. II, Steffensen, p. 8). Furthermore, following Lundquist and Trippl’s characterisation of the weakly integrated system, it becomes evident that the Øresund region is yet to decline so drastically. Thus, even though the accessibility and governance dimensions propose a vastly changed context, the region cannot fully be characterised by a weakly integrated system because the region is still characterised as an emerging knowledge-driven economic and innovative relations within both the business and knowledge infrastructure dimensions as well as an inertia of the institutional dimension (App. II). These varying understandings of the present stage of integration must also be considered in relation to the temporal aspect of the co-evolutions. As Figure 7.3

illustrates, the co-evolutions between the dimensions are of varying time frames. Their central role in how the dimensions altered and eventually facilitate changes into the stage of integration, propose a complex perspective. When some dimensions change the stage of integration at one point of time and the changes by other dimensions are not visible, a distortion emerge. Hence, as the interviewees had varying experience with the border control and its effects upon the region, they argue for different stage of integration.

However, as an interviewee argues, “It is easy to make it sound worse than it actually is. But we see tendencies of changes.” (App. II, Thelin, p. 26). The above can be ascribed to the interviewees explicit perception of the accessibility dimension as an immense impact for the present state of the Øresund region. For instance, Micael Gustafsson argues, “It is extremely important for the ecosystem to work. If one thing [the longer travel time] changes in the ecosystem, then the rest can be destroyed.” (App. II, Gustafsson, p. 18). The underlying statement in the quote suggests that the basis for cross-border collaboration in the Øresund region can be destroyed through the changes of one dimension. Hence, the dynamic co-evolution between the dimensions becomes instable and proposes a fragile foundation for the system (Kiryushin et al. 2013). Nonetheless, the analysis illustrates that the accessibility dimension is not solely to blame for the worsened conditions. However, the dynamic nature between the dimensions become redundant, if one dimension is perceived to be the sole issue. Additionally, following the premise by Trippel (2010), one dimension should not be able to shake the foundations of a cross-border RIS and hence it questions the actual state of the Øresund region.

Furthermore, the dynamic nature of the dimensions must not be forgotten. The dimensions are not only influenced by external conditions, but are also constantly influencing each other and thus changing the context of the cross-border RIS. The changes to the social context, both spatial and temporal, give rise to new causal mechanisms and interrelated co-evolutions between dimensions. The varying temporal co-evolutions between the dimensions can therefore give rise to alternating contexts. Also, the external conditions are prone to changes. This is especially evident in relation to the removal of the ID control. The ID control has been ascribed as the main reason for the declined accessibility (App. II). Therefore, the removal of the ID control is expected to increase the mobility once again. As the accessibility dimension is ascribed a leading role in the recent development of the region, the possibilities of the region to change into a stronger semi-integrated system is present. These recent changes emphasise the dynamic nature of cross-border RIS and the stage of integration. The constant interaction between the internal and external mechanisms continuously alters the

conditions for the cross-border collaboration. It is not a static development. This is emphasised by Petter Hartman: “I think it goes a little in cycles and that we must accept.” (App. II, Hartman, p. 11). Rather, the stage of integration and the development of the cross-border RIS is inherently dynamic and thus fluctuates.

The above raises the questions regarding the applicability of the concept of stage of integration. The analysis and discussion provides evidence that a cross-border region is not constant progression in a linear direction. Therefore, the need to categorise the region within three different boxes seems strange. The dynamic nature of the cross-border RIS does not transcend into such simplistic categorisation. This is especially evident through the present case as the region clearly weakened, but still must be categorised as semi-integrated within the scheme of stage of integration. Thus, the three stages, and particularly the semi-integrated, are ascribed an elasticity, which they cannot contain and hence the categorisation seems artificial.

8.4. Sub-Conclusion

The prior analysis provided a stepping stone into investigating how the interrelatedness of the dimensions could illustrate the changes, which the border control imposed upon the stage of integration. However, the above analysis argues that in order to employ the static concept of stage of integration upon the dynamic approach of dimensions, a dynamic linkage must be established. Thus, the analysis determined that the level of dynamic nature must be examined to fully understand the influence on the stage of integration in the Øresund region. It inferred that the dimensions are not equally dynamic and thus the changes within the dimensions do not facilitate equal changes to the stage of integration. Furthermore, it became obvious that the dimensions of low dynamic nature will strongly influence the stage of integration, if it is exposed to changes.

Hence, each dimension is dynamic in different ways and thus influence the stage of integration differently. The introduction of the border control has undeniably altered and worsened the stage of integration of the Øresund region. However, the region can still be characterised as semi-integrated as the collaboration across are still strongly driven by knowledge flows. However, the above suggests that emerging tendencies within the Øresund region facilitate a movement into a weakly integrated system, while some dimensions remain semi-integrated.

9. DISCUSSION

Whereas the above analysis and discussion widely examine how the border control has affected the dimensions, their interplay, and the cross-border regional innovation system, several other aspects must be considered to add depth to the considerations. The following section will outline and discuss different peripheral aspects of the analysis and how they can influence the conclusions of the analysis.

The above analysis and discussion arises from the assumption that the border control is the sole external condition. However, we must ask ourselves whether the border control indeed was the sole triggering factor for the current predicaments of the Øresund region. Following Sayer (2000), the social world is an open system and therefore complex and messy. The inclusion of the social context emphasises the necessity to consider the concept of internal and external conditions and mechanisms. Neglecting the presence of other conditions and mechanisms can obscure and distort the causal mechanisms identified above and a discussion of these other conditions must be included to fulfil the critical realist framework of causality (Yeung 1997).

There are several other external conditions within the Øresund region, which were not considered as factors within the framework of the border control. Very shortly, the aspects of the national and regional innovation system are considered. However, the complexity of a cross-border RIS is its affiliation, and somewhat problematic interaction, with these various innovation systems. Nevertheless, the interaction is significant to understand the cross-border RIS (Makkonen & Rohde 2016). Within these two other systems, other changes in the region have occurred simultaneously with the introduction of the border control, but was not an effect hereof. These somewhat external condition also plays a role in the contemporary regional development. For instance, the competitive behaviour between the governments and the subsequent limited support for regional integration have proposed restrictions for the collaboration. Lisa Thelin from Lund University argues that the Swedish government rejects everything that is Danish. The universities cannot receive funding for projects in collaboration with Danish businesses (App. II). These restrictions limit the knowledge flows within the region, but are not an effect that originated from the introduction of the border control. Nonetheless, it still proposes a major limitation for the region's governance, business, and knowledge infrastructure dimensions.

Furthermore, the establishment of Greater Copenhagen and Skåne Committee sparked several internal struggles as Scania did not feel as included in the process. “Scania was pissed off by the Greater Copenhagen issue. Because it was dominated by the Danish actors, who did not ask Scania until the very end of the process.” (App II, Hartman, p. 12). The instability between the regional political actors may shard the regional willpower, which emerged following the border control and worsened the governance dimension further instead of enhancing it as argued in the analysis.

The lack of support from the national governments is argued to be nothing new: “Before the ID control, the regional actors complained about lacking interest from both the Danish and Swedish government regarding the Øresund region and the conditions in the region.” (App. II, Andresen, p.3). Equally, Øresunddirekt experienced that the interest in cross-border employment has been decreasing since 2014. Hence, the causal influences of the governance and relational dimensions have underlying contexts, which was not considered when identifying their dynamic nature. This proposes the question of whether the strong visibility of the dimensions’ dynamic nature was fully due to the border control or was aided by the pre-existing context.

Additionally, it is important to note that the border control is not the sole border hindrance present within the Øresund region. For instance, institutional discrepancies between pensions, unemployment funds and taxation systems are amongst other border hindrances, which preceded the border control (App. II). The issue of these border hindrances is that these effects are less observable than the one of the border control. Nonetheless, they still play a significant role within the cross-border integration. Thus, it becomes increasingly evident that the introduction of the border control should not be ascribed the full responsibility of the regional development. Many other aspects play a role within the cross-border regional development.

The presence of other internal and external conditions also reflects new light upon the dynamic approach. Whereas, the previous conceptualisations of cross-border RIS are arguably characterised by a static approach, the case of the border control can be argued to be somewhat problematic to scrutinise the dynamic nature of a cross-border RIS. The border control can be argued to be an extraordinary condition, which provides rapid changes to the integration of the region just as the construction of the fixed link did. Therefore, one might ask, if the dynamic nature identified within the present study also is of an extraordinary nature. For some dimensions, this is true, but it relies on their level of dynamic nature. For instance, the changes to the accessibility dimension was of an

extraordinary nature due to the inertia of the dimension, whereas the changes to the relational dimension was much more anticipated as determined by its higher dynamic nature. On the other hand, all the causal mechanisms identified within this study cannot be argued to lose validity. The changes and co-evolutions between the dimensions became visible for a reason – regardless of it being extraordinary or not. The grand external condition, which the border control can be argued to solely made them more distinct.

Furthermore, the extraordinary conditions of the border control solely underpin the dynamic nature. The analysis concludes that any regional development is never linear. The ever-changing social context will ensure that the dimensions, and thus the cross-border RIS, will alter and mutually influence each other. Hence, some changes will occur much more grandiose such as the border control or the construction of the fixed linked, whereas other will be marginal such as establishment of partnerships between two smaller actors. Nonetheless, neither the smaller or larger changes must not be ignored. The appearance of any given, regardless of its size, must be included when following critical realism (Yeung 1997).

10. CONCLUSION

The present thesis has examined and discussed how the introduction of the border control between Denmark and Sweden has influenced the determining factors for the cross-border regional innovation system of the Øresund region. The thesis was constructed on the argument that the static approach to cross-border RIS restricted the empirical studies of the concept and thus a dynamic approach must be applied. Through the employment of the dynamic approach, the thesis explored two main aspects of the cross-border RIS of the Øresund region. Firstly, it was analysed how the border control influenced the dimensions of the cross-border RIS and how these dimensions were mutually influenced by each other due to the external conditions of the border control. Secondly, the analysis examined how the changes within the dimensions have facilitated alterations in the regional development through the concept of stage of integration.

The analysis concluded that the introduction of the border control within the Øresund region stunned the regional actors and has constantly proposed several struggles for the region following its introduction. Within a cross-border RIS framework, the border control directly influenced the accessibility and governance dimensions. The prolonged travel time and a stagnating political dialog rapidly changed the conditions of the Øresund region. The acute changes within the region facilitated a ripple effect between the remaining dimensions. The subsequent changes within the remaining dimensions gave rise to an identification of mutual relations through causal mechanisms and co-evolutions. However, the interrelated nature of the dimensions is of a complex nature. The co-evolutions are not only just one dimension, which influences another dimension. Instead, the dimensions influence each other in a criss-cross pattern, where the interrelated co-evolution between two dimensions can facilitate changes to a third. Furthermore, the complexity is emphasised through overlapping co-evolutions. For instance, in the present study, both the accessibility and governance dimensions influence the knowledge infrastructure dimension, but in very different ways. However, the knowledge infrastructure dimension must embrace this biased nature.

Additionally, when applying a dynamic approach, it became evident that a temporal aspect must be included. The co-evolutions between the dimensions do not materialise at the same time. Instead, the case of the border control illustrates that the influence upon one dimension onto another can be of either a short or long time frame. In other words, the changes to some dimensions became visible shortly after the border control, whereas others were emerging tendencies.

Understanding the interrelated nature of the dimensions established a foundation to gain insight into how the entirety of the region have developed following the introduction of the border control. However, as shown through previous studies, understanding exactly how the dimensions influence the state of the region has proven to be difficult as the static approach is unsuitable for such analysis. Instead, the analysis analysed and discussed the level of dynamic nature of the dimensions prior to ascertaining how they influence the stage of integration. The analysis and discussion illustrated that some dimensions are easily influenced, whereas others are characterised by high levels of stability and inertia. The dimensions of a highly dynamic nature were less prone to deeply influence the stage of integration, whereas changes within the low dynamic dimensions proposed greater changes for the development of the cross-border region, if they were exposed the changes.

The introduction of the border control cannot be denied to have altered the composition of economic activity within the Øresund region. The changed dimensions suggest a worsened stage of integration. However, through the analysis, it became evident that the static concept of stage of integration proposed limitations for assessing the Øresund region as a specific stage on the foundation of a dynamic analysis. Even though, the border control has deteriorated the state of most dimensions, the region still performs as a semi-integrated region as the innovative collaborations remains knowledge-driven. Hence, the fluctuating nature of a cross-border RIS is neglected through the previous conceptualisations of the concept. Cross-border economic and innovative activities are not linear and thus the reality cannot be depicted through the static concept of stage of integration.

Conclusively, the thesis empirically argues that the concept of cross-border regional innovation systems is inherently dynamic. The dynamic nature of the dimensions, and thus the determining factors of the regional development are ever-changing. The case of the border control in the Øresund region illustrates how the social context influences the economic development of the region. Hence, the development of such region must never be examined through the assumption that the development will be linear – because it seldom is.

This dynamic nature of the cross-border RIS has become inherently obvious with the removal of the ID controls on the 2nd of May 2017. The above investigation of the interrelational character of the dimensions indicates some relatively rapid changes in each of the different dimensions due to the

prolonged travel time – especially the accessibility and relational dimensions. However, with the removal of the ID control, it will be of great interest to further investigate how the new context influences the regional development and the dimensions of the transfrontier RIS. Several questions emerge. How will the co-evolutions between the dimensions respond to these changes? How fast will the region return to the stage prior to the border control? Can it ever return to the same stage or will it follow a different path as it is now influenced by its own historical events?

10.1. Directions for Future Research

Even though, this thesis widely examines the dynamic nature of the cross-border regional innovation system, several aspects can be elaborated upon further in future research. First and foremost, it would be interesting to apply the same dynamic cross-border RIS unto another cross-border region to examine whether the dynamic nature of the dimensions and cross-border RIS are evident and alike within another context.

Secondly, the analysis does not expand on the broader international perspective of how the border control has altered the international image and branding value of the Øresund region. As mentioned in the Introduction, the Øresund region has been perceived as a posterchild for cross-border collaboration by the European Union. However, the introduction of the border control has proven to crack the façade of the region. An interesting aspect for further investigation would be to examine how the border control has changed the attraction of the international actors and investments to the region due to the changed structures.

Finally, Makkonen et al. (2016) underpin that some dimensions must be more significant than others. The level of influence, which the dimensions have upon the cross-border RIS is strongly intertwined with the dynamic nature of the same dimensions. Future research could examine, if some dimensions have greater influence on the stage of integration. Furthermore, such approach should be done from a dynamic perspective as it proposes the question of whether it is the most dynamic dimensions that influence the cross-border RIS the most or if it is the opposite. Hence, the examination of the significance of the dimension in relation to the development of cross-border RIS must be done through the levels of dynamic nature within the dimensions. This could be combined with an extension of the concept of stage of integration to ensure a stronger connection to the reality and actual context as it becomes more pertinent through a dynamic approach.

11. BIBLIOGRAPHY

- Aoyama, Y., Murphy, J. & Hanson, S., 2011. *Key Concepts in Economic Geography*, London: Sage Publications, Inc.
- Asheim, B., Coenen, L. & Moodysson, J., 2015. Methods and applications of regional innovation systems analysis. In C. Karlsson, M. Andersson, & T. Norman, eds. *Handbook of Research Methods and Applications in Economic Geography*. Cheltenham: Edward Elgar, pp. 272–290. Available at: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84958116272&partnerID=40&md5=4950a8559383a25fb769d88156955fad>.
- Asheim, B., Grillitsch, M. & Trippel, M., 2016. Regional Innovation Systems: Past -Presence - Future. In R. Shearmur, C. Carrincazeaux, & D. Doloreux, eds. *Handbook on Geographies of Innovation*. Cheltenham: Edward Elgar Publishing Limited, pp. 45–62.
- Balland, P.-A., Boschma, R. & Frenken, K., 2015. Proximity and Innovation: From Statics to Dynamics. *Regional Studies*, 49(6), pp.907–920. Available at: <http://dx.doi.org/10.1080/00343404.2014.883598%5Cnhttp://www.tandfonline.com/doi/abs/10.1080/00343404.2014.883598%5Cnhttp://www.tandfonline.com/doi/pdf/10.1080/00343404.2014.883598>.
- Boschma, R., 2005. Proximity and Innovation: A Critical Assessment. *Regional Studies*, 39(1), pp.61–74.
- Boschma, R. & Frenken, K., 2011. The Emerging Empirics of Evolutionary Economic Geography. *Journal of Economic Geography*, 11, pp.295–307.
- Broekel, T., 2012. The co-evolution of proximities-a network level study. *Regional Studies*, 49(6), pp.921–935. Available at: <http://econ.geo.uu.nl/peeg/peeg1217.pdf>.
- Bryman, A., 2012. *Social Research Methods* 4th edi., Oxford: Oxford University Press.
- Butler, R., 2001. From Where I Write: the Place of Positionality in Qualitative Writing. In C. Dwyer & M. Limb, eds. *Qualitative Methodologies for Geographers - Issues and Debates*. London: Arnold Publishers, pp. 264–276.
- Committee, T.G.C.& S., 2016. *Greater Copenhagen - Handlingsplan 2017*, Available at: [file:///Users/pernillewissingmadsen/Downloads/Handlingsplan 2017 dansk version 160117.pdf](file:///Users/pernillewissingmadsen/Downloads/Handlingsplan%202017%20dansk%20version%20160117.pdf).
- Flick, U., 2009. *An Introduction to Qualitative Research* 4th edi., London: Sage Publications, Inc.
- Hansen, T., 2013. Bridging Regional Innovation: Cross-border collaboration in the Øresunds Regions. *Geografisk Tidsskrift-Danish Journal of Geography*, 113, pp.25–38.
- Karlsson, C., Andersson, M. & Norman, T., 2015. Introduction. In C. Karlsson, M. Andersson, & T. Norman, eds. *Handbook of Research Methods and Applications in Economic Geography*. Cheltenham: Edward Elgar, pp. 1–20.
- Kiryushin, P., Mulloth, B. & Iakovleva, T., 2013. Developing cross-border regional innovation systems with clean technology entrepreneurship: the case of Øresund. *International Journal of Innovation and Regional Development*, 5(2), p.179. Available at: <http://www.inderscience.com/link.php?id=55237>.
- Kommune, K., 2015. *Indblik i Greater Copenhagen*, Available at: <http://www.greatercph.dk/vaerktoejskasse/analyser>.

- Kvale, S., 1996. *Interviews - An Introduction to Qualitative Research Interviewing*, California: Sage Publications, Inc.
- Kvale, S., 2007. *Doing Interviews* Sage Publi., London.
- Lawson, T., 2001. Two Responses to the Failings of Modern Economics: the Instrumentalist and the Realist. *Review of Population and Social Policy*, 10, pp.155–181.
- Lundquist, K.-J. & Trippl, M., 2013. Distance, Proximity and Types of Cross-border Innovation Systems: A Conceptual Analysis. *Regional Studies*, 47(3), pp.450–460.
- Lundquist, K.-J. & Trippl, M., 2009. Towards Cross-Border Innovation Spaces: A theoretical analysis and empirical comparison of the Oresund region and the Centrope Area. *ePub WU Institutional Repository*, (September), pp.269–288. Available at: <http://epub.wu.ac.at/2792/>.
- Lundquist, K.-J. & Winther, L., 2006. The Interspace between Denmark and Sweden: The Industrial Dynamics of the Öresund Cross-Border Region. *Geografisk Tidsskrift-Danish Journal of Geography*, 106(1), pp.115–129.
- Makkonen, T. & Rohde, S., 2016. Cross-border Region Innovation Systems: Conceptual Backgrounds, Empirical Evidence and Policy Implications. *European Planning Studies*, 24(9), pp.1623–1642.
- Makkonen, T., Weidenfeld, A. & Williams, Allan, M., 2016. Cross-border Regional Innovation System Integration: An Analytical Framework. *Tijdschrift voor Economische en Sociale Geografie*, 0(0), pp.1–16.
- Nielsen, J.H. & Hauch, J., 2016. Tids- og arbejdsudbudseffekter af svensk grænsekontrol i Øresundsregionen. *Kraka*.
- OECD, 2003. *OECD Territorial Reviews: Oresund, Denmark/Sweden 2003*, Paris.
- Packer, M., 2011. *The Science of Qualitative Research*, New York: Cambridge University Press.
- Perkmann, M., 2003. Cross-Border Regions in Europe. *European Urban and Regional Studies*, 10(2), pp.153–171.
- Roberts, J.M., 2014. Critical Realism, Dialectics, and Qualitative Research Methods. *Journal for the Theory of Social Behaviour*, 44(1), pp.1–23. Available at: <http://doi.wiley.com/10.1111/jtsb.12056>.
- Sayer, A., 2000. *Realism and Social Science*, London: Sage Publications, Inc.
- Shearmur, R., 2011. Innovation, Regions and Proximity: From Neo-Regionalism to Spatial Analysis. *Regional Studies*, 45(9), pp.1225–1243.
- Shearmur, R., Carrincazeaux, C. & Doloreux, D., 2016. The geographies of innovations: beyond one-size-fits-all. In R. Shearmur, C. Carrincazeaux, & D. Doloreux, eds. *Handbook on Geographies of Innovation2*. Cheltenham: Elgar, pp. 1–16.
- Trippl, M., 2010. Developing cross-border regional innovation systems: Key factors and challenges. *Tijdschrift voor Economische en Sociale Geografie*, 101(2), pp.150–160.
- Tryding, P. & Andersson, M., 2016. *Kontrollernas kostnad - ekonomiska konsekvenser av ID-kontrollerna i Öresundsregionen*,
- Van Den Broek, J. & Smulders, H., 2015. Institutional hindrances in cross-border regional innovation systems. *Regional Studies, Regional Science*, 2(1), pp.115–121. Available at: <http://dx.doi.org/10.1080/21681376.2015.1007158>.
- van Oort, F., de Geus, S. & Dogaru, T., 2012. Related Variety and Regional Economic Growth in a

- Cross-Section of European Urban Regions. *Papers in Evolutionary Economic Geography*, 13(August), pp.1–18. Available at: <http://ideas.repec.org/p/egu/wpaper/0905.html>.
- Yeung, H.W.-C., 1997. Critical Realism and Realist Research in Human Geography: A Method or a Philosophy in Search of a Method? *Progress in Human Geography*, 21(1), pp.51–74.
- Yeung, H.W.-C., 2003. Practicing New Economic Geographies: A Methodological Examination. *Annals of the Association of American Geographers*, 93(2), pp.442–462.
- Øresundsinstitutet, 2016a. *Det Fælles Arbejdsmarked i Greater Copenhagen Krymper: Konsekvenserne af indførelsen af ID- og grænsekontrol mellem Danmark og Sverige, del 2*,
- Øresundsinstitutet, 2016b. *ID- og grænsekontroller i Norden*,
- Øresundsinstitutet, Wiborg, T. & Andersson, J., 2016. *TREND REPORT: Samarbejdet på Tværs af Øresund*, Available at: <http://www.oresundsinstitutet.dk/wp-content/uploads/2016/09/Samarbejdet-pa-tvaers-af-Oresund-20160914-webb.pdf>.

APPENDIX I

INTERVIEWGUIDES

<i>Interviewguide til Britt Andresen</i>	2
<i>Interviewguide til Julie Pedersen</i>	3
<i>Interviewguide til Thomas Steffensen</i>	4
<i>Interviewguide til Petter Hartman</i>	5
<i>Interviewguide til Greater Copenhagen & Skåne Comittee</i>	7
<i>Interviewguide til Micael Gustafsson</i>	8
<i>Interviewguide til Per Tryding</i>	10
<i>Interviewguide til Arian Ratkoceri</i>	11
<i>Interviewguide til Lisa Thelin</i>	12

Interviewguide til Britt Andresen, Øresundsinstitutet, 22.03.17

Britt Andresen, Chefanalytikere ved Øresundsinstitutet. Har tidligere været analysechef på Øresundsbron. 2012-14 arbejdede hun på Øresundskomiteen og havde eget firma. Britt er uddannet økonom (cand. polit.) fra Københavns universitet.

1. Hvordan arbejder Øresundsinstitutet med det dansk-Svensk samarbejde?
 - a. Hvordan opstod Øresundsinstitutet?
 - b. Hvilken tilgang har I til det dansk-svenske samarbejde?
2. Hvilke(n) aspekter/samarbejde synes du grænsekontrollen har haft mest indflydelse på?
 - a. Politisk
 - b. Videnskabsmæssigt/uddannelse
 - c. Erhverv
 - d. Kulturelt og socialt
 - e. Netværk
3. Hvordan har grænsekontrollen haft indflydelse på ... samarbejde mellem Danmark og Sverige?
 - a. Oplever I, at dagsorden hos aktørerne har ændret sig pga. grænsekontrollen?
 - b. Hvordan har jeres arbejde i regionen ændret sig?
4. Har I oplevet at aktørerne har udtrykt bekymring for grænsekontrollen?
 - a. Er der mindre/mere interesse for at indgå i samarbejde på tværs af grænsen
5. Har du oplevet andre indirekte problematikker/effekter som følge af grænsekontrollen?
 - a. Social?
 - b. Kulturelt?
 - c. Viden?
6. Hvilke langtidseffekter kunne du forestille dig en længerevarende konsekvenser for regionen?

Interviewguide til Julie Pedersen, Region Hovedstaden, 22.03.17

Julie Pedersen, Konsulent, Region Hovedstaden. Arbejdsområder: Handlingsplan for Greater Copenhagen & Skåne Committee, Udvikling af Greater Copenhagen-samarbejdet og Inddragelse af erhvervslivet i Greater Copenhagen

1. Region Hovedstadens arbejde i det dansk-Svensk samarbejde?
 - a. Hvordan arbejder I med grænsekontrollen i det daglige arbejde?
 - b. Hvilken tilgang har I til det dansk-svenske samarbejde?
2. Har grænsecontrollen haft indflydelse på det politiske samarbejde mellem Danmark og Sverige?
 - a. Oplever I, at den politiske dagsorden er blevet ændret pga. grænse kontrollen?
 - b. Hvordan har jeres arbejde med det politiske arbejde i regionen ændret sig?
3. Har I oplevet at erhvervslivet har udtrykt bekymring for grænsekontrollen?
 - a. Er der mindre/mere interesse for at indgå i samarbejde på tværs af grænsen?
4. Hvilken holdning har Region Hovedstaden til grænsekontrollen?
 - a. Politisk
 - b. Erhvervslivet
5. Har du oplevet andre problematikker/effekter som følge af grænsekontrollen?
 - a. Social?
 - b. Kulturelt?
 - c. Viden?
6. Hvilke langtidseffekter kunne du forestille dig en længerevarende konsekvenser for regionen?

Interviewguide til Thomas Steffensen, Øresunddirekt, 24.03.17

Sekretariatsleder,

Øresunddirekt er en informationstjeneste, som siden år 2000 har formidlet offentlig information fra myndigheder til svenske og danske borgere samt virksomheder i Øresundsregionen.

1. Kort om Øresunddirekt:
 - a. Hvordan opstod Øresunddirect?
 - b. Hvilken tilgang har I til det dansk-svenske samarbejde?
 - c. Hvilke aktører arbejder I hovedsageligt med?

2. Hvilke(n) aspekter/samarbejde synes du grænsekontrollen har haft mest indflydelse på?
 - a. Politisk
 - b. Videnskabsmæssigt/uddannelse
 - c. Erhverv
 - d. Kulturelt og socialt
 - e. Netværk

3. Hvordan har grænsekontrollen haft indflydelse på jeres og jeres aktørs samarbejde mellem Danmark og Sverige?
 - a. Oplever I, at dagsorden hos aktørerne har ændret sig pga. grænsekontrollen?
 - b. Hvordan har jeres arbejde i regionen ændret sig?

4. Har I oplevet at aktørerne har udtrykt bekymring for grænsekontrollen?
 - a. Er der mindre/mere interesse for at indgå i samarbejde på tværs af grænsen?

5. Har du oplevet andre indirekte problematikker/effekter som følge af grænsekontrollen?
 - a. Social?
 - b. Kulturelt?
 - c. Viden?

6. Hvilke langtidseffekter kunne du forestille dig en længerevarende konsekvenser for regionen?
 - a. Hvis den fjernes nu?
 - b. Hvis den bliver permanent?

Interviewguide til Petter Hartman, Medicon Valley Alliance, 27.03.17

CEO af Medicon Alley Alliance, etter came to Medicon Valley Alliance in 2014 as funding manager from a position as project consultant with the Interreg Secretariat and seven years of in depth experience with Danish-Swedish regional collaboration.

1. Kort om Medicon Valley Alliance's arbejde:
 - a. Hvornår og hvordan opstod i?
 - b. Hvilke aktører arbejder i hovedsageligt med?
 - c. Hvordan involverer i disse aktører i hverdagen ?
 - d. Hvilken tilgang har I til det dansk-svenske samarbejde?

2. Hvad har I gjort anderledes end de klynger, som ikke har overlevet?
 - a. Øresund IT
 - b. Øresund Food Etc.
 - c. Øresunds universitet

3. Medicon Valley Alliances arbejde i det dansk-Svensk samarbejde
 - a. Hvordan arbejder I med grænsekontrollen i det daglige arbejde?
 - b. Har I oplevet at erhvervslivet har udtrykt bekymring for grænsekontrollen?
 - i. Er der mindre/mere interesse for at indgå i samarbejde på tværs af grænsen?
 - ii. Er nogle forskelligheder/ligheder blevet tydeligere efter grænsekontrollen?

4. Har grænsecontrollen haft indflydelse på erhvervslivets samarbejde mellem Danmark og Sverige?
 - a. Oplever I, at dagsorden hos firmaerne er blevet ændret pga. grænsekontrollen hos erhvervslivet?
 - b. Hvordan har jeres arbejde med det arbejde i regionen ændret sig?
 - c. Oplever I, at der er forskel på tilgangen til grænsekontrollen mellem de regional og statslige politikere?
 - d. Er nogle forskelligheder/ligheder blevet tydeligere efter grænsekontrollen?
 - e. Hvordan udfordre grænsekontrollen den interne vidensdeling mellem jeres medlemmer?

5. Har interaktionen i regionen ændret sig mellem:
 - a. Erhvervslivet
 - b. Universiteterne
 - c. Politikerne /de politiske institutioner
 - d. Borgere
 - e. Ændre netværk og klynger

6. Har du oplevet andre mere indirekte problematikker/effekter som følge af grænsekontrollen?
 - a. Social?
 - b. Kulturelt?
 - c. Viden?
 - d. Symbolsk?

7. Hvilke langtidseffekter kunne du forestille dig en længerevarende grænsekontrol vil have for regionen?
 - a. Hvis den fjernes i dag?
 - b. Hvis den bliver permanent?

8. Hvorfor ser Medicon Valley Alliance det som en vigtig ting at integrere på tværs af grænsen?

Andre klynger/erhvervslivsrepræsentater du kan anbefale?

Interviewguide til Greater Copenhagen & Skåne Committee, 29.03.17

9. Kort om Greater Copenhagen og Skåne Committees arbejde:
 - a. Hvilke aktører arbejder I hovedsageligt med?
 - b. Hvordan involverer I disse aktører i hverdagen ?
 - c. Hvilken tilgang har I til det dansk-svenske samarbejde?
10. Greater Copenhagen og Skåne Committes arbejde i det dansk-Svensk samarbejde
 - a. Hvordan arbejder I med grænsekontrollen i det daglige arbejde?
11. Har grænsecontrollen haft indflydelse på det politiske samarbejde mellem Danmark og Sverige?
 - a. Oplever I, at den politiske dagsorden er blevet ændret pga. grænsekontrollen?
 - b. Hvordan har jeres arbejde med det politiske arbejde i regionen ændret sig?
 - c. Oplever I, at der er forskel på tilgangen til grænsekontrollen mellem de regional og statslige politikere?
 - d. Har grænsekontrollen betydet ændringer i interaktionen mellem de danske og svenske politikere?
 - e. Er nogle forskelligheder/ligheder blevet tydeligere efter grænsekontrollen?
12. Har I oplevet at erhvervslivet har udtrykt bekymring for grænsekontrollen?
 - a. Er der mindre/mere interesse for at indgå i samarbejde på tværs af grænsen?
 - b. Har interaktionen i erhvervslivet ændret sig?
 - c. Er nogle forskelligheder/ligheder blevet tydeligere efter grænsekontrollen?
13. Hvilken holdning har Greater Copenhagen og Skåne Committe til grænsekontrollen?
 - a. Politisk
 - b. Erhvevslivet
14. Har du oplevet andre mere indirekte problematikker/effekter som følge af grænsekontrollen?
 - a. Social?
 - b. Kulturelt?
 - c. Viden?
15. Hvilke langtidseffekter kunne du forestille dig en længerevarende grænsekontrol vil have for regionen?
 - a. Hvis den fjernes i dag?
 - b. Hvis den bliver permanent?

Interviewguide til Micael Gustafsson, Clusterland Sweden 30.03.17

Micael Gustafsson is an entrepreneur with experience from IT, Telecom, Media, Advertising, Education and Automotive Industry. He has been acting as a cluster manager for the past 5 years, helping start ups and SME:s mainly in IT and Telecom.

Var aktiv i anlæggelsen af Cluster 55 (Øresund IT)

1. Kort om Clusterland Swden:
 - a. Hvornår og hvordan opstod i?
 - b. Hvilke aktører arbejder i hovedsageligt med?
 - c. Hvordan involverer i disse aktører i hverdagen ?
 - d. Hvilken tilgang og rolle har I/du til det dansk-svenske samarbejde?
2. Hvordan ser du klyngeudviklingen i Øresundsregionen?
 - a. Hvorfor har ingen af de tidligere klynger overlevet?
 - i. Øresund IT/Cluster 55/Øresund /Øresunds universitet
 - b. Hvorfor er Medicon Valley Alliance den eneste tværgående klynge i regionen?
3. Hvordan arbejder/oplever I grænsekontrollen i det daglige arbejde?
 - a. Har I oplevet at erhvervslivet har udtrykt bekymring for grænsekontrollen?
 - i. Er der mindre/mere interesse for at indgå i samarbejde på tværs af grænsen?
 - ii. Er nogle forskelligheder/ligheder blevet tydeligere efter grænsekontrollen?
 - iii. Har den givet ændringer i hvordan eventuelle klynger skal arbejde?
4. Har grænsecontrollen haft indflydelse på erhvervslivets samarbejde mellem Danmark og Sverige?
 - a. Oplever I, at dagsorden hos firmaerne er blevet ændret pga. grænsekontrollen?
 - b. Oplever I, at der er forskel på tilgangen til grænsekontrollen mellem de regional og statslige politikere?
 - c. Er nogle forskelligheder/ligheder blevet tydeligere efter grænsekontrollen?
 - d. Hvordan udfordre grænsekontrollen den interne vidensdeling mellem jeres medlemmer?
5. Har interaktionen i regionen ændret sig mellem:
 - a. Erhvervslivet
 - b. Universiteterne
 - c. Politikerne /de politiske institutioner
 - d. Borgere
 - e. Ændre netværk og klynger
6. Har du oplevet at interessen fra eksterne aktører har ændret sig?
 - a. Eksempelvis fra Europæisk side?
7. Har du oplevet andre mere indirekte problematikker/effekter som følge af grænsekontrollen?
 - a. Social?
 - b. Kulturelt?
 - c. Viden?
 - d. Symbolsk?

8. Hvilke langtidseffekter kunne du forestille dig en længerevarende grænsekontrol vil have for regionen?
 - a. Hvis den fjernes i dag?
 - b. Hvis den bliver permanent?

9. Hvorfor ser du det som en vigtig ting at integrere og arbejde på tværs af grænsen?

Andre klynger/erhvervslivsrepræsentater/andre centrale aktører du kan anbefale?

**Interviewguide til Per Tryding, Sydsvenska Industri- och Handelskammaren
10.04.2017**

1. Kort om Sydsvenska Industri- och Handelskammaren
 - a. Hvornår og hvordan opstod i?
 - b. Hvilke aktører arbejder i hovedsageligt med?
 - c. Hvordan involverer i disse aktører i hverdagen?
 - d. Hvilken tilgang og rolle har du/I til det danske/svenske samarbejde?
2. Hvordan arbejder/oplever i grænsekontrollen i det daglige arbejde?
 - a. Har i oplevet at erhvervslivet har udtrykt bekymret for grænsekontrollen
 - i. Er der mindre/mere interesse for at indgå i samarbejde på tværs af grænsen?
 - ii. Er nogle forskelligheder/ligheder blevet tydeligere efter grænsekontrollen?
 - iii. Har givet ændringer i hvordan eventuelle klyner skal arbejde?
3. Har grænsekontrollen haft indflydelse på erhvervslivets samarbejde mellem Danmark og Sverige?
 - a. Oplever I, at dagsorden hos firmaerne er blevet ændret pga. Grænsekontrollen?
 - b. Oplever i, at der er forskel på tilgangen til grænsekontrollen mellem de regionale og statslige politikere?
 - c. Er der nogle forskelligheder/ligheder blevet tydeligere efter grænsekontrollen?
 - d. Hvordan udfordre grænsekontrollen den interne vidensdeling mellem jeres medlemmer?
4. Har interaktionen i regionen ændret sig imellem:
 - a. Erhvervslivet
 - b. Universiteterne
 - c. Politikere/de politiske institutioner
 - d. Borgere
 - e. Andre netværks og klynger
5. Har du oplevet at interessen fra eksterne aktører har ændret sig?
 - a. Eksempelvis fra europæisk side? Nationalt?
6. Har du oplevet andre problematikker/effekter som følge af grænsekontrollen?
 - a. Social?
 - b. Kulturelt?
 - c. Viden?
 - d. Symbolsk?
7. Hvilke langtidseffekter kunne du forestille dig en længerevarende kontrol vill have for regionen?
 - a. Hvis den forsvinder i morgen?
 - b. Hvis den bliver permanent?
8. Hvorfor ser du det som en vigtig ting at integrer og arbejde på tværs af grænsen?

Interviewguide til Arian Ratkoceri, Malmö Stad 10.04.2017

9. Malmö Stads arbejde med det dansk-Svensk samarbejde?
 - a. Hvilken tilgang har I til det dansk-svenske samarbejde?
 - b. Hvilke aktører arbejder I med i hverdagen? Og hvordan?

10. Har grænsekontrollen haft indflydelse på det politiske samarbejde mellem Danmark og Sverige?
 - a. Hvordan har jeres arbejde med det politiske arbejde i regionen ændret sig?
 - b. Oplever I, at den politiske dagsorden er blevet ændret pga. grænsekontrollen?
 - c. Hvordan arbejder I med grænsekontrollen i hverdagen?
 - d. Oplever I, at der er forskel på tilgangen til grænsekontrollen mellem de regional og statslige politikere?
 - e. Er nogle forskelligheder/ligheder blevet tydeligere efter grænsekontrollen?

11. Har I oplevet, at aktørerne har udtrykt bekymring for grænsekontrollen?
 - a. Både på den svenske og danske side?
 - b. Er der mindre/mere interesse for at indgå i samarbejde på tværs af grænsen?
 - c. Hvilke aktørere er mest/mindst bekymret for grænsekontrollens effekter?

12. Hvorfor er det vigtigt at samarbejde på tværs af grænsen?

13. Har du oplevet andre problematikker/effekter som følge af grænsekontrollen?
 - a. Social?
 - b. Kulturelt?
 - c. Viden?
 - d. Symbolsk?

14. Hvilke langtidseffekter kunne du forestille dig en længerevarende kontrol vill have for regionen?
 - a. Hvis den forsvinder i morgen?
 - b. Hvis den bliver permanent?

Interviewguide til Lisa Thelin, Lund University 25.04.17*Afdelingsleder af Samveckan.*

1. Kort om Samveckans arbejde:
 - a. Hvordan arbejder i hverdagen?
 - b. Hvornår og hvordan opstod i?
 - c. Hvilke aktører arbejder i hovedsageligt med?
 - d. Hvordan involverer i disse aktører i hverdagen ?

2. Samveckans arbejde i det dansk-Svensk samarbejde
 - a. Hvordan arbejder I med grænsekontrollen i det daglige arbejde?
 - b. Har I oplevet at universiteterne/acadmia har udtrykt bekymring for grænsekontrollen?
 - i. Er der mindre/mere interesse for at indgå i samarbejde på tværs af grænsen?
 - ii. Er nogle forskelligheder/ligheder blevet tydeligere efter grænsekontrollen?

3. Har grænsekontrollen haft indflydelse på universiteternes samarbejde mellem Danmark og Sverige?
 - a. Oplever I, at dagsorden hos de studerende/forskerne er blevet ændret pga. grænsekontrollen?
 - b. Hvordan har jeres arbejde med det arbejde i regionen ændret sig?
 - c. Oplever I, at der er forskel på tilgangen til grænsekontrollen mellem de regional og statslige politikere?
 - d. Er nogle forskelligheder/ligheder blevet tydeligere efter grænsekontrollen?
 - e. Hvordan udfordre grænsekontrollen den interne vidensdeling mellem jeres medlemmer?

4. Har interaktionen i regionen ændret sig mellem:
 - a. Erhvervslivet
 - b. Universiteterne
 - c. Politikerne /de politiske institutioner
 - d. Borgere
 - e. Ændre netværk og klynger

5. Har du oplevet andre mere indirekte problematikker/effekter som følge af grænsekontrollen?
 - a. Social?
 - b. Kulturelt?
 - c. Viden?
 - d. Symbolsk?

6. Hvilke langtidseffekter kunne du forestille dig en længerevarende grænsekontrol vil have for regionen?
 - a. Hvis den fjernes i dag?
 - b. Hvis den bliver permanent?

7. Hvorfor ser du/universiteterne det som en vigtig ting at integrer på tværs af grænsen?

APPENDIX II

INTERVIEW TRANSCRIPTION:

APPENDIX II	1
<i>Interview w. Britt Andresen</i>	2
<i>Interview w. Julie Pedersen</i>	5
<i>Interviewguide w. Thomas Steffensen</i>	7
<i>Interview w. Petter Hartman</i>	9
<i>Interview w. Greater Copenhagen & Skåne Committee secretariat,</i>	15
<i>Interview w. Micael Gustafsson</i>	16
<i>Interview w. Per Tryding</i>	19
<i>Interview w. Arian Ratkoceri</i>	21
<i>Interview w. Lisa Thelin</i>	24
<i>Anonymous quotes</i>	28

Interview w. Britt Andresen, 22.03.17 – 1.00.00*Location: Øresundsinstitutet, Malmö**Anonymity: No, while some arguments must be anonym.*

About Øresundsinstitutet: Started in 2002. The founding idea about the institute was to make regional analyses and having a magazine published 4 times per year as well as conferences (fx. Real Estate Øresund) and network event. The meeting and networking aspects has been essential since the beginning. 2012: News Øresund (earlier a

“Many of our members carries a touch for this region.” [8.19]

“It hurts in their [members] to see that they have smashed this trainsystem” [8.35]

“The idea about legitimising oneself, there are many, who think that it is weird. [9.25]

“Many has taken the free mobility over the border for granted. A truism.” [10.27]

Then the border control comes – as a lightning from a clear sky [11.49]

“I have been so deeply-rooted in the collaboration that the cross border was a given.” [12.37]

About the first legislation proposal from the Swedish government: “You cannot cut, what I perceive as, a central artie in the region” [13.35]

In the first proposal, the Swedish police had the authority to close the bridge for 1 month.

Differences between Denmark and Sweden:

“You can easily have an id and border control, if the transport system can manage. If it has the capacity in the system to manage these controls. For instance, between Elsinore and Helsingborg, the traffic flows and the ferries sail as scheduled. There is not any issue.” (17.10)

→ The problems at Helsingborg is of an economic character for the ferries

It functions well for the car traffic across the bridge. There will be maximum 15 min. waiting.

“However for the train system, we have a situation where we have a Danish operative, DSB, which from Swedish side is imposed a transporter responsibility. Where if it was internally in Denmark, or so I assume, have had a dialog regarding how flexible and strict is the police.” (18.26)

DSB have had the treathed of had to pay 50.000 dkkr every time they let one migrant over the border, who did not have a valid ID. It can become a lot of money with the vast number of people travelling over the bridge.

The Swedish police have the possibility to show flexibility, however the passport inspectors cannot.

“It makes a difference that it is a Danish transport company on one side, [...] and the counterpart is located in Sweden.” (21.01)

“We experienced that there was not a dialog on a national level up to the instatement of the border control” (21.12) It has come after!

A new proposal has emerged where the Swedish police will jump on the train in the airport and will do the control in the train as it crosses the bridge. However, issues here is the laws must be changed as it might involve control on Danish ground!!!

“However, it shows that we now have a [political] collaboration we did not have before.” (22.12)

No model exists to assist in dealing with this changed context.

On the Swedish side is a transport company, Skåne Trafikken, and on the Danish side the transport ministry → A complex structure. Other actors: DSB which is an operator.

Issues: “There are so many actors involved and a traffic system, which is are been pushed to the limit.” (23.02)

The section from Hovedbanegården to the airport are already marked as lacking capacity and have been in many years. Plus the Airport station is too small for the border control. Space wise it would have been better if the border control was done over Hyllie (however, some of the room would have to be marked a Danish territory)

Struggles for the political collaboration:

“There is a political game. From Danish side, they have continuously said that we need to remove the ID control. When they had that opinion, it is difficult to bend a saying “Now we start to negotiate from the stand point that we have a situation where we have an ID control.”.

“Some time has passed, where the Danish government have marked that they are against the ID control.”

Before the ID control, the regional actors have complained about lacking interest from both the Danish and Swedish governments for the Øresund region and the conditions in the region. (26.48)

More or less interest for collaboration between the businesses:

“The interest for collaboration have almost increased again. They WANT the collaboration. However, at the same time, the businesses can objectively ascertain that they receive less applications from, especially Danish companies, people who live in Sweden. The interest for commuting have decreased. It can be problematic for some companies (32.52)

→ Some companies have started to compensate employees from the other side. Either in terms of a home workday or collective transportation. However, some segments of employees are bound to work a specific time (Shops, hotel etc.)

“They want to collaborate cross, but we can ascertain that the conditions have become worse. (34.20)

Some companies have talked about stopping announce jobs in Sweden, because the interest for working in Denmark has significantly dropped since the ID control. However, in some segments there is a beginning deficit in workforce, so they need the Swedish workforce!

Indirect problematic/aspects:

“For the regional actors, I don’t think it will harm or weaken the collaboration – on the contrary.” (40.10)

Now the actors must reflect on their standpoint about the region. It was a given, but now they must take a position if they are for or against. Due to that more and more have moved closer together and says that they WANT the collaboration. “We [the regional actors] can see the possibilities and potentials there is in the region.” (41.05)

“It weakens the integration on the direct effects in regards to that we experience declining commuting - especially the low paid. (41.24)

“There is a social impact due to the control only hits one segment.” (41.43)

But the practicality is weakened. Maybe you say “I will skip that meeting in Copenhagen”. (42.13)
But I know from myself, and hear from other that they say “I don’t want to.” It can be an academic event or social event on the other side that one skips. The thought of, late at night, to go home from a dinner and standing in the airport and waiting ... nobody wants that. (43.23).

The outside actors:

Some talks about that the control is a must as that the actors in the region are just whining over longer commuting hours.

“It is a small price to pay to ensure that the Swedish system did not collapse (45.50)

“However, for me, it is important that we disconnect those two things. [...] If we should have an ID control is one aspect in itself. But how we can get the train traffic to function. (47.18)

We must solve the issue of the train transport system from the premises given.

There has become a mistrust towards the national systems from the commuters.

“They feel that they have become the victims in a game, where the two aspects have not been disconnected (48.52)

Long-time effects if the ID control would become permanent:

“It depends completely how the trains would departure.” If the

The decline in commuting – it will take some years to get it to grow again! It is the workforce who has been harmed.

The environmental aspects:

The train commuters who have become car commuters. It is difficult to get them into the trains again. From an environmental aspect it is harmful for the cities.

The mistrust towards the national government – will it persist:

“I think people are quick to forget” (54.52)

Interview w. Julie Pedersen, Region Hovedstaden/GC&SC, 22.03.17 – 40.00

Location: Café in Copenhagen

Anonymity: No, while some arguments must be anonym.

“In Greater Copenhagen, we work as a collective metropol.” (2:52)

“the purpose is to create growth and employment in Greater Copenhagen” (3:26)

→ Directed towards businesses

She provided me with a copy of the actionplan for Greater Copenhagen 2017.

→ look into that...

There are also many more border hindrances than the border control that hinder integration in the labour market (6:25) – A-kasse, pension, taxes.

There is great interest [politically] for the collaboration, because they have gathered this large organisation. (8:17)

But it is a problem for integration in the labour market that we have these border hindrances (8:20)

The border hindrances greatly occupy the political collaboration. And here we refer to the collaboration between Region Hovedstaden and Region Skåne. Not between Stockholm and the Danish Government. (9:39)

In the region, they try to engage the national governments.

But it can be difficult to establish a dialog with the governments. There are many different politics involved in relation to immigration and differences. (11:02)

It is very different systems. It is very difficult to get Stockholm to talk about the issues in Malmö.

“It is noteworthy that there is no border control when you arrive by plane in Stockholm (12:02)

It is not possible to say that there has emerged distrust between the political actors, but it is hard to involve them (12:37)

It is a hot political topic, because none of them can deny growth, but no one wants to say that the border control should stop.

Greater Copenhagen is not a platform where the inhabitants are included.

“The border control is one of the most harming hindrances for the collaboration and integration of labour markets” (17:06) Therefore it has a top priority from a political (regional) agenda.

There has been an integration and collaboration over the last 15 years or so and now that decay due to the border control (17:26)

There is a great commitment to doing something in the region [between the Danish and Swedish regions] (18:48)

If we cannot transport the delegation flexible and easy between the two countries, then it will hindrance and ruin the collaboration (20:26)

They (politicians) will not stop the collaboration but they want to work harder.

They [the politicians] say, “if we don’t do anything we might throw 15 years of integration overboard.” (24.53) → Referring to a record from one of the meetings.

Indirect effects of the control:

“If any it creates more unity between Denmark and Sweden, especially on the Scanian side, [...] because there really is something to fight together for again the Swedish and Danish government (27.02).

The committee wants to be recognised as the growth forum it is from the national governments.

We want to compete against the other European metropolises and be as strong as the rest. (31.11)

The region will have difficulties to brand itself and remain competitive if the infrastructure does not become more flexible! Then we cannot move researchers and businesses around as easy.

It would be better for Greater Copenhagen if there was no increased travel time (32.56)

However, also symbolic they would work for the removal of the border control. It does not make sense any more to maintain it (33.10)

However, it is difficult to figure out a way not to have delayed travel time. For instance, the new proposal where the Swedish police would get on in at the airport and do the control on-board the train can only become reality if legislation is changed! It is complicated.

Long term effects:

I don’t think it has changed any for ever, but maybe it takes some time get to the same level” (35.15)

It depends on the structure of the infrastructure. If the traveling time will remain longer.

“It will become harder to maintain the collaboration. It would greatly harm the growth of the region across Denmark and Sweden. (36.09)

The largest political focus, in terms of border hindrances, is the border control (37.24) I don’t know which has the largest effect.

Interviewguide w. Thomas Steffensen, Øresunddirekt DK, 24.03.2017 – 40.00.00

Location: Greater Copenhagen's offices in Copenhagen

Anonymity: No

Øresunddirekt started when the bridge was constructed. The governments wanted to establish integration across the border. Thus they established be an information service for both citizens and companies.

Øresunddirekt are two different organisations (a Danish and Swedish office)
They have a formalised cooperation.

They are funded by the Danish state to

“The companies have concerns in regards to the Swedish employees, whether it is possible to retain them (8:30)

The talk about Swedish employees have stopped working in DK. However, no statistical material is shown.

“From the citizen, we hear a lot of frustration.” (9.46)

Traffic in their internet job...

“In 2016, the group that we experienced the greatest development within was retail and service. [...] That group declined dramatic (10.37) It is the interest there is to apply for jobs in DK.

It is the ones that take the train that gets hit (11.13)

Already in 2014 (Swedish Handelskamre) they experienced a declining interest across the border

Other interest:

People know about the border control. On the other hand, Copenhagen has something to offer (13.44)

It is a practical problem (15.14)

There is a need for more employees in Denmark and there is a high unemployment in Sweden, so it will level out, according to Thomas

Earlier border hindrances have not been quantified in the same manner as the border control (18.51)

Mistrust:

They [citizens] have a larger degree scepticism today than previous. [...] There is a greater doubt, how far this can continue (19.45)

The differences between the old political cooperation and Greater Copenhagen and Skåne Committee is that before they focused solely on the DK-SW cooperation and how to gain benefit from that. Now it is more about attracting and competing in an international perspective.

The interest has changed from focusing on integration into employment and growth (26.13)

On an overall scale, some premises have been undermined. (29.46)

We have reach a point, where we were very close to thinking that we [Denmark and Sweden] was very similar. Now it is very tangible manifestation that we are two different countries. (31.29)

It has changed the perspective that it was one region (31.45)

There is a currency distortion which makes it attractive to work in DK

If it becomes permanent:

We must acknowledge, if it hasn't already happened, that there will come scratches in the surface of the idea that we are one region. But that does not mean that people will not work for it. (34.08)

If it would stop tomorrow:

I think that some of them, who have had bad experiences [with commuting] will not do it again (35.59)

The cooperation has suffered a loss in image. (37.55)

The competences between the employees in DK and SW compliments each other. An IT company could use the creative in the Danes and the structured approach from the Swedes.

“They could put together teams that simply functioned better than if the tasks were performed only at one side of the border. (39.45)

“There are different competences. We have different ways to attack problems and there can, in different situations, create great synergy. (40.02)

Interview w. Petter Hartman, Medicon Valley Alliance, 27.03.17*Location: Their office**Anonymity: No*

Medicon Valley Alliance is the only cluster organisation that works across the border

Why is there no other clusters in the region being cross-border work:

The simple answer is that we were the only one, who successfully went from publicly financed to be run by the business and academia. We found our role in that system.

The public actor, the regions starts many cluster organisations, or Lund university. Then they inject a lot of money into it, and then they say: in 5 years, it must be self-financed. Which means that the members of the cluster should pay for it, but no one wants to do that and then the air goes out of it [4:13].

I think that is how it is in general that the interest for working transfrontier between Denmark and Sweden, it goes up and down. When the bridge was built, everyone was so super happy “Now it is going to be a fantastic development. After a while a period where the initial enthusiasm decline. One experiences that it is not so easy to cooperate as we had thought. That one have actually quite funny priorities. Occasionally, we are that we are actual competitors. And then the interest declines. Then it is difficult to keep the organisations and platforms alive. [4:56]

They have survived for 20 years and kept being relevant despite the fluxating
Because we are not so politically involved. [5:13]

The other organisations can have had so many different visions. But the political element dictated their livelihood. If a new political agenda was put into effect, they could lose all their money.

Øresundsuniversitetet: There were several aspects that forced the end to the collaboration, which Petter thought to be extreme well:

- The cost: it cost a lot to have students travelling across the border. It becomes too expensive for the students

And for the ICT platform (Øresund IT)

Then one starts a new platform, other platforms will consider it to be a competitor [6:28]

→ not only the business dimensions but very much also from political organisations

It started in the middle of the 1990s. It was the Øresundskomitten that started it.

The life science industry has a long-standing tradition in the region. There were also some synergies before the bridge.

All that history has ensured there is a cultural collaborative relations, which have been ingrained within the life science industry [8:46]

They rode the wave of enthusiasm!

The most important thing is the anticipation. The anticipation that when the bridge opens something must happen. [10:44]

The changing interest – can you feel it?

They client base is more or less constant.

But we can feel that under that there is other indicators of the climate of the collaboration. Partly, the political collaboration. Is there a well-functioning political dialog? If there is ID control or not. If the national levels have a dialog or not. You can also see it if the economic incentive for collaboration. The difference between the exchange rates. It can be quite advantageously for Swedes to work in Copenhagen. That can drive the integration. [11.58]
The higher difference for the exchange rate, the more Swedes commutes.

So it goes up and down. With the financial crisis, the declines of course. [12:17]

The Greater Copenhagen collaboration has given stronger regional political will for collaboration. But the difficult is now that when the regional will has increased, then the national interest for collaboration decreased. There has been a tense relation under the refugee crisis 2015 and the ID control. So, they have not really could collaborate between Denmark and Sweden on a national level. [12.56] New framework conditions such as the border control makes it difficult. Very difficult.

The border control affects on three different ways.

- The network: they connect the public, private and academically. The possibilities of meeting have become severely limited because of the ID controls [13.48] Because of longer travel times, people do not want to. It is more difficult to get people to meet [13.54]
- The recruitment issue for their members. When the Swedes do not want to work in Copenhagen because of the longer travel time. Ferring instated busses. But that give rise to new issues: the swedes become more expensive than the Danes. The businesses must be more flexible towards their employees.

The overall ambition of trying something new by sharing competences and having able employs which is interested in working across the border, that idea declines or at least paused due to the ID control. And that must be addressed [15.41]

They have experienced that it is difficult to recruit from Sweden. He has bought a car and lost employees because of the prolonged travel. It has become more expensive for them as employer.

One of the strengths of Greater Copenhagen is the large pool of qualified workers. [18:38]
The day we lose that or people from South Sweden can no longer imagine a carrier opportunity in Denmark and they instead seek towards Stockholm. Then the businesses on the Danish side will struggle to recruit and the same goes for the businesses in Scania and then the development will stagnate [19.03]

They bring it up in every context they can. They have become political because of the border control.

Of course, the low paying jobs are experiences a much more direct affects of the border control as they are much more dependent on the trains. However, the high paying jobs also begins experiencing the issues. For instance, it is costly to have a car.
At one point, we just have to give up [22.14]

When the collaboration become difficult. When the climate of the collaboration is no longer fruitful. then it is important to have organisation as Medicon Valley Alliance to help and aid the process.

They have experienced a larger mistrust from the members to the national governments.

When the preconditions of the region changes the willingness to invest and take risks decline.
[25.56]

The differences between Denmark and Sweden that have come to life after the ID control?
It varies from which government that is instated in the two countries.

There are some cultural differences between Sweden and Denmark.

I think it goes a little in cycles and that we must accept. Of course, it is unfortunately when the time frame extends, so laws and regulations are made without consulting the local business environment.
[27.50]

There has been an increasing focus on less border and going from the national to a regional focus – specially within EU! But now they pull the brakes. It is an awake up call that Nordic collaboration is not a given.

The time that people will continue to work for it?
The possibilities are so big in the region that we will always experience a central role of the Øresund region [28.44]

Potentials are first of all in on an individual level (carrier possibilities) But the number of people utilising the possibilities. It will become more difficult and expensive – less effective.

The Business life, workforce, students will always learn how to navigate such system (29.28)
The politicians must make the system as easy to navigate as possible.

The will is never removed. The interest will increase again. We must power through the bad times.

Good examples of DK-SW collaboration:

- MAX IV and ESS
- Data management

The politicians must learn that the different border hindrances limit the possibilities of attracting larger investments to the region.

They tried this summer to get a research facility to the region (Food Kick), but failed. Petter believes it is because of the limited movement. The tense situation between Denmark and Sweden does not mandate a fruitful collaboration.

Outside the region we have lost some branding. Going from being EU posterchild to one of many. We are no longer the bright example [32.31] Makes it difficult to attract big scale investments.

The national governments no longer see each other as partners in a common project. Instead they see each other as competitor. For instance, in the efforts for getting The European Medicine Agency to the Nordic countries. They did not coordinate.

The Priority of Stockholm
They do not have the regional focus!

The Swedish actors are caught between the regional and national level. They are struggling to be prioritised in Stockholm, but pissed off by the Greater Copenhagen issue. Because it was dominated by the Danish actors which did not ask Scania until the very end of the process.

It is complex being a Swedish region to connect to the Danish capital. It creates ambivalence! We are not acknowledged in the Danish region. A frustration is created.

There are different priorities in the greater Copenhagen organisation and sooner or later that we must be discussed.

The politician issues:

The members experience it to a lesser degree. On the national level, it is a political conflict between Denmark and Sweden. On the regional level, there has been created collaboration. They have talked to the industry, but have not activated the industries.

The branding of Medicon Valley, the name has been discussed. The DK wants Greater Copenhagen life science. But Swedes want the above name.

They changed their strategy/ structure as a direct consequence of the political climate in Greater Copenhagen. GC focus on the international and they focus on the regional. [41.23]
A new regional division of labour has occurred.

Interaction between their members due to border control:

It has always been difficult. It has been easier to get Swedes to Copenhagen than vice versa. It is due to the big city-village approach. For the Danish actors, Scania is the outskirts. [43.55] The ID control makes it even harder. But it has become even more important to work and get people across the border.

How do we get the next generation of researchers interested in working with the region?

All the successful projects across are characterised by enthusiasts. [44.49]

It is important to invite the students (phds, master, etc) into mentor programmes and other to ignite their enthusiasm. It is more difficult than before the ID control, but also more important than before [45.32]

They provide different informal settings for mingling as well.

In the end, it is the personal relation, which forms the base of the collaboration in the large projects [47.00]

There is more interest in participating in those events have increased.

They establish contact between academic actors on a personal level. To exchange experiences and other aspects of their studies within life science.

The connections they help establish makes it easier for researcher to take the leap into the private sector. On a personal level is important – the mentor programme.

The interest in participating in social activities:

It was not possibility to have a family and participate in social activities when he travelled by train. With the car, it has become easier – but more expensive. The interest in visiting friends, going to concerts and so on have declined.

The example of a Swedish minister who came to Copenhagen went to a concert, has two glasses of wine and drove her car home and was stopped by the control. She had to stop as a minister (51.47).

Indirect issues:

The direct issues are when the commuters forget their ID cards and cannot get home. Paying extra for the Swedish employees.

The indirect is that is has become more difficult to recruit. That the interest has declined because people cannot see the long gain.

The symbolic issues:

Going from being a posterchild region. Now we are a region like all the others – maybe even a little problem child. Both the external and internal it affects the way we see our self.

We don't have integration. We have border hindrances. We have a Berlin wall. [56.14] It becomes the symbol for the vision is not a reality.

It is the same time for travel as it was before the bridge. We have pushed the region back 15 years. That symbolic is miserable.

It has become more clear that there are two countries. The integration will always be driven by the individuals no matter what the politicians do [57.25] But the politicians can make it easier for the integration.

There are no positive things to say about the border control. But we can hope that through the process we have undergone, we have learned more about each other on a political level [58.28]. The issue is if the politicians do not use the new experiences and continue in the same style.

The importance of working across the border:

We are too small countries to really be competing against each other.

We look like each other which provides a unique platform for working together.

The quality of the workforce is important. It should be possible to see the possibilities of working within the region. If they cannot then we lose the workforce of the R&D sector. Exchange of knowledge is important but erode if the people does not stay in the region and employ their knowledge in the Swedish industries.

He sees it as permanent already. It would have the issue of struggling to continue to collaboration. The recruitment will be more expensive and be slower. In the long run, it does not make sense to collaborate with the other side of the border.

We eliminate the close relation we have built.

How long will it take: The process will be slow. But will decline a find a low, constant level of integration.

If the ideas of doing the border control on the train. The effects will be symbolic and the practical effects will vanish.

The removal tomorrow: It will provide a more positive mood for the region. The enthusiasm would increase. More would study and work across.

However, the willingness to invest and take risks will be more difficult to build up again as the issues are relational. [10.10.20]

The mistrust of the political system will endure for some time, because the ID control was so quickly instated. [1.11.50]. It can take 10 years to get rid of that distrust.

The exploration of all the synergies?

No not all, at all, is used. The political is very slow and ineffective. The Danish side pushes the Swedish actors out, which pisses the Swedish actors off. They must define how they wish to collaborate but they have not.

The IT industry is one industry that does not work across the border. They do not utilise the synergies, which the region could provide [1.16.55]

They do not utilise what already works in the region. They should try to connect existing cluster organisations on both sides instead of establishing new things. [1.19.39]

Stop the dichotomy of being either Swedish or Danish.

A common lawsuit done by commuters against the Swedish government!

The sceptics of the commuters is difficult.

Interview w. Greater Copenhagen & Skåne Committee secretariat, 29.03.17

Location: In their office

Anonymity: Only for the individual – not recorded.

They worked before about border hindrances. But the border control was a something they had considered.

It is political cooperation organisation, which focus on a variety of issues. Communication is an essential part of the work of the secretariat.

The thing about the border control is that is has heighten the focus of our region – whether it have been negative or positive with the border control.

It has gained another stronger view from the national government.

Interview w. Micael Gustafsson, Clusterland Sweden & Cluster 55, 30.03.17 – 1.14.19*Location: A café in his office building**Anonymity: No*

Øresund IT was a network organisation, which established business contact across the region. The prices were much lower in Sweden, so due to this discrepancy the cluster created a lot of business.

But Øresund Science region closed and forced the cluster to close.

Cluster 55 was part of Lund University

The difficulty of having cross border clusters:

The basic structure of building clusters is essentially wrongly constructed from the beginning [8.37]

The greatest issue of this is the triple helix model. It does not work. It is totally ineffective and counter-productive [8.55]

The idea is good, but the real world is something else.

The triple helix is three actors: the businesses, universities and the public sector.

They live in very different lives. The business group lives much more day to day lives, where the universities live by 10 yearly plans. The public-sector lives by 3-year plan. Very different time perspectives. Then it is difficult to work together.

The ideological approach is very different or at least that is the discourse the actors build up.

An ideological conflict.

Either the clusters must decide, if they want to focus on the businesses or the universities. They cannot both.

“There is still some cultural differences between Sweden and Denmark, when it comes to management. In Denmark, they are much more direct towards conflicts. Where the Swedes have much more consensus approach, which means they discuss and then everyone must agree. [14.27]

That posed some conflicts and difficulties when working together, because the Swedes did not feel a part of the process and felt insulted.

It became complex.

His work in the region was characterised by damage control and smoothing things over with people who felt insulted or otherwise mad at the other part.

Today, we have good collaboration across the border. I see a lot of collaboration in the start-ups community.

But the universities should be able to do much more and we should do more with them

But it is a competition from the universities than the businesses. It is in another way. [18.19]

The universities are not driven to earn money and that makes the interaction much more different. It is easy to get businesses to collaborate if there is monetary gain for both actors. But not for the universities. They have other priorities. They compete for international ranking, students etc.

“There is not the automatic dynamic between the universities in regards to collaboration. It is the public. (...) It is difficult to find a reason for why they [the public institutions] should collaborate.

[20.10]

Border hindrances:

Start-ups does not think or priorities or use resources to think about those things. They focus on realise their ideas.

It becomes an issue when the businesses have to recruit and grow.
We are lacking competence with technical expertise in the region. It becomes an issue when the competences are not exchanged.
But the individuals get use to it.
It is a political issue

Can the businesses feel the political issues:
Start-ups focus on much more on other political issues. For instance, work environment or taxes for start-ups etc.
They want to attract workforce not only from Denmark or Sweden but from the whole world and thus focus on other issues.

The only thing, we discuss in the start-up community today is the border control [31.49]
“The people in the start-up community has a very positive approach to immigration. Most think that we should welcome even more refugees. Both in Sweden and Denmark [31.50].
This is due to the idealistic world-view and ideological core of the start-up. They are driven by ideological issues instead of money. It is not political, but ideological.

But the larger companies have other approaches to the border hindrances. They have more issues of recruitment.

The border control is also a practical issue for the start-ups.
“It is more due to the communication is bad [38.00]
The international link, which Kastrup is, are essential, but if it take longer time to get their – it is an issue.

The social issues of the border control:
Before, he went to Copenhagen to drink a beer with his old colleagues.
Burt now, the extra 45 min which takes to travel and you cannot trust the trains are leaving and then they are full. You don’t just go over the bridge to drink one beer [40.43]
“The social interaction with my Danish friends have declined [41.22]

“The social aspect also creates better climate for businesses and start-ups, so it has vanished a little [42.36]

The international interest:
The international interest has not changed. But have increased over the last 5 years. The short extra time does not matter when they travel from USA.

The political miscommunication the two sides, might be an issue for the branding of the region.
We struggle to find a common ground both Swedish and Danish sides.

The political organisations should collaborate much more than they do today.

On the practical level, there are strong collaborations, but the political level is just politics.

In the start-ups community, the political level is perceived as the hindrance. It is a structure that must be disrupted.

“There is a lot of people who say: fuck the border control. We do this anyway. [54.00]

“Before the bridge was constructed and Øresund Science region started. It was a top-down thinking. The politicians thought like this: Now we can talk to each other. But we have been talking to each other for 300 years prior. [54.52]

The interaction should be from a bottom-up. That would be ideal.
But there are things that politicians rein upon. For instance, infrastructure: communication, transport, road.

“It is extremely important for the ecosystem to work. If one thing changes in the ecosystem, then the rest can be destroyed [55.48]

In a long-term it can be the border hindrances.

“I am positive regarding this region, if the politicians know what they should do [56.32]

Now they have not done it. They use money for irrelevant things such as a new organisation. Instead they should have used the money for a big party for the region.

“if they had used the money to give free train travel for one month – then we would have gained integration! [57.22]

The politicians have the power to do so.

We would get a lot of integration because people would interact.

The question for the politicians: What can we do of small things so people meet every day?

The politicians meddle too much.

The interest:

The interest has increased. Start-ups have increased.

“People are a little pissed-off and think: No now we really should work against the system and do this any way. [1.02.01]

The importance of integration across the region:

If we need to attract international competences, we compete with larger region where none of the cities in the region cannot compete without each other

A permanent border control:

It greatest issues of the border control is that it hinders the meeting between people.

If we don't succeed with that we continue to produce the idea of differences between Denmark and Sweden.

“It will lead to a lack of competences, which is bad for the businesses. It is about the access to competences [1.09.03]

If we fail, the businesses will move because they cannot get the competences they want as well as the critical mass.

“The biggest issue in the region is: we don't have any rock star developers. [1.10.01]

We do too little together. We can attract them if we could work together.

We need to super intelligent people and we have difficulties attracting them today.

Interview w. Per Tryding, Sydsvenska Industri- och handelskammaren, 10.04.17 – 1.05.00

Location: His office

Anonymity: No

About Sydsvenska:

A business organisation – it is dictated by geography, not the industry.

The focus on two things:

- International trade: Service for the business.
- Networking and development of the region: Commuting, analysis of universities etc.

And the Øresund region come in under that umbrella.

Member-based organisation. They must be commercial to be a member so no universities.
But they work together

The Øresund region:

Why it is relevant for them: It creates a larger platform for the businesses. The Øresund region give the Businesses in Region Skåne the possibility of elevating in the international perspective. [4:32]

If we combine the Danish and Swedish medium-sized regions, we get a larger and more competitive region on an international level! [5:12] The is the prize.

We have not completely utilised the possibilities in the region. But in some dimensions, we have.
For instances, Kastrup (btw 10-15 % of the business is Swedish)
But it is extremely few elements to good.

Competence growth and exchange.

“It [the border control] is about the possibilities – both now and in the future.” [7:29]
They focus upon which questions and issues their members find interesting.
But the Øresund region has a high priority [9:24]

The border and ID control takes back the accessibility, which came with the bridge.

The infrastructural dimension of the region is much more complex than in another region.
There is another dimension to it: the political, which is unique for this region. [11:57]
We need to think international instead.

The differences between the border and ID control.

It is not the border control but the ID control which is the issue.

The legislative elements of it is very complex and unique for the region. The Swedish government impose a transporter responsibility upon the Danish transport companies. This is the one that is pose an issue for the commuters. They also argue that it is an illegal measurement from the Swedish state! [14.26]

It is also a structural issue.

It is an issue that occurs in different other places in the world ex. Syria or Turkey can influence the way we conduct our lives. Meaning that issues should not give us longer travel hours.

We must find a solution where the issues of the world, will not influence our everyday life [16.40]

“It should be risk free to think the entire region” [17.01]

The majority of the workers who commute from Denmark to Sweden is white collar workers. He could not pinpoint a specific industry or business, which was fit the hardest. But more types. It is more often specialists. Thus, it has become more difficult to recruit these.

Their members have lost interest in recruiting across the border.

It should not be refugee crisis, which influences the businesses' conditions in the region. That is why it is such an important principal question [27.23]

The regional politicians have agreed that it is an issue with the border control. But it has become increasingly prioritised by the national governments.

The issue with the national governments does not have the everyday aspects of the region in mind [32.16]

“The Swedish government and politicians look with horror and chock to the Danish politics for handling the refugee issue. The Swedish self-perception was that their asylum politics was much better than the Danish. Denmark had an illiberal, human enemy and unolidarious politic. While we in Swedish had a generous, liberal and humanistic politics. [33.26] The Danish side thought Sweden to be naïve. While the actual politics were quite similar. But the rhetoric was very different. But suddenly the Swedish politicians changed to a more “Danish” approach – they panicked.

The Swedish government has never focused or thought about the region. They do not reflect on the issues of the long-time issues of the events occurring.

The interaction between the Danish and Swedish businesses:

It is the small subtle things in the relation that experiences the consequences [46.37]

Waiting for the business partners, if people cannot get home from each side etc.

They have not experienced that the region has another brand than in an international perspective.

It is not the one-time travel, where the extended travel time is an issue. It is in the everyday life.

The industries never show the bad examples.

A permanent border control: We will not allow it!

The effect can be that they decide to stop the public transport. The integration will shift into an elite integration. [51.51] We can no longer employ retail employees.

If removed tomorrow:

It depends on how people perceive it. So, people never fear that it will come back.

It will spread the old fashion way – oral delivery

The politics will assimilate to the other politics in EU. We will become much more close in terms of politics.

Interview w. Arian Ratkoceri, Malmö Stad 10.04.17 – 1.13.06*Location: His office**Anonymity: No*

How Malmö Stad works with Øresund region

Two arenas:

- They are active in Greater Copenhagen & Skåne Committee
- Bilateral collaboration with Copenhagen Municipality

In GC&SC, they focus on the vertical elements of the cross-border collaboration.

Malmö Stad is also active in the process of the further development of CPH airport.

They are also active on a national level to formulate and push the issues which the region faces

The bilateral collaboration between Malmö and Copenhagen is a hands-on process. It is dealing with the contemporary issues to intertwine the two cities closer together.

They work to get the Øresund metro.

Have the border control had any influence on the political collaboration:

“First of all, we have taken a much more practical focus from our side [14.52]

They focus on how can we make it more smooth?

“We must go another way. We must shorten the travel time so people do not experience delays in their everyday life. [16.48]

Have it removed focus from other projects:

“It is difficult to say because the structure of the collaboration was changed at that time. The transition happened almost at the same time as the flow of refugees came to Sweden [18.46]

“We were in a very internal process at that time regarding how and what the new organisation should do, which questions we should work with etc [19.11]

It became natural that the issues of the border control gained a high priority in the collaboration.

“I know Katrin was out and said ‘We must think about the labour market. We must think about border hindrances because that is something that plays a role in the lives of our citizens. [21.05]

CG&SC works with different border hindrances – not only border control.

The national level:

They raise the question as often as they can to the national politicians to minimize the consequences and effects.

“We have always said: this must be done more adaptable [28.40]

Malmö is far from Stockholm, which they experience everyday as the commuters complain. Malmö is far from Stockholm which means that the politicians in Stockholm does not experience it the same way.

“The issue is closer to us [29.56]”

The dialog between the Swedish and Danish national politicians:

It was only through the media we know of this relationship

“We could see, in the whole of Europe, that the rules of the game did not function in practical terms anymore. [32.10]

The synergies fail when we limit the mobility in the region. The issues deal with the lack of access to the vast pool of employees and the specialised knowledge.

“We have a long history, where we can see the integration increases. It gets easier, it gets better. We try to remove as many hindrances as possible [36.58]

“We see the significance of we need even more and even closer collaboration [37.14]

“We are determined that we must continue this [37.22]

The municipality and political system sees the border control is temporal. This is not the norm.

The political work in the region must formulate a vision and do the practical work to ensure that it can happen. The political must help to attract the international investments, competences and make it possible for the businesses and industries to do so as well.

“It should be able to work on both sides, live on both sides and it should be natural. [43.55]

The interaction between the actors in the region:

In Scania, they have Forsknings- och innovationsrådet, which helps to coordinate the different actors especially universities and businesses/industries. The organisation can ensure a stronger cohesion and makes sure that the region does not lose its status within the different sectors. For instance, also how to deal with closing businesses.

It is difficult to say if it has changed.

Indirect problematics:

It is difficult to identify the indirect problematics.

The main change has been the alterations to the political approach to the handling the situation.

On a personal level, the indirect issues are an increased level of stress due to uncertainty of being able to get home on time, delays etc.

The international perspective:

No specific examples for changed image outside the region.

In a longer time frame it is possible that we can lose the image of being a region. We need to be a collective region, if we will continue to be internationally acknowledged.

Commuters shows distrust towards the national level – not the local.

A permanent border control

It will give a negative development; it would be negative if it continues as now.

It is difficult to answer if we consider the new solution the national levels have discussed.

Our approach is that it is not permanent and will not be.

Instead the governments must think about how to lift the region.

The attack in Stockholm will have implications for the time frame for the further border control.

“We cannot just get back to a border control free Scandinavian as in 1950. [1.00.37]

The border control is a temporary solution. We must make it as comfortable and flexible for the everyday of the people living in the region. But we cannot just go back.

We must consider if we should go back to the situation before the border control. Or if we should raise the bar.

If the prognoses continue, we experience a capacity issue over the bridge over the next decade. We must act upon that. For instance, with the metro.

Do we use the competences enough:

As long as people see the border control as a barrier, we do not fully utilise all the competences in the region.

We must solve both the mental and actual barriers within the region before we can use the possible synergies in the region.

We have accomplished a lot which we should be glad for. But there is still a lot of work left.

The ideal Øresund region – from a Malmö perspective:

Everyone should be able to live and work on both sides naturally. Which is why the metro is so important. We are two cities, but intertwined.

The future of the Øresund region is a region, which does not have these barriers, we have today. “It is about simplifying it, so we can see both side of the strait as an alternative when we make decisions. [1.12.16] Both in terms of jobs, study etc.

Interview w. Lisa Thelin, Lund Universitet, Samveckan, 25.04.17 – 58.06*Location: Her Office**Anonymity: No – only on selected things*

Works in the cooperation department. Is also part of a regional perspective of cooperation in Region Skåne.

In the cooperation department, half was involved in Øresund university.

They work with creating consortia across departments, sectors, borders, and different scientific themes.

Due to the history of people working within the region, they work successfully with transfrontier perspective.

“When we talk about these six dimensions. We can see that some of them does not work as many of my project leaders see that now it becomes dysfunctional, because it has been difficult to create these alliances. [2:30]

“They have felt the changes over the last year and a half. [2.40]

The cooperation department creates the contact between the businesses and the researchers.

They create strategic partnerships with both private, public and other by having a network.

The context of the research processes and consortia alter depending on the actors and nature of funding.

“We have also had a need to talk about an increased mobility across the countries. [6.04]

“I don’t think it is so different cultures, which meets [6.39]

The cooperation with businesses is long-term commitments.

“It is more a strategic relation [8.09]. There need to be a constant dialog between the partners.

They need to think about which needs the businesses have? The essential in the cooperation is to focus on that needs and not the universities own needs.

“What we can see as positive is that if there is a long-term continuity as partners, then it becomes relational based. And then they become better structured [9.31]

“There is a problem, a problem that can be found at all large universities in Europe that you have strategic partners, but you have nobody who maintain that relation with the partner. There is many who does it [10.32].

However, by having just one to sustain the relationship, a more stringent relationship occurs. It creates possibilities that can help other relations to flourish.

The difference in cooperating with businesses and other universities:

When you look at the organisational structure of a business is very different than public institutions, organisations and universities.

There is a similar logic between the universities and public institutions. However, the businesses work under very different mechanisms. The universities are very bad at listening to their [the businesses’] needs.

“The logic and the management mechanisms are reversed [16.41]

“It is the match of needs, which is the central [19.02]

How has the border control influenced the work:

Concrete, between 20-30 % of the projects are operative placed in two places.

“Do you have the project on the same side of the strait, then it is very difficult to solve it [the organisation of it] [19.59]

It is a very practical issue. It is strange to have a project with ex KU and not being able to have meetings across the border because of the uncertainty.

Skype has become a more essential tool in their work.

“Between us, it is essentially the same, if I have a meeting with someone of Copenhagen University or Stanford. The regional significance becomes substantially less significant in a collaboration, when you cannot utilise the fact that we can meet. [20.53]

It is the lack of guarantee. We cannot guarantee that we can get across at the designated time.

“It is a practicality, but a practicality means very much [21.34]

For instance, in relation to MAX IV, where it physically places in Lund, but will have an analytical team in Denmark. Then it will have influence on the relations. [23.17]

“It also proposes the power play whether the Danes should come here or we should go to Copenhagen [23.45]

Going into research is about establishing the relations. And that will become more difficult.

It is an issue when you have a family life that must relate to the professional life.

An example is a Danish business, who has made a company-wide policy that no one should use public transport. Either they should use their own car or they would help getting a car.

“Because they saw that it becomes small delays, small elements, but they must have reliability. It becomes like a matrix. [24.54]

When the strategic partnership is made, then there is no turning back.

However, the issues occur when creating new ones.

It in two levels:

1. One is the practical, the operative. We cannot meet. How do we deal with that?

The greater losers in regards to the border control are SMEs. There come too many uncertainties in projects.

2. The regional level: It goes quickly the changes to how the region is perceived. We should not underestimate how fast it goes and gets all the way out in the periphery. All the positive narratives that are build up (free mobility, strong sectors, growth). However, the national governments (the Swedish) no longer priorities the mobility. It shows that the interest in region by the national government. And that is some of the most dangerous. Furthermore, it is strange that the border control is not in effect in the airport in Stockholm.

“From being a region, where we could see possibilities, it is now a region which they do not focus on [30.18]

The lack of national interest shows the issues of the border control. The region could be the strongest in Europe, but instead the Swedish state uses many millions on closing the border and

rejecting everything that is Danish. For instance, they cannot get funding when collaborating with companies located in Denmark (Novo or Ferring).

“When they [the Swedish government] says that it is research and collaboration, which should drive growth, then they do not mean it. They mean that the important thing is the Swedish [32.29]

“It is a political instrument, which they use to strengthen national borders and not work with the issues that are actually important. For instance, exchange in research and ensure growth. And that I think is extremely alarming [33.01]

When lifting, and ensuring growth in a region, it is all about the attitude. It is about positivity. Building a narrative.

“But it is just as easy to puncture it. [33.56]

The interest in the region:

The dichotomy of either being Danish or Swedish has been clear.

However, we must work in the local environment instead of the border. The differences and tendencies have become much more clear with the border control. It was a clear image that the region was not a priority.

The largest influence at the universities are the students, which becomes poorly situated. It is about the free mobility.

It is a process if creating a Øresund citizenship instead of Danish or Swedish [36.17]

It is obvious that the national government in Sweden has not followed the development closely. That is the general tendency!

“Everyone, who is involved in these kinds of consortia is all humans, so they react from an individual perspective. And when they propose such policy changes, then they react from an individual perspective. [37.48] This shows that there have been changes to how the interaction occur.

Which actors shows the biggest changes:

It is easy to make it sound worse than it actually is.

“But we see tendencies of changes. [38.41]

From Swedish side, it is more difficult to engage the large Danish companies.

The actors are the ground pillars of a strong region.

The actors have become less willing to engage in high risk projects. But it is those projects that are the best for the regional development and how to move forward.

If it becomes permanent:

There are two discussion in that: a practical and the ideological

The practical demands a new way of structuring and conducting the control. Because it cannot continue to do as it is at the moment.

The ideological: the national identity is important, but more and more see a regional identity.

The free mobility gave rise to being able to work, have friends, relations, have children across the border, people are bilingual.

“Are you bilingual, then you understand each other better. The linguistic is immensely important [44.18]

I think that matter of course comes under pressure when people are reminded every day that “You are Danish – I am Swedish.

“Every time you cross the border you need to identify as Danish and not as a region [44.43]
It also shows that the Danish and Swedish government cannot solve it. And that shows that when they don’t find a solution, it is essentially because they don’t have faith in the region. That is serious.

The international interest/branding:

The branding of being a combined region has become more problematic.

We will struggle to continuing the narrative.

“If we look at EU, (...) the region collaboration is extremely important. There is a discrepancy between what the governments are saying and discussing in Brussels and what happens here. [48.12]

There is also issues if recruiting international. Lund University uses Copenhagen as part of their recruitment. But if it is not a region, then it is difficult for to attract the good researchers.

It is an issue when we no longer have the mobility.

It is strange and highly problematic that we have not focused on the consequences of the control.

The issue of being both part of a Danish project and Swedish:

There is a clear tendency of struggling to recruit and work together. But it was a tendency that was there from before the border control.

The indirect problematics:

We have experienced to a certain degree that people have started to move back – instead of commuting.

As an employer, they must be flexible.

It is dangerous, when one demand eclipse the remainder. It is an issue when one thing can throw the rules of how to act out the window. The refugee crisis was blown out of proportions. It was not a crisis. Life went on. But the politicians did not address and looked at what actually happened.

Anonymous quotes

Differences in the region:

How immigrants are treated in the crossing. Mistreated by the Securitas personal.

“when people come to our region, they should not be meet in that way [mistreated]”

There is promiscuity among research. First they are there, then they are another place. However, businesses often want a longer perspective. The discrepancy is a problem that they address.

They make a connection with one person, but it is short lived than then the person vanishes. It takes a lot of strength for the businesses and it cannot uphold in a longer time frame.