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Regional development expectations in the Öresund region – travel patterns and cross border mobility

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Abstract

The opening of the Öresund bridge is the ultimate breakthrough in cutting travel time between, eastern Denmark and Scania, Sweden. The final implementation of this TEN project makes it possible to commute on a daily basis between the two countries. The new link has enlarged the expectations of Copenhagen region as a northern hub and potentially created a new Scandinavian hub with Copenhagen and Malmö as core centres. This new common Öresund region provides an optimal location for international firms that try to penetrate the Nordic markets from a location close to the European centre but also close to the majority of customers in the north.

One of the questions for the future development of the region is if travel and mobility patterns on the two sides of the strait can adapt to the new circumstances. In relation to this it can be asked if the abilities already exist today to cope with the demands of the changed regional structure of work commuting. Going one step further increased regional identity will foster a change of migration patterns. An analysis of the living and housing situation in the whole region to demonstrate if it is favourable shifting permanently the place of residence to come closer to the economical centre of the region, to reduce commuting, and to increase quality of life.

The paper tries to give answers to these questions related to willingness and ability to commute and migrate, using the results of a household survey that has been performed in the Öresund region. The survey is based on a random sample Danes and Swedes living in the composite region that have been asked about their use of the region and their future expectations. Starting from the assumption that individual average travel time does not increase even if the accessible area does so, this paper tries to summarize the preferences of different household groups and their adaptation ability for fostering a common region.

Keywords : Cross border commuting, migration patterns, travel times, Öresund region

1. Introduction

The fixed link over the Öresund strait, commonly known as the Öresund bridge, opened on July 1, 2000, has had its second anniversary. Since then eastern Denmark and Scania have started melting together to a common region, the Öresund region, a geographical zone with an economic potential to compete with the European core regions.

Experience and impact studies of cross regional and cross national infrastructure investments have shown that economic development in modern societies is closely related to the increase of mobility and flexibility and the interaction of reduction of access time. The European Union has during the last decades active pursued this issue and supported the increase of mobility either through supporting cross border activities or by bringing regions closer together, as in the case of the Öresund bridge. Through the implementing of this highly prioritised Trans-European Network (TEN) project it has become finally possible for approximately 3.5 million people of two nations to commute on a daily basis in the new cross border region.

Since the opening of the Öresund bridge, commuting time across the strait has reduced travel time to half an hour between the two centres. But more than that it has reduced access times providing more choices for all in the region. Depending on the transport system it is possible to be at places 100 km away by using car or public transport or 3-5 kilometers if explored as pedestrian at both sides of the sound. Daytrips have become spontaneous picnics and weekend vacations have become daytrips. This increased accessibility through the fixed link has a great potential effect on the Öresund region.

Workplace and housing location will be reconsidered in the next decades by people living within the region and by people in other Nordic regions. By that process the infrastructure investment has helped to create a polycentric settlement structure, able to empower substantial economic growth to foster a dynamic urban region of its own with a higher welfare than before. This has enlarged Greater Copenhagen and created a new Scandinavian hub with Copenhagen and Malmö as core centres. Providing now a proper land-based infrastructure environment could develop to a self-enforcing development. The first step towards a polycentric region has been taken with creating the physical linkage. That has abolished the first barrier, the time constraint. Still a great number of barriers have to be brought down as they disturb finding a common regional identity regardless of the nationality. Aside from that remaining barriers also slow down a more efficient resource allocation and economic growth.

Rietveld (2001) names four obstacle effects of borders. Firstly he mentions the effects that are related to the supply of transport and communication services summarised in costs and time consumption, secondly consumer and producer preferences, thirdly regulation and interventions of national governments, and fourthly the lack of information on the neighbouring location. In the case of the Öresund bridge the first obstacles when expressed in monetary expenditures and time related costs (Rietveld 2001) have been mitigated regarding travel time. The obstacle of access expenditures exists due a toll scheme that has the purpose to secure the payback of the investment. Attempts to streamline different consumer preferences, the second obstacle, are performed through a closer cooperation between the Nordic countries. They have not been selected as the main focus in the current paper.

The aim of the present paper is to investigate some of the opportunities and threats the remaining barriers imply to the regional development, mainly the third and fourth obstacles. The focus is on obstacles related to administration and lack of information. The method is to scale down the problems to the individual preference level and analyze how obstacles influence cross border mobility and migration. These two factors can decide the acceptance of cross border integration. In this context, cross border ambassadors, pioneers that start the integration process before proper information is available, spread valuable information informally.

First a brief description of the performed survey is given including the available definitions of the Öresund region (section 2). Then the paper analyses the existence and importance of individual travel patterns and willingness to be cross border mobile as a start for the regional development. It also brings up the influence of cross border knowledge for barriers and the term cross border pioneers is discussed (section 3). The paper then discusses the need of a common Öresund gateway in the future location of international firms wishing to penetrate the Nordic markets (section 4) and the potential labour migration in this context (section 5). The paper finishes with some concluding remarks we can draw from the survey study (section 6).

2. The Öresund region survey

The newly formed Öresund link has created a region and culture with new premises that historically belonged together. This has enriched the Nordic countries with a place where local and national cultures can melt together. Out of a central European perspective the Scandinavian countries show many similarities and seem as quite homogenous societies. From the outside perspective crucial national differences interpolate to smooth common generalizations and general assumptions. This is partly related to the perspective of the observer. From a Scandinavian perspective the common platform is based on a number of similar historical developments with national variations depending on prior issues of interest and local preferences combined with strong attitudes. The two societies have much in common but have their own conception of the differences in culture. This will have impacts on the future development of the new region.

The impacts of the fixed link will affect the regional identities in various ways. The new region has to find its balance with the surrounding and will spread impacts of its appearance at the European scale. What and how big the effects are is depending on many factors including the local citizens' acceptance to see it as a their common region and by that shape a regional identity. It affects all people in the region both those who want and also those who think they are not influenced by the bridge.

Depending on the fact that the Öresund region is neither legally defined nor belonging to one jurisdiction, many definitions have been developed. Different definitions of the region have been proposed from different authorities and stakeholders. Andersson and Mathiessen (1993) broadly define south Sweden and Zealand (Sjælland) as the Öresund region. Later, in international comparisons of labour markets, they refer to an extended Öresund region containing northeast Zealand (Nordøstsjælland) and Scania (Skåne). Andersen and Borgegård (1999) use in their study the Hovedstad region (Greater Copenhagen) and the Malmö region as the Öresund region. They define more closely the Malmö region as the City of Malmö plus eight other communes in southwest Scania.

A report (Öresunddirekt, 1999) published by the Danish and Swedish governments defines the Öresund region as Scania and the Hovestad region. In detail the Hovestad region is given as City of Copenhagen together with Frederiksberg municipality, and Copenhagen, Frederiksberg and Roskilde counties. The same report refers also to the politically elected so-called Öresund committee, which has defined the Öresund region to include Vestsjælland, Storstrøm and Bornholm counties.

The variation of definitions for the Öresund region goes at the Swedish side from the City of Malmö to the whole region of Scania. On the Danish side of the strait depending on the stakeholders the Öresund region definitions go from the City of Copenhagen to the whole island of Zealand including the islands of Lolland, Falster, Møn and Bornholm. The Öresund region has been defined in the performed household questionnaire as Scania on the Swedish side and East Denmark containing the island of Zealand, Lolland, Falster and Møn at the Danish side of the strait.

In 1998 the Öresund impact evaluation project started, aiming to perform an impact study of the fixed link over the Öresund strait. The study is encompassing a longitudinal impact study of the Öresund region, see Snickars & Lundqvist (1999) and Karlström & Kaag Andersen (2001). The impact study contains five methodological components that will be developed and used for impact analysis:

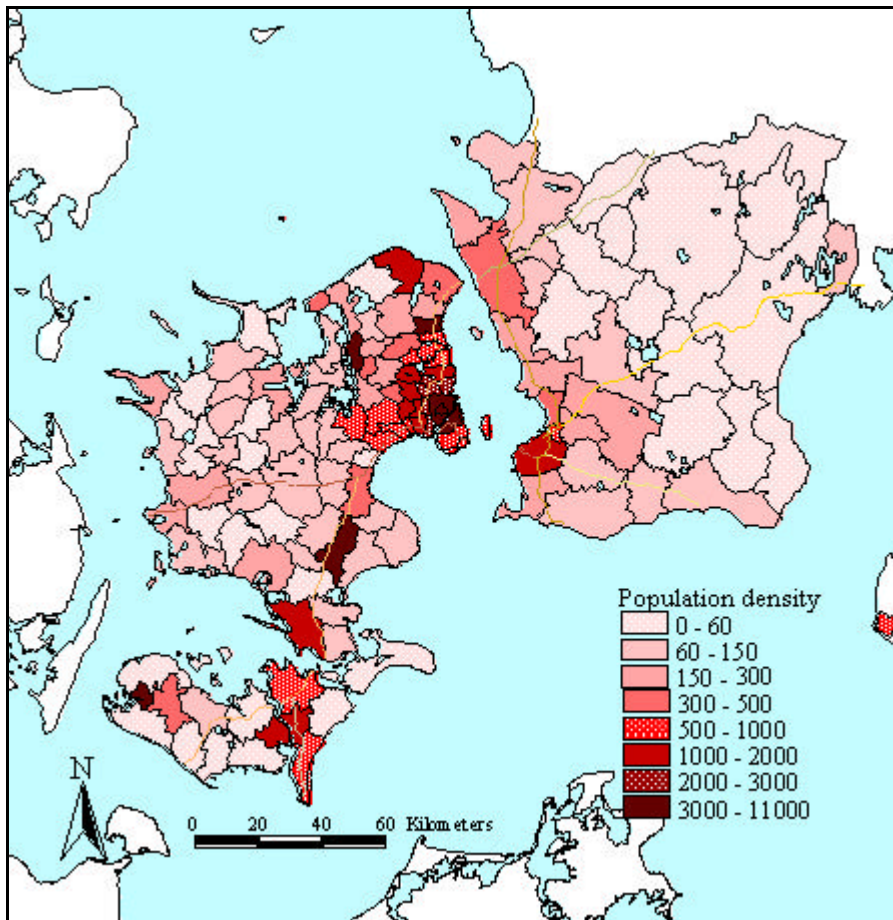
- Integrated transport and land use models;
- Intra- and interregional economic models;
- Longitudinal panels addressed to households, firms and public sector organizations;
- Ex ante and ex post statistical analysis using time series;
- Establishment of integrated databases for use in the different studies.

The household survey is part of the longitudinal panel study aiming to gain knowledge about expectations, reactions and behaviour. The new bridge makes it easier for households to travel across the region, leading to change of patterns regarding consumption attitudes, habits and the behaviour codes. It sums up the preferences of the population in the Öresund region regarding housing, labour market, commuting, service, cultural barriers and other related issues to the new link establishment before its opening.

The current household survey is the biggest survey in the Öresund region and is an integral part of the Öresund impact study. The study objective was to estimate the impacts of the Öresund link in the new Öresund region as seen by the households on both sides of the strait. The survey's contribution for the project was to explore the populations' state of preferences and expectations in the region. This was to be done before the new link was opened. This survey will be followed up twice, once later this year and one in two years.

In difference to many other major infrastructure investments the Öresund link connects two regions belonging to countries with their own jurisdictions, languages, codes of culture and currencies, all seen as border barriers. Secondly it is linking up two regions with different homogeneity regarding rural urban structures as the population density map in Figure 1 shows.

Figure 1: Population density in the region defined as the Öresund region.



The crucial problem of defining an area for the household survey in the early beginning of the project has been discussed above. The simple question of defining the Öresund region ended in the search for the most appropriate definition for the research project. The finally broader demarcation was chosen in the survey to be in concordance with the planned new regional statistical bureaus settings (ØRESTAT, 1999). It was planned to embrace the common pattern of existing data covering clusters and borders in the whole region. The objective for transparency and compatibility has been taken care the way that demarcation was set on municipal and regional administration borders.

The survey has been performed in two languages, Danish and Swedish. The two versions have been similar as regards some questions and exact in most of the cases, see Bernotat (2000). The aim was to catch the spirit of time in the region, to collect and describe what motivation the people have in the region towards the new link and the related changes. It was also performed to conserve today's perspective for the future to be able to look back to compare how the perspective has changed over the time. The inquiry is the first part of a longitudinal panel study where the focus is on a randomly draw group of individuals representing the households. The task is to perform a longitudinal panel study of the expectations and behaviour of regional actors, here households (Snickars et al 1999). The inquiry was sent to 4 000 randomly chosen citizens in the Öresund region, half of them in each part of the region. The overall response rate was 57 percent. The response rate for East Denmark was 61 percent and 52 percent for Scania (Bernotat 2001).

3. Cross Border Commuting and Migration

General features of cross border travel

Cross border regions had a renaissance in the beginning of the 1990s with the further establishment of the European Union. This shift has led to a reconsideration of the character of borders from preventing and trespassing to prospering future economic growth. Also the final decision of the construction of the fixed link dates back to that time. On March 23, 1991 the agreement to build the Öresund bridge was signed by the transport ministers of Denmark and Sweden. Policy decisions, further investments and the creation of structural funds have followed since then with the intention to foster the development and the economic growth of a common Öresund region.

The population in the Öresund region has slowly adapted to the possibilities of the new link over the strait. Prospects of a cross border region have developed well. Still there are reports on the low frequency of bridge use by car, raising the issue how the development can be fostered towards increased cross border commuting. At the same time the commuter trains report frequent use of this environmental transport system. Their problems are to increase the number of departures. Recently, the ferryboats have stopped running, as they could not compete with the train, showing that changes are on the way. One explanation to the smaller number passages by car could be that individual moving patterns are developing twofold. On one side public transport is used to high degree for daily commuting, for hub to hub and suburb to hub communication. On the other side individual means of transportation such as cars are used more frequently for longer and less frequent trips such as recreation trips or weekly commuting.

Table 1 shows clearly that for approximately 40 percent of the work commuting the car is used in the region. Additionally Table 1 indicates that more men use the car for commuting. The regional difference is that the bicycle is nearly as common as the car in east Denmark and that twice as many use the car in Scania than the bicycle. Comparing with the result of the transport system used, Table 3, combined with the purpose of the mobility in the region, Table 2, the year before the opening of the bridge, this shows that the car was used as much as 70 percent of the times. The hypothesis of the twofold travel pattern depending on the purpose seems to be confirmed.

One explanation for that in Scania the car is more frequently used than in east Denmark might be seen in the more sparsely populated region east of Malmö (Figure 1). This makes the car use a basic necessity compared to the possibilities of public transport and frequencies of daily connections in the denser Copenhagen region.

Table 1: *Type of transportation used in the Öresund region for commuting to work.*

Type of transportation	Total	Scania	East Denmark	Women	Men
	[%]	[%]	[%]	[%]	[%]
Car	41	47	36	35	47
Train	9	4	13	9	9
Bus	12	12	12	15	8
Bicycle	27	21	31	28	25
Walking	8	10	6	9	7
Other	3	4	2	2	4

Table 2 and Table 3 support the argument of separating the use of transport system by travel purpose as it shows clearly that most of the travelling was not work related. For pleasure, vacation and shopping trips mainly the car as individual transportation system was chosen. It should not be neglected to mention that public transport earlier was more inconvenient compared to today. A comparable investigation to be undertaken in the later part of 2002 will show the change in pattern.

Table 2: Cross-border commuting purpose before the opening of the Öresund link.

Purpose of commuting	Total	Scania	East Denmark	Women	Men
	[%]	[%]	[%]	[%]	[%]
Work	8	7	10	5	11
Studies	2	2	1	2	1
Shopping	21	28	6	19	21
Pleasure	33	36	24	33	31
Vacation	17	9	29	16	16
Travel through	13	10	17	15	11
Other	6	8	13	10	10

It has to be mentioned that travelling through Sweden in Table 2 is mainly related to Danes from East Denmark travelling via Sweden to Bornholm for vacation, which many of them appreciate.

Table 3: Type of transportation used for cross border commuting over the strait in the year before the opening of the bridge (excluding ferryboat).

Type of transportation	Total	Scania	East Denmark	Women	Men
	[%]	[%]	[%]	[%]	[%]
Car	73	74	69	72	72
Train	10	10	10	10	11
Bus	10	9	10	13	8
Other	7	7	10	6	9

This analysis, in summary, leads to the question if more subtle individual behaviour in the initial phase of new infrastructure projects is hard to predict in ex ante impact analyses. Common methodologies for evaluation of regional economic impacts use cost or production-related approaches. The cost approach is based on interregional general equilibrium models giving costs and benefits for stakeholders that in their turn change their mobility pattern and by that affect prices. The production approach is using a

production function sector by sector (Jensen Butler & Madsen 2001). However, here we will follow up the above-developed empirical approach and look deeper in the individual moving patterns.

The fixed link has created a polycentric region outside the European centre that can use its synergies and foster economic growth. But this initialising link can only give the start signal for what the local population has to shape after their own conditions. It is therefore of essential long-term importance to foster cross border activities. The development shows to a certain extent that the idea of Öresund as a core region has been accepted by the local population. It can be explained by the twofold moving patterns approach. When commuting to work or travelling for pleasure the public transport is preferred as the assumed targets are the centres Copenhagen and Malmö. The other activities are more occasional such as recreation, business and family-related travelling that is more spread out in the region. This promotes using the private car. The use of the train for cross border commuting can be seen as measurement of acceptance as probably most travel is made up by commuting within the region.

It is also the first stage of adapting the new region due to the fact that it gives the possibility to test with no risk the possibilities using the whole offer of the Öresund region while place of residence or work location do not change. Getting positive feedbacks to these first experiences open the door to an integrated region with low barriers that promote integration and push back national insulation.

Pioneers of integration

Andersson (1997) states that migration is increasing and that for youth in the age bracket of 20 to 30 cross border relocation is highest as many important decisions are made such as education and family planning. Crown and Allen (1994) state that better paid employment is the driving force for geographical mobility. They also name the importance of friends in motivating others to relocate to the same direction. This hypothesis has been further investigated here and the question has arisen how important social ties are for integration by relocation. These actors can be seen as ambassadors for a common region as they spread knowledge informally. Finally when people get retired their mobility increase again. They might then also act as ambassadors of integration.

In short it can be stated that mobility and flexibility issues affect us in daily life, which leads to possibilities that we had not considered before. This affects us differently in different age brackets. Using these considerations three different stakeholders have been indicated, students, workers and pensioners. Students are the future generation of employees and decision makers. It is for this reason of importance to look deeper in their preferences and willingness to relocate. In the survey students were asked two different questions about their willingness to become cross border actors. The first question concerned the possibility to choose higher education at the other side of the strait. In the other questions the students had to choose between studying their favourite topic on the other side and studying something else in the home country.

When having the opportunity to choose freely the easier decision, not moving, is made as often as studying at the other side as Figure 2 shows. But when it comes to the point that it interferes with the individual preferences the majority overcomes the burden of cross border studies (Figure 3). Students think about fulfilling their study dreams

instead of keeping within their national borders. Surprisingly the percentage of those that prefer another education, those who are not willing to move abroad, is for all five groups more or less on the same level as a well-defined limit (Figure 3). This gives hope for the future integration of the region as the students show that individual development is valued higher than not taking the opportunity.

Figure 2: Students' preferences for higher education studies abroad.

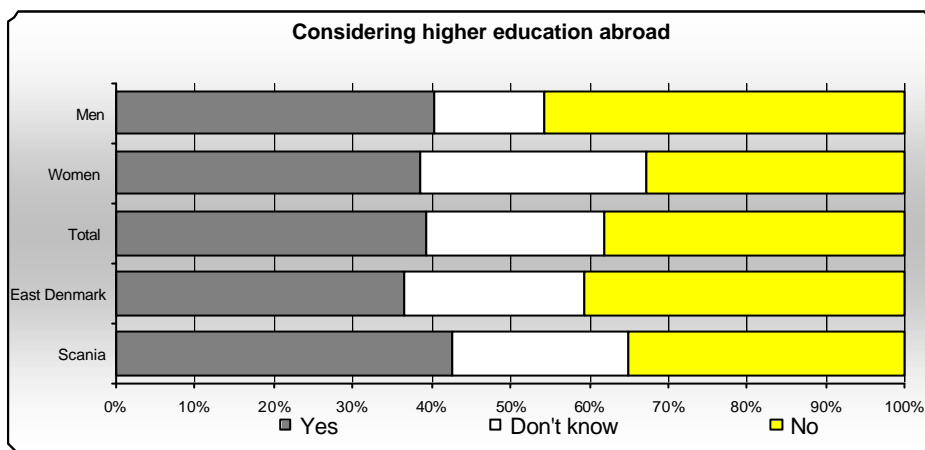
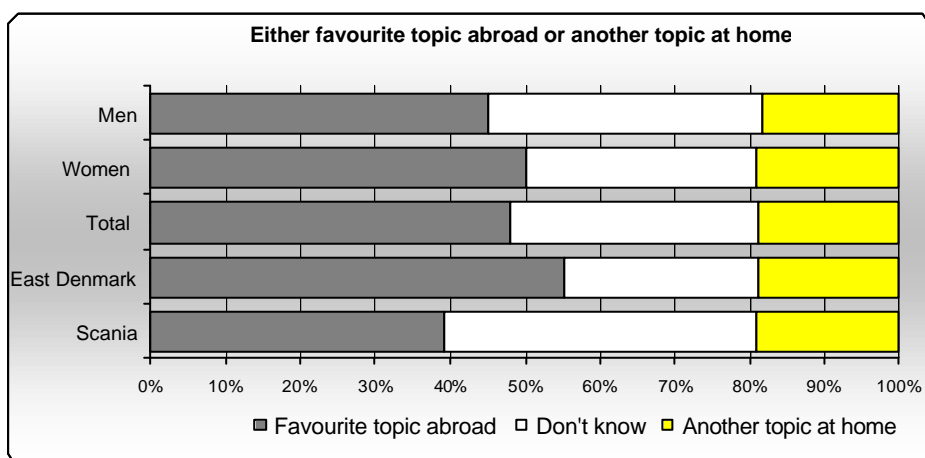


Figure 3: Students' preferences when choosing between their favourite topic abroad and another topic at home.



Students have indicated clearly positive attitudes and a strong will. At least 30 percent of the asked students are open and willing to cross the strait as Table 4 shows. But there is also a great number that have not decided if they would like to adapt to the possibilities. This group is the one that probably will more information and higher accessibility to the region.

Table 4: Cross comparison between considering higher education abroad and favourite topic abroad.

	Yes	Don't know	No
Favorite topic abroad	30%	9%	1%
Don't know	11%	9%	3%
Another topic at home	7%	15%	15%

In the following attitudes have been compared with members of the labour force. The attempt is to show the driving forces that separate the two groups from each other. The discussion follows in the next section were also the labour forces results are presented.

Figure 4: Students' response pattern to a question whether they would consider working on the other side of the strait.

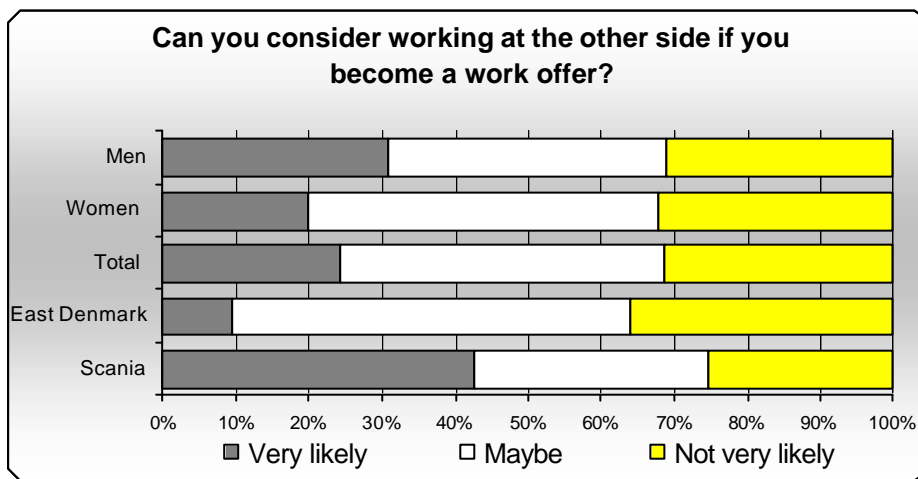
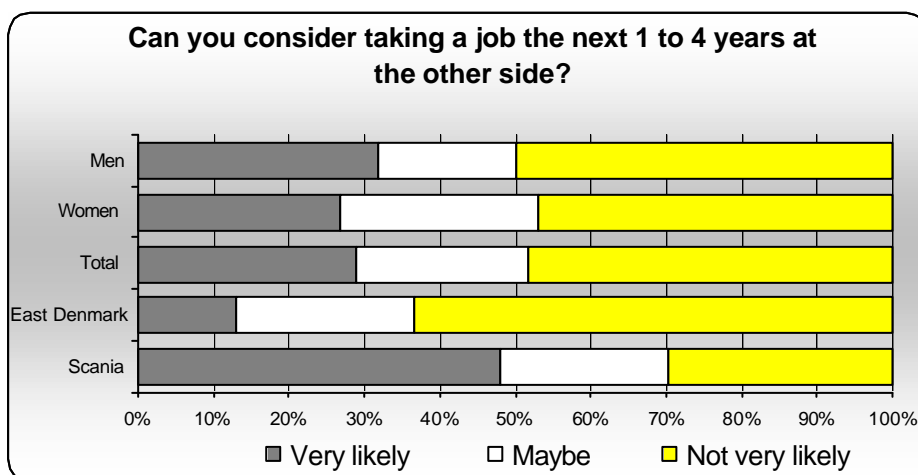
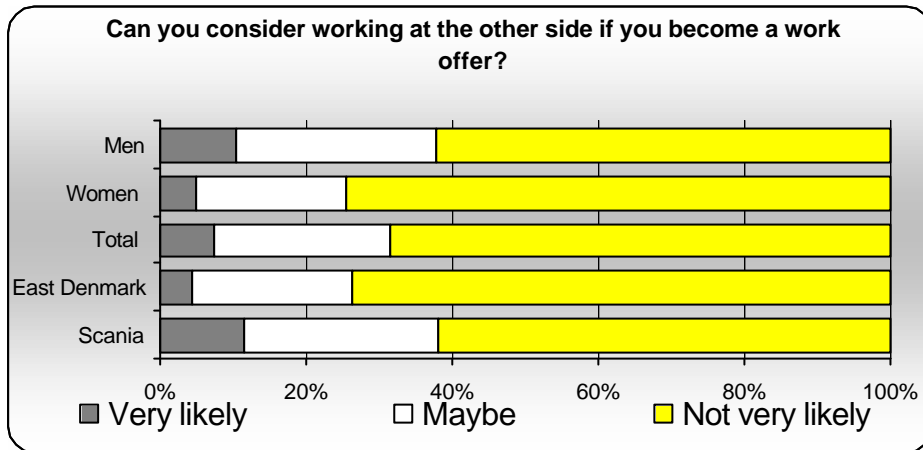


Figure 5: Students' response pattern to a question whether they consider taking a job the next years on the other side.



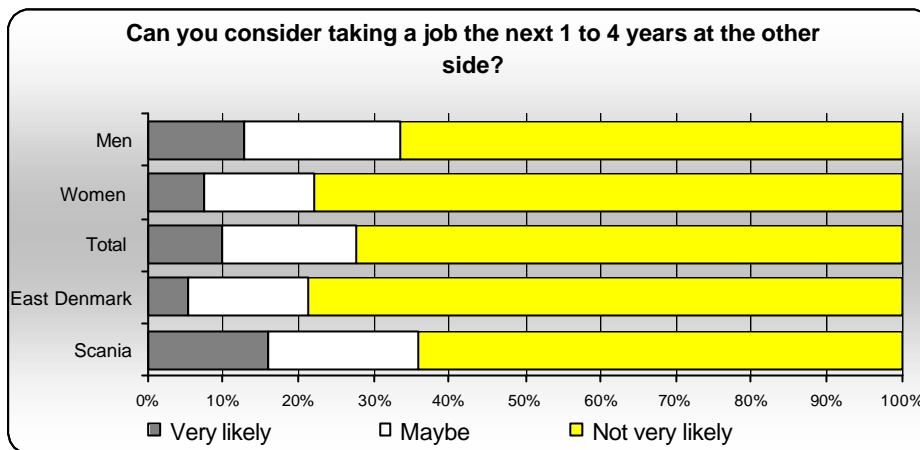
The workforce consists of employees and self-employed people. They have normally made a number of decisions that decrease the possibility of easily moving towards a new life on the other side of the Öresund strait. The expected pattern might show less flexibility than for students. Still it is in their hands to accept or to dislike the changes and adapt in the short or long term. The responses from this group to the questions posed above to students are given in Figure 6 and Figure 7.

Figure 6: Workers' response pattern to a question whether they consider working at the other side of the strait.



Comparing Figure 4 and Figure 6 the difference of life stage shows clearly that moving and flexibility is more thinkable for students than for the working generation. This is valid for the spontaneous moving pattern as for the more long-term consideration of moving over the strait within the next one to four years compared to moving five to nine years ahead. It is also seen that workers and students from Scania are more attracted to working on the other side compared to workers and students from East Denmark. Students from East Denmark are in comparison more clearly on choosing the preferred studies than student colleagues in Scania. This clearly indicates that the individual freedom is valued higher for students in East Denmark. Regarding gender differences it seems that they increase between the students to the workers. Female students are more open to working on the other side than female workers. Only half as many women consider working on the other side compared to the male students.

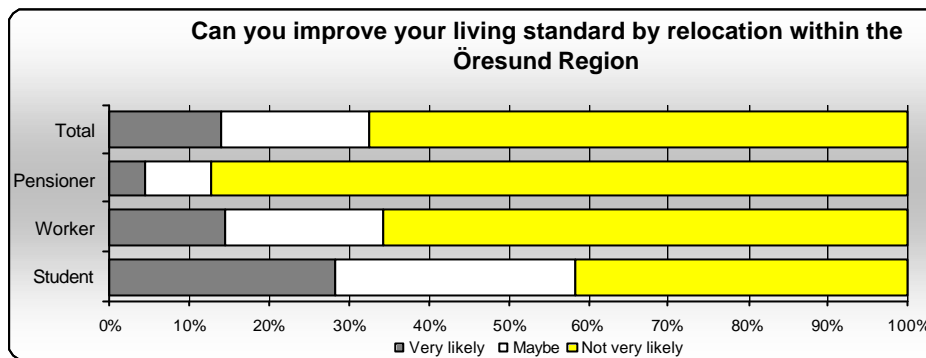
Figure 7: Workers' response pattern to a question whether they consider taking a job the next years on the other side.



Social development has shifted to a more and more elderly population. During the last decade the market is realizing the big potential economically of this group. With the beginning of the retirement the mobility increases again. Like for the youth generation fewer obligations give the possibility to pick between more choices. Still there is a crucial difference, pensioners have in general a stable and secure income able to choose more on a constraint of time than of costs, compared to students that probably have a more unstable income situation but are open minded to changes. This difference makes it harder to measure the willingness of mobility and flexibility for pensioners, as it is limited to residence relocation. The positive aspect of that is that the often multi-dimensional influences on the individual decision lose one degree of freedom, the work aspects. We compared the preferences concerning the pensioners regarding their willing to change the place of residence with the preferences of the students and workers and found a surprising pattern distinguishing the three groups.

The different patterns give for each group a significant picture for the mobility. The three groups are ranked aside in Figure 8 and 9 that shows the results for the peer groups. It affirms the above given explanations of the two other peer groups. And stated for the pensioners, the third group, that relocating is not a big issue neither purchasing a house nor to benefit much from a relocation. The Figures 11 until 13 speak for themselves. The students are very open-minded followed by the labour force. Both have planes in settling down sooner or later as the willingness to purchase property indicates. The work force has in comparison to the students a more experienced perception and as the result how they define their needs. In contrast to that have the pensioners little interest in these issues at all and they are much more resolutely in their positions as the choice 'maybe' is extremely seldom chosen.

Figure 8: Response pattern to the question of improved living standard by relocation within the Öresund Region within the next few years.



Summarily can be stated that different preferences depending in the stage of live exist. Measures towards an integrated region have to be considered when obstacles are mitigated by the decision making body in the region. If this is done, the expected gains for Copenhagen and Malmö are increased interaction and regional concentration effects as named by Snickars and Lundqvist (2001). Figure 10 shows also clear that additional information is probably missing at least to the students for having a clear judgment of the consequences.

It is obvious one thing bringing people closer to each other by a fixed link but another to identify individual group preferences and actively remove obstacles for cross border commuting for them. This is a challenge for the governments to empower the synergies of the link at low costs by mitigating obstacles focused on different groups needs.

Cross border pioneers and knowledge

When applying the Crown and Allen (1994) argument that better paid employment is the driving force for geographical mobility it has to be deep rooted in the common opinion that cross bordering generates a higher welfare. This is not the case in the Öresund region yet. Until today every employee considering taking a work opportunity at the other side of the strait has to consider tax- and other inconveniences immediately and most likely pension- and unemployment insurance inconveniences in the future. This might in some cases tiny little differences but depending on how time-consuming they are many may not consider in their decision matrix these alternatives in the list of choices.

Crown and Allen (1994) also argue that friends motivating other and their social ties are a promoter for migration which is a more applicable theory for the Öresund region and brings us back to focus on cross border pioneers and cross border ambassadors.

It comes then to the question if pioneers have to pay a higher price or should they as ambassadors for a common region should get equal deductibility of their expenses and easy and clear regulations. One of the questions is still how the allowance to tax deduct the commuting costs is handled.

This special cross border knowledge cross border pioneers grasp is valuable informal information over the needs of the Öresund region, information that is urgently needed.

Cross border pioneers and ambassadors must be seen as those that migrate in good faith but lacking proper information. One driving force is to increase the living standards but

the question is to which extent this preference is built on facts and to what extent it is built on loose ground and general assumptions. It is from a social economic point of view as from the view of individual rights and the fact living in a common regions point of view discriminating not responding proper to these needs.

One set of questions contained a ranking scheme for setting the own importance of the issue and two sets for respectively how this importance is fulfilled at home and how it is fulfilled on the other side of the strait. The answers are presented for two questions. Firstly the priority to have a work with a good work environment and then secondly the criteria to have a high salary are analysed.

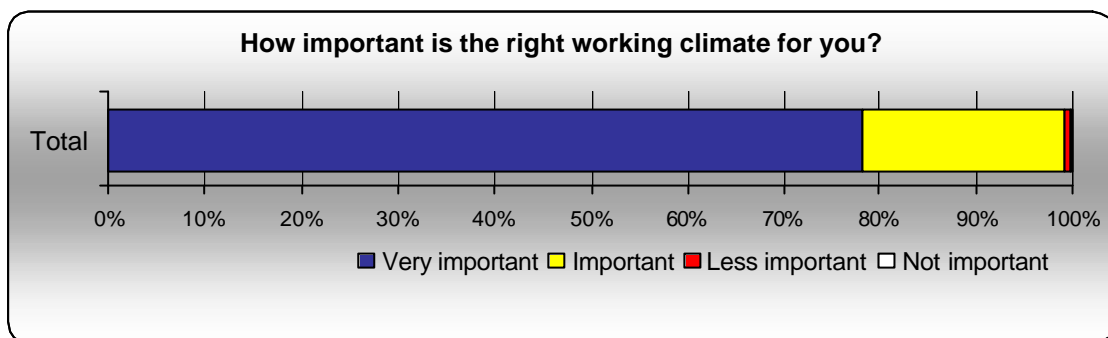


Figure 11: Response on the importance of the working climate for the workers and students in the region

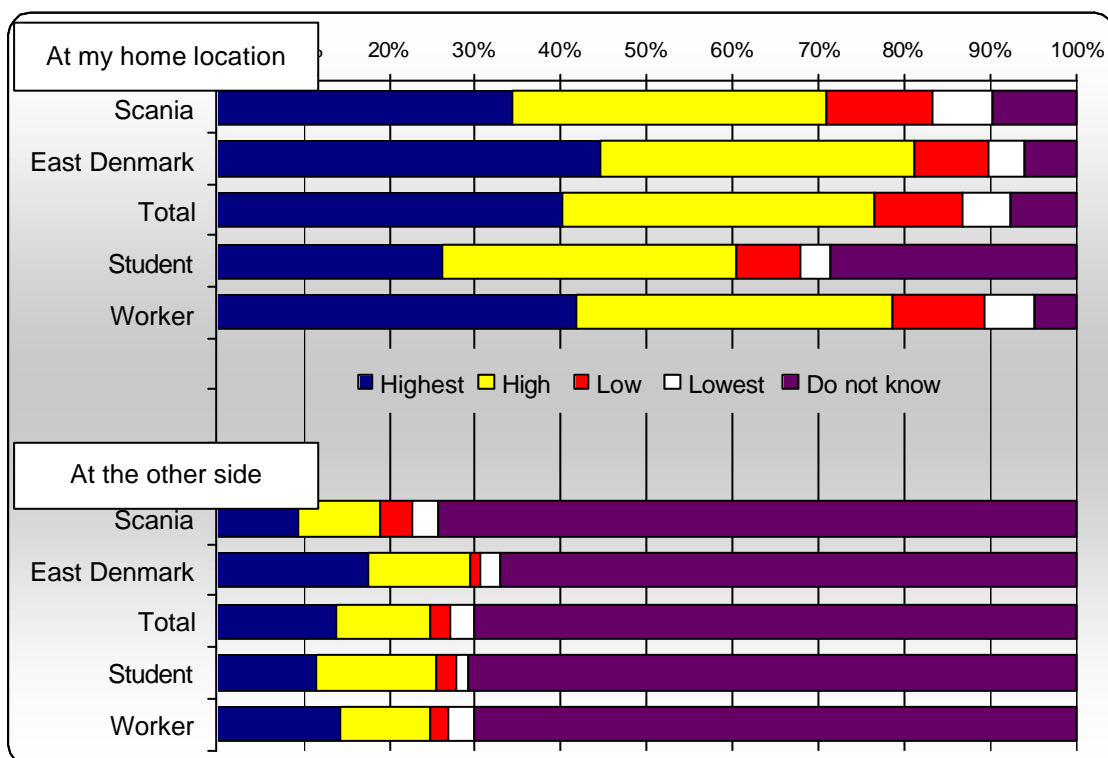


Figure 12: Comparison in the answering pattern sorted after region and type of employment. The upper part shows the answer how this importance is fulfilled in the own country. The lower part shows the answering pattern for the region at the other side of the strait.

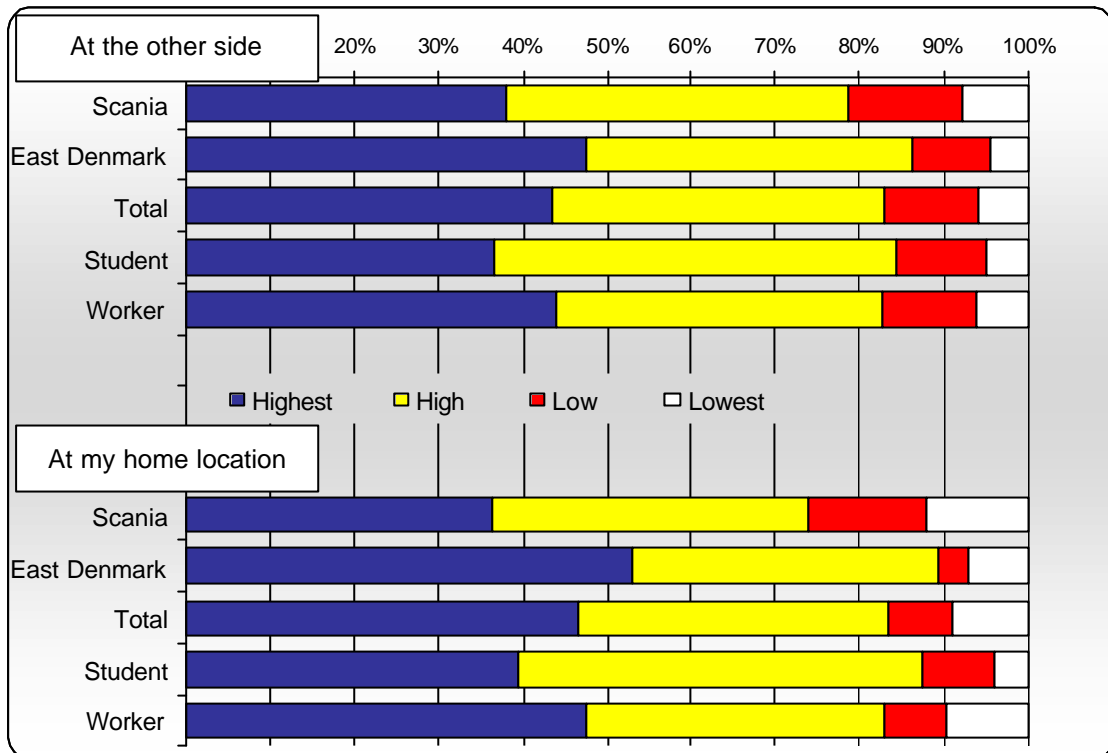


Figure 13: Comparison in the answering pattern sorted after region and type of employment without the insecure answers. The upper part shows the answer how this importance is fulfilled in the own country. The lower part shows the answering pattern for the region at the other side of the strait. Both answering pattern are similar in total as for the different types.

Figure 11 shows the own importance of having a good work environment. Figure 12 shows that except for students more than 70 percent are to a great extent pleased with the work environment in their location with the one they would appreciate. Students have probably depending on less work experience a higher rate of not being able to answer. The figure also shows clearly that 70 percent do not know how their importance is fulfilled on the other side of the strait regardless of the country except the people in Scania that are less informed in this issue. Coming to Figure 13 in which the relative percentage of choices is given without the 'do not know' alternative it is clear that those who have an picture see that the working climate is probably similar at both sides of the strait.

Taking under consideration that getting a high salary is important for the decision to migrate people should know how the situation is on the other side. Figure 14 to 16 gives the answer to the question. In general it is seen more important to have a good working environment compared to a high salary. But the most important conclusion from this is that comparing to the fact that still nearly 70 percent do not know how the situation is on the other side people migrate on a hunch.

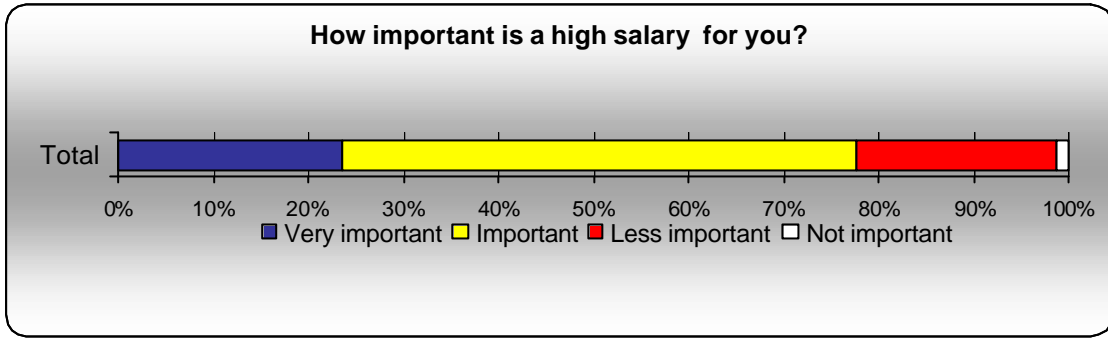


Figure 14: Response of the Öresund region on the question how important is a high salary for you.

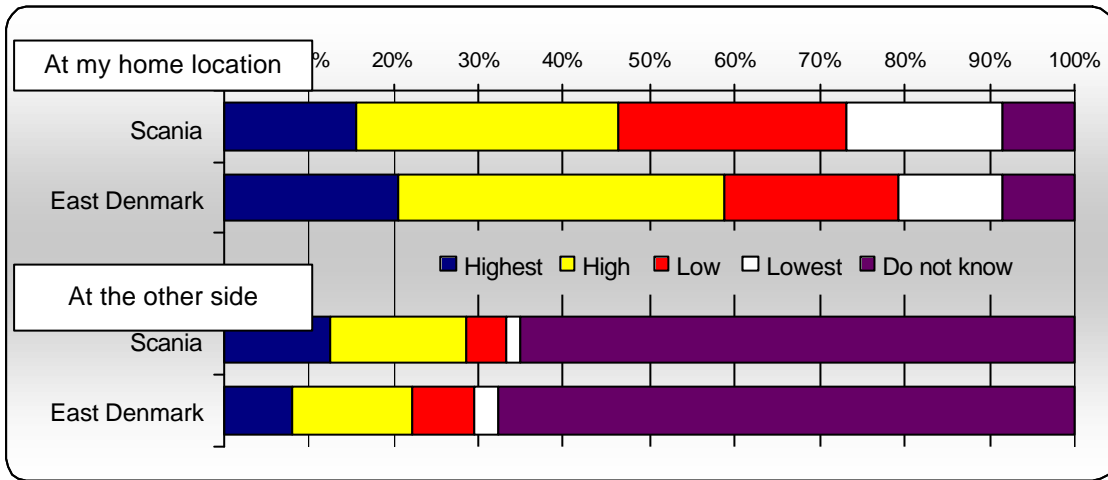


Figure 15: Response for how the importance in Figure 14 is fulfilled in respectively place in the region. The upper part shows the answer how this importance is fulfilled in the own country. The lower part shows the answering pattern for the region at the other side of the strait.

The difference in the pattern for the expected fulfilment at the other side is that regarding the high salary the people in Scania expect a higher wage in East Denmark compared with the local fulfilment. But also the people from East Denmark have positive expectations in a higher wage

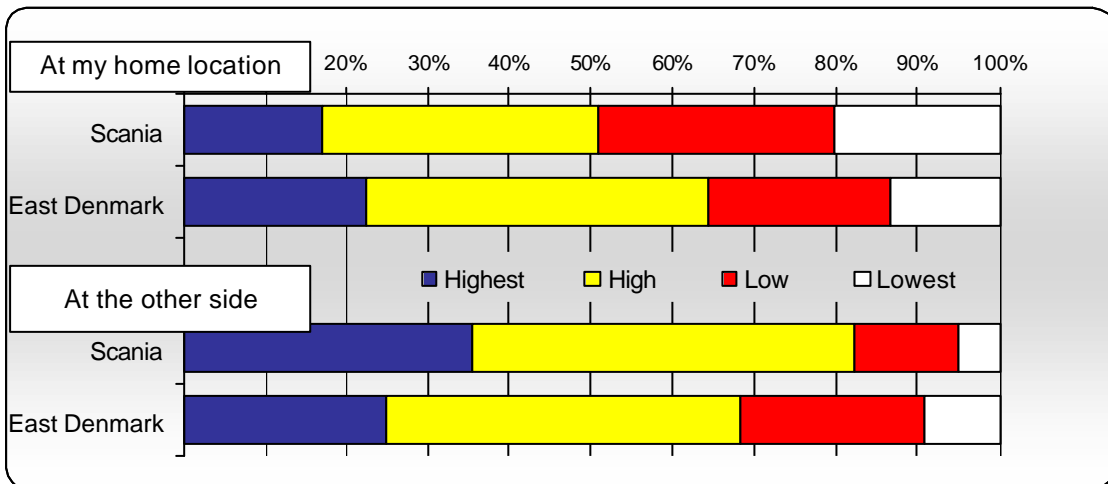


Figure 16: The upper part shows the answer how this importance is fulfilled in the own country. The lower part shows the answering pattern for the region at the other side of the strait.

The different peer groups have shown that many have no clear picture over the consequences and it is unclear to which extent knowledge over the other region influence the decision. Much information used is of general character and detailed information is not available as experience is missing. It is therefore of interest to support those that take the chance and risk to getting additional detailed information over the specific obstacles. This knowledge is still spread out informally.

The level one questions were not row wise ranked but they show still the difference of issue importance. Significant is that 70 percent and more crossed for that they don't know how their prioritising is at the other side. But taking the answers the results are similar distributed for both sides. This indicates clearly that the information available is not satisfying to make a choice on proper basis. This can also motivate that those who cross border commute and those that move permanently over to the other side are truly pioneers as they do not know what they are expecting aside of their expectation that it will improve their quality of life.

4. Driving Forces for Cross Border Integration

Aside of the individual groups of locals the success of the integration interacts with all involved stakeholders including the firms. It is a mutual interest for the local population and the firms to create a stimulating infrastructure and a social environment that guarantees long-term investments and long-term employment opportunities for the region. For that regional governance has to secure the issues related to investment and creating of workplaces in the region regardless of national disparities. In a way it meets the expectations of the investors and the needs of the locals.

Cross border markets and governance

Viewing from a blurred central European perspective Scandinavia seem quite homogenous so that a progressively fast integration of the region could be expected in some years. Nevertheless the two national identities differ due to separate industrial development, legislation, local policies and location of the decision-making bodies, namely location of the government within or far away of the new region. These cornerstones are substantial starting points that effect the development and the result of the integration progress in the region. The regions future will be strongly influenced by these local preferences, similarities and differences.

With 1.7 million employees and a regional BNP of 850 billion kronor the Öresund region is the outstanding region in Scandinavia. But aside of that it is well known that barriers exist in the region when it comes to cross border activities and that all peer groups are affected of that. Further it is known that firms compete under different conditions depending on the different jurisdictions. Also employees considering taking a work opportunity risk inconveniences they would not have when staying at their side of the strait.

The establishment of a stable economic growth that takes the new economy of scale of the region under consideration must be accessible at same conditions to everyone in the region independently where they settle down. This can only be done by setting clear and non-discriminating conditions to the labour force, the firms and to the investors. Until now to many unclear and newly introduced special rules have created problems. Now this has to be overcome but as it is the matter of two countries this is causing tremendous problems coordinating the different legislations, due to the fact that the Öresund region is not an isolated or independent region. It is the matter of Denmark and Sweden to integrate the new region with its neighbouring regions at both sides of the sound.

The obstacles

The fixed link over the sound has removed one of the obstacles. Still a number of obstacles have to be removed. One question was to identify what has been seen as the biggest barrier within the region.

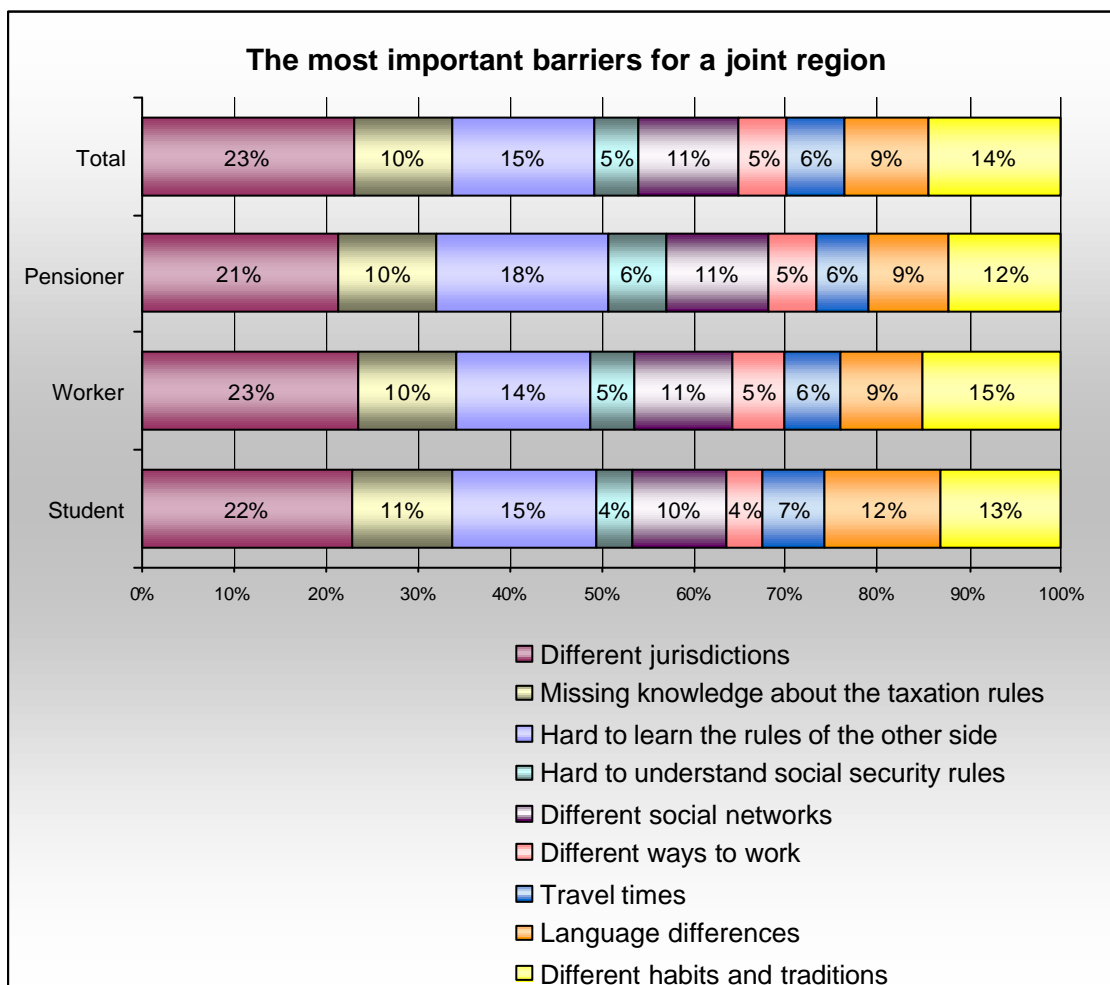


Figure 17: The most important barriers for a joint region

Three different types have been identified as the main barriers for a joint region.

- Different jurisdiction, tax rules and rules in general,
- Social security system and different social networks and
- Different habits and ways to work

Jurisdiction and tax rules

On top of the obstacle list are different jurisdiction, rules and tax rules related barriers. This most 'appreciated' obstacles type response for half of the barrier load slowing down regional development (Figure 17). The Öresund region contains of two countries with own legal and tax jurisdiction. This circumstance creates uncertainty in how things be treated depending on individual circumstances and public authorities point of view. Harmonization is a basic necessity to integrate the two regions that until now is not solved according to the local populations opinion.

The common ground should be a simple and understanding tax system in the region basing on a transnational tax harmonization than local changes that decrease transparency and feasibility. The survey showed that most of the population sees barriers towards a united Öresund region in the different jurisdiction, the difficulties to understand the rules that are valid at the other side and the insufficient knowledge over taxation rules. This was in line with the results of the company survey that has been performed simultaneous (Snickars et al 2001).

A couple of tax changes have been accomplished, but the trend is to create an island solution for the region that complicate the system and create confusion. This creates more inequity between people within the region compared to other cross border taxation rules within the Scandinavian countries. It can be seen that the basic principles of taxation given in Andel (1990) referring to the theory for the principles of taxation from Adam Smith who formulates the distribution aspects of tax principles in the four "tax canons": *equality*, *certainty*, *convenience* and *economy* need to be improved in the region. Tax harmonization is needed for selective (specific) purchase tax (punktskatter), VAT, income taxation and company taxation when considering equal conditions in both countries not only the common region.

Social security and social networks

On the second place social security and social network barriers are seen as obstacles. One important point is to stress the different responsibilities depending on the residence location and on the work location. Until today it is not clear what rules are valid. Harmonisation is on its way. In a first stage the situation has to be monitored. As much of the social security is long term related this process is taking time. It is also closely linked to find a way to regulate the differences in the region.

Different habits grow over time like languages. They reflect social life and the way thinks have developed. They are to a certain extend the reason for migration. It is a question of acceptance to have different habits aside that interact in harmony and protect regional identities as it allows creating them to. Abolishment of them is to remove variety and different choices from a menu it decrease diversity. In the case of the Öresund region this is also what attracts others to move towards.

The locals, firms and investors have accepted the region as an attractive location to life and to locate business in. It is now the time for the administration body to shape a climate that fulfils the needs and the spatial structure that is appropriate to the self

defined goals for the region. The region demands access to the labour force and by that a common labour market with equal opportunities and abolishment of barriers.

Aside of that travel time is still seen as a barrier for a joint region but at a surprisingly low level. Only five percent of the barrier volume is seen to related to it. It can also be assumed that considering the fixed link that this is not the issue as it does not cope with other barriers.

This is also stated in an additional question that was asking if there is a need for an additional link over the sound between Helsingör and Helsingborg that could increase accessibility in the region. As much as 43 percent of the people of Scania and 64 percent of the people in East Denmark do not see a need in an additional tunnel (Figure 18). But if it should be constructed it should be owned by the Swedish and Danish state and financed by a user fee. Also is it common understanding that such a project is not of interest if it is not a joint venture of the both states.

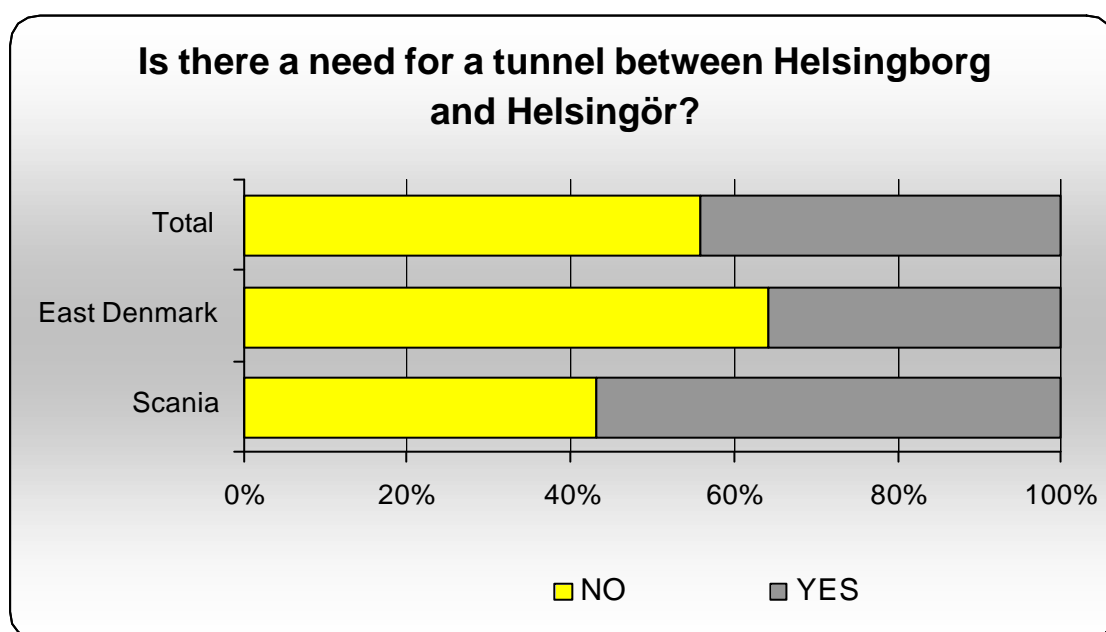


Figure 18: Is there a need for a tunnel between Helsingborg and Helsingör?

This considerably low response for an extra tunnel confirm that the travel time is most probably not the main issue anymore.

In summary, it can be stated that obstacles are much related to governing related issues. Much more would probably be attracted by the region if this could be mitigated faster. It is therefore doubtful to believe in fostering regional development by creating poorer work and income conditions for the still small labour force that is willing to become 'cross border pioneers' and 'cross border ambassadors' for a joint Öresund region.

This initialising process of creating an integrated Öresund region has to be maintained by the administration bodies in a proper manner not risking eliminating positive barriers to early or creating negative barriers. This includes probably also tax disparities in the region that create a powerful flow like a waterfall from one side to the other and by that integration. So some barriers are positive ones as they give firms and individuals essential incentives for starting increased cross border commuting. This pioneer cross

bordering is essential as it is the igniters for the process creating a common regional future. To abandon this progress could jeopardise or delay the integration process and harm the region serious. Cross bordering contains a risk and all risks demand normally higher margins. It is similar to the firm as to the individual that if the additional risk is not value adding, the investment will not be performed, as it is at the same time destruction of resources and economical suicide for a firm as it is for individuals too. But as the regional development is the concern of the common, the common, here the Danish and Swedish society, has to carry the risk.

5. Moving and Travel Pattern in The Region

A significant advantage of the link is seen in the increased mobility. At the same time the people are aware that increased mobility can also cause increased damage to the environment, which was named as one of the significant disadvantages of the link. Increased traffic in the Copenhagen region is seen as one of the consequences of the increased mobility. Overexploitation of dense populated areas was also an issue of great concern.

There is a high local acceptance of the new region with Copenhagen and Malmö as the gateway. Figure 19 shows the regional spirit and the strength, as it is common opinion that the Öresund region will attract more people from other region. This opinion is less significant for East Denmark perspective. This is most probably due to the fact of Copenhagen position as capital region. This regional identity is confirmed by the result of another question in this block that showed also a significant loss of Stockholm's importance. Another important issue was if the development in the region would lead to increased urbanisation. The answers showed that the Scania – East Denmark disparities stay similar as in the position before. Also for the different groups this regional perspective is similar. At the Malmö side 40 percent resumed that more locals will move closer the fixed link. In comparison to 20 percent at the Copenhagen side (Figure 20).

One interpretation of the result can be that the differences depend on the different status of the cities. Copenhagen is the capital of Denmark and the core within East Denmark. It attracts people at first because of that which explains the high number of votes for moving to the region. In Scania the perspective is different. The attractiveness of the region increases with a joined core of Malmö and Copenhagen. Malmö becomes a suburb for Copenhagen when it comes to cultural opportunities and attractiveness of metropolitans. From the housing and labor perspective the two national identities keep the difference separated so that Malmö will not be the sleeping suburb for Copenhagen. Some of the choices are limited due to a strong local relationship. For all those not having their roots in Denmark or Sweden the freedom of choices is bigger because they are not trapped to national ideologies such as international firms location a hub for their Scandinavian activities.

Comparing the group and results of locals, those that are born in the Öresund region, with non-locals only two slide differences occur. Non-locals first assume that more will move to the region and closer to the core but they are less convinced that Stockholm will lose influence.

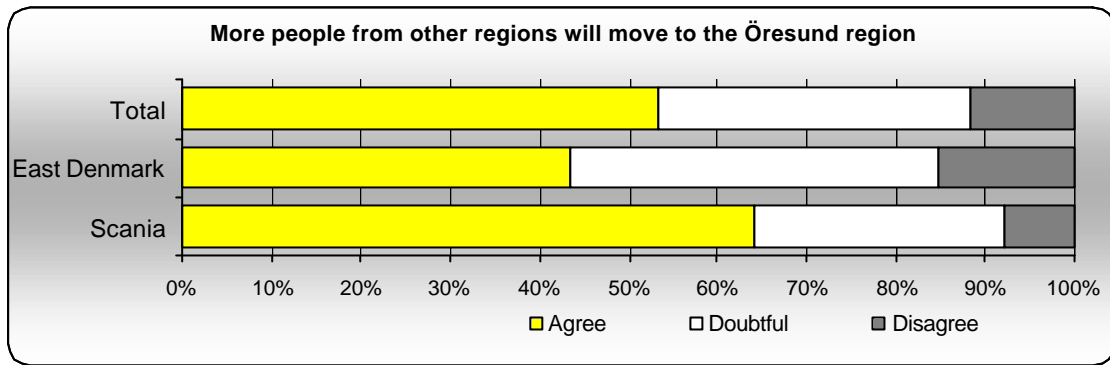


Figure 19: Response to the question if more people from other regions will move to the Öresund region

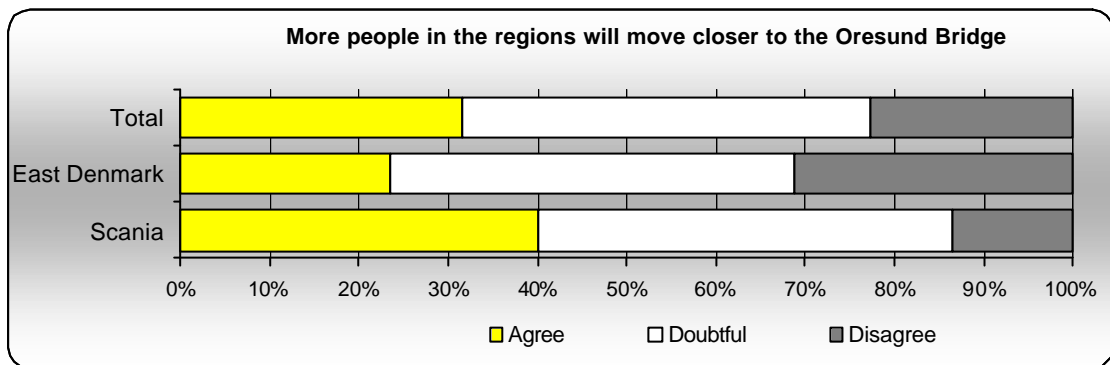


Figure 20: Response to the question if more people in the regions will move closer to the Öresund Bridge

Mobility and the willingness to adapt to new situations, as are backbones of regional integration. Studies have shown that mobility is related to age. Periods of reconsidering are during the age of one to seven, not directly covered here, only through the relation that this group is close related to the group of the young generation in the years 20 and 35. Finally relocation takes place with becoming a pensioner around 60 and 65 (Andersson, Fürth & Holmberg 1997). The first two groups belong together due to families settle together.

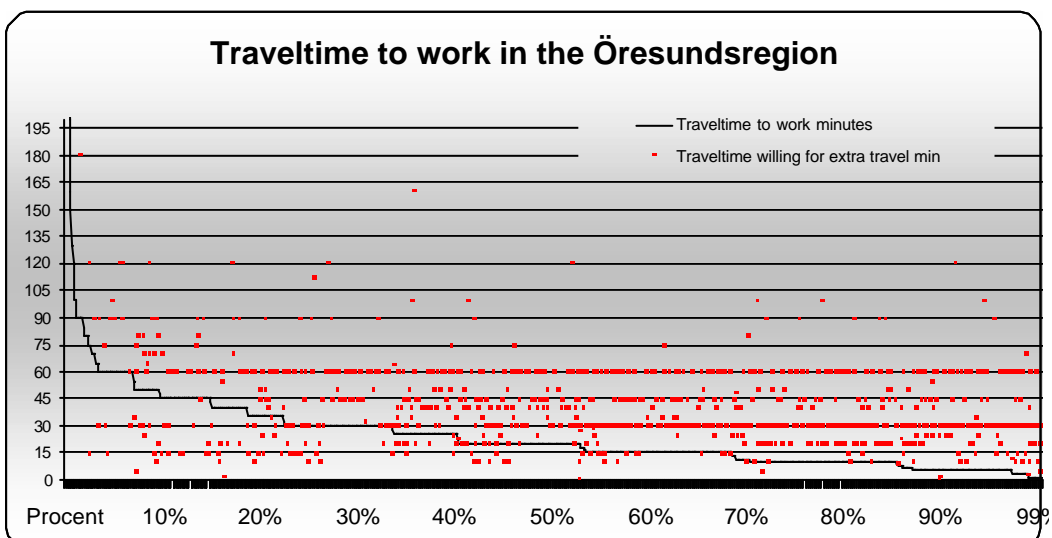


Figure 21: Travel time in the Öresund region

In the Öresund region 78 percent travel less than half an hour to work and more than 95 percent less than one hour. For nearly 45 percent it takes less than 15 minutes to work (Figure 21).

Moving from that cluster of peer groups as earlier described to a different cluster of peer groups those who are born in the region and those that are from abroad the following result can be present regarding to travel time and willingness to travel longer than today.

Since the opening of the bridge the cross border commuting has steadily increased and by that the willingness to travel. In comparison to the expectations the public transport has mainly be used to commute instead of the private. This surprise for many stakeholders in the region lead to the question if this could be predicted. In comparison to central Europe the public transport is well developed in Denmark and Sweden and frequently used when travelling on a daily basis to a hub with no parking space.

When linking housing and employment issues two questions show up. One is how do we travel. This has changed during the last decades and will probably change drastically in the future as queuing problems becoming common in urban regions, where most people life and work today. This has been discussed above in the purpose steered commuting pattern section. The second question becoming even more important is how much time does to travel to work takes. In a modern society travel time can be up to 25 to 35 percent of the work time.

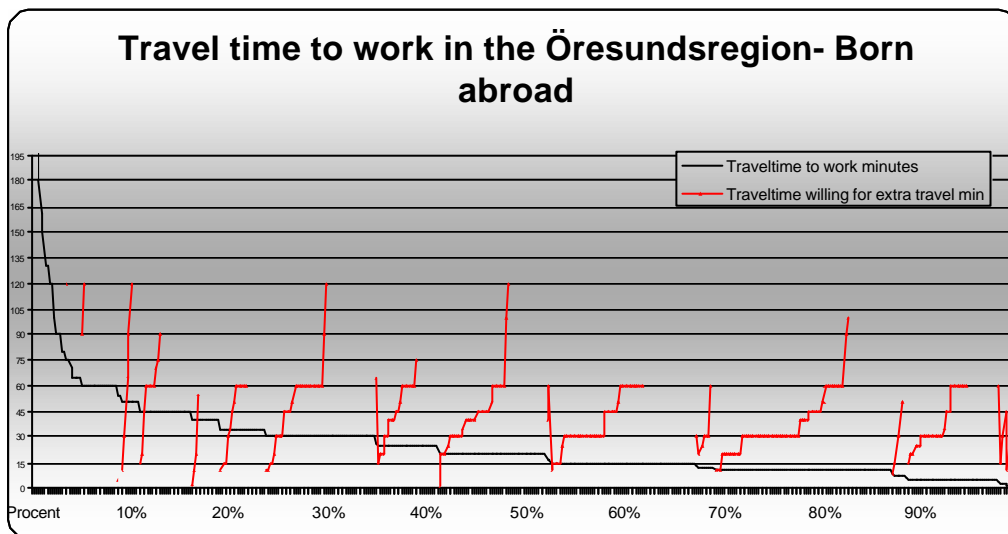


Figure 22: Travel time for abroad born people

Figure 22 shows that 75 percent travel less than half an hour to work and 95 percent less than one hour in the Öresund region of those who are born abroad.

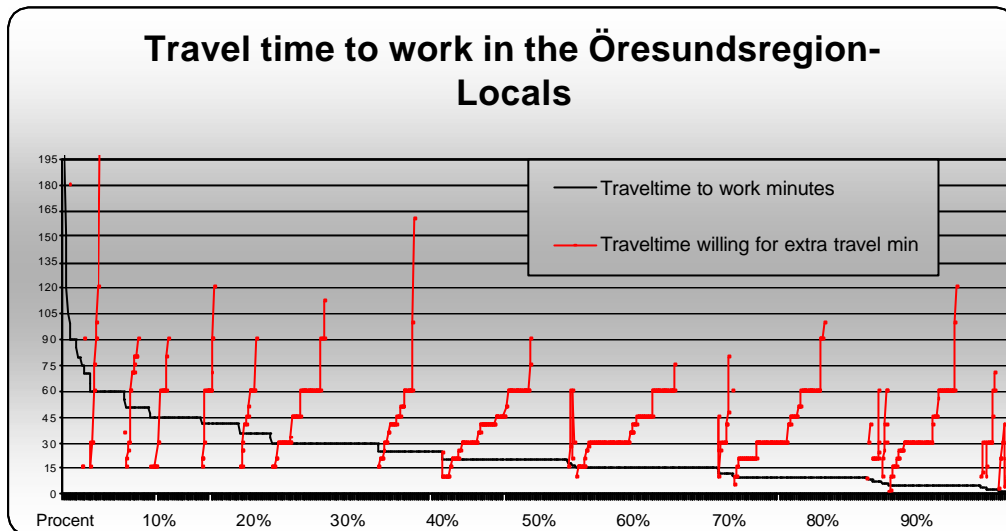


Figure 23: Travel time for local born people

Figure 23 shows that 75 percent travel less than half an hour to work and 95 percent less than one hour of the local born. For more than 45 percent it takes less than 15 minutes to work

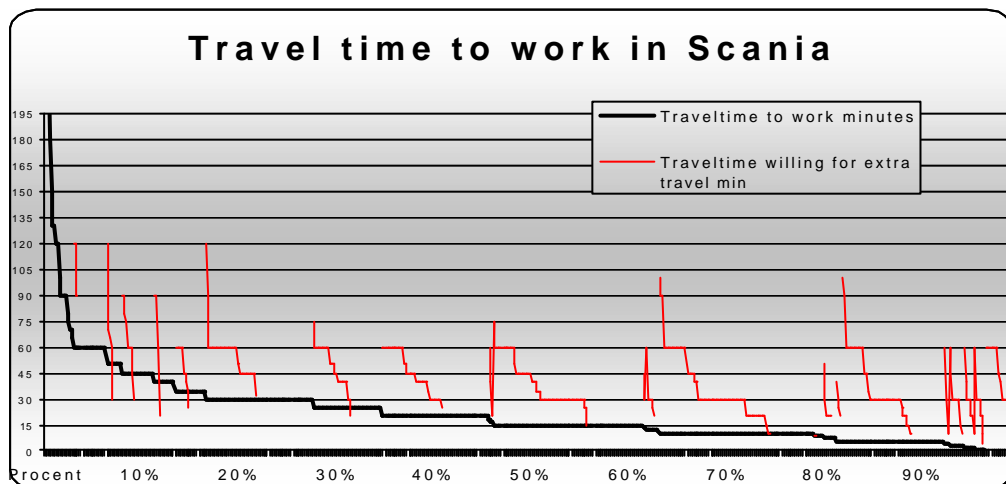


Figure 24: Travel time of the people in Scania

Figure 24 shows that 83 percent travel less than half an hour to work and more than 95 percent less than one hour of the commuters in Scania. For nearly 55 percent it takes less than 15 minutes to work

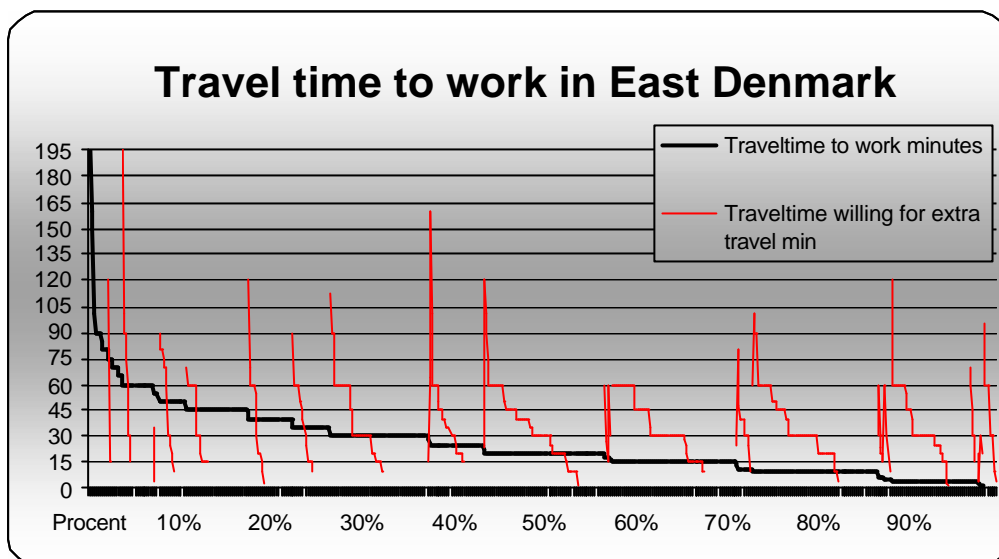


Figure 25: Travel time of the people in East Denmark

Figure 25 shows that 75 percent of the people in East Denmark travel less than half an hour to work and more than 95 percent less than one hour. For nearly 40 percent it takes less than 15 minutes to work

As the survey shows is the pattern of travel time very comparable. In general travel times of an hour and longer are sparse. In average the commuting take from some minutes to a half hour for 75 percent of the population in the region. The following up will show how that has changed during the last two years. As the average access time to work is in most cases under the travel time of passing the link there must be an incentive to justify that. Some of the reasons will be pure monetary but some will be regarding to Maslow hierarchy of human development and need (Lenneer-Axelson 2000).

The Figures also show that there is the openness to commute longer, which brings increased cross border commuting. This is expressed in the line that is across the main line. Depending on the angel it is seen how many are willing to travel longer. It is also seen clearly that one hour of travel time additionally is the limit. In some few case people are willing to travel longer.

In a more general perspective it might be not of importance anymore how fare we commute on a daily basis as the time constraint has taken over as important measurement as times do not differ much between the two regions and different groups.

6. Concluding Remarks

The Öresund region has grown together and many are positive for the future of the new region. It is for all living in the region beneficial as urban areas are linked with the semi wilderness of Scania. The different regional entropies will automatically create a flow across the region increasing cross-fertilizing development. The new cross-cultural hub in the North is spreading its attractiveness over Europe. It has also not to be neglected that for the Swedish side an alternative core with Copenhagen has come closer for the locals than the traditional one, Stockholm. This circumstance has also attracted people in the Stockholm region to migrate, as the Öresund region offers much more than

Stockholm compared to a couple of years ago, when cross bordering was mainly restricted to pleasure travel. Today the commuting over the Öresund with its few stops is comparable with extraordinary fast underground systems. The hub-to-hub travel times in the Öresund region are an advantage compared to other core regions and compared to the other Swedish hub, Stockholm. Travel time is not the issue anymore as the study shows either work commuting times takes long nor is it seen as one of the big barriers anymore. This gets additionally confirmed that the need for a second link across Helsingör and Helsingborg is moderate.

The Öresund region is the modern times place, with still to many governance related obstacles that have to be overcome. They are two folded as it is seen that on one side governance slow down the integration process and on the other side they do not simplify integration fast enough.

The Öresund region needs more pioneers spreading informal knowledge and mitigating the information lack in the region. This can contribute to identify the key issues that create problems related to unemployment, pension, health insurance and mm. Many of these issues are not properly solved and will cause trouble in the future when promises about harmonisation have become quiet in a couple of years. The region, as the two countries, needs an easy administration that can foster the developments that urgently will settle in the region. Having a non-discriminating system of equal rules for all in the region independently where they live and where they work is essential. It does not become attractive by complicating the social security system for those who are willing to migrate. Creating new rules that applies to a handful of people causing more cost in legislation than in performance as it runs faith in the system. It is more important to have an easy and transparent system. As example the income tax regulations in the region make clear that many regulations will be regulated with more regulations. Sweden and Denmark have an income tax deduction for foreign specialists from a brought; in the Öresund region this will probably cause a problem when asking if it is possible to employ a specialist from the other side of the sound. In the other regions taxes are regulated by the place of residence, in the Öresund region it is the place of work that decides to which authority tax is paid. As the place of residence is probably more consistent, 70 percent are born in the region and 90 percent haven't moved more than twice between different municipalities the last ten years, than work this can cause a lot of extra work and trouble and add only new barriers on the list of barriers to mitigate. One only considers the extra trouble with social security for the periods of short unemployment in between change of workplace.

More information is needed. It must be easy and fair to migrate between the both sides of the sound. One alternative could be to let the people in the region decide where they want to pay their taxes and the governing body decide how these taxes are distributed between the different tax recipients. With the new link the population at both sides of the strait got the possibilities to explore the other side from a new perspective. Time aspects have decreased and accessibility possibilities increased. But there are plenty of barriers to remove left that limit possibilities and create uncertainty. It should finally not be neglected that it is in the end in the hand of the locals to take advantages of the new region. It is up to them, their creativity, openness, mobility and flexibility, how successful the Öresund region will become.

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