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Economic flows between Helsinki-Uusimaa and Tallinn-Harju regions

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Executive summary

The processes of regional integration have led to profound political and economic territorial reorganisation, especially in the European border regions. Two large and well-known border regions in Europe are Öresund region (Kopenhagen-Malmö-Skåne) and Centrope (the border regions of Austria, Slovakia and Hungary around Wien-Bratislava). While the Öresund region can be classified as a semi-integrated region with especially well developed and integrated science base and knowledge infrastructure, Centrope is still a rather weakly integrated region as a whole. Various integration processes – including tourism, business activities, migration, cross-border work, studying – have also taken place between Finland and Estonia generally, and especially between **Helsinki-Uusimaa** region (that refers to Uusimaa Region, including the Metropolitan area of Helsinki) and **Tallinn-Harju** region (Harju County, including the city of Tallinn), suggesting even the emergence of a twin-city. Studies covering this phenomenon are limited.

The study has twofold objectives: to **develop a framework** of the integration process of cross-border regions and to **estimate the magnitude of the main economic flows** between Helsinki-Uusimaa and Tallinn-Harju regions.

Based on the analysis of statistical data we show that there is **increasing cross-regional economic interaction between Tallinn-Harju and Helsinki-Uusimaa regions** in terms of trade of goods and services, cross-border activities of enterprises, transport, tourism and cross-region work.

Analyses of **economic flows from tourism** reveals, for example, that the estimated total effect of the Finnish tourists' expenditure on the value added of Tallinn-Harju is EUR 240 million and that the contribution of Finnish tourism to the employment in Tallinn-Harju is a considerable 2,5–4 % of total employment. The total effect of Estonian tourists on Helsinki-Uusimaa is EUR 54 million (2011).

Cross-border work has increased considerably over the last 10 years, especially by the participation of Estonian workers in Helsinki-Uusimaa labour markets. The number of Estonians participating the Helsinki-Uusimaa labour markets was 17 500 – 18 500 in 2011. The part of earnings from Helsinki-Uusimaa shifted to Estonia has multiplicative effects via consumption and consequent chains in Estonia and according to estimations this causes a net increase of 200 – 300 million € to the value added in Estonia via direct and indirect effects.

Cross-border trade and production have also increased rapidly during the last 10 years, mainly influenced by the Finnish manufacturing enterprises having plants located to Estonia. There were about 440 Finnish subsidiaries in Estonia with total personnel of 27 000 and turnover of 3 900 million € in 2010. The number of personnel of Finnish firms represents about 5 % of total employment in Estonia.

Significant asymmetries in the present flows can be observed. The monetary flow of tourism is several times larger from Helsinki-Uusimaa to Tallinn-Harju than to other direction, and the volume of tourism from Finland to Tallinn is already approaching the saturation level. It is less-known that Estonian tourist visits to Helsinki-Uusimaa have grown very fast during the last 10 years even if the number and total expenditure is not as high as to the other direction. The growth is at least partly connected with increased migration from Estonia to Finland, generating demand for visiting family members, relatives and friends.

Another asymmetry is connected with cross-region work where the labor flow from Tallinn-Harju to Helsinki-Uusimaa is significantly larger than to the other direction. Estonian workers (permanent and short-

time) have a crucial role in the labour markets of Helsinki-Uusimaa and the functioning of some industries is already to a large extent dependent on this flow. This situation contains a risk of shortage of labour in Tallinn-Harju and whole Estonia, at least in certain industries, like health services. In this case the asymmetry may lead to further imbalance on labour market.

When we look at the cross-border activities of enterprises there is asymmetry to the other direction. The number of firms, personnel and turnover of Finnish firms in Estonia are of different order of magnitude than Estonian firms in Finland. The Finnish manufacturing companies utilize the business environment in Estonia, including lower salary level, good logistics connections, and lower corporation taxation and income taxation.

We conclude that **current integration between Helsinki-Uusimaa and Tallinn-Harju resembles more the situation in Centropo than in Öresund**. While the economic structures of both regions are service oriented with a high share of knowledge-intensive business services, the common science base and networking of knowledge infrastructure between the regions is rather weak. The economic relationships are still dominated by price and salary level differences rather than by symmetric interactive flows of knowledge and skills. At institutional level the administrative structures, legislation and business and administration cultures are quite far from each other. The physical proximity has improved in line with increased supply of ferry connections while there have been setbacks in air connections.

However, the active economic flows of tourism, cross-border work and cross-border trade and business **may lead to deeper integration which benefits both regions**. These micro level processes taking place at individual and firm level should be supplemented by institutional efforts. These include the development of cooperation between city and regional authorities and leading possibly to some model of governance dealing with common projects, e.g. transport systems, city planning and tourism. There is also need for harmonizing administrative processes and improving the quality of information concerning cross-border work and founding or purchasing an enterprise in neighbor country.

This report is part of the Helsinki-Tallinn Transport and Planning Scenarios project (H-TTTransPlan), an ERDF project funded by Southern Finland-Estonia sub-programme of INTERREG IV A 2007–2013 Programme.

1. Introduction

The transport has increased rapidly since mid 1990s between Finland and Estonia and especially the neighboring regions Helsinki-Uusimaa and Tallinn-Harju. For example, there were 7.3 million passengers travelling by sea between the cities and seaborne cargo transport exceeded 4.3 million tons in 2011 (Tapaninen 2012). The growing transport volumes are connected with increasing interaction between the regions in terms of tourism, business activities, migration, cross-border work, studying and all kinds of social interaction. There are several factors which have removed the obstacles of the interaction and moved the regions closer to each, among others faster and more frequent transport connections, fluent border routines alongside with EU-membership of the both countries (Finland 1995, Estonia 2004) and the common currency Euro since year 2011. These developments have lead towards wider and deeper integration between the regions. If this process continues in the future Helsinki-Uusimaa and Tallinn-Harju may proceed towards becoming one of the twin-cities in Europe.

Objectives of the study

This study approaches the integration process of the neighbouring regions from two perspectives. The first objective is to present a framework of the integration process of cross-border regions, based on research literature and studies from other regions where two or more closely located urban regions in different sides of the border proceed in economic integration.

The second objective is to specify and estimate the magnitude of the main economic flows between Helsinki-Uusimaa and Tallinn-Harju regions. Many of the various cross-regional flows have been specified and a lot of data has been published about them in the other sub-projects of H-TTransPlan. This study aims at complementing the other studies by finding out the monetary value of the main flows and in addition, to estimate and evaluate the indirect economic effects and the significance of the whole from the point of view of broader regional economy. The focus is in the following economic flows: tourism between Tallinn-Harju and Helsinki-Uusimaa, cross-region work between the regions (both short time and permanent), and cross-region activities of enterprises from SMEs to multinational corporations.

Finally, the results of the economic flows between Tallinn-Harju and Helsinki-Uusimaa regions are linked to and interpreted in connection with the framework of regional integration.

Regions

Tallinn-Harju region refers to Harju County, including the city of Tallinn.

Helsinki-Uusimaa region refers to Uusimaa Region, including the Metropolitan area of Helsinki.

Report

The report is divided to 3 parts, following the objectives of the study.

Part I deals with the integration of cross-border regions at general level. It provides background of regional integration processes and a summary of two interesting cases, Öresund and Centrope regions. It summarizes also the main principles of multi-regional business activities of international corporations.

In Part II we define the major economic flows between Helsinki-Uusimaa and Tallinn-Harju as part of wider flows between Finland and Estonia. The magnitudes of the flows are estimated for tourism, short-time work, work connected with immigration, and business activities of enterprises.

In Part III the results of the previous part are connected with the integration framework and conclusions of the present state and future prospects of the integration are drawn. This is based on expert interviews in both regions and on the analysis of the authors.

Project

The study was carried out by Seppo Laakso and Eeva Kostiainen from Kaupunkitutkimus TA Oy and Tarmo Kalvet and Keio Velström from Ragnar Nurkse School of Innovation and Governance, Tallinn University of Technology.

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Part I: Integration of cross-border regions

2. Background of regional integration – literature review

In this section we present some theoretical background for regional integration, define the concept of the cross-border region and summarize the findings of research literature on economic integration and cross border economic flows.

Cross-border regions

In the literature of border studies, the globalisation of economic and cultural exchange, the diminishing of the relative role of the nation states and the processes of regional integration has led to profound political and economic territorial reorganisation, especially in the European border regions. This has been interpreted in terms of integration, as a process of intensification of the exchange of goods, services, capital, knowledge and people between distinct territories. (Decoville, Durand, Sohn & Walther, 2010.)

Cross-border areas can be defined as territories that do not correspond to administrative definitions of region since they extend both beyond regional administrative borders and national borders. Contiguous cross-border areas consists of a limited set of neighbouring regions from at least two countries that have adjacent borders and cover a restricted space, smaller than an average country. These cross-border areas often have a long history and sometimes they represent historical regional definitions. Due to their proximity, the area may show similarities in economic development and culture or share a similar peripheral situation in their respective countries. (OECD, 2012.)

Contiguous cross-border areas can be defined as functional regions. A functional region is a territory sharing commonalities and linkages that create interdependencies and cohesiveness, that distinct it from other regions. Functional economic regions are characterized by density of economic linkages: trade flows, shopping movements, mobility of labour force. The boundaries of functional region often differ from those of a formal region, defined as a political entity by laws and institutions. The worker mobility patterns are the most widely used indicator for defining functional regions: functional regions show a high rate of internal commuting and self-contained job search patterns. (OECD, 2012.)

Regional integration

Starting points for the economic interaction between regions are the relative benefits between regions and the regional specialization. There are differences between regions with respect to productivity in firms and industries. In spite of the fact that production takes place in firms, there are factors connected with the region which affect the firm or industry level productivity. At regional and local level these differences may be based on natural resources, build resources (e.g. infrastructure), other physical capital, labour force and their education and expertise, production technology and various regional and local institutions. Some of the factors may be determined at national level: country-wide physical and human resources, legislation, taxation, cultural factors, other institutions etc. These regional and national differences influence the conditions which determine the absolute and relative benefits for firms and industries to be located in a specific region. In the world where it is possible to trade with other regions, all regions tend to specialise on

those industries and products in which the region has relative benefit relative to other regions. In general, the larger the productivity differences and the lower the transport and trading costs between regions the more gainful are the specialisation and the trade. (E.g. Laakso & Loikkanen, 2004.)

The regional and national resources and amenities may change in time, e.g. via investments in infrastructure, education and R&D or by improving legislation. The accessibility with other regions may also change due to investments in transport and communication or by lowering border costs and bureaucracy in case of regions at other sides of the border. Consequently, the relative benefits of each region may change from one industry or product to another.

The World Bank's report (2009) summarises the driving forces of changes in regional economies by three dimensions (3 D): Density, Distance and Division. These dimensions provide a framework also for the analysis of regional economic structures and the integration of regions locating closely with each other.

Density refers in regional economics to the volume of economic output relative to land area. Concentration of production and population increases density in those locations where economic activity is concentrated. The economic reasoning for concentration is as follows: when various economic activities are located close to each other, the exchange of goods and services and all kinds of communication is easy and efficient. Density increases productivity.

Accessibility is based on geographical factors, but even more on transport systems as well as on data communication networks. This is why accessibility depends crucially on investments by society on infrastructure and its maintenance. Accessibility has an important role when companies choose location. Transport connections between regions is a crucial factor in the functioning and costs of goods logistics for firms as well as in personal mobility. Accessibility improvements between any two regions decrease the costs of logistics and moving and increase the benefits of specialization and trade between them.

Divisions refer to borders separating countries and regions from each other, limiting or even preventing the movements of people, goods, services, factors of production and innovations. The borders between countries with customs operations, payments and bureaucracy decrease trade and other communication between countries. Passports, visas, permits and other restrictions on travel decrease the international mobility of people. Borders hinder countries from international division of labour and specialization and limit the smoothing out of development differences. Borders may also be based on language, religion or cultural divisions, and they may exist not only between countries or regions but also within regions.

Origins and driving forces for the constitution of cross-border areas

European cross-border co-operation at regional level developed from the 1950s in border areas in the old core of Europe in France, Germany, Switzerland, Luxembourg, Belgium and the Netherlands, in the aftermath of WWII. Local cross-border spatial planning and transport policy were often the main objectives of the early cross-border partnerships, and they still are. Infrastructure ties are a frequent rationale for the development of several co-operations (the Channel Tunnel, Öresund bridge). Over time other areas of co-operation has evolved, such as health, where the objective is to develop joint policies to create synergies in the use of infrastructure (hospitals e.g.), or tourism, where synergies can be found in the building of an image by pooling together a critical mass of resources (e.g. tourist destination branding). Environmental considerations, where the cross-border dimension is often visible, are frequent rationales for cross-border

collaboration, such as the joint management of rivers and seas or water resources (e.g. Danube river partnership). Economic development goals have taken increasing importance in the cross-border co-operation arrangements, including the removal of trade barriers, labour market integration, education, research and innovation. (OECD 2012, 17.)

According to Perkman, two main scenarios of cross-border integration processes can be distinguished. 1) market-driven integration is based on the proliferation or reactivation of social or economic relationships. These kinds of processes often predominate in case of *persisting borders* where highly accentuated cross-border differentials stimulate cross-border activity, e.g. in terms of labour costs. Examples of market-driven integration, induced by the declaration of Special Economic Zones, are found in 'Greater China' or in the US-Mexican border. 2) Policy-driven integration is based on co-operative relationships between public and other bodies that share certain interests, like coping with environmental interdependencies or creating cross-border economic spaces. These networks often emerge as local and regional actors exploit the opportunity structures created by regionalisation and globalisation. European cross-border regions can largely be characterized as policy-driven. (Perkman 2007, 4.)

The first formal European cross-border region, the EUREGIO, was established in 1958 on the Dutch-German border, in the area of Enchede (NL) and Gronau (DE). Since then, 'Euroregions' and other forms of cross-border co-operation have developed throughout Europe and today in more than 100 cases municipalities and regional authorities co-operate with their counterparts across the border. The scope for non-central governments to co-operate across borders has widened considerably from 1960s when cross-border co-operations was a field reserved for central state actors. To a large degree this is related to macro-regional integration in Europe. In particular, the Council of Europe (legal situation) and European Union (financial support) have been important for improving the conditions for sub-national authorities to co-operate across borders. (Perkman 2003, 2.)

The Cohesion Policy of the EU has played an important role in the development of cross-border areas in the EU. The project of creating a borderless economic space has stimulated cross-border co-operation in many parts of the continent. Several cross-border co-operations were initiated by the first INTERREG I programme (1990-1993) in the old core of Europe. Subsequent INTERREG (II-IV) programmes have provided continuous support to cross-border co-operation arrangements and injected necessary funding to kick-start new partnerships. The more recent set of areas of cross-border collaboration include examples with an unbalanced profile: they gather the strong but slow growing regions from old member states and the catching-up regions from new member states (e.g. Centrope, Helsinki-Tallinn metropolitan region). (OECD 2012, 18, 23.)

European micro-cross-border regions, or Euroregions, are characterised by three common traits. First, they belong to the realm of public agency as their advocates are contiguous sub-national public authorities on local, district or regional levels from two or more countries. Second, they are usually based of informal or 'quasi-judicial' arrangements, because sub-national authorities are not usually allowed to agree international treaties. Third, they are mostly concerned with practical problem solving on local policy areas with a perceived need for policy co-ordination, or the management of cross-border interdependencies. Nearly all are concerned with implementing measures funded by the EU programme Interreg in diverse field, such as SME support, technology and innovation, education and culture, labour market, spatial planning and the environment. (Perkman 2007, 4-5.)

Most cross-regional partnerships are governed by informal structures; associations and committees established under voluntary agreements provide the basis for developing and implementing cross-border strategies. Examples of these are the Öresund Committee and the Centropo Steering Committee. These structures don't have democratic legitimacy as the governing bodies are not directly elected. They act as a platform for coordinating policies and defining common initiatives across the cross-border area, but have no regulatory power. Their stability and effectiveness depends on the availability of continuous funding, which is not always the case, and they can be affected by political changes occurring on either side of the border. The balance of power achieved between the various parties involved may vary from one cross-border region to another. An asymmetric partnership is likely to hinder the development of integrated cross-border areas. (OECD 2012, 21-22.)

Developments of cross-border integration

The development of a fully integrated functional region as a multi-faceted phenomenon requires integration in three main dimensions: economy, physical infrastructure and socio-cultural life. In addition, an overarching vision for the future of the cross-border region and good governance conditions are needed, too. Cross-border innovation is only one element of economic integration for a successful knowledge-based functional region, but of growing importance. (OECD, 2012.)

According to the widespread agreement in academic literature in the emerging globalised knowledge economy all regions', including cross-border regions', long term competitive strength rests on their capacity to create an integrated innovation space. The view is shared by European policymakers that promote cross-border integration and in line with the intention of the Lisbon treaty to create dynamic and competitive knowledge based economy. However, this may not be reachable for the majority of cross-border regions in Europe, since many of them are not characterized by collective learning systems or by socio-cultural and institutional proximity that are viewed as important prerequisites for successful localized innovation systems, but are embedded in different national and regional innovation systems. (Lundquist & Trippel, 2009.)

European cross-border regions show considerable variation in basic geographical preconditions in terms of scale, size and location engendering primary restrictions of what kind of integration is likely to occur and what types of benefits are possible to reap from different integration processes. In addition, many cross-border regions have very different economic histories, technological trajectories and innovation capacities, institutional set-ups and positions in the regional system of their respective nations, social dynamics, political visions, governance structures, modes of regulations and cultural identities. To a certain degree the differences in economic structure, innovation capabilities and cost structure create the foundation for cross-border growth, the potentials to reap benefits from unexploited complementarities and synergies. Simultaneously, as some of the differences create the main driving force for cross-border growth, they also form barriers hindering successful integration. (Lundquist & Trippel, 2009.)

However, it has been demonstrated, that the development of cross-border economic relations does not necessarily lead to reduction in disparities or increase in territorial cohesion between the regions: relations between regions can be highly asymmetrical and based on significant differentials. And vice versa, a process of convergence does not necessarily imply that significant flows are exchanged across the borders; the homogenization may be the result of internal dynamics of each area. Even when cross-border regions form large functional units, the legal and regulatory frameworks, labour market, housing and transport policy remain heavily influenced by national systems. (Decoville, Durand, Sohn & Walther, 2010.)

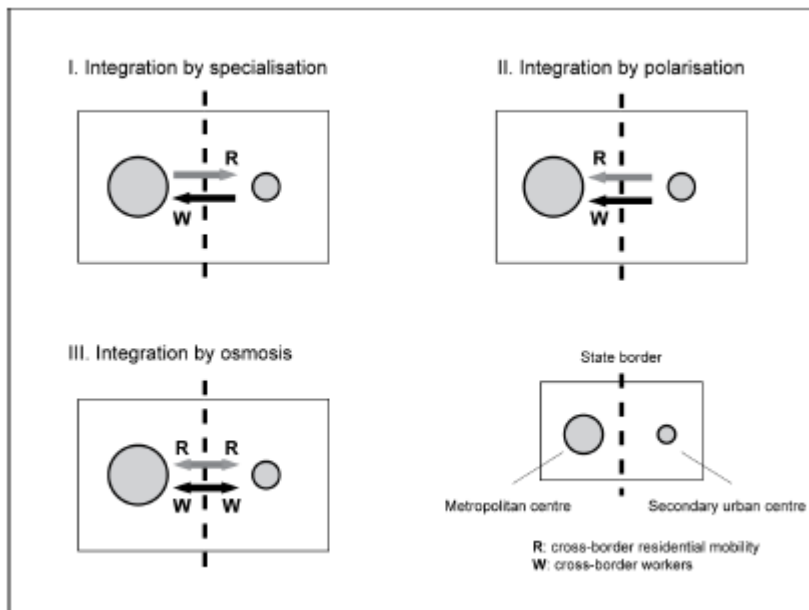
In an actor oriented perspective towards cross-border integration Löfgren has found the term *regionauts* (O'Dell 2003) helpful. They are people who develop skills of using the world on both sides of the border. Regionauts move in the physical and mental landscapes of region and explore the differences in anything from the legal system to market conditions. This type of on-the-ground regions building often goes against the intentions of planners and policymakers and might include creative subversion of existing conditions, bending rules and finding loopholes. The patterns of interaction are shaped by traditional paths as well as new possibilities generated by market differences, currency swings and differences in welfare systems, legal systems and administrative systems on both sides of the border. (Löfgren 2008, 196-197, 200.)

Spatial integration

On the basis of a comparative analysis of integration in European cross-border metropolitan regions (Aachen-Liege-Maastricht, Basel, Geneva, Copenhagen-Malmö, Lille, Luxembourg, Nice-Monaco-San Remo, Saarbrücken, Strasbourg and Vienna-Bratislava) measured on cross-border commuting, cross-border residence and differentials in GDP per capita, Decoville and colleagues (2010) state that cross-border commuting is influenced by economic differentials between the territories on either side of the border: strong labour market cross-border integration goes along with the high economic differentials and increase of cross-border commuting depends on the maintenance of the disparities. This contradicts the idea of a systematic relationship between cross-border commuting and territorial convergence, put forward by the EU, at least in terms of economic factors. It does however contribute to a transfer of wealth from the work location country to the residence country via the remuneration of the workers. The work also suggests, that the proportion of residents decided to live across the border increases together with cross-border commuting. Heavy integration of housing market characterises certain metropolitan regions and the process is partially fed by differentials of cost and access to land and property. (Decoville, Durand, Sohn & Walther 2010, 14-15.)

The comparison of the indicators allows three models of integration to be distinguished: integration by specialisation, by polarisation and by osmosis. Integration by specialisation represents a model where cross-border commuting takes place primarily from the periphery to the metropolitan centre and is combined with a residential flow towards the periphery. This dynamic involves a process of functional specialisation of space where the centre concentrates economic activity and jobs and the residentially attractive periphery is relegated to the role of a dormitory area. This type of territorial organisation is based on a cumulative logic as cross-border residential displacements increase the flow of commuters and requires strong institutional responses in relation to the management of mobility. Cross-border metropolitan integration by specialisation is not accompanied by a process of territorial convergence. However, this type of integration can be competitive in economic terms, as it is based on the complementarity of territories and their respective competitive advantages. Copenhagen-Malmö and Geneva are best examples of this type of integration, albeit located at different stages of economic and residential integration. (Decoville, Durand, Sohn & Walther 2010, 13-14.)

Figure 2.1: Three models of cross-border metropolitan integration



(Source: Decoville, Durand, Sohn & Walther 2010, 13.)

The second type, integration by polarisation, is based on a highly attractive metropolitan centre in economic and residential terms. The flows of commuters as well as the residential displacements are both headed primarily towards the dominant urban centre, but given the differentials of the property prices between the centre and the periphery, the residential movements involve mainly wealthy households. Luxemburg, marked by the domination by the urban centre over its periphery, best corresponds to this territorial configuration. Also Basel and, to a lesser degree, Vienna-Bratislava exhibit these features. Although in case of Basel regulatory constraints explain the relative attractiveness of the centre in residential terms. (Decoville, Durand, Sohn & Walther 2010, 14.)

The third model, integration by osmosis, has two-way flows of both cross-border commuting and residential movements. The integration of labour and housing markets appears to be better balanced and a certain convergence of the border territories appears to be occurring. Economic differentials across the border are limited and the attractiveness of the metropolitan centre is relatively low or contested by the peripheral border areas. This model involves cities with lower metropolitan profiles than those involved in the two other types of integration. Examples of this type are Lille and Aachen-Liege-Maastricht. (Decoville, Durand, Sohn & Walther 2010, 14.)

Functional regions from an innovation perspective

From an innovation perspective functional regions are regions which show a high density of internal actions in innovation-related activities. This definition calls for indicators measuring innovation-related flows of people, goods, services, capital and knowledge within the functional area, that go beyond the traditionally used commuting patterns indicators. Two type of methods have been used to assess the functionality of a

cross-border region from an innovation perspective. A **critical mass** measures the relative weight of the cross-border region from a technological innovation perspective. It is measured by calculating the total weight of innovative sectors in the cross-border region in a comparative way. BAK Basel Economics (2008) has taken this approach in the benchmarking analysis of the Top Technology Region, where a competitiveness index was calculated as the non-weighted average of four indicators: the nominal GVA share of the technology sectors, their GVA growth, the number of patents and the number of publications in the cross-border area. The other type of measurement relies on indicators of **cross-border knowledge-based interactions**. The availability of data on knowledge flows at the right geographic scale is often problematic, making this approach more difficult to apply. These interactions can be measured with indicators such as co-patents, co-publications, co-operations in innovation, flows of transfer of technology, flows of venture capital for innovative start-ups, mobility of highly qualified knowledge workers, etc. calculated as shares of these interactions occurring within the cross-border area on total interactions. (OECD 2012, 4-5.)

Five main reasons why innovation processes and innovation support cannot be contained within administrative borders have been identified. First, innovation activities are getting more and more global. Second, a critical mass needed to conduct research and technology development at the international top level requires joint investment and sharing of resources. Third, benefits of investments extend beyond borders of administrative regions as knowledge spillovers prevent full appropriation of returns on investment within a pre-defined territory. Fourth, knowledge transfers and innovation support is increasingly specialised, but the size of many regions prevents them from offering a full innovation support infrastructure matching all the specialised needs of regional stakeholders. Fifth, innovation is multi/interdisciplinary in nature and wider partnerships can create value from diversity by combining complementary expertise available in the cross-border area. (OECD 2012, 9-11.)

Prerequisites for the development of a fully integrated functional region

Certain degree of functional proximity, relational proximity and spatial proximity is needed for the emergence of an integrated cross-border innovation space. Functional proximity refers to the differences of innovation capabilities and receiver competence between the regions. Big differences in innovation performances is a hinder for easy knowledge flow between areas and a strong asymmetry will limit the opportunity for mutual advantages of integration. Relational proximity is associated with the structures, relations and processes that originate from social dynamics, governance structures, regulation and cultural identities and it refers to shared norms, institutions and regulations, mutual understanding, trust and codes of conduct and shared organizational and technological cultures for collaboration patterns and knowledge exchange. The cognitive dimension of relational proximity refers to the optimal balance between the closeness of knowledge bases, technical and organizational know-how for efficient cooperation and difference for learning something new and exploiting new complementarities. The institutional dimension reflects the differences in formal and informal institutions. Spatial proximity can facilitate relational proximity, but in some cases relational proximity can emerge totally detached from spatial proximity; in some cases more fruitful relations could be found elsewhere than across the border. The regions' embeddedness in existing and historically evolved innovations systems and the importance of other international relations in the global arena will influence the character of new potential cross-border linkages. (Lundquist & Trippel, 2009.)

Important benefits from cross-border co-operation on innovation are expected. Innovation policies tailored to the cross-border area can bring more efficient support services to firms and expanded infrastructures and available partnerships could benefit research actors and the pooling of public budgets could provide opportunities for more efficient policies. These benefits are realised by capitalising on “proximate diversity”, creating more effective and attractive critical mass and learning from interaction and good practices from across the border. Enhanced diversity in functional regions extending over national borders offers a potential for new combinations of competences and knowledge bases, for the exploitation of complementary assets and for more diverse open innovation practices while still exploiting the advantages of proximity. A larger territory and diversified funding sources make it possible to create pools of knowledge and skill of adequate size. Size is critical not only for the development of activities of optimal scale but also to increase the visibility of the area as a node in the knowledge economy. Reaching a labour market from at least two countries is an invaluable asset for knowledge-based companies. An enhanced visibility is necessary to attract talent and companies in the area and to raise the profile with respect to national and international innovation investments. (OECD 2012, 11-12.)

Regulatory and administrative barriers hamper collaboration for many cross-border activities, also on innovation. Despite the EU, the differences in regulations and administrative provision from one country to another still create difficulties for mobility of goods, services, people and capital and for the development of joint action. In the knowledge-based economy, where talent is the main resource, barriers to the mobility of people play an important role. The complexity of arrangements involving organisations and individuals subject to different legal and administrative rules involves administrative burden, delays and costs. Also cultural differences including language differences entail communication costs and thus create barriers to collaboration. Cultural barriers impede the development of trust-based relationships, which is an important component in innovation co-operation. In addition competition, usually acknowledged as an important driving force for innovation, may prevent the exploitation of useful co-operation opportunities. The fear of losing market shares or dominant positions might make it difficult for the actors in the cross-border area to identify the potential for co-operation. The benefits from cross-border development opportunities generated by complementarities between different innovation potential and resources over borders need to be substantial and visible to overcome the costs and hindrances created by the differences across the area. Exploiting the potential offered by the “right” level of proximity between the parts of the cross-border area is a key success factor. (OECD, 2012.)

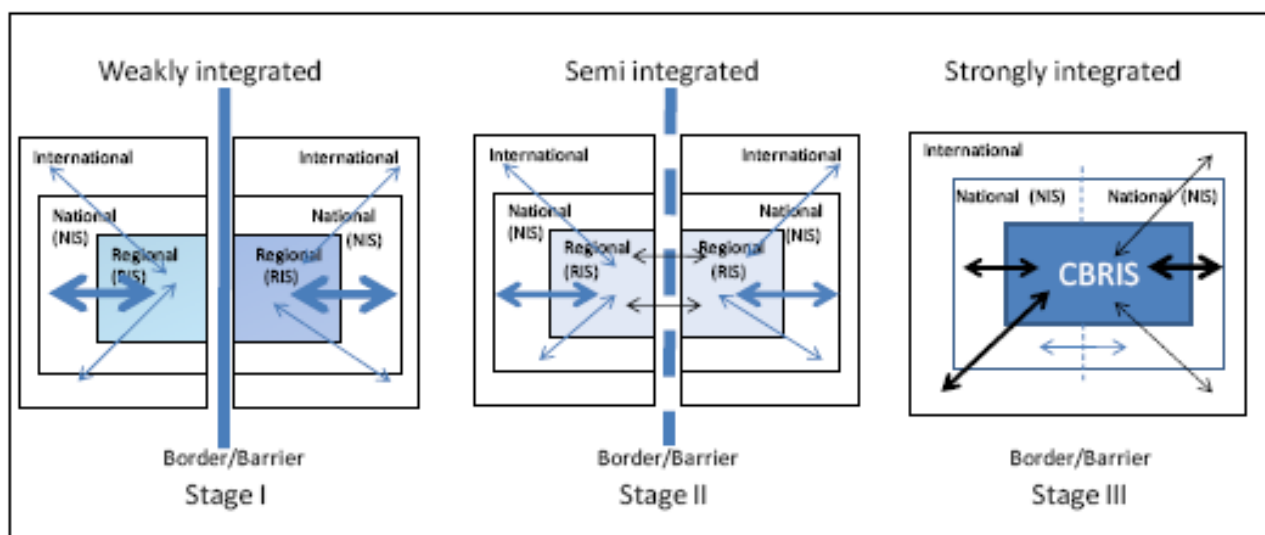
Levels of Cross-border regional innovation space -development

Lundquist and Trippi (2009) have built a conceptual framework focusing on the different types of proximity describing three stages of the rise of transfrontier innovation system: weakly integrated, semi-integrated and strongly integrated. Cross-border areas in stage I are characterized by a low level of cross-border economic relations in general and a lack of knowledge interactions and innovation linkages. The existing integration is dominated by asymmetric cost-driven linkages that mainly exploit internal price and cost differences. A key factor in this is the possibility for certain amount of learning and knowledge spillovers to the weak side of the border in the course of asymmetric cost-driven integration. Lack of synergies or unexploited synergies could lead to this situation. When the former is the main reason for limited interaction, the prospects for the development of more advanced knowledge based co-operation are very poor, at least in the short and medium run, even if other kind of barriers could be removed. (Lundquist & Trippi, 2009.)

Cross-border areas in stage II can be referred to as emerging knowledge driven systems. Asymmetrical cross-border links and flows still dominate, but asymmetry is decreasing and new, more mutually beneficial linkages are opening up. “Islands of innovation” occur in narrow segments of the science base and economic structure where good levels of cognitive and functional proximity were found. This interaction still takes place between distinct regional innovation spaces embedded in their national innovation spaces, and the cross-border linkages are of subordinate importance for the overall innovative performance on both sides of the border. Physical accessibility is not a major obstacle and an increase of exchange of students, researchers and institutional networking might be observed. Cross-border interaction is encouraged by the emergence of bridging-organizations, a growing social acceptance and consensus about the potential benefits of increased interaction and less strong path dependence and institutional un-locking. (Lundquist & Tripl, 2009.)

Stage III represents the most advanced and final form of innovation-driven integration, where distinct regional innovation spaces have ceased to exist and become more and more melted into a single one. The cross-border innovation space offers favourable conditions for actors to make effectively use of the synergies: an excellent transportation and communication infrastructure, more or less dismantled barriers and a good level of institutional proximity. It is characterized by a considerable flow of knowledge, expertise and skills across the border that forms the central underpinning of the innovation performance of the cross-border region. The building of a strongly integrated cross-border regional innovation space is socially highly accepted, many bridging institutions exist and gradually even a common culture and identity might emerge. A key feature is that a process of new path creation, where cross-border activity is becoming part of normal life, has started, and advanced forms of cross-border political governance and good levels of institutional thickness are to be found. (Lundquist & Tripl, 2009.)

Figure 2.2: Ideal types of different levels of cross-border integration



Source: Own compilation

(Source: Lundquist & Tripl 2009, 6.)

Cases of cross-border co-operation and integration

3. Cases of cross-border co-operation and integration

The Öresund region

The Öresund region consists of Scania in Sweden and Zealand including the islands south of Zealand (Lolland, Falster, Mon) and the island of Bornholm in Denmark. Copenhagen, the capital of Denmark, is the dominating urban structure in the region. The region covers a land area of 21 203 km². The land area of Scania is somewhat larger than that of the Danish side, but around one third of the population of 3,8 millions live on the Danish side of the strait: the population of the Danish part of the region is 2,5 millions and of the Swedish part is 1,3 millions. (Tendens Öresund)

Figure 3.1: the Öresund region



(Source: Tendens Öresund)

Historic ties across the Öresund strait date back to 1658 when the Swedes conquered Scania from the Danes and it became a border region. The first plans to build a link across the strait originate from 1872. The Öresund Council was founded in 1964, however, the process leading to the present strong position of the Öresund region took off in the 1980s, when several supranational bodies were lobbying for the fixed link and the idea of the Region as a major metropolis on the European map. The fixed link was agreed upon by the Danish and Swedish government in 1991 and a common vision for the region was created in 1999. The construction started in 1994 and the bridge was opened in June 2000. The 16 km fixed link across the Strait of Öresund connects Copenhagen with the Swedish city of Malmö and a ferry connection to the north connects the cities of Helsingör and Helsingborg. (Schmidt 2005, 250; Löfgren 2008, 198.)

Diverse policy instruments have been used to further the integration and regional development in the Öresund region and authorities at all levels, local, regional, national and supranational, have contributed. The fixed link was funded by national authorities through a bilateral state owned enterprise. Nationally sponsored infrastructural investments have been sizeable (8,5 billion €). National authorities have also enhanced integration through the coordination of social and tax policies. Also the Nordic Council and the EU (INTERREG) have focussed on integration in the Öresund region. Several local and regional cross-border initiatives have emerged and cross-border cooperation has often been associated with theme based networking and information sharing. The Öresund region has been seen as a classic example of a top-down project driven more by policy than by the market: A political project spearheaded by local politicians who wanted to turn a negative economic trend in Copenhagen and Malmö. Both cities suffered of high unemployment and had an ageing industrial structure. The bridge project was seen as a promise of a brighter economic future. Supranational bodies have spurred on national visions, which have led to programmes emphasizing the importance of networking in specialised fields of production, administration and science. (Löfgren 2008, 198, 206; Schmidt 2005, 249-256.)

The actual contacts across the sound among the 3 million people inhabiting the potential region were limited, despite the rapid 45 minutes hydrofoil ferry connection. There were a lot of day-trippers and tourists mostly from Malmö to Copenhagen, a few commuters and sparse business contacts but no shared market or industrial integration. The problems of generating a common feeling of citizenship in a new cross-border region constructed with a top-down approach are prevalent. Citizens' attitudes towards the Öresund region have been asymmetrical from the start: Bucken-Knapp (2001) found that Swedish citizens of the Öresund region associated higher importance to Öresund-related issues as compared to national and European issues, where as the Danes did not to the same extent render a high prioritisation to Öresund-related issues. (Löfgren 2008, 198, 206; Schmidt 2005, 249-256.)

After the opening of the bridge the first years were characterised by a growing impatience and complaints about the slowness of integration. The media was concentrated on barriers blocking the regional development: 'price barrier' for cars to cross the bridge, 'bureaucratic barriers' rising from the materiality of two nation states and 'culture clashes' as Danes and Swedes were confronted with different mentalities and ways of life on the other side of the strait. All the reports of problems were a symptom that actual integration was slowly taking place. The Swedes continued the tradition of visiting Copenhagen as a fun outing, shopping and buying bargains, such as low-taxed alcohol. In Copenhagen there was no such tradition, but slowly the Danes started to take advantage of the price gaps, as the strong Danish currency combined with higher wages and a booming economy created a strong buying power making shopping in Sweden a bargain in many fields. (Löfgren 2008, 201-202.)

The engine of the cross-border commuting has been high differences in property prices that has made Malmö an attractive choice of residence for Danes. The loosening of steam was predicted as the property prices would converge on the two sides of the Öresund. Another engine has been the labour market, as the upsurge of employment conditions in Copenhagen has fuelled cross-border commuting. An increasing price difference in housing property in the Copenhagen and Malmö areas made Danes contemplate a move to Malmö, and the bridge made it possible to live on the Swedish side and commute back to jobs in Copenhagen. As a resident in Sweden one could also buy a new car without the heavy taxation of Denmark. The high employment figures in Malmö made growing numbers of Swedes to start to commute Copenhagen, where job opportunities were numerous. (Löfgren 2008, 202-203; Schmidt 2005, 256.)

One surprise in the integration process has been the tightening of the Danish immigration laws, which has meant that many Danish citizens could not bring a partner from a non-EU country in Denmark if strict qualifications were not filled. For newlywed couples a popular strategy has been to move to Sweden, where immigration laws are less strict. A growing Danish exile community has developed in Malmö, waiting for the spouses to obtain Swedish citizenship to make it easier to go back to Denmark. Differences in immigration policies have become a constant source of irritation between the countries. (Löfgren 2008, 204-205.)

Finally in 2006 the traffic forecasts were surpassed and, in 2007 the figures were higher than the most optimistic expectations. However, the commuting traffic flow has been mainly one-way, as nine out of ten commuters travelled from the Swedish side. However, many regionauts see their engagement across the bridge as a temporary phase in life. Having kids and them going to a Swedish day care or school may be considered as the start of a different kind of anchoring and mean strategic decision making for the families. (Löfgren 2008, 204-205.)

The socio-economic structure of Öresund

The Öresund region is regarded as a role model of trans-frontier co-operation. It is one of the most powerful cross-border areas in Europe and displays a strong capacity to compete in the globalising knowledge based economy. Modest development disparities can be found within the Öresund. Copenhagen is the richest part of the region measured in GDP per capita, while South Sweden is slightly above and Zealand is slightly below the EU average. The growth rates have shown similar patterns in different parts of the region. (Lundquist and Trippel 2009, 12.)

The differences in the sectoral specialisation patterns of the regions in Öresund are not that pronounced as in many other cross-border regions. A high importance of services in general and knowledge intensive services in particular can be found. In the metropolitan area of Copenhagen there is a strong concentration of advanced business services, high-tech industries and creative industries, while Zealand is dominated by more traditional low-tech industries. Malmö and Lund host many R&D intensive firms and industries, but the share of advanced business and producer services is not as pronounced as in Copenhagen. The rest of Scania is based on more traditional stagnating sectors. One of Europe's most important life science clusters is found in Öresund as the region hosts a strong biotechnology and pharmaceutical industry known as the Medicon Valley. (Lundquist and Trippel 2009, 14-15.)

The Öresund region has an excellent knowledge infrastructure accommodating 14 higher education centres. The region also exhibits a rather thick web of co-ordinating institutions, promoting scientific collaboration and knowledge exchange (e.g. Öresund University, Öresund science region). (Lundquist and Trippel 2009, 15-16.)

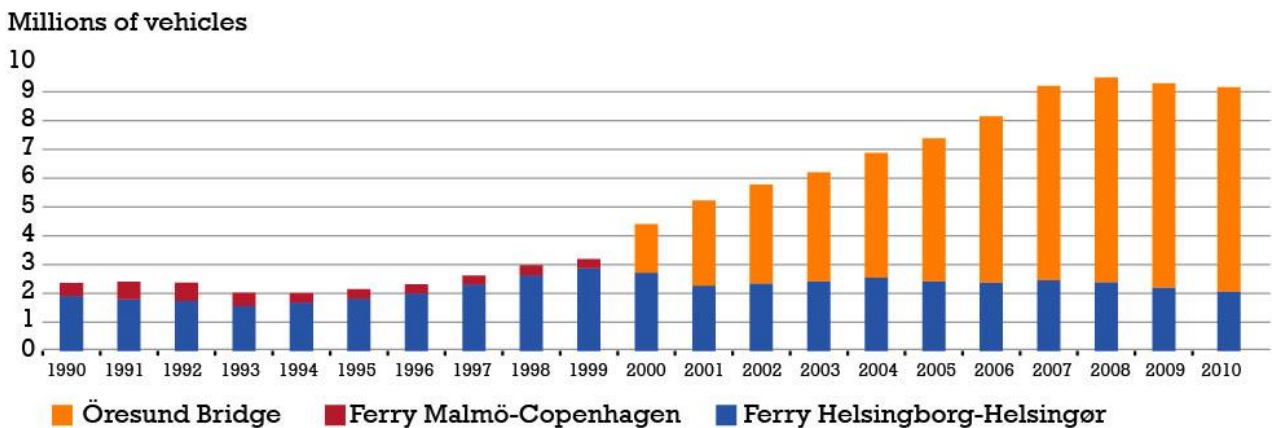
Traffic across the Öresund

The considerable improvement in accessibility across southern Öresund accelerated an integration process between both sides of the sound, mainly between the two largest cities of the region, Copenhagen and Malmö. All traffic has increased since the bridge opened, but commuting traffic has risen in particular. Car traffic makes up 92 % of all traffic across Öresund, while truck traffic comprises 7 %, and bus traffic 1 %. 76 % of all road traffic across Öresund is over the Öresund Bridge. 79 % of passenger car traffic crosses Öresund via the Öresund Bridge, while the ferries between Helsingborg and Helsingør have 52 % of the

truck traffic. 75 % of all persons travelling over Öresund do so via the Öresund Bridge, either by car or by train. (Tendens Öresund.)

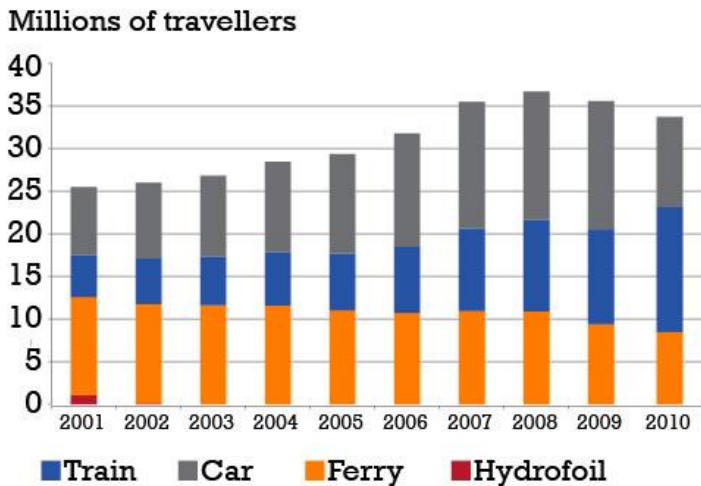
In the 1990s, 2-3 million cars crossed Öresund yearly. By 2010, the number of vehicles had increased to 9,2 million, and in total, 34,2 million travellers crossed Öresund by car, bus, train or ferry. The number of cars crossing Öresund increased by an average of 10 % per year from 1995 to 1999 fuelled by new routes, more departures, lower prices and economic growth in both countries. The opening of the Öresund Bridge resulted in an even greater rise in traffic by 43 %, and all traffic across Öresund grew by an average of 10 % each year during the period 2001-2007. Year 2008 was a turning point in traffic flows, as traffic across Öresund increased by only three percent: an increase of 5,1 % on the Öresund Bridge and a drop of 2,6 % in ferry traffic between Helsingborg and Helsingør. This trend continued in 2009, when all traffic across Öresund dropped by 1,2 %: The bridge had a slight rise of 0,5 %, while ferry traffic dropped by 6 %. The weak growth in traffic clearly marks the recession that had hit both Denmark and Sweden in the wake of the financial crisis. In 2010 the total traffic volume across Öresund fell by 1,5 %: The Öresund Bridge experienced a decrease of 0,4 %, while the ferries experienced a decrease of 4,9 %. In 2011 the number of vehicles crossing the strait dropped by 2 % where as the number of travellers increased by 1 %. (Tendens Öresund.)

Figure 3.2: Traffic across Öresund 1990-2010



www.tendensoresund.org

(Source: Tendens Öresund)

Figure 3.3: Travellers across Öresund

(Source: Tendens Öresund)

Knowles and Matthiessen compared the development of traffic on the Öresund Bridge to a Danish equivalent size domestic fixed link, the Great Belt fixed linked, opened in 1997. Adjusting for the size of the population, the international Swedish-Danish border reduced the Öresund Bridge passenger traffic to 24 % and car traffic to 18 % of the traffic levels of the Great Belt link. A qualitative expert opinion method was used to identify the importance border barrier effects by forming a panel of Danish and Swedish experts with special knowledge of the region. The expert opinion panel ranked economic barriers to cross-border travel in order of importance as 1) high toll charges for vehicles and rail fares as the main barrier; 2) Differences in pensions, sick pay and social security were seen as major disincentives to live or retire in one country and work in the other; 3) Taxation of foreign income for Swedes of 25 %; 4) Currency exchange rate fluctuations; 5) Tax relief differences in commuting costs; 6) Double taxation for people working part time in both countries; 7) Higher taxation of bridge tolls than on ferry fares; 8) Different phone systems and expensive foreign rates; 9) Different national banking system might cause a minor disincentive for Danes to commute to work in Sweden as a Swedish address is required to open a bank account. Also four cultural barriers were identified: 1) language barriers 2) cultural differences 3) educational differences 4) media reinforcing the importance of national rather than Öresund perspectives. (Knowles & Matthiessen 2009, 158-163.)

Cross-border commuting

In 2011 around 18 000 persons commuted daily across the Öresund, most of them via the Öresund Bridge. Since the opening of the Bridge in 2000, commuting across Öresund has increased by 600 %. The increase was exceptionally high during 2006 and 2007, when both the Danish shortage of labour and differences in housing prices accelerated the movements across Öresund. 2008 was the top year of commuting with around 19 800 daily commuters. However, in 2009 the financial crisis and the resulting economic downturn caused a decrease in commuting that has continued until 2011. (Tendens Öresund.)

Three phases of integration of the labour market in the Oresund region can be identified. In the first phase from the opening of the bridge, in 2000 to 2004, a moderate rise in commuting was seen. In the second phase during the boom – where Danish unemployment was below 2 % and there was a massive shortage of

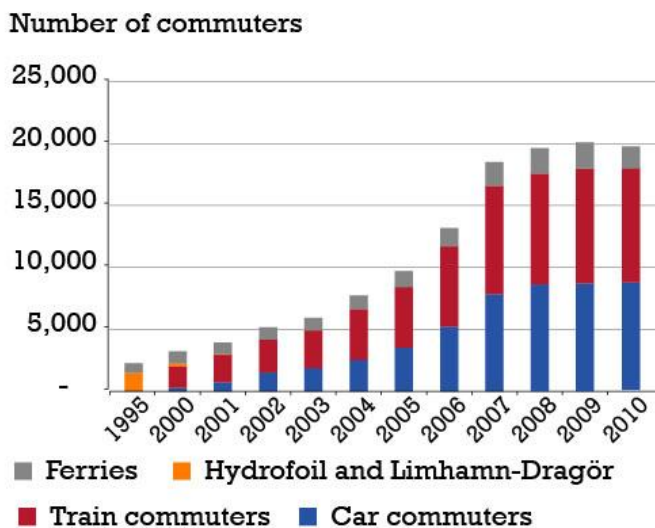
labour – commuting intensified. In the third phase after the economic crisis commuting is stable or declining and it appears that Scania is recovering faster than the Copenhagen area. There might be basis for an increase in the low commuting from Denmark to Sweden. (Labour mobility 2011.)

Like in the majority of cross-border metropolitan regions the flow of commuters is highly asymmetrical in the Öresund region, from border peripheries towards the main urban centre: 97 % of the commuters live in Sweden and work in Denmark. The number of commuters going the opposite direction is below 1 000. (Decoville et al. 2010, 8; Tendens Öresund; Labour mobility 2011.)

Even though the growth in commuting (2000-2006) was relatively fast between Copenhagen and Malmö, the overall commuting in 2006 (13 500) was modest compared to other cross-border regions such as Luxembourg (over 127 000), Basel (49 000) or Geneva (47 500) (Metroborder 2010, 38). Even the commuting figures of the top year of 2008 would not change the ranking compared to these cross-border areas.

In the traffic forecast of the Öresund Bridge, commuting to work is expected to increase to 39 000 persons in 2025. The economic downturn is predicted to generate a low increase in commuting in the coming years, but in the long term commuting to work is expected to increase due to the demographic development. The proportion of older persons is increasing much quicker in Zealand than in Scania, but towards the end of the 2020s the dependency ratio will be about the same on both sides of the sound. However, the age group between 20 and 64 years in Scania is expected to increase more quickly, and thus it could be in the Danish interest to recruit more labour from the Swedish side. (Tendens Öresund.)

Figure 3.4: Number of commuters



www.tendensoresund.org

(Source: Tendens Öresund)

In comparison with the regional national employment commuting in Öresund has been relatively modest, also internationally. Schmidt has done a benchmark analysis of the cross-border commuting in the Öresund region comparing the number of cross-border commuters to the internal commuting within the national

local labour market. According to Schmidt, the commuting from the Malmö local labour market to the Copenhagen local labour market in 2002 was modest compared to the national benchmark, and constituted only 0,32 % of all commuting between municipalities within the local labour market of Copenhagen. In 2002 there were 4 269 person commuting from Sweden to Denmark, of which 72 % originated from the Malmö LLM and arrived in the Copenhagen LLM. (26 000 commuters would correspond to 5 % of the internal commuting within the Copenhagen LLM.)(Schmidt 2005, 254-256.) According to another study, the cross-border commuters' share of regional employment in Öresund grew from 0,13 % before the opening of the bridge to 0,64 % in 2006 with around 14 800 daily commuters. The share of regional employment has been generally low in European cross-border region, highest share was found in Luxemburg's (6,6 % 2000) cross-border commuting with French and Belgian regions. (Knowles & Matthiessen 2009, 156-157.)

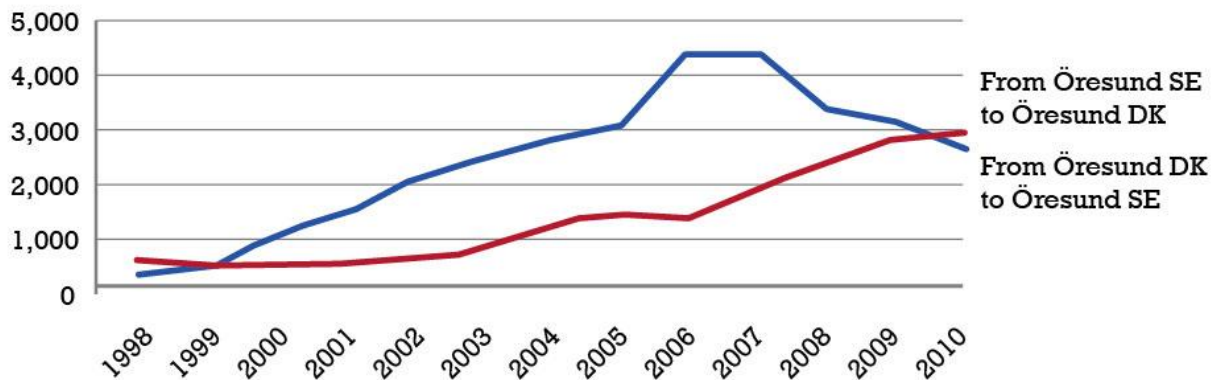
Cross-border migration

Migration over Öresund started some 10 years ago, with the flow being from Zealand east to Scania, but in 2010, the majority of migration was directed westwards. Since the opening of the Öresund bridge, there has been a growth in the numbers of people migrating across Öresund from around 1 000 to a 6 400 in 2007. The number dropped in 2010 to 5700. The trend continued in 2011. Migration over Öresund is concentrated in the two major cities of Copenhagen and Malmo, with 70 percent of all migration to or from Zealand affecting Greater Copenhagen; i.e. Copenhagen City and Copenhagen's environs, while Malmö is responsible for 60 per cent of all migrations to or from Scania. (Tendens Öresund.)

One of the main drivers of Danish migration to Scania has been more appropriate and affordable housing and the lower cost of living combined with keeping attractive and well-paid jobs in Zealand. The large gap between the high housing prices in the Copenhagen Capital Region and the low prices in the Scania peaked in 2007, when 4 400 moved from Zealand to Scania. Since then the difference in price has diminished dramatically, and the migration flow eastwards from Zealand to Scania dropped below the level of 2004 in 2010. (Tendens Öresund.)

The opposite migration flow from Scania to Zealand has increased in recent years, and in 2010 for the first time since the bridge opened, the migration flow has been greater westwards than eastwards; In 2011 500 more moved from Scania to Zealand. Also this flow consists mainly of Danes moving back to Zealand after living in Scania for a while. Danes constitute almost 3/4 of all persons moving between Zealand and Scania, while migrants from other countries constitute 10 % and Swedes almost 15 %. The proportion of migrants not born in Sweden or Denmark has increased markedly over the period, but has stabilised at around 1/3 of all migrants in both directions. For several years the net number of Swedes who migrated from Scania to Zealand was minimal, and it was only in 2010 when the figure almost reached 200. The cheaper Danish housing prices may be attractive to Scanians, but the deteriorating job opportunities, due to increasing Danish unemployment, may discourage them from migrating. (Tendens Öresund.)

About 24 000 Danish citizens lived in the Swedish side of the Öresund in 2009, of whom 15 % were Swedish-born persons. In addition, there are several thousand persons who were born in Denmark, but have received Swedish citizenship. More than half of this group is over the age of 60. In 2000 about 10 000 Danish citizens lived in Öresund SE. (Tendens Öresund.)

Figure 3.5: Migration over Öresund 1998-2010

www.tendensoresund.org

(Source: Tendens Öresund)

Evaluations of the level of integration in the Öresund region

In the comparison of the integration of the ten European cross-border metropolitan regions (Decoville et al. 2010) measured on cross-border commuting, cross-border residence and differentials in GDP per capita, the integration of Copenhagen-Malmö seemed globally less advanced as the numbers of cross-border commuters (2000/2006) and residents with the neighbouring country's nationality were comparably low, as was the differential of the GDP per capita (5 000-10 000 €) and a partial language barrier existed, too. Integration seemed to be most globally favoured in Luxembourg, Geneva and Basel. Copenhagen-Malmö was seen to represent the integration by specialisation model, where Malmö was developing into a peripheral dormitory area of the metropolitan centre, Copenhagen. (Decoville, Durand, Sohn & Walther 2010, 7, 13-14.) A similar conclusion was made by Schmidt in his analysis of cross-border regional enlargement in Öresund based on commuting patterns after the opening of the bridge. Even though the cross-border commuting had evolved rapidly, it remained local, asymmetric and modest compared to the dynamics within the nationally defined local labour markets (in 2002). According to Schmidt, a wider process of cross-border regional enlargement between the core and the periphery of the Öresund region was not evolving, but a local integration process around the metropolis and its hinterlands had taken place as Copenhagen was expanding beyond national borders. (Schmidt 2005, 255.)

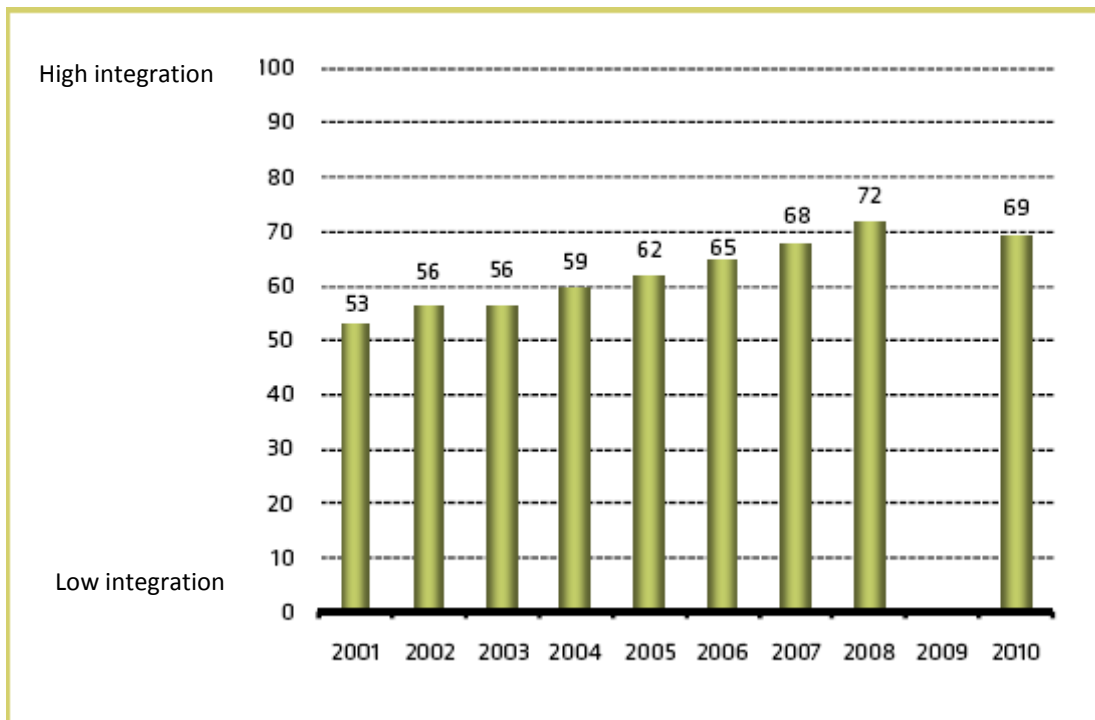
According to the industrial analysis (Lundquist & Winther 2006) Sweden and Denmark developed along two national cycles during the 1990s, which are not compatible to each other. The Swedish manufacturing sector experienced significant growth from the early 1990s onwards that resulted in a change towards a more research-intensive industrial structure. The growth had a positive effect on the industrial structure on the Swedish side of the Öresund; in the 1990s the national system in Sweden benefited regions in the second and third tiers in the urban hierarchy. Denmark lost manufacturing employment in the 1990s and the restructuring toward research-intensive industries was not as marked and the pace of structural change and job creation was even slower in Greater Copenhagen than in the rest of the country. These totally different national development paths lead to two separate regional trajectories of regional development within the urban systems of the two countries: rapid growth in research and knowledge-intensive industries on the Swedish side of Öresund and stagnation on the Danish side. The national development

and the position in the urban and regional systems are vital explanations of the development in the manufacturing sector in the Öresund region, thus only a limited part of the development in the Öresund region can be linked to the effects of economic integration. (Lundquist & Winther 2006, 126.)

Hansen & Hansen have analysed the scientific integration process in the Öresund region in field of biotech by investigating the number of co-authorships across the strait from 1994 to 2005. According the analysis there has been a substantial increase in both the number of all co-authorships and within the biotech sector. The increase was mainly due to intensified co-operation between Swedish and Danish public institutions, but a growing importance or the collaboration between Swedish public and Danish private agents was also observed. A substantially higher number of Danish agents were involved in the co-authorships than Swedish ones. A few Swedish institutions were heavily involved in co-operation with Danish agents, most notably the University of Lund, but the number of private Swedish agents was very limited. The rise in co-authorships in the Öresund region was significant from international perspective, especially in the biotech sector, when compared to the reference areas (USA, England, Germany, Stockholm region). The figures indicate, that the Swedish part of the region was increasingly orientating towards the Danish part at the expense of Stockholm area. The analysis indicates a growing functional integration within science in the Öresund region, especially in the biotech sector, suggesting that the bi-national biotech cluster in the Öresund region is on its way to being fully developed. (Hansen & Hansen 2006, 242, 250.)

According to Lundquist and Tripl the Öresund region could be not considered as a fully integrated transfrontier regional innovation space as the region lacks a sufficient level of knowledge interactions to qualify. However, a good level of knowledge sharing could be observed in few fields (biotechnology, life science, parts of the food industry) and little evidence was found for asymmetrical relationships. The Öresund region exhibits a semi-integrated cross-border regional innovation space and in few dimensions shows potential to move towards a strongly integrated one. (Lundquist & Tripl 2009, 27-28.)

Copenhagen Economics has measured the integration of the Öresund region since 2001 with the Öresund Index. In the last measurement in 2010 the Index was 69, as 100 would correspond to fully integrated region. In 2001 the Index was 53. The index has fallen from the previous measurement in 2008 (72) by three units, which can be considered a good result in the light of the recession. The index shows that the integration is developing in a stable manner. The integration is however asymmetrical, as it is the integration in the Swedish side that holds the index up. This is not likely to change in the near future. As the Swedish companies still held high hopes for the growth in activities over the strait for the next 3-5 years, the Danish ones kept to their low expectations. The diminished integration is mainly due to the developments in the labour market, as the demand for labour has gone down which was shown in fewer job advertisements and hiring over the strait. The number of Danes moving to the Swedish side has decreased as the property prices in the Danish market have gone down. At the same time the moves from the Swedish side have increased, which could mean that the Danes are moving back to Denmark. The recession has also had an effect on the traffic over the Öresund. The lower demand has decreased trade between Sweden and Denmark and as consequence the lorry traffic has diminished. The number of cars crossing the bridge has decreased but train passenger traffic is still growing. (Copenhagen Economics 2010, 5-7.)

Figure 3.6: The development of the Öresund Index 2001-2010

(Source: Copenhagen Economics 2010)

The Centrope Region

The Centrope is a public cross-border initiative of eight regions and eight cities: the Austrian federal provinces of Vienna, Lower Austria and Burgenland, the Slovak regions of Bratislava and Trnava, the Czech Region of South Moravia, the Hungarian Counties of Győr-Moson-Sopron and Vas as well as the cities of Bratislava, Brno, Eisenstadt, Győr, Sopron, St. Pölten, Szombathely and Trnava. On the basis of the Kittsee Declaration in 2003 they work jointly towards the creation of the *Central European region*. In analytic literature on Centrope the Czech province of Southern Bohemia is usually included, even though it is not a formal partner. The region crosses five borders with around 6,5 million inhabitants living in an area of around 54 000 km². The two capitals in the region, namely Vienna (Austria) and Bratislava (Slovak Republic) are known as the closest located capitals in the world as the distance between the centres of the cities is only 60 km. (Fertner 2006, 66; OECD 2012, 22; Van den Berg et al. 2006, 42-44.)

Until the First World War all four countries were part of the Austro-Hungarian monarchy. Vienna as the capital of the monarchy had functional ties throughout the whole monarchy and the region was functionally integrated and highly interlinked. The links persisted more or less after the separation of the monarchy into nation states, like i.e. the tramway from Vienna to Bratislava. The connections were shut down with the WWII and the iron curtain separating Europe into East and West. (Fertner 2006, 66.)

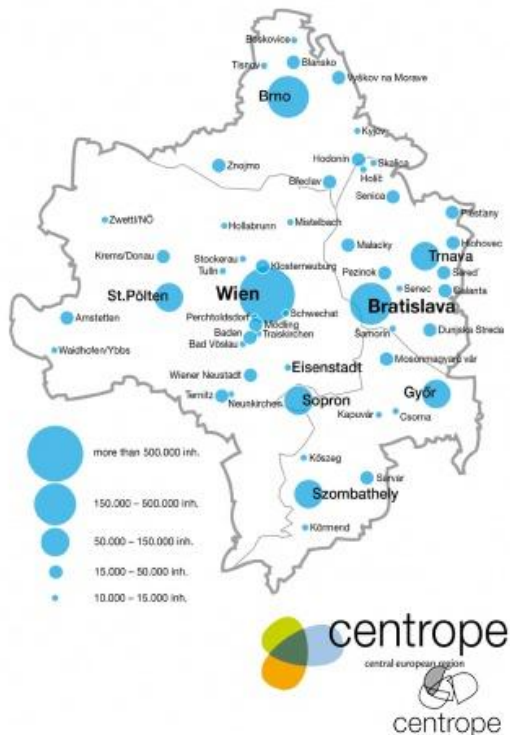
After more than 40 years of closed borders the fall of the iron curtain in 1989 brought about new opportunities for collaboration and integration for the region. Another impulse to intensify cross-border co-operation was the accession of the four countries to the EU (Austria in 1995, Czech Republic, Slovak

Republic and Hungary in 2004) and the availability of EU funding for cross-border co-operation. The Kitsee Conference in 2003 marked the official start of Centrope partnership, although several cross-border partnerships were already active in the region. (van den Berg et al. 2006, 42, 50.) A more recent step in the integration process was the May 1st of 2011, when the derogation period on freedom of movement of labor came to an end: a work permit is no longer required for workers from other Centrope countries working in Austria. (Rozmahel et al. 2012, 266.)

The central motive behind Centrope was to contribute to the sustainable development of a competitive integrated cross-border region by setting up a comprehensive cooperation strategy and establishing a form of cooperation management. The Vienna region was looking for to constitute a new frame for competition and cooperation and to gain benefits from its role as a hub for Central and Eastern Europe. The motives for the eastern side were to become informed about development perspectives and to get more connected with driving forces on the Austrian side. Centrope's role is mainly strategic and coordinative and less operational in terms of sectoral cross-border projects. It initiates activities to be carried out by others and supports initiatives contributing to the prime objective. Within Centrope, most emphasis has been put on the development of its central area, the Vienna-Bratislava agglomeration, as most opportunities are expected to arise from a better cooperation Between Vienna, the undisputed engine of the region, and Bratislava, the fast growing capital of Slovakia. (van den Berg et al. 2006, 44, 50-52.)

The Austrian side was the initiator, leader, organizer and (co-) financier of the projects during the first (2003-2006) and the second (2006-2007) phase of the partnership. The third programme period (2009-2012) has been the first full cycle of EU funding for the Czech Republic, the Slovak Republic and Hungary and has meant full memberships. A new operational programme Central Europe substituted the Interreg programme and Centrope became a united umbrella project instead of a collection of projects under bilateral programmes. All four countries are now participating in the work of the Multilateral Steering Committee, the main decision making instance, as they are co-financing partners. (van den Berg et al. 2006, 51-52; Lundquist & Trippl 2009, 22; Coimbra Swiatek 2011, 220-241.)

Figure 3.7: Map of Centrope



Socio-economic structure

The Centrope region is characterized by substantial internal differences in terms of wealth, economic development, industrial specialisation patterns and innovation capabilities. Measured with GDP per capita, the Austrian parts have been by far richer than the eastern parts of Centrope with the exception of Bratislava region, which has the second highest GDP per capita after Vienna. GDP growth rates in the 2000's however show that the eastern parts were more dynamic than the Austrian regions, reflecting the rapid catching-up process of the Central and Eastern European countries. (Tripl 2008, 10-12.)

The Centrope area is characterized also by sectoral heterogeneity and diversity. Vienna and Bratislava have a stronger services sector than the other regions whereas Czech South East, Western Transdanubia and Western Slovakia have a strong manufacturing base. Partly due to considerable foreign direct investment also medium and high tech manufacturing industries (automotive, electronics) are present in addition to low tech manufacturing. In Vienna and Bratislava a significant share of knowledge intensive services can be found. A tendency towards increasing tertiarisation is visible in Lower Austria and Burgenland. (Tripl 2008, 11.)

Centrope is well endowed with knowledge generating institutions: it hosts 25 universities and a large number of other research organisations, technical colleges and innovation centres. However, differences in innovation capacities exist between the areas forming the Centrope region. Vienna is clearly the scientific

centre of Centrope and represents the core of knowledge production in the area. Vienna has the most of patenting activities in the Centrope region and also the other Austrian regions are ahead of the eastern regions of Centrope. Also R&D expenditures are much higher in Vienna than in the rest of the region. Highly skilled people are available and the share of employment in R&D is the highest in the region. Bratislava has the highest share of skilled workforce and relatively high share of R&D personnel, which indicates that innovation potentials can also be found in the region also outside Vienna. All in all, an extraordinarily strong role of Vienna and good potentials in the Slovakian and Czech part could be observed, whilst Lower Austria, Burgenland and Western Hungary were clearly lagging behind in the research capacity. The enormous differences in innovation capacities point to a high degree of functional distance in the cross-border area. (Lundquist & Trippel, 19; Trippel 2008, 11-12.)

Migration and Commuting in Centrope

While barriers to FDI and trade were removed already before the accession to the EU, the institutional restriction limited labour movements in Centrope region until very recently; the derogation period for countries joining in 2004 ended 1st of May 2011. Thus Centrope is rather weakly internally linked in terms of labour migration. In 2007 only around 1,2 % of the population residing in one of the NUTS 2 regions of Centrope was born in a different Centrope-country. Even in Vienna, a major basin of attraction for migrants due to its wealth and size, only 2,6 % of population was born in another Centrope-country. (Römisch et al. 2011, 145.)

Also in the field of commuting, the region is still far from deeply integrated. In total 1,8 % of the employed, in the NUTS 2 regions of Centrope, 71 100 persons, commuted across borders in 2010. This is above the average of EU 27 (0,7 %) and places some parts of Centrope among the top ten European NUTS 2 regions in terms of cross-border commuting. Cross-border commuting has increased by 0,3 %-points of the employed or by around 34 000 people since the start of the Centrope initiative in 2003. However, the share is well below the levels of commuting that could be expected from highly urbanised regions if they were located in same country. National borders still represent an important barrier to cross-border mobility in the region. (Rozmahel 2012, 24; Römisch et al. 2011, 145-146.)

Cross-border migration and commuting in Centrope follow a rather hierarchical pattern. With respect to cross-border migration the majority of moves have been from the new member states regions to Austria and only a very little share of migration has occurred between the new member state regions where as migration from Austria to others Centrope countries has been extremely low. With respect to commuting the situation is slightly different. Whereas commuting between the new member states was slightly more pronounced, Austria was less well integrated. Due to historic reasons commuting from Slovakia to Czech Republic and to Hungary is somewhat important in quantitative terms. Apart from commuting from the Hungarian Centrope, which was partially liberalised by special institutional arrangements, cross-border commuting to Austria is rather low and commuting from Austria to the new member states almost non-existent. The patterns of labour mobility show that Centrope is still far away from the substantial bilateral commuting and migration flows based on models of circular and temporary labour mobility that could be expected from a deeply integrated polycentric urban cross-border space. (Römisch et al. 2011, 146.)

From the point of view of the whole region, emigration to others parts of Europe and the rest of the world seems to be more important in quantitative terms than internal commuting and migration, as around 10 % of the people born in the Centrope countries live in another EU country. There is thus a high potential for brain drain in the region, as the share of highly educated among emigrates from Centrope countries is

almost twice as high as among immigrants in all parts of Centrope regions except the Slovak part. In terms of the worldwide competition for talent Centrope is marked by low competitiveness. (Römisch et al. 2011, 146-147.)

The situation is unlikely to change on account of the institutional changes affecting the cross-border mobility, as evidence on the willingness to commute and migrate in the region suggests that migration potentials in the region are low and have reduced since 2004, and are often directed to countries outside Centrope. In 2010 wishes to become mobile were held by 1,1 % of the working age population in the region. The share was lower in new member state parts of Centrope than in Vienna, and only one third want to move to Austria. Some change to the existing patterns might occur in the form of slight increase in commuting to Austria. The motivation in the new member state parts for labour mobility is the better economic conditions in the recipient region, where as those willing to move in Austria weight more new experiences and the political situation in the home country. For those willing to commute, the economic push factors such as the bad economic situation in home country are of more importance than for those willing to migrate. For migrants that are primarily interested in acquiring human capital, the Centrope countries are less attractive destinations than the other EU countries. (Römisch et al. 2011, 147-148.)

The Austrian authorities expected an additional supply of labour from the eight countries affected by the liberalisation of around 25 000 persons in 2011 after the end of the derogation periods for the freedom of movement. According to the initial results the migration has developed as expected. The stock of foreign employees from the eight countries affected working in Austria had increased by around 24 000 relative to 1st of May 2012 by January 2012 and by 31 500 relative to January 2011. Of these new employees around 10 500 were commuters. More than half of the increase in commuters and migrants (13 500) settled in the Austrian Centrope. Around 70 % originated from the other Centrope countries. A large part of the new foreign workers in Austria were of Hungarian nationality (10 500). The inflow of new foreign workers was relatively large in Burgenland (1,7 % of its employees). (Rozmahel 2012, 27-28.)

Cross-border enterprise co-operation

Trippl (2008) has analysed the nature and extent of transfrontier linkages between Viennese firms and actors in Hungary, Czech Republic and Slovakia. The results stem from a telephone survey with 113 Viennese firms in 2008. The analysis provided evidence of relatively high levels of economic interaction in the Centrope area: 58 % of firms sustained at least one type of link with the Eastern Centrope countries. The most important ties were market link, supplier relations and employment of migrants and commuters whereas innovation interactions were of less importance. Integration processes in the Centrope area were oriented on searching new markets and on exploiting cost and price differences instead of being innovation driven. Cross-border supplier linkages were not based on high quality but on low costs, access to the innovation capacity of the Eastern Centrope had not been a motive for FDI at all, but to open up new markets, and most migrants and commuters worked at the shop floor-level where as little evidence was found for the mobility of highly skilled labor. According to the findings of the study Centrope does not constitute an integrated innovation system yet. (Trippl 2008, 13-14, 21; Lundquist and Trippl 2009, 21.)

For the existing relations of Viennese firms to the Eastern parts of Centrope it was mainly differences in language that seem to have a hampering effect. The importance of the language barrier was also visible in the role migrants and commuters in the Viennese firms: they ease contacts to the Eastern Centrope countries because of their language skills and, to a lesser extent, because of their cultural skills. Exploring the reasons why Viennese firms had not created cross-border linkages to the Eastern Centrope countries

Trippl found out that many Viennese firms were strongly embedded into the regional or national innovation and business systems whilst at the same time interacting with global partners mainly located in the Western part of the world; despite the spatial proximity and potential transaction cost advantages Viennese firms had not substituted their existing international linkages with the Eastern Centrope countries. (Trippl 2008, 21.)

More recent interview data (Römisch et al. 2011) from a large enterprise survey conducted among 8 299 enterprises in Centrope give similar results. According to the data Centrope is a highly open region in terms of export and international co-operation activities, but deep integration into European and world markets is more important than co-operation within Centrope for the majority of firms. Ownership relationships were found to be the most important form of co-operation in the region. The most important reasons for entering a co-operation were related to acquiring market access and to cost advantages. Technologically or human capital based motives were at the end of the list. A relatively low share of enterprises reported problems in co-operation, the most common problems related to exchange rates risks, differences in mentality and languages barriers. The co-operation activities of small and young firms were more often focused within Centrope and for them market access and technological motives are more important than for others. Small firms also reported more problems than others, most often with the legal framework conditions, the quality of co-operation and cultural differences. In contrast large firms attach more importance to cost related motives and also to access to skilled labour. Large firms report fewer problems in co-operation. (Römisch et al. 2011, 142-143.)

Evaluations of the level of integration in Centrope

In the comparison of the integration of ten European metropolitan cross-border regions (Decoville et al. 2010) measured on cross-border commuting, cross-border residence and differentials in GDP per capita, the integration of Vienna-Bratislava was among the least advanced. Even though the differential of GDP per capita was relatively high (10 000-20 000 €), the number of cross-border commuters and residents was low. (Decoville, Durand, Sohn & Walther 2010, 7.) According to Decoville & al. 2010, the integration in the Vienna-Bratislava region exhibits to some degree features of the model *integration by polarisation*, where integration is based on a highly attractive metropolitan centre, both in economic and residential terms. Flows of labour and residential displacements converge on the dominant centre. Functional specialisation of space separating economic activity from residential areas combines here with a mechanism of social selection driven by market logic as, due to the differences in property prices between the centre and periphery, the centripetal residential movements involve primarily wealthy households. (Decoville, Durand, Sohn & Walther 2010, 14.)

The Centrope area is characterised by a substantial degree of institutional distance due to differences in political-administrative systems, regional policy capabilities, legal frameworks and standards, decision making procedures and tax regimes. Cross-border institution building and policy coordination is still in its infancy in Centrope: the governance structures are institutionally thin and unstable. Partly because of the long time unequal position of the partners in the policy network public commitment has been low in some parts of the region. Private partners are not involved in the partnership and show little inclination to do so in the future. There has been little policy co-operation between the Eastern Centrope regions. (Lundquist & Trippl 2009, 22-23.)

According to Lundquist and Trippl (2009) the cross-border integration in Centrope still suffers from a rather low degree of spatial proximity. The large area is large and it still has considerable gaps with respect to

transportation infrastructures. According to Otgaar et al. (2008) capacity bottlenecks exist and little investment has been made to enhance spatial proximity. Palme and Feldkircher (2006) have argued that the number of border crossings is limited and do not correspond to that of a densely populated region striving for integration. (Lundquist & Trippel 2009, 23-24.)

According to the empirical analysis of Lundquist and Trippel (2009) Centroepe region is a large cross-border region characterised by huge prosperity gap between its constituent parts and enormous differences in innovation capacities pointing to a high degree of functional distance. Cross-border knowledge interactions are weakly developed and the integration process is strongly oriented towards exploiting cost and price differences, leading to asymmetric economic relations. However, the Vienna-Bratislava region show relatively high degree of functional proximity and might therefore have better preconditions for interactive knowledge links than the rest of the area. (Lundquist & Trippel 2009, 27-28.) There was hardly any evidence of strong cross-border clustering processes in the Centroepe region. Although there seem to be some potentials for building cross-border clusters (ICT, biotechnology, automotive) little had been done so far to promote a stronger interaction between firms in these industries. (Lundquist & Trippel 2009, 19.)

The SWOT analysis for the region suggests that Centroepe in aggregate has important macroeconomic and structural strengths and could develop into one of the most highly integrated and developed economic cross-border regions in the EU. In a European comparison the region is a well developed and rapidly growing economy with stable institutional environment that has proven to be rather resilient to the economic crisis of 2008. The region has the preconditions to become a centre of the knowledge economy and it is marked by a deep integration in the international division of labour. The region is one of the most attractive locations for FDI in Europe and it hosts a large number of universities and research institutions. The region has a varied economic structure and the individual sub-territories combine a large number of different comparative advantages and varied natural sites for tourism development. This provides for the possibility of mutually beneficial exchange. In addition to emergence of a specialisation on the automotive industry for the region as a whole, the individual sub-regions offer a number of further specialisations of knowledge intensive and business services in the urban centre (Vienna, Bratislava, Brno) and on electrical equipments, computer electronic and optical products industries in the more industrial regions. (Huber et al. 2012, 1-3.)

The weaknesses of the region however suggest that Centroepe is not making the maximum out of the opportunities. Despite deep integration into the European division of labour internal integration is underdeveloped and structurally hierarchical. This applies to almost all cross-border activities (FDI, migration, trade, student mobility, patenting networks) with the exception of foreign trade. While Austria is the third most important investor in Centroepe, FDI from the other partner states to other Centroepe regions are limited, only the Czech Republic had made significant investments. Migration and commuting are rather limited and have increased only marginally after the liberalisation of the labour market. Cross-border co-operation in patenting is rare. In the period 2000-2008 there was no patent co-applications of Austrians with a partner from other parts of Centroepe. Cross-border student exchange is limited by the insufficient reputation of universities of Centroepe. Although student numbers in Centroepe are high, the share of tertiary educated is below the EU average, which suggests a high risk of brain drain. There exist still weaknesses in the transport infrastructure development, in particular the North-South transport routes are underdeveloped and the exiting development plans are realised rather slowly. There are strong functional disparities between the large cities of the region (Bratislava, Brno and Vienna) and the other Centroepe regions with respect to R&D and innovation system. In terms of sector structure modern knowledge

intensive and business services are still underdeveloped in the rural parts of Centroe. (Huber et al. 2012, 3-4.)

The risks of the region arise from the fact that both in terms of cross-border exchange and economic policy the region is weakly linked and characterised by substantial internal heterogeneity. This could lead to situations of excessive egoism on the side of individual regions hampering the mutual benefits drawn from increased integration, for example in the competition among regions as locations for FDI or the neglect of possibilities of cross-border co-operation in R&D and innovation in favour of more distant partners considered more prestigious. The economic situation and the limitedness of public funds for regional development might lead regions to overemphasise short-term gains from excessive competition relative to the long-term benefits of co-operation among regions. (Huber et al. 2012, 4-5.)

4. Cross-border business activities of international companies

Multinational corporations play an important role in the economic developments of major urban regions, especially capital regions of small countries, like Tallinn-Harju and Helsinki-Uusimaa. Location choices of new establishments, other investment decisions, and closures of plants or other establishments cause major impulses to the regional economy with direct and indirect effects on output and employment. The significance of the multinationals is pronounced because of the size of the establishments and dynamics of the business logic. An important dynamic feature of the business activity is the mobility of services, intermediate products and other inputs within the corporation, between the establishments in different regions and countries.

Multinational corporations

It has often been pointed out that the large firms – actually only a small number of companies – account for most of the international economic activity in all European countries (Mayer and Ottaviano, 2007). The size distribution of firms is extremely skewed, and inevitably the largest corporations are responsible for the bulk of foreign trade and foreign investment. Mayer and Ottaviano (2007) point out that large internationally operating firms are a kind of economic “superstars”. Compared to the average firm they generate higher value added, employ more skilled workers, pay higher wages, and often show higher labor productivity. Since the 1990s we are witnessing the emergence of a new kind of enterprise structures where firms’ different functions or even tasks are traded globally in a similar way as goods and services. In more concrete terms, it means the emergence of new business models where large production units and mass employment are replaced by highly specialized networks that operate and source production and knowledge, often supra-regionally or even globally (Ernst and Kim 2002, Berger 2005, Gallagher and Zarsky 2007, Dean et al. 2007, Ernst 2008).

Similar to other developed countries, the 1980s saw a swift internationalization of large manufacturing firms in Finland. The process was led by the largest manufacturing corporations of which many were still quite diversified at that time. Foreign expansion took place through mergers and acquisitions in the lines of business in which the companies were already operating. It was a matter of extensive growth abroad which in many cases benefited the home country operations through economies of scale. Hence, the large industrial companies increased their role in the Finnish economy and especially as leaders in the booming outward foreign direct investment. (Pajarinen and Ylä-Anttila, 2008; see also Heum and Ylä-Anttila, 1993)

In the 1990s the FDI boom continued, and even accelerated, but large corporations adopted a much more focused strategy and specialized in their core businesses globally. Hence, there was a lot of divestment both in the home country and internationally, coinciding with large and more focused foreign acquisitions. The 1990s also saw an increasing internationalization of service industries, notably retail trade and IT services. (Pajarinen and Ylä-Anttila, 2008)

In the 1990s the extension of the production networks of the Finnish companies also extended also to Estonia. Based on the studies carried out, it can be concluded that natural-resource seeking, market seeking, and efficiency seeking (see Dunning and Lundan, 2008, on the concepts) have been the main motivations for investment to Estonia.

The literature emphasises that strategic technological assets or capabilities-seeking behaviour has recently become more important, especially in the context of relocating science-based industries (Dunning and Lundan 2008, 67). It has been observed for Finland that in recent years, an increase of R&D in foreign subsidiaries has taken place, especially in the case of the large manufacturing firms (Pajarinen and Ylä-Anttila, 2008; Braunerhjelm et al. 2010). Such coupling is much less evident between Helsinki and Tallinn areas, however. For example, for Elcoteq Tallinn AS's learning by doing and manufacturing-related organisational innovation remained the main forms of development (Tiits and Kalvet, 2012).

Part II: Economic flows between Helsinki-Uusimaa and Tallinn-Harju regions

5. Framework of cross-border regional economic flows

The above approach provides a starting point to make some observations about the developments and present position of Helsinki-Uusimaa and Tallinn-Harju regions. While the regions are clearly smaller than the largest metropolises of the Europe both regions are leading urban agglomerations in their countries: the share of Tallinn-Harju of whole Estonia is 60% of GDP and 40% of population; the respective figures for Helsinki-Uusimaa are 38% of GDP and 28% of population (Laakso & Kostianen 2011). Both regions have also other characteristics of urban agglomerations relative to the rest of their countries: specialization on services and high productivity industry, higher overall productivity, higher education level of adult population than the national average and higher income level. Consequently, the regions are national growth poles.

The accessibility between Helsinki-Uusimaa and Tallinn-Harju has improved significantly since mid-1990s via faster and more efficient sea and air connections. Also the division caused by the border between the countries has lowered drastically, step by step, since the Soviet time. A major step to lower the border was taken in 2004 when Estonia joined the EU while Finland had joined in 1995. Another big step, making the daily economic routines easier for both enterprises and consumers, was taken in 2011 when Euro currency was taken into use in Estonia (in Finland 2002). These changes are important factors to explain the increased economic interaction in all forms between the regions.

The previous section deals with the regional integration at general level and provides research results from other European regions. Instead, the next three sections deal with the integration of Helsinki-Uusimaa and Tallinn-Harju from a very concrete point of view, by specifying the most important economic flows between the regions and estimating the monetary value of them. The aim is to describe the development and present state of the integration with the help of empirical data.

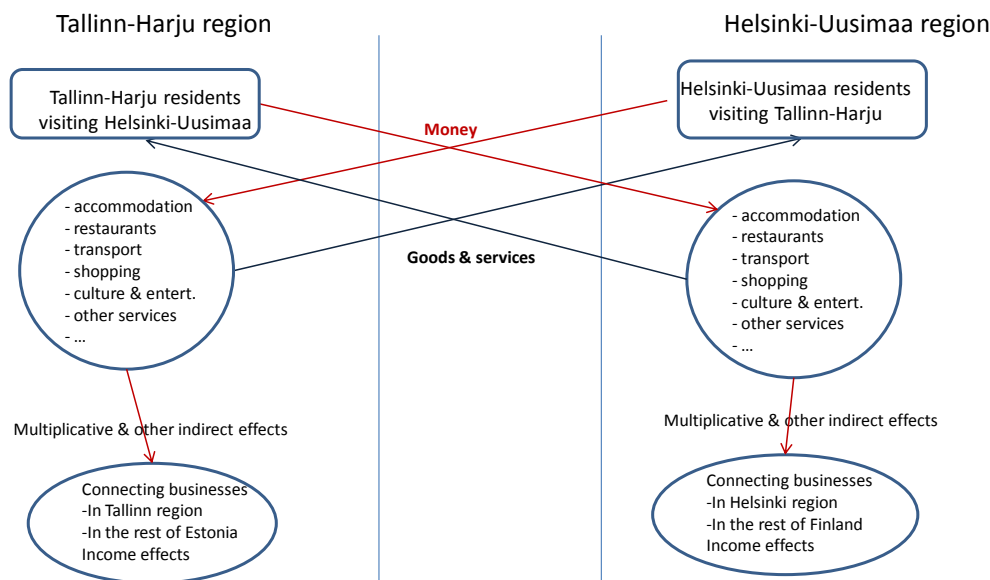
The actors in the economic interaction between the regions are individual people (or households), enterprises and the public sector (municipalities, regional authorities and the states). The economic flows of these actors are interconnected with each other. Individual people or households as consumers provide demand for the goods and services produced by firms or the public sector. On the other hand, people belonging to work force provide labor for firms or the public sector organizations. Enterprises trade with other enterprises (business to business) in addition to trading with consumers. These relations are to a great extent linked between regions, in this case between Helsinki-Uusimaa and Tallinn-Harju.

In the following we deal with three groups of economic flows: (1) tourism between regions, (2) cross-region work and (3) cross-region activities of enterprises. These groups of flows cover the most important volumes of economic interactions between the regions. A lot of less significant flows are ignored, like economic flows between the public sector organizations and social benefits provided to residents who have moved from the neighboring region. Also the cross region property and equity ownership and sales are ignored, not because of the lack of significance but rather because of the difficulty to get reliable data.

Tourism

From economic point of view tourists visiting a place or region are consumers who consume various services, like transport to and in the region, accommodation, restaurants and cafes, culture and leisure services and buy goods (shopping). They pay for the goods and services and this creates the monetary flow from the source region where tourists live to the target region. The income from the tourists is distributed between the industries involved and part of it is channelled to the salaries of the workers in the industry. This income increase caused by tourism is channelled further to the regional economy via purchases of goods and services. Moreover, the direct flows are followed by other flows caused by links of the tourist industry to other industries within the region or in other regions. These additional flows are indirect economic effects which enhance the total economic effect of the tourism. (Figure 5.1)

Figure 5.1: Economic flows connected with cross region tourism



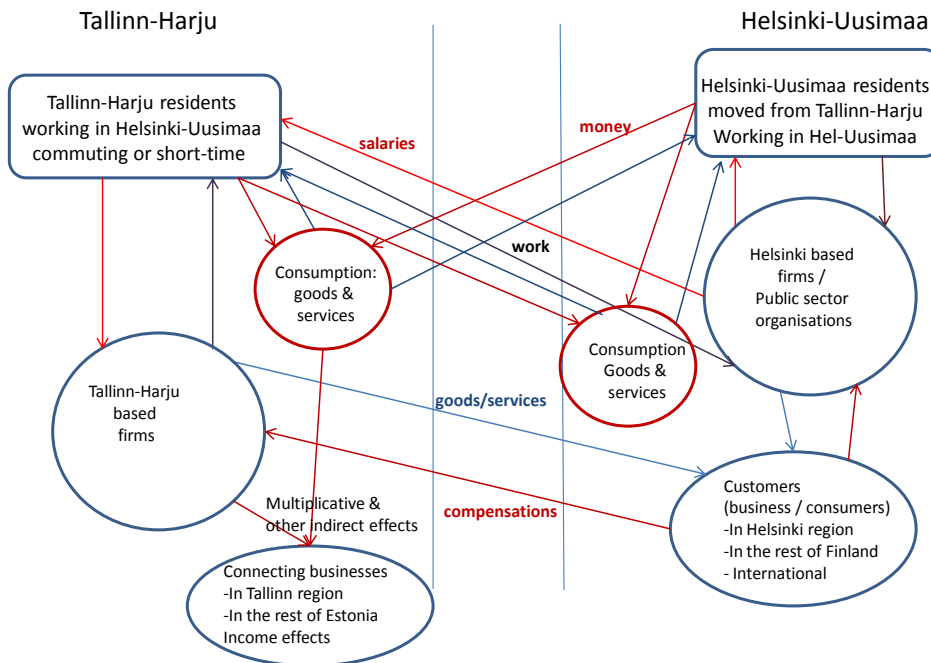
Cross-region work

The cross-region flows connected with labour markets are closely related with the production of enterprises and public sector organizations. Labour is one of the key production factors of those organizations and salaries and other personnel costs constitute a significant cost for them.

Cross-region work can be divided to two cases. They are both illustrated in the figure 5.2 for those people who work in Helsinki-Uusimaa but who come from Tallinn-Harju. First, there are the people who live and work permanently in Helsinki-Uusimaa after having moved from Tallinn-Harju and having become a resident in Helsinki-Uusimaa (immigrants). They work normally for the employee having an establishment in Helsinki-Uusimaa. The employee can be Finnish, an Estonian or an international firm or a Finnish public sector organization. Second, there are people who work temporarily in Helsinki-Uusimaa but are residents in Tallinn-Harju. They can commute on weekly or daily basis or they can spend longer periods working and

living in Helsinki-Uusimaa. In their case the employee can be as in the previous case but it can also be an Estonian firm without an establishment in Helsinki-Uusimaa, like in the case of labour renting.

Figure 5.2: Economic flows connected with cross region work
(case: job in Helsinki-Uusimaa, workers' origin in Tallinn-Harju)



In both cases the worker gets salary from the employee as a compensation for work input. This salary income (net after taxes and income transfers) is used for consumption or saving. In cross-region work it is typical that the spending (and saving) is divided between the work region and residence region (in case of temporarily workers) or previous residence region (in case of immigrants). The spending based of income connected with cross-region work creates direct and indirect economic effects on the economy in the regions where the spending is targeted. It must be pointed out that, in the case of the figure 5.2 where the job is in Helsinki-Uusimaa and the origin of the workers is in Tallinn-Harju, the indirect effects take place in Tallinn-Harju and further in Estonia where a part of the salary income is consumed. However, from the point of view of Helsinki-Uusimaa this shifted consumption is a leak from the regional economy. If there were an alternative that all workers would spend all of their income in the region where they work this would generate more indirect effect in the job region instead of the residence or origin region.

The same logic holds in the case where workers with the origin in Helsinki-Uusimaa work temporarily or permanently in Tallinn-Harju.

Cross-border business activities of enterprises

There are complicated network of cross-region economic flows connected with enterprises. This can be classified into three cases:

1) Between an enterprise in one region and consumers in neighbor region:

An enterprise located e.g. in region A sells goods or services directly to the consumers from the region B. In this case the enterprise in A can operate e.g. in tourism business and provide goods and services to tourists from B. Another example is an internet sales enterprise locating in A and selling goods among others to consumers in B.

2) Between an enterprise in one region and enterprises in neighbor region:

In the “traditional” import-export case an enterprise in the region A sells goods (final or intermediate) or services to enterprises in region B. In the case of final goods an enterprise in B sells the goods further in local markets in B or exports them outside B to national or international markets. In the case of intermediate goods or services an enterprise in B uses them to produce final goods (or more processed intermediate goods) which it sells either to local market of B or to other national or international markets.

3) Within a multi-establishment enterprise, between the establishments in both regions:

The “highest level” case arises when an enterprise from region A founds an establishment also in region B or an international multi-location company founds an establishment both in A and in B. In this case there may be found economic flows of type 1) and 2) but in addition, there may be flows within the company, between the establishments in different regions. These flows can be of various forms: final or intermediate goods or services, finance, labour, knowledge etc.

It must be noted that the third type of flows may be the most important from the point of view of regional economic integration but unfortunately, there is only very limited possibilities to get data of the cross-regional economic flows within international companies.

6. Indirect and multiplicative effects of economic flows

The input-output method has been applied at regional level among others in the impact analysis of various economic shocks, like increase of tourism or a new plant, on the regional economy. Regional multiplier effect is a key concept in the analysis. The basic idea is that the final increase in demand causes the indirect economic demand chain, which increases the initial impact. Regional input-output method and its basic regional input-output tables are the means by which such effects can be assessed. The direct impact and the indirect impacts via the multiplier effect can be briefly described as the following way:

- a) Direct impacts. An increase in economic activity (e.g. additional tourism or a new establishment of an international company) causes demand impulses leading to increase in the production (value added) and labor input of firms and other organizations. They form the starting point for the multiplier effect.
- b) Indirect effects on production. Initial direct increase in the demand starts to move a variety of economic impact chains. The firms and other organization facing the direct impact in their production purchase a variety of goods and services inputs, which in turn are produced, transported etc. This business creates the long supply chain of goods and services which gradually decays. The total amount of this chain can be calculated by an input-output model.
- c) In addition to the impact of production process there are indirect effects on consumption. They are based on intermediate purchases of the workers who receive income from their additional work caused by the chain followed the original impulse. These inputs are then used a variety of consumer goods needed by the input. Also, it will generate its own multiplier effect chain.

All the effects are not remained in the region where they are born (e.g. in Helsinki-Uusimaa), but some of the effects "leak" to the rest of the country or abroad. Some of the acquired assets are in fact produced elsewhere. Nevertheless, leakage effects will gradually grow between the regions in a number of sourcing and procurement of rounds. In addition, some also take place in the so-called re-entry areas: effects of leakage from the rest, but finally rotate back to the starting area. Generally it can be said that the more economically developed and specialized the region is, the higher the leakage occurring of the total effects.

The indirect effects among of the increase of tourists on the economy of Helsinki-Uusimaa have been analyzed in several studies by Susiluoto (summarized in Kilpeläinen et al 2011). As a general rule a direct effect of an increase of 1 million € in value added in tourism industry causes a multiplicative effect of the same size (1 mill. €) in the all industries in the Helsinki-Uusimaa region and 0,7 million € in the rest of the country (total 1,7 or 170%). Respectively, an direct effect on employment of 100 man years causes a multiplicative effect of 50 man years in all industries in Helsinki-Uusimaa and 40 in the rest of the country (total 90 man years or 90%). In this study we apply the results of Susiluoto to get a rough picture of the magnitude of the impact of tourism on the regions studied.

The investments (leading to production increase) in manufacturing cause also significant multiplicative effect on production and employment. According to various studies the total effect on value added at national level is 2-3,5 times the direct effect. On the other hand, in manufacturing the leaks from the region are also big and the total net effect on the value added in the region concerned is typically 1,5-2, depending on the size and economic structure of the region.

7. Economic flows from tourism between Tallinn-Harju and Helsinki-Uusimaa

According to statistical sources and calculations (see below) there were approximately 346 000 tourist¹ visits by residents of Estonia in Helsinki-Uusimaa in 2011. The estimated sum of their total expenditure in the region was 66 million €. Approximately 50-60 % of the Estonian tourists come from the Tallinn-Harju region. Tourist flow to the opposite direction is almost 5-fold: there were 1,6 million tourist visits to Tallinn-Harju by Finnish residents. Their total expenditure was 289 million € in the visiting region. The proportion Helsinki-Uusimaa residents of Finnish visitors is nearly 60 %.

The share of tourist visits from Estonia was 12 % and their share of money spent by was 7 % of all foreign tourists in Helsinki-Uusimaa. At the same time the share of the Finnish tourists and their expenditure was more than a half of that of all foreign tourists in Tallinn-Harju.

Table 7.1: Estimated indicators of tourism from Estonia to Helsinki-Uusimaa and from Finland to Tallinn-Harju in 2011

Indicator	Tourists from Estonia to Helsinki-Uusimaa	Tourists from Finland to Tallinn-Harju
Number of tourist visits, 1000	345,9	1639,4
Total expenditure, M€	66,4	289,1
Share of all foreign tourists, %	11,7	57,6
Share of total expenditure of all foreign tourists, %	7,3	59,8

Data sources and assumptions

The figures above are based on the following data sources and assumptions:

- number of visitors from Estonia to Helsinki-Uusimaa: Statistics Finland, Border Interview Survey
- number of visitors from Finland to Tallinn-Harju: Statistics Finland, Finnish travel survey (visitors) and Bank of Estonia (share of Tallinn-Harju)
- expenditure in Helsinki-Uusimaa: Statistics Finland, Border Interview Survey (national figures applied for the region)
- expenditure in Tallinn-Harju: Bank of Estonia (national figures applied for the region).

It must be noted that different sources give various figures for the number of visitors as well as the expenditure per visit or day. The Border Interview Study (BIS) may underestimate the real number of visitors as well as the average spending per visit to some degree. It must also be noted that in the BIS the visitor's origin is classified according to the residence, not nationality.

¹ excluding visitors with a job in the visit country but including other business visitors.

Change of the number and expenditure of tourists in 2001-2011

According to the statistics and estimations the number of tourists from Estonia to Helsinki-Uusimaa has increased by 164 % between the years 2001 and 2011, from 130 000 to 346 000 (figure 7.1). We assume that the relative growth of tourists from Tallinn-Harju to Helsinki-Uusimaa is of the same order of magnitude. At the same time the average expenditure of tourists per visit has doubled. Together this means that the money spent by Estonian tourists in Helsinki-Uusimaa has increased by more than 5-fold (430 %) in 10 years, to 66 million euros (figure 7.2). The only major decline was taken place in 2008 but this was compensated by the rapid increase from 2009 on.

Figure 7.1: Number of tourist visits from Estonia to Helsinki-Uusimaa

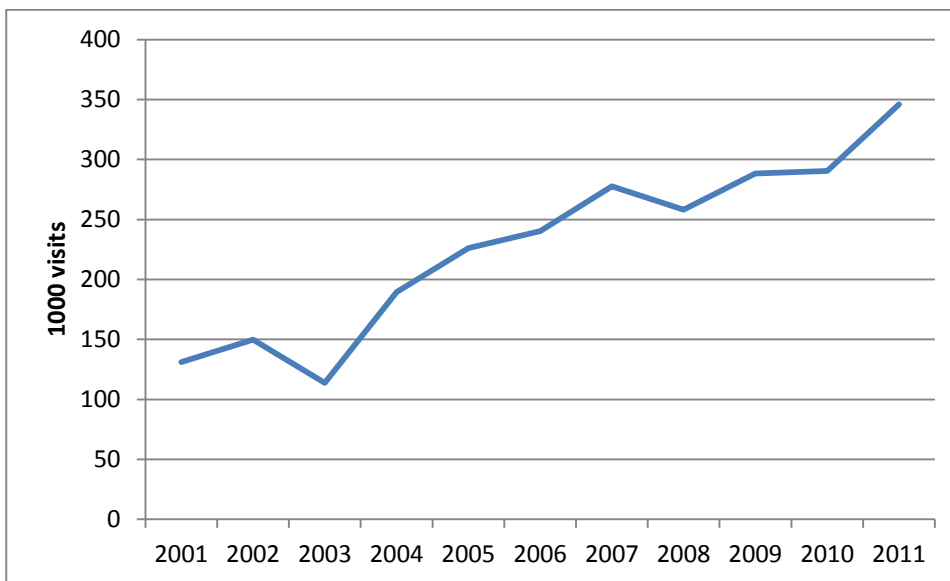
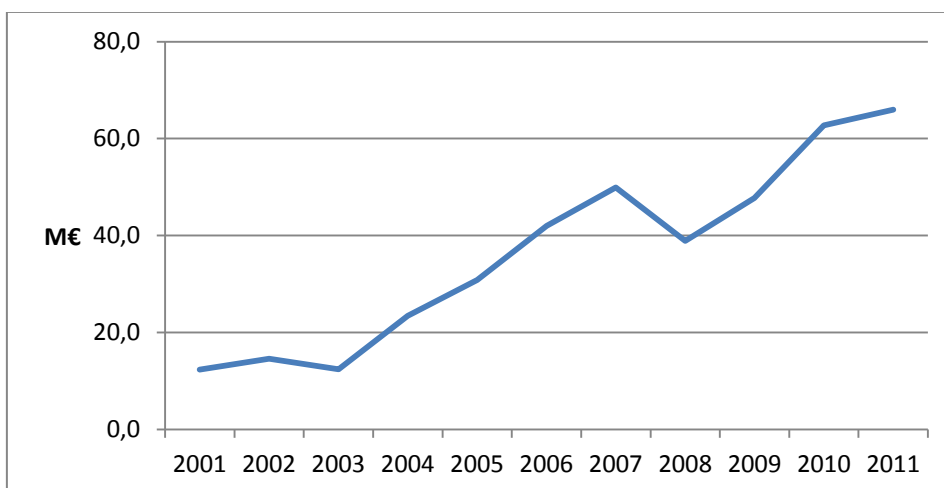
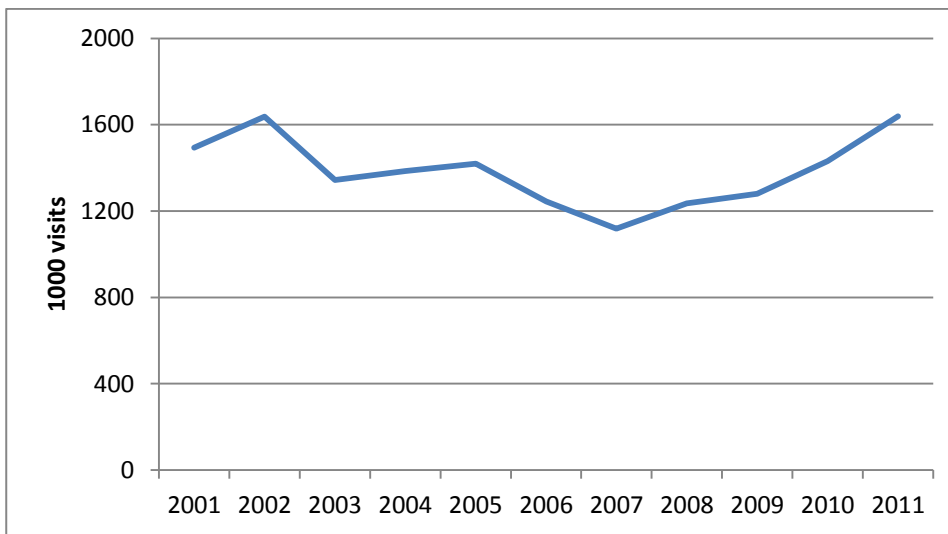


Figure 7.2: Total expenditure (mill. €) in Helsinki-Uusimaa by tourists from Estonia (estimations)

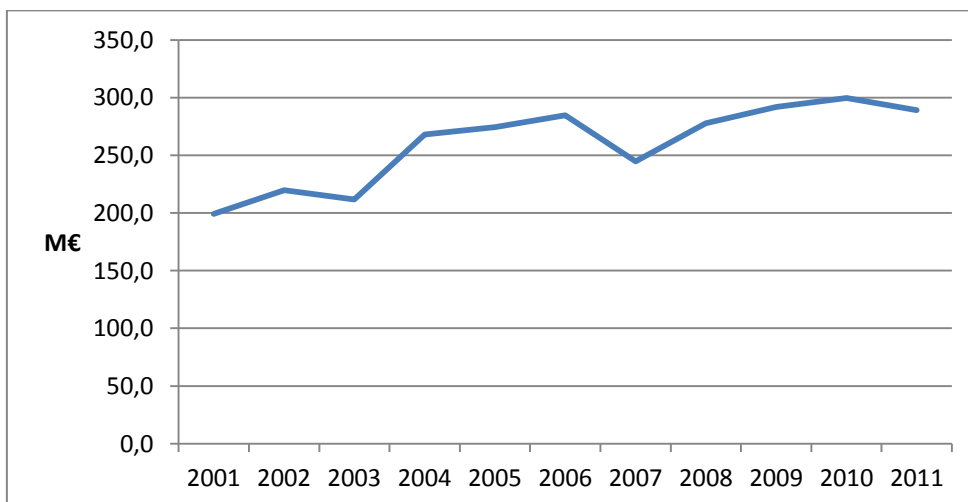


The trends of tourism from Finland to Tallinn-Harju are quite different than to the opposite direction. While the number of Finnish tourists has grown by a half from 2007 to 2011, the level in 2011, 1,6 million, was just slightly higher than in 2002 (figure 7.3).

Figure 7.3: Number of tourist visits from Finland to Tallinn-Harju

However, the total expenditure of the Finnish tourists has increased by 45 % from 2001 to 2011, to 289 million euro in the latter year. There are fluctuations in the volume of spending without any clear connection with the overall economic changes: spending declined in 2003, 2007 and 2011 while GDP in Finland increased fast in 2007 and 2008 but declined dramatically in 2009.

It can be assumed that the trends of the visitors from Helsinki-Uusimaa to Tallinn-Harju are similar as those of the whole Finland.

Figure 7.4: Total expenditure (mill. €) in Helsinki-Uusimaa by tourists from Estonia (estimations)

Distribution of expenditure

The Estonians visiting Finland spent 39 % of their total expenditure on shopping, 25 % on restaurants and cafes, 11 % on accommodation, 9 % on fuel and 16 % on other items in 2011 (Border Interview Survey (BIS) 2011). The average total expenditure per visit and visitor was 192 € while it was 306 € for all foreign visitors. Compared with all foreign visitors Estonians spent a bigger share of their expenditure on restaurants and cafes and on fuel but less on accommodation and shopping.

Data on the expenditure distribution comparable with BIS is not available of the Finnish visitors in Estonia. According to the interview data of Innolink from 2012 the expenditure was divided on shopping (52 %), restaurants and cafes (20 %), accommodation (13 %) and other items (15 %).

In addition to the expenditure in the country there are advance payments and consumption during the journey. According to BIS Estonians paid on average 4 € in advance while Innolink's study gives remarkably higher sums, 86 € for Finns travelling to Estonia and 83 € for Estonians travelling to Finland. Evidently these sums include travel tickets while BIS figures did not. Innolink's study was based on interviews at the ferry port and it includes the expenditure on the ferry: 65 € for Finns and 29 € for Estonians.

Multiplicative effects of tourism

The estimated total expenditure of tourist visitors from Finland in Tallinn-Harju was 289 M€ and the respective sum from Estonian tourist visitors in Helsinki-Uusimaa was 66 M€ in 2011 (table 7.1). These estimated figures include VAT.

The total expenditure net of VAT represents roughly the direct turnover increase caused by the Estonian/Finnish tourist visitors to the enterprises in tourism business in Tallinn-Harju and Helsinki-Uusimaa. According to Susiluoto the direct value added is approximately a half of the turnover. The indirect effect coefficient of tourism industry is about 1,7 for the whole country and 1 for Helsinki-Uusimaa. We assume that these coefficients can be applied for Tallinn-Harju and the rest of Estonia, as well. The estimated effect on employment is 15-20 man years per 1 million increases in the total value added (Susiluoto's calculations for the Helsinki-Uusimaa). In the case of Tallinn-Harju the effect of the value added increase on employment is probably 2-3 times higher² than in Helsinki-Uusimaa.

The estimated total effect of the Finnish tourists' expenditure on the value added of Tallinn-Harju is 240 M€. Respectively, the total effect of Estonian tourists on Helsinki-Uusimaa is 54 M€. A rough estimate for the employment effect is 7 000 – 12 000 man years in Tallinn-Harju and 800 – 1 100 in Helsinki-Uusimaa.

Table 7.2: Estimated total effects of neighbour country/region tourism on value added in Tallinn-Harju and Helsinki-Uusimaa in 2011

Economic item	Tallinn-Harju	Helsinki-Uusimaa
Expenditure of tourist visitors from Finland/Estonia (M€)	289	66
Net of VAT (M€)	240	54
Direct value added (M€)	120	27
Total value added (direct + indirect) at country level	324	73
Total value added (direct + indirect) at regional level	240	54

² Based on the difference of the average compensation per employee (Cambridge Econometrics 2010).

The figures of table 7.2 can be related to the total value added of the regions. According to the calculation³ the contribution of Finnish tourist visitors is 3 % of the total value added and 8,5 % of the value added of hotels & restaurants, trade and transport of Tallinn-Harju. This means that, for example, 20 % increase (decrease) in the expenditure of Finnish tourists would cause 0,5 % increase (decrease) in the total value added and 1,5 % increase (decrease) in the value added in hotels & restaurants, trade and transport in Tallinn-Harju. Consequently, the role of the Finnish tourism is most significant in the regional economy of Tallinn-Harju.

The contribution of Finnish tourism to the employment in Tallinn-Harju is 2,5 – 4 % of total employment and 8-13 % of the employment of hotels & restaurants, trade and transport.

Respectively, the contribution of Estonian tourist visitors is approximately 0,1 % of the total value added and 0,3 % of the value added of hotels & restaurants, trade and transport of Helsinki-Uusimaa⁴. The effect on total employment is about 0,1 % and on the employment of hotels & restaurants, trade and transport about 0,4-0,5 %.

This means that the economic flow from tourism from Estonia to Helsinki-Uusimaa is less significant than to the other direction in absolute terms and also in relation to the size (output or employment) of the target regions. However, if we relate the flows of tourism to the economic sizes of the residence countries or regions the flows are well in balance.

³ Assumed that total value added of Tallinn-Harju is 9 000 M€ and that of hotels & restaurants, trade and transport is 3 300 M€ in 2011 (based on Eurostat regional GDP figures of 2009, initial data on GDP growth in 2010-11 from EU and sectoral division data from Cambridge Econometrics 2010).

⁴ Assumed that total value added of Helsinki-Uusimaa is 68 000 M€ and that of hotels & restaurants, trade and transport is 19 000 M€ in 2011 (same sources as for Tallinn-Harju).

8. Cross border work between Tallinn-Harju and Helsinki-Uusimaa

Cross border work is divided into two categories:

- (1) Short-time and temporary work in the region by people who are residents in the neighbour country⁵.
- (2) Work (permanent or temporary) by people who have moved from the neighbour country and become residents in the region where they work (immigrants).

It must be noted that there are a lot of uncertain factors connected especially with the cross-border short time work, due to shortages in the availability of statistical data. Also the definition on who is actually short-time cross-border worker is problematic. For these reasons the estimations are rather robust and figures concerning monetary values are presented as ranges. They are meant to give a picture of the magnitudes rather than exact statistical facts.

Short-time work

According to statistical sources available and calculations (see below) there were approximately 106 000 work visits by residents of Estonia to Helsinki-Uusimaa (with work place there) in 2011. It is estimated that the number of Estonians participating cross-border short-time work⁶ in Helsinki-Uusimaa is 15 000 – 16 000. The estimated sum of their total gross earnings in Helsinki-Uusimaa was 200 – 240 million €. The share of Estonians of all foreign short-time workers in Helsinki-Uusimaa is approximated to be about two thirds.

The number of work visits of residents of Finland to Tallinn-Harju with work place there is 45 000, less than half of the number to the other direction. The number of persons participating cross-border short-time work in Helsinki-Uusimaa is approximated to be 6 000 – 7 000. The estimated sum of their total gross earnings in Helsinki-Uusimaa was 90 – 110 million €.

Table 8.1: Estimated indicators of cross-border short time work visits (with work place in the target region) from Estonia to Helsinki-Uusimaa and from Finland to Tallinn-Harju in 2011

Indicator	Short-time work visits from Estonia to Helsinki-Uusimaa	Short-time work visits from Finland to Tallinn-Harju
Number of work visits, 1000	106	45
Gross earnings, M€	200 - 240	90 - 110

⁵ defined on the basis of residence; independent of the length of the work period

⁶ Number of Estonian work visits in whole Finland was 141 000 and number of persons 21 000 (Statistics Finland, Border Interview Survey)

Data sources and assumptions

The above figures are based on the definition of short-time work as work by the residents of the neighbour country in a work place located in the study region (Helsinki-Uusimaa / Tallinn-Harju). Business visits without a work place in the visit region are not included.

The assumptions concerning the amount of work hours and average salary level are very uncertain and for this reason we have used rather broad ranges for the earnings estimates.

The figures above are based on the following data sources and assumptions:

- Number of short-time work visits and duration of visit from Estonia to Helsinki-Uusimaa: Statistics Finland, Border Interview Survey
- Number of short-time work visits from Finland to Tallinn-Harju: Statistics Finland, Finnish travel survey (visitors); Innolink (share of business visits with work place in Finland); Bank of Estonia (share of Tallinn-Harju)
- Earnings in Helsinki-Uusimaa: based on average hourly earnings of construction workers in Finland (Statistics Finland, income statistics)
- Earnings in Tallinn-Harju: based on average hourly earnings of expert workers in Finland⁷ (Statistics Finland, income statistics).

Comparison with another study

Markku Hirvonen has estimated the number of foreign workers and their salaries as part of the research on gray labor markets and consequent tax income losses in Finland (Hirvonen 2012). According to Hirvonen the number of foreign workers sent to Finland by foreign enterprises was about 31 000 in 2010 in whole country of which 2/3 (about 21 000) came from Estonia. He estimated that the total sum of salaries of the sent foreign workers was 495 mill. € in 2010 (of which 30 % was covered by the statements sent to tax authorities). When these figures are compared with the estimates above it can be concluded that the number of the Estonian short-time workers is smaller according to the Border Interview Survey by Statistics Finland, especially when taking into account that a part of the short-time workers work for Finnish enterprises⁸.

In Hirvonen's figures the annual earnings per worker is about one third higher than in our figures. This difference is based mainly on assumptions of the length of work periods. Our calculations are based on Border Interview Survey's data on the average number and length of period of work visits while Hirvonen seems to assume that a majority of sent workers work full-year in Finland. This difference is partly compensated by Hirvonen's assumption of lower salary level of sent workers. As a whole, our data sources and assumptions seem to give smaller values for the number and total earnings of short-time workers than those of Hirvonen but there is no crucial difference in the rough total magnitude of the calculations concerning the total earnings of short-time workers in Finland.

⁷ It is assumed that the typical short-time Finnish worker in Tallinn-Harju is an expert working for a Finnish company while a typical short-time Estonian worker in Helsinki-Uusimaa is a construction worker.

⁸ According to Border Interview Survey there were 39 200 foreign visitors (persons) with work place in Finland in 2010 of which 12 800 were Estonians. Note that there was a remarkable drop in the number of Estonian work visitors in 2010 but only a marginal change in the number from other countries.

Change in time

The estimations of the annual variation in the number and earnings of cross-border short-time workers are rather uncertain due to lack of reliable statistical data. According to the data available there is no clear trend in the number of short time work visitors from Estonia to Finland or to the opposite direction from 2007 to 2011. However, there is a lot of variation between the years. The number of work visitors (persons) from Estonia to Finland dropped by 38 %, from 20 800 in 2009 to 12 800 in 2010 but returned back to the level of 20 900 in 2011 (growth 63 %). This was first of all due to the drastic cut in the demand for construction labour in 2010 as a consequence of the recession in the construction sector.

In the case of Finnish short-time workers in Estonia the number of overnight or longer business visits gives an overall picture of the change. The number decreased by 33 % from 2008 to 2009 due to the economic recession in both Finland and Estonia. However, the trend turned back and there was an increase by 59 % from 2009 to 2011.

Characteristics of short-time work

According to Hirvonen (2012) the majority of the sent workers of foreign enterprises (which is the biggest group of the short-time workers) work in the construction industry. In addition, there are sent workers in metal products industry. In addition to sent workers of foreign enterprises there are also short-time workers working for Finnish enterprises and other organisations. It can be assumed that construction is dominated also this group but other major industries and professions represented are restaurants and hotels, cleaning services and transport. The main attractor for short-time work in Finland is the higher salary level than in Estonia in the same professions, even if it were lower than the salary paid for Finnish workers.

In the case of Finnish short-time workers in Estonia we have no statistics available. However, it can be assumed that a big share of them work for the Finnish enterprises with establishments in Estonia. The top three industries among them (in terms of the number of personnel) are: manufacturing, retail and wholesale trade, and business services (see section 9). It can be assumed that typical professions of short-time workers are expert tasks connected with various development projects in Estonian establishments.

Division of earnings

A part of the earnings of the short-time work is spent in the region where the job is located while another part is spent in the home region and some of it may be saved or spent elsewhere (eg. via tourist trips). Border Interview Surveys make it possible to estimate the division of earnings of Estonian short-time workers working in Helsinki-Uusimaa. According to the data on average expenditure of Estonian short-time workers in Finland only about 20 % of the estimated net income (after taxes⁹) is used for consumption in Finland, and consequently, about 80 % is used in Estonia (including travel costs) or elsewhere, or saved. This means that approximately 135 – 165 mill. € (of the total gross earnings of 200 – 240 mill. € in Helsinki-Uusimaa) was shifted back to Estonia to be used for consumption, travel costs and savings in 2011.

We have no statistical data for respective calculations concerning Finnish short-time workers in Tallinn-Harju. It can be assumed that significant share (more than 20 %) of net earnings are spent in Estonia because the price level there is lower and consequently the value of money earned is higher than in Finland.

⁹ Assumed 15 % average tax rate.

The significance of the money flows connected with cross-border work is interpreted and commented after the next sub-section.

Immigration and work

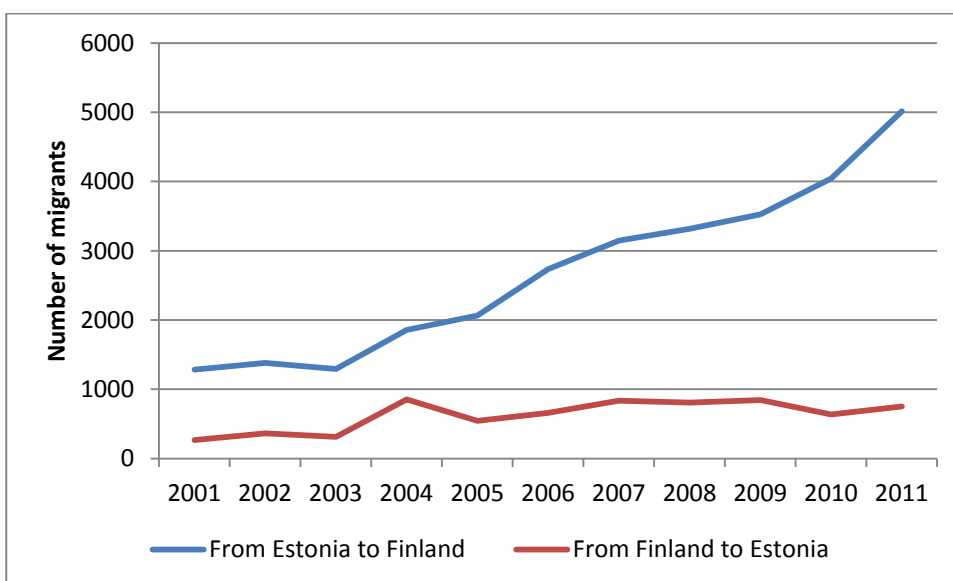
Another major component of cross border work is work-based migration between the countries and the regions. However, the definition of the work-based migration is not fully clear. In the case of most EU countries, including Estonia and Finland, citizens are free to move from country to another. Often the primary reason for the move is connected with social relations or with other factors not linked with work but the connection to labour markets is born later. In any case, Estonians who have moved to Finland, have nearly the highest employment rate among immigrants, and at least in the case of Estonians there is a close link between migration and work.

Migration and working age population

The annual number of migrants from Estonia to Finland increased fast from 1300 in 2001 to 5 000 in 2011 (figure 8.1). At the same time, after the growth from 300 in 2003 to 850 in 2004 from Finland to Estonia the level has not changed much and there were 750 migrants in 2011. In addition, only less than half of the migrants from Finland to Estonia are Finns while the majority are Estonians returning back to the home country. Meanwhile, the great majority of the migrants from Estonia to Finland are Estonians. The Estonian immigrants in Finland are concentrated in Helsinki-Uusimaa (two thirds of all in 2011) while Finnish immigrants in Estonia are more evenly distributed over the country (one third of all in Tallinn-Harju in 2011).

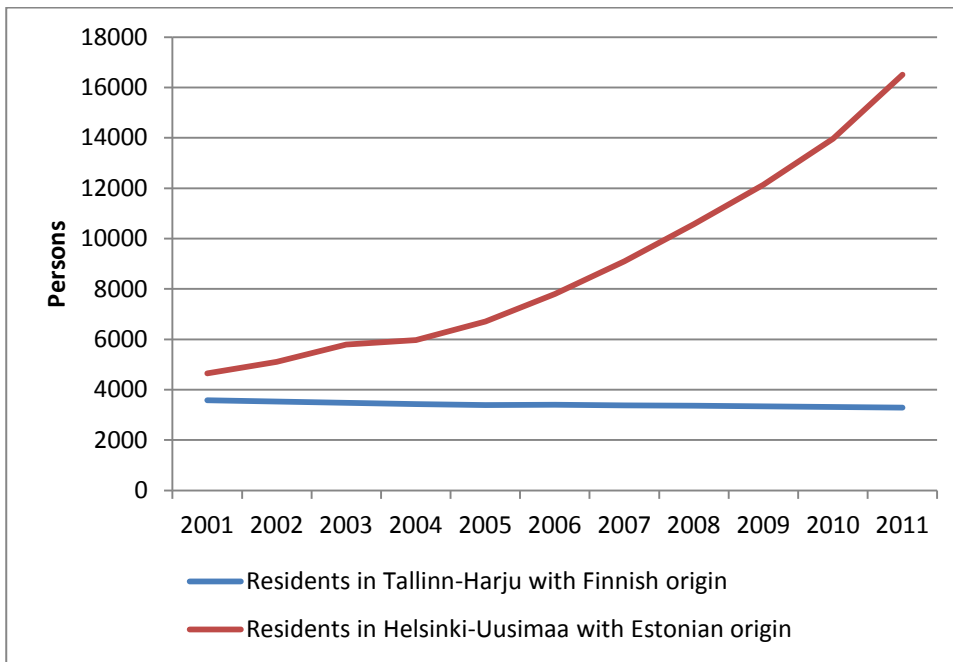
The migration surplus for Finland was 4 300 in 2011 while having been about 1 000 from 2001 to 2004. (Statistics Finland)

Figure 8.1: Migration between Estonia and Finland 2001-2011 (Statistics Finland)



From the point of view of labour markets the number of working age population is of interest. The trends of the working age immigrant from the neighbour country in Tallinn-Harju and Helsinki-Uusimaa have diverged since 2001: in Helsinki-Uusimaa the number has increased nearly exponentially while in Tallinn-Harju the number has decreased slightly (figure 8.2).

Figure 8.2: Number of residents (age 20-64) in Tallinn-Harju with Finnish origin and in Helsinki-Uusimaa with Estonian origin (Statistics Estonia and Statistics Finland)



Work and earnings

According to estimations based on statistical sources and assumptions (see below) there were approximately 11 500 employed residents in Helsinki-Uusimaa with Estonian background in 2011 (table 8.2). This estimate is based on exact population statistics and an estimate of 71 % employment rate of the Estonians of the age 20-64 years, only slightly lower than for the whole working age population of the region. The estimated sum of their total gross earnings was 330 – 370 million €. The share of working age residents with Estonian origin of all working age residents with foreign origin was 22 % while their proportion of all work earnings of foreign background population is over 30 %.

The number of employed with Finnish background in Tallinn-Harju with was 2 000 – 2 400, significantly less than in the other side of the sea. The estimated sum of their total gross earnings was 60 – 75 million €.

Table 8.2: Estimated indicators of work by residents with Estonian origin in Helsinki-Uusimaa and by with Finnish origin in Tallinn-Harju in 2011

Indicator	In Helsinki-Uusimaa with Estonian origin	In Tallinn-Harju with Finnish origin
Number of employed residents	11 500	2 000 – 2 400
Gross earnings, M€	330 - 370	60 - 75

Data sources and assumptions

The above figures are based on the definition of foreign background on the basis on nationality (Finnish in the case of Tallinn-Harju and Estonian in the case of Helsinki-Uusimaa).

The figures above are based on the following data sources and assumptions:

- Number of residents in Helsinki-Uusimaa with Estonian origin and employment share: Statistics Finland
- Number of residents in Tallinn-Harju with Finnish origin: Statistics Estonia (no statistics about employment share)
- Earnings in Helsinki-Uusimaa: based on median monthly salary of the 8 most usual professions of foreign background workers in Finland (Statistics Finland)
- Earnings in Tallinn-Harju: no data available; based on median salary in Finland (Statistics Finland).

Change in time

It has been possible to estimate total gross earnings of working residents with Estonian background in Helsinki-Uusimaa. According to the results the sum of earnings has increased from 64 mill. € in 2001 to 350 mill. € in 2011. This means a 5,5 fold increase in 10 years. The main reason is the fast increase of the working age population with Estonian background due to migration but also the employment rate and average annual income have increased remarkably.

Characteristics of short-time work

There is no statistics available of the industrial or professional distribution of the Estonian background workers but it can be assumed that the list published by Statistics Finland can be applied also for Estonians¹⁰. The most usual industries are: retail trade, hotels and restaurants, cleaning services, construction, transport, information services, storage services, health services, social services, education, mail services and agriculture.

In the case of working residents in Tallinn-Harju with Finnish background it can be assumed that one group consists of entrepreneurs who have moved their establishment and residence to Estonia because of lower taxation and good business environment. It can also be assumed that the big Finnish companies with establishments in Estonia employ Finnish immigrants.

¹⁰ Based on the statistics of the most usual professions of the employed population with other mother tongue than Finnish or Swedish in 2009 (Statistics Finland).

Division of earnings

It can be assumed that also permanent residents in Helsinki-Uusimaa with Estonian background consume a significant part of their earnings in Estonia. However, we have no data source to estimate this share. We anticipate that the share is remarkably lower than in the case of short-time workers. However, if we make a rough assumption that the share of net earnings (after taxes) consumed or saved in Estonia were 20-40 % it would mean that approximately 50 – 100 mill. € (of the total gross earnings of 330 – 370 mill. € in Helsinki-Uusimaa) had been shifted to Estonia to be used for consumption, travel costs and savings in 2011.

As in the case of short-time work we have no statistical data for calculations concerning Finnish immigrant workers in Tallinn-Harju.

Significance of the economic flows from cross-region work

According to our estimations Estonians working in Helsinki-Uusimaa short-time or permanently earned approximately 500 – 600 mill. € in 2011. Of this sum two thirds was earned by immigrants with residence in Helsinki-Uusimaa and one third by short-time workers with residence in Estonia. The number of Estonians participating the Helsinki-Uusimaa labour markets was 17 500 – 18 500 in 2011. Their role in the regional labour market is bigger than that of any other group of foreign background workers (the second being Russians). We have also estimated that 185 – 265 mill. € of the total gross earnings from Helsinki-Uusimaa was shifted to Estonia to be spent or saved there (including travel) in 2011. The participation of Estonian workers in Helsinki-Uusimaa labour markets and the earnings there have increased fast during the last 10 years, mainly because of increasing immigration, higher employment rates and growing salary levels.

There is an evident asymmetry in cross regional labour markets. The participation of Finnish workers in the labour markets in Tallinn-Harju is less than a third of that in the other side of the sea in terms of number of workers or total earnings. It can be concluded that this flow is clearly less significant both in absolute and relative terms than the active participation of Estonians in the Helsinki-Uusimaa labour markets having major effects in the both sides of the sea.

From the point of view of regional labour markets of Helsinki-Uusimaa, the cross-regional work is basically a positive phenomenon for enterprises but from the point of view of domestic workers it may be problematic. It increases the supply of labour and provides additional expertise and diversification. Estonians work mainly in industries and professions which have had shortage of labour during the last years in Helsinki-Uusimaa. Estonians are demanded workers in the Finnish labour markets because of their expertise, Finnish language skills and productivity, factors which are indicated by the high employment rate among the Estonian immigrants.

According to Statistics Finland (2012) the increased supply of labour with foreign background has pushed down the salary level of construction workers and some other professions during the last years. In addition, foreign labour may displace domestic labour and affect negatively their employment. The problems of gray labour markets and tax avoidance are also connected with short-time foreign workers, especially in the case of sent workers of foreign enterprises (Hirvonen 2012). These aspects are considered more specifically in the part III of this report.

The active participation of the Estonian workers in the Finnish labour markets has different effects in Estonia. The estimated number of Estonians, 17 500 – 18 500 in 2011, working in Helsinki-Uusimaa represents about 3 % of the employed population of the entire Estonia and if we consider working

Estonians in the whole Finland the share is 4-5 %. This is a big share with manifold impacts. First, the possibility to work in Finland may decrease unemployment rates in the Estonian regions with high unemployment. Second, it may cause labour shortage and push salary levels upwards in some sectors and professions, like health service (eg. doctors of medicine).

Third, the part of earnings from Helsinki-Uusimaa shifted to Estonia (estimate 185 – 265 mill. € in 2011) has multiplicative effects via consumption and consequent chains in Estonia, like in the case Finnish tourists' expenditures in Tallinn-Harju. If we assume that this flow is a pure addition in the economy of Estonia without displacing other income there we conclude that it causes a net increase of 200 – 300 mill. € to the value added in Estonia via direct and indirect effects¹¹. The employment effect, respectively, is 7 000 – 14 000 man years. This means that a significant part of the potential labour input lost from Estonia to Helsinki-Uusimaa is returned back in the form of direct and indirect production and employment effects via the shifts of earnings to Estonia. From the point of view of Helsinki-Uusimaa this shifted consumption is lost there (compared with the alternative that domestic labour was used instead of Estonians) causing a negative direct and indirect effect on the regional economy. However, taking into account the size of the regional economy this effect is rather marginal.

¹¹ Estimated using the same coefficients as for the effects of tourism in section 7.

9. Cross border trade and production

In spite of the importance of the economic flows connected with tourism and cross border work the major economic flows are still created by cross border trade of goods and services (import and export) between and within enterprises¹². An interesting feature of trade between Estonia and Finland, like in many neighbor countries in Europe, is the big role of corporations having establishments in both sides of the border and the consequent trade flows within the corporation.

Export and import between Estonia and Finland has been dealt with in other studies of H-TTransPlan from the point of view of logistics (Sundberg & Posti & Tapaninen 2012) but in the following we deal with some additional aspects of trade which are interesting from the point of view of cross border integration.

Trade between Estonia and Finland

Trade of goods

The trade of goods between Estonia and Finland has grown during the last 10 years by more than a third to both directions (figure 9.1). However, there was a drastic cut in trade in 2009 (F→E already 2008) and a revival after that. According to initial data from 2012 export from Finland to Estonia was still below the level of years 2006-2007 while export from Estonia to Finland exceeds the earlier top level of year 2005 since 2011.

Estonia and Finland are most important trading partners in goods trade, when taking into account the sizes of the economies. Finland's share of Estonia's export is 13 % (2011) and it the biggest export country together with Sweden. The share of Estonia of Finland's export is 2,5 % (2011) and Estonia is 13th biggest export country while Sweden is the first. Still, relative to the GDP Estonia is overwhelmingly the biggest trading partner of Finland.

Structure of goods trade

The division of trading goods between Estonia and Finland (figure 9.2) shows that the trade is dominated by cross trade of manufactured goods. The total share of basic manufactures, machinery and transport equipment and other finished goods is two thirds of all export from Estonia to Finland and a half of that from Finland to Estonia. This indicates the essential characteristics of the trade. The Finnish manufacturing enterprises' having plants located in Estonia and producing partly to the Finnish markets from there have a big role in the trade. In addition, the major retail and wholesale trade companies with storages and stores in both countries generate major trade flows of consumption goods (including food and beverages) between the countries.

The flows of raw materials, fuel and chemical products in the trade are asymmetric: Estonia exporting raw materials and Finland exporting fuel and chemicals. However, their total share is only a quarter from Finland to Estonia and a fifth from Estonia to Finland.

¹² In addition there may be export flows from enterprises directly to consumers, eg. Internet trade

Figure 9.1: Trade of goods (mill. €) between Estonia and Finland 2002-2012 (Finnish Customs)

Note: year 2012 initial

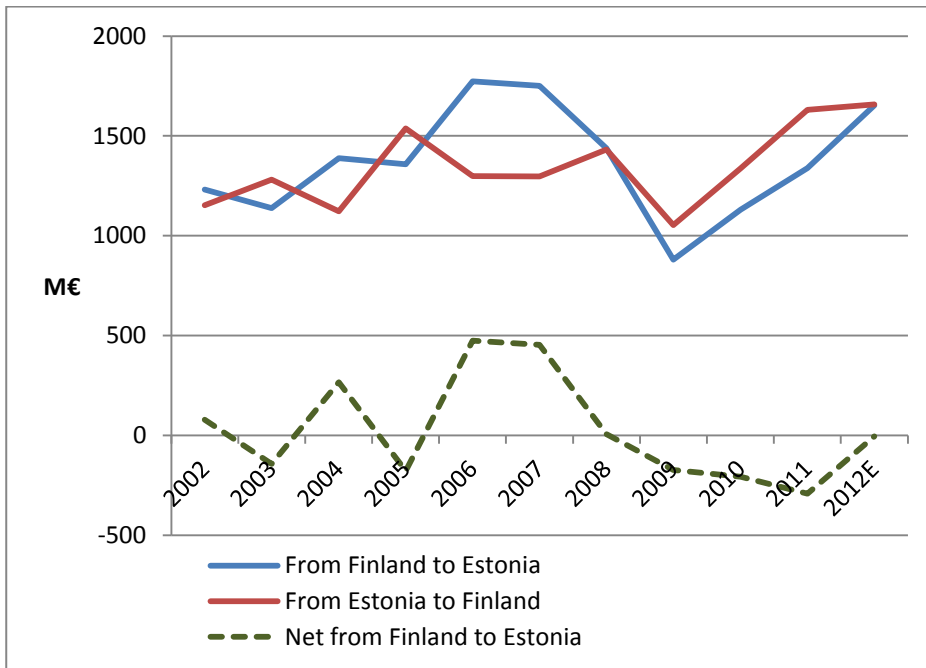
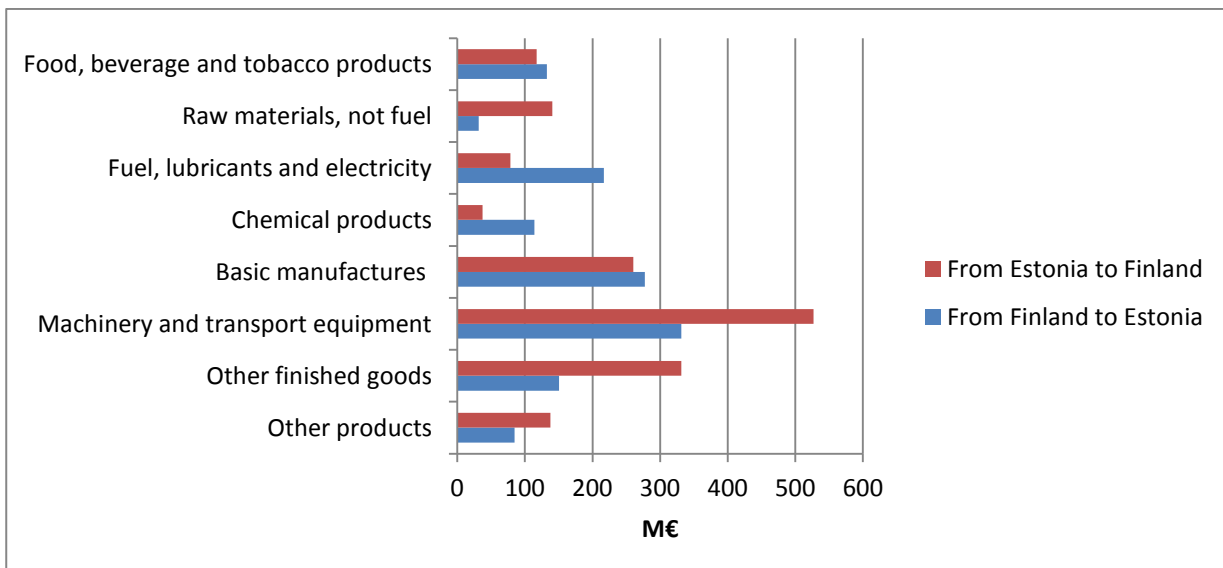


Figure 9.2: Trade of goods (mill. €) between Estonia and Finland by goods classification 2011 (Finnish Customs)



Trade of services between Estonia and Finland

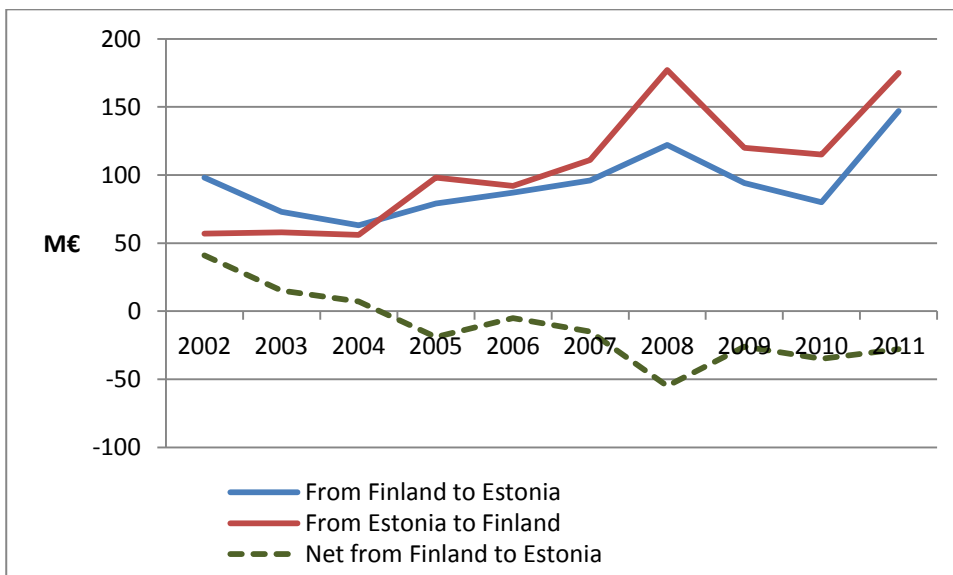
Trade of services has grown much faster than that of goods between the countries: 50 % (5 % p.a.) from Finland to Estonia and 200 % (13 % p.a.) from Estonia to Finland from 2002 to 2011 (figure 9.3). There was a sharp decline in the service trade to both directions in 2009-2010 but this was compensated by the fast growth in 2011. There has been excess of service trade balance for Estonia since 2005.

The average share of services of total export (goods + services) was 9 % from Estonia to Finland and 8 % to the opposite direction in 2007-2011. The share has increased significantly since 2002. Still, the proportion of services is remarkably smaller in the trade between Estonia and Finland than in the total foreign trade of both countries. According to Rikama (2012) the share of services of the total export of Estonia was 32 % and that of Finland was 25 % in 2007-2011.

It must be noted the possibility that the flows of service trade between Estonia and Finland, especially within multi-establishment corporations, are under-estimated in the service trade statistics. Another point worth of mentioning is that the expenditures of tourists spent in neighboring country are not included in service trade, but are counted as domestic consumption instead. According to the estimation in section 7 the expenditure of Finnish tourists in Tallinn-Harju alone was 266 mill. €, which is significantly more than export of services (included in statistics) from Estonia to Finland in 2011.

The division of service trade by industry is not available specifically for Estonia and Finland. However, according to the statistics concerning the service export as a whole from Finland in 2011 (Statistics Finland), half of the export consists of business services (of which the majority is service trade within corporations) and one third consists of ICT services. In the case of service import to Finland the proportion of business services is as high as 70 %.

Figure 9.3: Trade of services (mill. €) between Estonia and Finland 2002-2011 (Statistics Finland)



Cross country location of enterprises

Basic facts and trends concerning Finnish enterprises in Estonia and Estonian enterprises in Finland are presented in H-TTransPlan study by Uljas and Karotamm (2012). Their study shows that there has been a slowly growing trend in the number of Finnish firms in Estonia from 2006 to 2010 but a fast expansion of Estonian firms in Finland from 2004 to 2009 but a sharp cut in 2010. However, there is a drastic difference in the numbers: 42 Estonian firms in Finland and 4 300 Finnish firms in Estonia in 2010. On the other hand, only about half of the Finnish firms registered in Estonia are economically active.

In the following we provide basic data of the economically most active part of the firms: subsidiaries of Finnish enterprises in Estonia and Estonian enterprises¹³ in Finland in 2010. The data makes it possible to analyze the industrial division in both countries.

According to table 9.1 there were about 440 Finnish subsidiaries in Estonia with total personnel of 27 000 and turnover of 3 900 mill. €. The number of subsidiaries is only one tenth of all Finnish firms registered in Estonia while the total numbers of personnel and turnover are in line with the figures of Uljas & Karotamm. The number of personnel of Finnish firms represents about 5 % of total employment in Estonia. The real economic activity of Finnish firms in Estonia is concentrated to a relatively small number of firms.

Manufacturing is the dominating industry in Estonia with 45 % of personnel and 42 % of turnover of all Finnish firms in Estonia. Finnish manufacturing firms represent almost one tenth of the total employment of manufacturing in Estonia. The second industry in size is retail and wholesale trade with 20 % share of personnel and 33 % of turnover. The third biggest sector in terms of personnel is business services (including real estate and research services) (12 % of personnel, 4 % of turnover). Other significant industries are construction, finance, and information & communication.

Finnish subsidiaries in Estonia are relatively large: average personnel number per firm is 61 and average turnover per firm is 8,8 mill. €. This can be compared with the average personnel of 4,5 and turnover of 1,1 mill. € in Finland (Statistics Finland, 2010).

The largest firms in terms of personnel/firm are in finance and manufacturing while construction and transport firms are smaller than the average.

Table 9.1: Subsidiaries of Finnish enterprises in Estonia in 2010 (Statistics Finland)

Industry	Number of subsidiaries	Personnel	Turnover (M€)
Manufacturing	134	11 970	1 645
Construction	39	1 450	144
Retail and wholesale trade	130	5 520	1 296
Transport and storage	14	400	46
Information and communication	19	1 040	144
Finance	11	1 360	306
Business services	61	3 710	149
Other	33	1 510	143
Total	441	26 960	3 874

¹³ Defined as enterprises under Estonian control (Statistics Finland).

According to table 9.2 Estonian firms in Finland represent only about one tenth of the Finnish firms in Estonia: 40 firms, 2 000 employed and 500 mill. € turnover. However, it is probable that these figures underestimate strongly the role of Estonians in the enterprises participating in business in Finland. One interviewed expert estimated that there are more than 1 000 active enterprises with Estonian ownership in Finland.

One industry and one firm dominate the Estonian enterprises in Finland. The share of transport and storage is 79 % of personnel and 75 % of turnover of all Estonian firms in Finland. This consists almost totally of the personnel and turnover of Tallink. The share of manufacturing is 12 % of personnel and 15 % of turnover. Other significant industries are construction and information & communication.

The role of Estonian construction firms (registred in Finland) is surprisingly small taking into account the active participation of Estonian based construction firms and Estonian workers in the construction business in Finland.

The average size of Estonian firms in Finland is also quite large, thanks to Tallink: the average personnel is 47 and average turnover 11,8 mill. € per firm. If the averages are counted without transport firms the average personnel is only 11 and the average turnover 3,1 mill. €.

Table 9.2: Estonian enterprises in Finland in 2010 (Statistics Finland)

Industry	Number of enterprises	Personnel	Turnover (M€)
Manufacturing	7	240	73
Construction	12	60	11
Retail and wholesale trade	8	20	8
Transport and storage	3	1 560	375
Information and communication	5	50	27
Other	7	50	3
Total	42	1 980	497

International companies in Estonia

Of the 30 largest companies in Estonia, six were owned by the Finnish MNCs (Table 9.3) as of 2006, employing more than 9,500 people in Estonia.

Table 9.3.: Foreign ownership and employment by ownership, largest 30 companies, 2006

Ownership	No of companies	Employment	Employment (%)
Local	15	41 322	52,1
Sweden	6	18 580	23,4
Finland	6	9 518	12,0
Denmark	1	7 421	9,4
Other	2	2 409	3,0
Total	30	79 250	

Source: Kalvet 2010, 137.

The largest companies were Elcoteq SE, ISS Palvelut OY, PKC Group and Karl Fazer. Availability of local capabilities combined with geographical and cultural proximity was a deciding factor in the initial extension of the telecommunications systems production networks of Elcoteq SE and Ericsson (Telefonaktiebolaget LM Ericsson) into Estonia in the 1990s (Tiits and Kalvet, 2012).

Table 9.4: Estonian affiliates and parent companies, largest 30 companies, 2006

Estonian affiliate	Employment	Parent company	Country
Hansapank, AS	8 442	Swedbank	Sweden
G4S Baltics, AS	7 421	G4S	Denmark
Elcoteq Tallinn, AS	3 357	Elcoteq SE	Finland
Eesti Telekom AS	2 206	TeliaSonera	Sweden
ISS Holding OÜ	1 489	ISS Palvelut OY	Finland
SEB Eesti Ühispank, AS	1 546	SEB	Sweden
PKC Eesti AS	1 200	PKC Group	Finland
Fazer Eesti AS	948	Karl Fazer	Finland
Norma, AS	912	AutoLiv Holding	Sweden
	27 521		

Source: Kalvet, 2010, 138.

At the same time, only some of the largest Estonian companies have activities in Finland. BLRT Grupp AS and Tallink Grupp AS and the only remarkable exceptions. The latter employs 820 employees (out of the total 1 520 in Finland), as of 2010.

Part III: Interpretations and conclusions on the integration between Helsinki-Uusimaa and Tallinn-Harju regions

10. Expert views on economic flows and integration between the regions

During the study we asked selected experts in Tallinn-Harju and Helsinki-Uusimaa to comment the results concerning the cross-region economic flows and to evaluate the present state and future prospects of the integration of the regions. We interviewed experts from five organizations in both Tallinn-Harju and Helsinki-Uusimaa either in a face-to-face meeting or by e-mail. The organizations represent regional promoting and lobbying organizations, public authorities and embassies:

In Tallinn-Harju¹⁴:

- City of Tallinn Enterprise Department
- Enterprise Estonia
- Estonian Chamber of Commerce and Industry
- Statistics Department at the Estonian Bank
- Embassy of Finland in Estonia

In Helsinki-Uusimaa¹⁴:

- Helsinki Region Chamber of Commerce
- Ministry of Employment and the Economy
- Helsinki City Tourist & Convention Bureau
- Enterprise Estonia Helsinki
- Embassy of Estonia in Finland.

The questions or discussion topics concerned the following themes:

- Comments and conclusions concerning the results of economic flows
 - most significant results
 - benefits and problems connected with tourism and cross-region work
 - neighbor region as a gate for internationalization for SMEs
- Present state of the economic and social integration between the regions
 - role of price and salary differences
 - role of social communication and networking of innovation capabilities
- Views on the future of integration between the regions.

Some of the interviewees commented only a part of the questions/topics depending on their interests and specialism. The results are summarized in this section without identifying the persons of the interviewees.

A general observation from the interviews is that the overall views are rather similar among all organizations and on both sides of the sea. There are differences in weightings but no principal

¹⁴ The list of interviewees in appendix.

disagreement in any of the topics. In general, the interviewees regard all forms of economic interaction between the regions as positive and see that the integration process benefits both regions. Some problems are raised but relative to benefits they are seen rather small. This general attitude is not surprising taking into account that most interviewees represent organizations whose tasks are to promote the development in their regions or countries and, as part of it, also the cross border cooperation between neighboring regions.

Views on tourism between the regions

Tourism between Finland and Estonia is considered as purely positive development for both regions which are the main targets of tourism in each country (more specifically cities of Tallinn and Helsinki). In addition to positive economic effects, social and cultural interaction connected with tourism is considered important and beneficial. Cultural and linguistic proximity makes the interaction easy and the prejudices of past years have decreased. At the same time Tallinn and Helsinki differ much from each other and provide interesting contrasts and complementarities.

The price level difference of goods and services between the regions as a driver of the cross-border tourism is well-known but many interviewees see it as a factor becoming gradually less important, instead of other factors, like the diversity of services and various specialism of each region. The introduction of the Euro in Estonia has stimulated tourism to both directions. Smooth sea connections are crucial for tourism.

The great volume of tourism in terms of the number of visits and expenditure spent and the consequent positive direct and indirect economic effects are well recognized in Tallinn. However, the strong seasonality of the tourism to Tallinn-Harju is seen as a problem. This causes friction with the resources: there is lack of capacity in the high-season in summer but under-utilization in other times. However, hotel capacity in Tallinn has increased in recent years. A problem connected with this is the concentration of the tourism in the old town of Tallinn while the possibilities of the other areas in Tallinn and Harjumaa are less known and under-utilized. There is also potential in Southern Estonia for Finnish visitors. Some of the specialists anticipate that the volume of tourism from Finland to Tallinn-Harju is already reaching saturation and potential for additional growth will be limited in the future.

Meanwhile, tourism from Estonia to Helsinki-Uusimaa has remained to some degree in the shadow of the tourism and expenditure flow from Russia. Estonians use relatively little accommodation services of hotels and consequently, their share is rather small in hotel statistics published regularly. Still, the fast growth of the number of visitors, as well as money flow, has been recognized. Also the potential of short-time visitors from Tallinn-Harju for the various sports and art events in Helsinki is considered important. It has also been recognized that migration to Helsinki-Uusimaa generates also other tourism, based on visits to friends and relatives.

The tourist authorities have noticed the increase of short visits to Tallinn from Helsinki and other way round by tourists from other countries, connected with flight journeys to either of cities. There has been active marketing, eg. cross-advertising, for this kind of opportunity. One specialist suggested an introduction of a common tourist ticket for both cities /regions. The tourist authorities from the both cities cooperate with each other to promote the twin-city concept for foreign tourists.

Views on cross-region work and migration

Also cross-region work is in general considered as a positive phenomenon creating benefits to both regions. In addition to its economic impact many interviewees see the important effects on learning and shift of expertise connected with it (knowledge spillover). The salary differences between the countries are clearly seen as an important factor to attract Estonians to work in and also to move to Finland but these factors are complemented by the learning factor. The work based mobility between Estonia and Finland can be seen as a good case of flexible adaption to economic changes in both countries. The possibility to work in Finland helped to turn the unemployment rate down in Estonia after the economic crisis in 2008-2009. On the other hand, Estonian workers filled the labor gap in some industries in Helsinki-Uusimaa.

However, it is generally expected that the difference with respect to price and salary levels will shrink in the long run. On the other hand, it is seen that lower taxation and fluent business environment attracts Finns to move to work and found enterprises in Estonia. Some of the interviewees mention that the supply of labor from Estonia increases the competition in some industries and professions in Finland which is positive from the point of view of enterprises and the regional economy but may cause tensions among the domestic workers. The flow of income of Estonian workers from Finland to Estonia is important from the point of view of the economy of many Estonian regions¹⁵. Some interviewees see that the limit in the potential of cross-border work will approach soon simply because of the relatively small size of the work-force in Estonia.

However, some problems and risks are recognized in connection with cross-border work. There are problems of tax avoidance, salaries below the norms, safety failures and poor working among the Estonian workers in Finland. These problems exist especially among workers sent by Estonian enterprises but also in case of Finnish enterprises exploiting gray labor markets. There may be both systematic avoidance of regulations but also lack of information. Some of the specialists point out that there are also problems in the complexity and incompatibility of the legislation and rules between countries. It was mentioned that lack of information and understanding of the legislation and rules in the other country is also due to the serious difficulty to find clear and unambiguous information of required procedures. One expert said that in general Finnish enterprises do not know the education system of Estonia and consequently, they are unaware of the skills and knowledge level of the potential educated workers. Common cross-border education modules and training courses on specified themes (eg. renovation) might be a good idea.

The potential shortage of labor in some industries and professions in Estonia caused by workers going to work in Finland is mentioned. As far as health services are concerned, while losing doctors from the Estonian health sector to Finland may be true, there are also positive influences. Visiting specialists gain knowledge and expertise by working in the neighbor country.

Cross-border business

While the statistics in section 9 of this report may give a realistic picture of the Finnish enterprises in Estonia they probably underestimate the number and business volume of Estonian firms in Finland. One expert says that a realistic estimate of Estonian firms active in business in Finland is more than 1 000. Most of them work in construction but there are also several firms in transport and metal industry. Today many Estonian firms work in production networks together with Finnish firms, eg. as sub-contractor.

¹⁵ The estimates of the amount of the shifts were not available yet when the interviews were carried out in Estonia.

Most interviewees agree about the importance of Estonia and Finland to each other in providing a gate to international markets for SMEs. For many Estonian firms Finland is the natural first export country. One expert point out that in many Finnish enterprises do have longer experience in international markets and export. Consequently, becoming a subcontractor in an export network provides Estonian SMEs a possibility to learn international business and take part to the export chain. On the other hand, cooperation with Estonian firms may open gates for Finnish SMEs to other Baltic counties and also to Poland. One expert wondered whether Estonian firms with knowledge of Russian culture and language could cooperate with Finnish firms in Russian markets.

On the other hand, as one interviewee pointed out, the special position of Finland as a gate to international markets for Estonian SMEs has changed in time. The firms go directly to Swedish or Central European markets and Finland has become one market area among the others. However, for many SMEs the cultural and linguistic proximity and good transport connections make it relatively easier to start foreign business in Finland or with Finnish firms than in other countries.

Many interviewees see the differing legislation (eg. taxation and employee) and still rather complicated bureaucracy as a problem and restriction for the cross border business. Also the differing business cultures may cause problems. There is need for harmonization and standardization of rules and legislation. One expert says that it is a surprise for many Estonian firms that taking care of matters electronically with administration and private firms is much less developed than in Estonia.

Some of the experts consider the lack and heterogeneity of standardized statistical data concerning enterprises in the neighbor country, tourism and cross-region work a major problem. For example, there is no reliable data about the division between consumption items of the expenditure of Finnish (and other) tourists in Estonia, as well as about the division of expenditure between regions. In addition, the data concerning the short-term work in both directions is rather poor.

Present state and future prospects of the integration between the regions

The interviewees were asked whether the present economic and social interaction is based mainly on price and salary differences or on increasing social communication and networking of innovation capabilities between the regions. The experts agreed that that price and salary differences have been and still are important factors stimulating tourism, cross-border work and business. According to one expert that is still the main reason why many Finnish companies come to Estonia and many of the Estonian workers go to work in Finland. The proximity and improved accessibility of the regions also plays an important role here. The common currency euro has been extremely important from practical point of view by making business and visiting fluent. However, most experts see that the role of social communication between people in both countries and regions has increased and become more important. The importance of cross-border work, business and migration is recognized as an important factor for social networks.

Networking of innovation capabilities (which is a key concept in the literature of the integration of cross-border regions) is considered critically. One of the interviews says that in terms of innovation capabilities both regions act more like business competitors. Instead, the trend in recent years has been the opposite: "Finland is no more the primary target for the Estonian enterprises in terms of innovation capabilities and Finland does not act as the most important gateway for the Estonian enterprises to international markets as it used to be in the past. Thus, Finland is no longer the primary innovation partner for Estonia but rather it is like any other country to collaborate with."

The experts agree that the difference in price and salary levels has decreased during the past years and the convergence will gradually continue, even if some difference might remain. One expert says that probably it will not be a quick process, nor will it be absolute. This is because the social and institutional systems are and will remain quite different, for example the tax-system. However, the convergence means that the role of social interaction and all kinds of networking increases: "The more communication takes places between the two regions, the higher is a chance that it will lead to a better cooperation and the forming of networks in various fields of activity."

From the point of view of tourism and services for visitor one expert says that many Finns consider Tallinn and its vicinity as a domestic market, like the domestic regions in Finland. There is a division between traditional tourism (visiting interesting places) and using of basic services (like barbers) in the target region. However, these dimensions are intertwined and there is no data on their relation. The convergence may be a challenge for tourism: If the prices of goods and services in both countries continue to even then we will also see a slight reduction in the number of Finnish tourists visiting Estonia and decline in their expenditures. This may be a problem especially in attracting the younger generation of the Finns visiting Tallinn and Harjumaa. There is a risk that this region would just be replaced by another destinations in another countries.

For the development of tourism it is important for both regions to collaborate to attract visitors from other countries. Fortunately, this is actually being carried out nowadays. The idea is to promote the possibility for joint visits to Uusimaa and Harjumaa. For example, when visitors come from France to visit Uusimaa they would also visit Harjumaa. As the volume of visitors from Uusimaa to Harjumaa has basically reached the top it would be unpractical to start some sort of a project with an aim to attract more Finns to Estonia (especially Tallinn) without improving the conditions of the travel destination. The problems of transportation are currently the main concern in Harjumaa. In the long term, by improving the transportation system in Harjumaa for foreign visitors the tourism could grow in the wider region.

In one interview the integration was placed in a wider historic context: The close economic and social relationships between Tallinn-Harju and Helsinki-Uusimaa are not new but have a long history of several centuries. Their strength is geographical and social proximity together with differences creating fruitful complementary. There are several long-lasting projects going on, like Rail Baltica and electricity and gas networks cross the Finnish Gulf, creating new impulses and dimensions for the integration. In the very long term it is important to keep alive the vision of the transport tunnel between Tallinn and Helsinki, even if the project is not realistic in the short run.

Many experts pointed out that it is important for the development of the integration to proceed in practical matters which benefit both the ordinary cross-border visitors and workers and enterprises in both sides, for example improvements in transport connections in ports and common public transport cards. There are differing views concerning the institutional and legal differences between countries. Some expert see that there harmonization projects would create significant benefits. Others see that differences are not the main problem but information should be better available. One expert pointed out that markets will find the best solutions. The interviewees were also asked to evaluate other future trends and prospects in integration of the regions and countries. The main points are summarized below:

- The number and business volume of Estonian enterprises in Finland will increase via purchases of Finnish enterprises by Estonians.

- Short-time work in Finland of Estonian residents with foreign (non-Estonian) background will increase.
- As the economy of Estonia is relatively small on a global scale then the cooperation of the Estonian SMEs with the Finnish SMEs is definitely beneficial also in the future.
- The cross-border mobility of work and services will increase for some time to both directions but will reach a limit sooner or later.
- Approximately half of the Estonians working now in Finland will return to the homeland in the near future. Even a higher share of Finnish workers will return to Finland from Estonia.

11. Summary and conclusions

Summary of results

Background of regional integration

Starting points for the economic interaction between regions are the relative benefits between regions and the regional specialization. The driving forces of changes in regional economies can be summarised in three main factors. First, concentration of production and population increases productivity. When various economic activities are located close to each other, the exchange of goods and services and all kinds of communication is easy and efficient. Second, Accessibility between regions is a crucial factor in the functioning and costs of goods logistics for firms as well as in personal mobility. Good accessibility increases the benefits of specialization and trade between regions. Third, borders separating countries and regions from each other, limit the movements of people, goods, services, factors of production and innovations. Borders may also be based on language, religion or cultural divisions, and they may exist also within regions. Consequently, lowering borders is an important policy instrument to increase integration between regions.

The development of a fully integrated functional region as a multi-faceted phenomenon requires integration in three main dimensions: economy, physical infrastructure and socio-cultural life. The long term competitive strength of cross-border regions, like all other, rests on their capacity to create an integrated innovation space. European cross-border regions show considerable variation in basic geographical preconditions in terms of scale, size and location engendering primary restrictions of what kind of integration is likely to occur and what types of benefits are possible to reap from different integration processes. Certain degree of functional proximity, relational proximity and spatial proximity is needed for the emergence of an integrated cross-border innovation space.

A conceptual framework classifies the region to three stages with respect to the rise of transfrontier innovation system: weakly integrated, semi-integrated and strongly integrated. Research on two large and well-known border regions in Europe are summarized in this report: Öresund region (Kopenhagen-Malmö-Skåne) and Centrope (the border regions of Austria, Slovakia and Hungary around Wien-Bratislava). According to this comparison Öresund region can be classified as a semi-integrated region with especially well developed science base and knowledge infrastructure. At the same time Centrope is still a rather weakly integrated region as a whole.

Economic flows of tourism

There were approximately 346 000 tourist visits by residents of Estonia in Helsinki-Uusimaa in 2011. The estimated sum of their total expenditure in the region was 66 million €. Approximately 50-60 % of the Estonian tourists come from the Tallin-Harju region. At the same time there were 1,6 million tourist visits to Tallinn-Harju by Finnish residents. Their total expenditure was about 289 million € in the visiting region. The proportion Helsinki-Uusimaa residents of Finnish visitors is also 50-60 %.

The expenditure of tourists generates indirect economic effects in addition to direct demand effects on tourist services and shopping. The basic idea is that the final increase in demand causes the indirect economic demand chain, which increases the initial impact. The estimated total effect of the Finnish

tourists' expenditure on the value added of Tallinn-Harju is 240 million €. Respectively, the total effect of Estonian tourists on Helsinki-Uusimaa is 54 million M€. A rough estimate for the employment effect is 7 000 – 12 000 man years in Tallinn-Harju and 800 – 1 100 in Helsinki-Uusimaa. The contribution of Finnish tourism to the employment in Tallinn-Harju is 2,5 – 4 % of total employment while the total effect of Estonian tourism in Helsinki-Uusimaa is relatively much smaller.

Cross-border work

According to the estimations of this study Estonians working in Helsinki-Uusimaa short-time or permanently earned approximately 500 – 600 million € in 2011. Of this sum two thirds was earned by immigrants with residence in Helsinki-Uusimaa and one third by short-time workers with residence in Estonia. The number of Estonians participating the Helsinki-Uusimaa labour markets was 17 500 – 18 500 in 2011. Approximately 185 – 265 million € of the total gross earnings from Helsinki-Uusimaa was shifted to Estonia to be spent or saved there (including travel) in 2011. The participation of Estonian workers in Helsinki-Uusimaa labour markets and the earnings there have increased fast during the last 10 years, mainly because of increasing immigration, higher employment rates and growing salary levels.

The participation of Finnish workers in the labour markets in Tallinn-Harju is less than a third of that in the other side of the sea in terms of number of workers or total earnings. It can be concluded that this flow is clearly less significant both in absolute and relative terms than the active participation of Estonians in the Helsinki-Uusimaa labour markets having major effects in the both sides of the sea.

The part of earnings from Helsinki-Uusimaa shifted to Estonia has multiplicative effects via consumption and consequent chains in Estonia. According to estimations this causes a net increase of 200 – 300 million € to the value added in Estonia via direct and indirect effects. The employment effect, respectively, is 7 000 – 14 000 man years.

Cross-border trade and production

The trade of goods between Estonia and Finland has grown during the last 10 years by more than a third to both directions. The trade of goods between Estonia and Finland is dominated by cross trade of manufactured goods. The main reason for this is that the Finnish manufacturing enterprises' having plants located in Estonia and producing partly to the Finnish markets from there have a big role in the trade.

Trade of services has grown much faster than that of goods between the countries: 50 % (5 % p.a.) from Finland to Estonia and 200 % (13 % p.a.) from Estonia to Finland from 2002 to 2011. Still, the proportion of services is remarkably smaller in the trade between Estonia and Finland than in the total foreign trade of both countries.

There were about 440 Finnish subsidiaries in Estonia with total personnel of 27 000 and turnover of 3 900 million € in 2010. The number of personnel of Finnish firms represents about 5 % of total employment in Estonia. Manufacturing is the dominating industry of Finnish subsidiaries in Estonia while the second industry in size is retail and wholesale trade and the third biggest sector in terms of personnel is business services.

Estonian firms in Finland represent only about one tenth of the Finnish firms in Estonia: 40 firms, 2 000 employed and 500 million € turnover. It is possible that these figures underestimate the role of Estonians in

the enterprises participating in business in Finland. Transport and storage dominates the Estonian enterprises in Finland due to the major contribution of Tallink.

Conclusions

There is increasing cross-regional economic interaction between Tallinn-Harju and Helsinki-Uusimaa regions in terms of trade of goods and services, cross-border activities of enterprises, transport, tourism and cross-region work. All of these activities create significant economic flows which are linked with each other between the regions.

Asymmetric processes

The economic flows are an essential part of economic integration between the regions and there is no doubt that the growth of the flows during the last 10 years has benefitted both regions. However, there are significant asymmetries in the present flows.

The monetary flow of tourism is approximately three times larger from Helsinki-Uusimaa to Tallinn-Harju than to other direction, in spite of the fact that relative to population and purchasing power the flows are quite well in balance. The majority of the demand of tourism industry in Tallinn-Harju comes from Finland. The direct and indirect effects of tourism from Finland have significant impact on the regional economy of Tallinn-Harju, 2,5 – 4 % of total employment. According to several experts it is anticipated that the volume of tourism from Finland to Tallinn is already approaching the saturation level after which it will not grow any more. The gradually approaching price levels will probably weaken the attraction of Tallinn from the point of view of shopping tourists. Further growth would require the spreading tourism to the wider region in Harjumaa. An interesting view of tourism growth would be international marketing of Tallinn-Harju and Helsinki-Uusimaa, possibly together with St. Petersburg, to foreign tourists with the idea of visits to two (or three) cities in one journey.

It is less-known that Estonian tourist visits to Helsinki-Uusimaa have grown very fast during the last 10 years even if the number and total expenditure is not as high as to the other direction. The growth is at least partly connected with increased migration from Estonia to Finland, generating demand for visiting family members, relatives and friends. City of Helsinki aims at developing event-based tourism in connection with increasing supply of arts and sports events. Due to good accessibility the population Tallinn-Harju provides a large potential for this kind of tourism.

Another asymmetry is connected with cross-region work where the labor flow from Tallinn-Harju to Helsinki-Uusimaa is significantly larger than to the other direction. Estonian workers (permanent and short-time) have a crucial role in the labour markets of Helsinki-Uusimaa and the functioning of some industries is already to a large extent dependent on this flow. This situation contains a risk of shortage of labour in Tallinn-Harju and whole Estonia, at least in certain industries, like health services. In this case the asymmetry may lead to imbalance on labour market at the same time when cross-region work benefits both regions with other respects.

The salaries earned in Finland and shifted to Estonia by Estonian short-time and permanent workers have also a significant impact on the economy of Tallinn-Harju and the rest of Estonia. This means that a significant part of the potential labour input lost from Estonia to Helsinki-Uusimaa is returned back in the form of direct and indirect production and employment effects via the shifts of earnings to Estonia.

When we look at the cross-border activities of enterprises there is asymmetry to the other direction. The number of firms, personnel and turnover of Finnish firms in Estonia are of different order of magnitude than Estonian firms in Finland. However, the statistics may undervalue the true effect of Estonian SMEs in the Finnish markets because evidently many Estonian firms with business in Finland do not found an establishment there. Especially the Finnish manufacturing companies utilize the business environment in Estonia, including lower salary level, high productivity of workers, good logistics connections, and lower corporation taxation and income taxation.

Present state and future prospects of the integration

The present state of the integration between Helsinki-Uusimaa and Tallinn-Harju can be evaluated in the framework of Lundquist & Trippel (2009) (see sections 2 & 3). When compared with Centrope and Öresund regions the integration of Helsinki-Uusimaa and Tallinn-Harju evidently resembles more the situation in Centrope than in Öresund. It must be noted that the following comparison is not based on systematic analysis of specified criteria¹⁶ but rather on spontaneous expert views.

While the economic structures of both regions are service oriented with a high share of knowledge-intensive business services (Laakso & Kostianen 2011) the common science base and networking of knowledge infrastructure between the regions is rather weak (while both are quite strong separately in their own countries). The economic relationships are still dominated by price and salary level differences rather than by symmetric interactive flows of knowledge and skills while there are increasing social interaction between people. At institutional level the administrative structures, legislation and business and administration cultures are quite far from each other. However, there are evidently well-functioning cooperation relations between the cities of Helsinki and Tallinn and regions of Uusimaa and Harjumaa, as an example the H-TTransPlan project. The physical proximity has improved in line with increased supply of ferry connections while there have been setbacks in air connections.

However, the active economic flows of tourism, cross-border work and cross-border trade and business may lead to deeper integration which benefits both regions, even if they are originally based on large price and salary differences. At micro level these processes increase social interaction, learning, interchange of ideas, utilization the possibilities of expertise, and knowledge spillover in both regions. However, there is a risk that interaction starts to decline when the price and salary differences will shrink and the regions converge.

These micro level processes taking place at individual and firm level should be supplemented by institutional efforts. These include the development of cooperation between city and regional authorities and leading possibly to some model of governance dealing with common projects, eg. transport systems, city planning and tourism. There is also need for harmonizing administrative processes and improving the quality of information concerning cross-border work and founding or purchasing an enterprise in neighbor country.

One conclusion from this project is the need to improve the data basis concerning tourism and cross-border work. A substantial improvement would be reached by carrying out a border interview survey in Estonia using the same format as Statistics Finland.

¹⁶ Lundquist and Trippel use six factors in their analysis: economic structure, science base / knowledge infrastructure, relationships / character of integration, soft institutional factors, governance, physical proximity.

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Annex: List of interviewees

Interviews¹⁷ in Tallinn:

Karen Alamets, Analyst, Tallinn City Enterprise Department

Hannu Arhinmäki, Political Officer of Economic and Trade Affairs, Embassy of Finland in Estonia

Piret Kallas, Tourism Research Coordinator, Enterprise Estonia

Anders Kerge, Methodologist, Estonian Bank

Malle Kolnes, Market Manager (Finland), Enterprise Estonia

Mait Palts, Director General, Estonian Chamber of Commerce and Industry

Mart Repnau, Head of the Enterprise Development Division, Tallinn City Enterprise Department

Jaanus Vahesalu, Leading Specialis, Tallinn City Enterprise Department

Interviews¹⁸ in Helsinki:

Tuulikki Becker, Deputy Tourist Director, City of Helsinki

Markku Lahtinen, Manager, Helsinki Region Chamber of Commerce

Valdar Liive, Director, Enterprise Estonia Helsinki

Imre Siil, Officer of Economic and Commercial Affairs, Estonian Embassy in Helsinki

Olli Sorainen, Ministerial Adviser, Ministry of Labor and the Economy

¹⁷ Face to face or via e-mail.

¹⁸ Face to face or via e-mail.