

Demographic Changes, Labour Migration and EU-enlargement –
Relevance for the Nordic Regions

Demographic Changes, Labour Migration and EU-enlargement – Relevance for the Nordic Regions

Ingi Rúnar Eðvarðsson
Elli Heikkilä
Mats Johansson
Hjalti Jóhannesson
Daniel Rauhut
Torben Dall Schmidt
Lasse Sigbjørn Stambøl
Sirku Wilkman

Nordregio
P.O. Box 1658
SE-111 86 Stockholm, Sweden
nordregio@nordregio.se
www.nordregio.se
www.norden.se

Nordic co-operation

takes place among the countries of Denmark, Finland, Iceland, Norway and Sweden, as well as the autonomous territories of the Faroe Islands, Greenland and Åland.

The Nordic Council

is a forum for co-operation between the Nordic parliaments and governments. The Council consists of 87 parliamentarians from the Nordic countries. The Nordic Council takes policy initiatives and monitors Nordic co-operation. Founded in 1952.

The Nordic Council of Ministers

is a forum of co-operation between the Nordic governments. The Nordic Council of Ministers implements Nordic co-operation. The prime ministers have the overall responsibility. Its activities are co-ordinated by the Nordic ministers for co-operation, the Nordic Committee for co-operation and portfolio ministers. Founded in 1971.

Stockholm, Sweden
2007

Contents

1. Introduction	9
Background.....	9
The aim of the study.....	9
Data.....	10
The structure of the report.....	10
2. Conceptual Framework.....	11
Introduction.....	11
Internationalization and regional impact	12
A model for the regional consequences of globalisation.....	13
3. Theoretical Considerations	16
Introduction.....	16
Labour supply	16
<i>Migration theories and push-pull factors</i>	16
<i>Theories on fertility, mortality and demographic development</i>	19
<i>Brain drain, gain and waste</i>	21
Labour demand	23
<i>Structural transformation, substitution and productivity</i>	23
<i>Global shift and the new international division of labour</i>	25
<i>Competitive advantage, networks and clusters</i>	26
4. Demographic Change.....	28
Population development in the Nordic regions – a background.....	28
Fertility and natural population development	31
A typology with regard to regional demographic change in the Nordic countries.....	33
5. Regional Structural Change	37
A conceptual introduction	37
Regional change 1991-2004.....	38
Structural change, deindustrialization and the rise of the service sector.....	40
From goods to service production	42
Regional structure, attractiveness, and change	46
Regional structural change – a typology.....	49
6. Regional and International Mobility and Migration.....	52
Introduction.....	52
Nordic migration trends	52
National trends.....	56
<i>Denmark</i>	56
<i>Finland</i>	59
<i>Iceland</i>	63
<i>Norway</i>	66
<i>Sweden</i>	69
Conclusion	72
7. Migration and Labour Market Participation.....	73

Backgrounds and accomplishments.....	73
Labour market participation	74
<i>Denmark</i>	75
<i>Finland</i>	76
<i>Iceland</i>	81
<i>Norway</i>	82
<i>Sweden</i>	91
Summary.....	93
8. International Competition and Regional Attractiveness.....	95
Introduction.....	95
Determinants of international competitiveness.....	96
Outsourcing and offshoring as the engines of regional transformation.....	102
Innovation and R&D in a Nordic context.....	105
‘Revealed’ regional attractiveness and labour productivity.....	111
International competitiveness and regional attractiveness – the Nordic potential.....	115
9. Structural Change, EU-Enlargement and Mobility	117
Background.....	117
Factor endowments and mobility – a theoretical digression with relevance for EU-enlargement and hypothetical outcomes.....	119
Implications for capital mobility	121
Implications for labour mobility.....	122
The new EU-countries: out-migration areas?	124
The EU-enlargement – integration, cooperation, and development.....	125
10. Implications for the Countries of Origin and Destination	128
Introduction.....	128
Implications for the sender countries.....	129
<i>Economic implications</i>	129
<i>Socio-cultural implications</i>	130
<i>Demographic implications</i>	130
<i>Political implications</i>	130
Implications for the countries of destination	131
Concluding remarks	131
11. Scenarios for Regional Convergence	133
Introduction.....	133
Basic findings for the scenarios.....	133
Three scenarios for globalization and regional convergence in the Nordic countries.....	135
<i>Glocal Impetus</i>	136
<i>Glocal Ventricity</i>	136
<i>Glocal Divergence</i>	137
Discussion and comments on the scenarios	138
12. Concluding Remarks.....	139
References	142

Preface

The research programme, 'Internationalisation of regional development policies – Needs and demands in the Nordic countries' was commissioned by the Nordic Council of Ministers in the spring of 2005.

The aim of this programme is to undertake research on key issues, where it has been identified that new knowledge is needed, and where such knowledge could be seen to benefit the development and implementation of regional development policy in the Nordic countries.

The basis for the research programme is its Nordic character. Research should lead to new knowledge both for the academic world and for the world of policy and practice. Projects should add 'Nordic value', i.e. they should produce knowledge of relevance for several regions and countries across Norden. The research should moreover be comparative and collaborative across at least three Nordic countries or self-governed areas.

Three themes of high priority for the research programme have been identified; '*regional governance*', '*innovation and regional growth*', and '*demography and labour migration*'.

In addition to these priorities two additional crosscutting themes were also defined; '*the enlargement of the EU and the challenges for Nordic regional development policies*' and the broad topic of '*the three dimensions of sustainable regional development*'; i.e. social, economic and environmental sustainability.

The research programme has been launched in two rounds. In the first round during the spring of 2005 it was decided to fund five projects. These will be reported during the spring and summer of 2007. In the second round during the spring of 2007 it has been decided that a further five projects will be funded. These will be reported in 2009. All project reports are published in this publication series dedicated to this programme. At the end of the programme, a synthesising report will also be produced where the most important findings are discussed.

Nordregio wishes to thank the Nordic Senior Official Committee for Regional Policy and the Nordic Council of Ministers for providing this unique opportunity to develop new research-based knowledge and for encouraging cooperation and the exchange of ideas between Nordic researchers.

Nordregio would furthermore like to thank all of the involved research teams and the programme's Steering Committee for their continuing contributions to the Nordic discourse on regional development.

Ole Damsgaard
Director

Margareta Dahlström
Coordinator of the research programme

Authors' Preface

*To the memory of
Lars Olof Persson*

This study is a report in a series that started already in the middle of the 1990s with a core group consisting of Lasse Sigbjørn Stambøl, Elli Heikkilä, Mats Johansson and the late Lars Olof Persson. New projects have been started and finalized and new members have been added, but the common theme has been demography and labour market performances. A lot of reports have been produced and this report is the third published by Nordregio. We are grateful that the project has been made possible through funding from Nordregio through the research programme “Internationalisation of regional development policies - needs and demands in the Nordic Countries, Theme 3.3, Demography and Labour Migration”. The Division of Urban and Regional Studies at the Royal Institute of Technology (KTH) has as lead partner coordinated the project.

The report is not an anthology. Instead it is a collective product written by eight researchers from all the Nordic countries representing a wide range of differing social science disciplines. The eight researchers are:

- Ingi Runar Eðvarðsson and Hjalti Jóhannesson, University of Akureyri, Iceland,
- Elli Heikkilä and Sirkku Wilkman, Institute of Migration, Turku, Finland,
- Lasse Sigbjørn Stambøl, Statistics Norway, Oslo, Norway
- Torben Dall Schmidt, University of Southern Denmark (SDU), Aabenraa, Denmark
- Mats Johansson and Daniel Rauhut, KTH, Stockholm, Sweden.

The collective approach has also characterized the research and working process even if some division of labour was made in the sense that some researchers were more responsible and active than others concerning the different chapters in the study. All chapters were, however, discussed, developed and written through e-mail communication between all the eight researchers. Five intensive project meetings were also held in order to process and finalize the study – two in Nyköping, two in Stockholm and one in Norrtälje where contents, theories, methods and even sentences were analyzed and intensively discussed.

The research team is very grateful for the support and useful comments they received from the steering group consisting of Henrik Toft Jensen (Denmark), Janne Antikainen (Finland), Kjartan Kristiansen (Faroe Islands) Kaspar Lythans (Greenland), Árni Ragnarsson (Iceland), Pål Erik Holte (Norway), Maud Carlsson (Sweden), Bjarne Lindström (Åland) and Ole Damsgaard (Nordregio). The research team is also grateful for the constructive comments from Erik Gløersen, Petri Kahila and Chris Smith (Nordregio) and Roland Engqvist (RTK). Last but not least we will also thank the research programme coordinator Margareta Dahlström at Nordregio for her patience and constructive support during all phases of the project.

This report is the result of many stimulating and constructive meetings, discussions and common work.

On behalf of the authors
Stockholm, May 2007

Mats Johansson
Project manager

Daniel Rauhut
Project secretary

1. Introduction

Background

The demographic changes to come will pose significant challenges for our society – at all levels and in most aspects of our lives (from infrastructure and housing issues to labour supply and pension schemes). Notwithstanding this however much that passes for research into the effects of demographic change is often highly partial and generally short-sighted often culminating in ‘alarmist’ conclusions and providing a clarion call for significant policy changes based, ultimately, on rather thin scientific justification. There is then a need for a more historical as well as a more holistic perspective to be taken. This study provides, in many respects, a novel approach to dealing with these problems.

Many of the regions in Denmark, Finland, Iceland, Norway and Sweden will be affected by a negative population development in the future. Most of these regions are rural and peripheral (ESPON 2004). An ageing population and the continuing out-migration of young persons will cause the demand for labour to rise in these regions especially in the local service sector (Persson 2004). Demographic change, e.g. ageing and the out-migration of young persons from rural to urban areas, causes regional imbalances, and these imbalances are unevenly spread across the Nordic countries (Persson 2004). For example, in many weak regions in Sweden, from which private enterprises have either relocated their production facilities or often simply ceased trading, the public sector and the production of services have filled the void to create an over-dependence on one sector. Few jobs exist here beyond those in the public sector (Berglund, Johansson & Persson 1996). During the turbulent years of the 1990s moreover the public sector was unable to provide even this limited set of alternative opportunities as economic recession and public sector cutbacks impacted on its ability to create jobs.

Regions with a diversified economic structure and an annual positive net migration of human capital will experience, in relative terms, better economic development prospects than those with one dominant economic sector and a negative net migration of human capital. Changes in the demand for labour will be moderate (i.e. high) in the first case, but can change dramatically (from high to low or *vice versa*) in a region with one dominant sector.

All regions are dependent on an annually positive migration of human capital to meet the demand from the growing knowledge-intensive production sector in either goods or services. As a result Nordic regions perform rather differently depending on how well they succeed in attracting these much needed competences. As such it is expected that metropolitan areas will experience further expansion while areas supporting traditional manufacturing industry will continue to decline (Persson 2001).

Structural change will not occur uniformly across the Nordic regions. The primary impacting factor here will undoubtedly be the nature of a region’s economic structure and particularly the extent to which the needed competences are available (Persson 2004). The demand for labour is also dependant on how these factors are handled.

The aim of the study

The purpose of this study is to analyse what effects and impact ageing, structural change in the economy and broader international trends, especially the EU-enlargement, will have on the future demand for labour in Danish, Finnish, Icelandic, Norwegian and Swedish regions. In order to be able to analyse structural changes in the Nordic economies, the period 1991-2004 was chosen for analysis. The following research questions were raised in order to shed light on the research topic:

- How have structural changes in the economy affected labour demand (shortages of labour) in the Nordic countries? What are the regional implications?
- How have demographic structures influenced labour supply in a regional context in Nordic regions?

- How has the EU-enlargement affected international mobility and migration in the Nordic and Baltic Sea areas?
- To what degree are immigrants active on the Nordic labour markets and to what degree do their labour market participation rates vary across the different regional labour markets?
- Has international competition and regional attractiveness in the Nordic countries changed in the last decade due to EU-enlargement? How has this process affected outsourcing and the offshoring of production and services?
- How have international trends, and EU-enlargement in particular, affected the mobility of capital and labour?
- What implications does this new labour mobility trend have for both the countries of origin and destination?

Data

Macrodata from the national statistics offices and Eurostat at NUTS3-level has been used in this study. Material from national surveys has also been utilised. The data used in the labour market analyses is microdata from a previous study undertaken by this research group (Persson 2004). The analysis in this report is based on new calculations and estimations of macro- and microdata.

The structure of the report

This report focuses on the issues sketched out above as they relate to the Nordic countries. The Nordic countries are by nature diverse in structure and regional variation as indicated in the previous section. This ensures that they will provide interesting data in the context of an international comparison of the importance of regional contexts for regional development. The conceptual framework presented in *chapter two* lays down the baseline problems dealt with by the report. A more elaborate theoretical underpinning will however be necessary. This can be found in *chapter three*. The demand side of the labour market will be dealt with in *chapter four* which contains an analysis of the structural changes taking place in the industrial composition of Nordic regions. *Chapter five* offers a presentation of the current demographic changes occurring in the Nordic regions, which is the point of departure for the dynamics of, and policies required in, the current analysis. The structures of regional and international mobility and migration, the study of which provide the first clues to the nature of demographic change and its impact on labour supply in the Nordic regions, is presented in *chapter six*. This is followed in *chapter seven* by the study of labour supply and labour market participation which is an issue to be dealt with when encountering problems of demographic change. Higher participation rates among the elderly and immigrants are often perceived as the most effective approach to ensuring a sufficient labour supply for future regional development in the Nordic regions. Broader international trends relating to the changing levels of international competitiveness, particularly in relation to national economies, and the impact this has on regions, will be the focus of attention here. *Chapter eight* therefore points to some of the regional structures and problems emerging from these trends in international competitiveness and the problems of maintaining regional attractiveness. In *chapter nine* the structural change in the new EU-member states and the effects on labour supply is analysed. After having presented empirical evidence on the demographic changes, the changes relevant for labour supply and for labour demand, *chapter ten* offers a discussion on the consequences of migration flows associated with EU enlargement in a regional context. In *chapter eleven* the report is summarized together while a discussion on different regional development scenarios is also developed. *Chapter twelve* provides a concluding discussion of the findings outlined in the previous chapters.

2. Conceptual Framework

Introduction

Regional issues are becoming increasingly crucial to the understanding of the effects of internationalization on production chains. As firms choose to optimize their production and specialize in the most rewarding function in the value chain the importance of the international division of tasks in the production chain increases. These trends will have different impacts in different kinds of regions depending on the presence of local resources that support the specialization of production which is competitive from an international perspective. This implies a focus on labour costs and productivity in an international context. Internationalization may therefore impact both the national distribution of production between regions while also leading to outsourcing. An often overlooked aspect here is the issue of the regional effects of in-sourcing in the form of the migration and immigration of individuals with proper competences into regions that specialize and where the competences of migrants are crucial to securing international competitiveness. National and international competences added to the local production base through migration and immigration may be vital for the overall growth potential of regions. These issues relating to the regional impacts of a continually expanding internationalization process will be the major theme dealt with in this volume. One of the most important recent changes impacting on this broad question from a European perspective was the enlargement of the EU to include 25 members (as of 2004 and rising again to 27 in 2007 though our study only deals with the period up to 2004). Ten new countries joined the European Union in 2004 precipitating increases in the mobility of goods, ownership, and to some extent labour. From a Nordic perspective, the Baltic States were crucial players with respect to the impact of the EU enlargement.

One of the core concepts in the present report is that of 'regional attractiveness'. Regions need to be perceived as attractive in order to promote the inflow of competences that will, ultimately, contribute to the process of structural change. The main problem with 'regional attractiveness' is the inability to quantify the extent of attractiveness for a given region. Potentially attractiveness consists of a complicated mix of factors. Such factors may rely on purely business-related aspects ensuring competitiveness such as factor conditions, demand conditions, supporting industries and individual firms' strategies, structures and rivalries, see (Porter 1990). Factors important for agglomerations also explained in the 'new economic geography' literature could also be perceived as determining regional attractiveness. An analysis of industrial structures thus becomes important. Nevertheless, a number of other factors, often with a 'softer' basis and which, by extension, are more difficult to measure are also important. Such factors potentially include the value of the natural surroundings, culture, pollution/congestion cost and aspects that may be associated with the concept of social capital. Culture and nature may cater for the preferences of certain types of individuals. These may also comprise locations of knowledge hubs as a part of the cultural value endowment present in a given area. Similarly the presence of pollution and of heavy congestion costs may lead individuals to rank the regional attractiveness of a given area differently. Finally the concept of social capital is often important. Strong informal networks prevailing in some areas may make them comparably attractive. These factors obviously represent a very difficult mix when attempting to construct an index of regional attractiveness for the average individual. How then can regional attractiveness be differently measured so as to better benchmark regions? The approach taken in this report is that which uses *revealed regional attractiveness*. As firms or individuals move to certain regions they reveal the relative attractiveness of the region. This approach uses the optimization in the location choice of firms and individuals to reveal whether certain types of regions are attractive. This can at one and the same time both reveal the *attractiveness* of a region and may furthermore itself *introduce dynamics that contribute to* the attractiveness of a region through externalities. An inflow of certain types of firms and

individuals may contribute to the relative attractiveness of the region for others and thus influence the location choice of other firms and individuals. The notion of *revealed regional attractiveness* used here can thus be used as part of a feedback process that takes on a dynamic character.

Internationalization and regional impact

The point of departure for this report is the intersection between regional trends and international trends, as illustrated in figure 2.1. While regional trends depend on regional resources and national policies, international trends are determined by general supranational policy measures and cost structures, e.g. EU policies, to create an internal market and increase competition within Europe. International trends will therefore be subject to changes in transport technologies, transport costs and changes in trade policies between different free trade areas. These influence the market structure and market size of production and facilitate the emergence of new aspects of production. Regional trends will, on the other hand, depend on the location choice of population resources and demographic changes through ageing – as well as the location choices of firms and jobs.

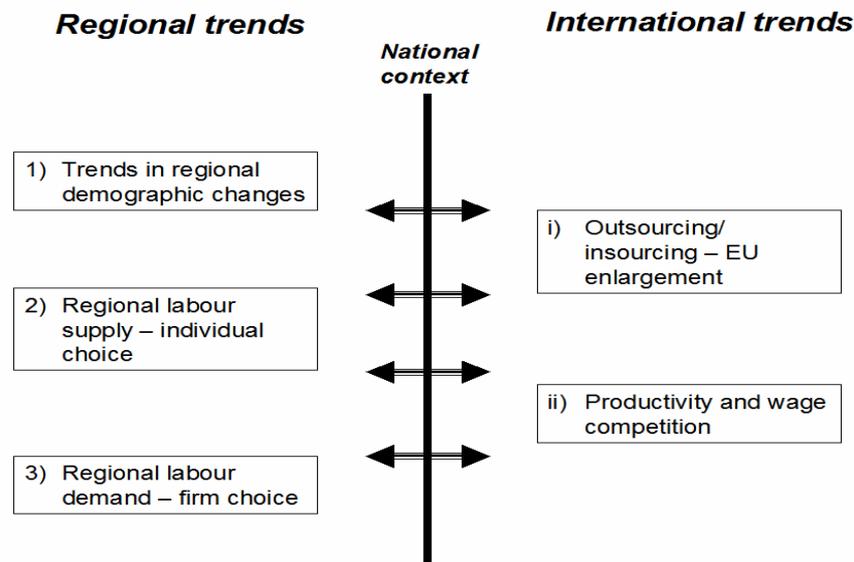


Figure 2.1: Regional and International trends – the impacts?

These regional and international trends are continually influenced by nation states. National contexts matter. While labour and production may have become mobile, the issue of legislation and institutions continue, to a large extent, to be nationally defined. National contexts remain at the intersection of regional and international trends and must therefore be taken into account when analyzing the regional consequences of international trends such as regional enlargement patterns in Europe.

Figure 2.1 break down regional trends into three components. There are general trends in demographic changes. Changes in demographic structures will influence the growth potential of regions. Ageing will decrease labour supply and may lead to the closure of private workplaces in the tradable sector, which may in part be substituted by workplaces in the service sector, e.g. taking care of the elderly. Demographic changes may therefore divert scarce labour resources into that part of the service sector that focuses predominantly on the local market. The second component centres on the individual choices of residents in a region. These individual choices may influence regional labour supply in two ways, through demographic factors such as the choice of family structure and fertility, and via the potential choice of residency relocation to other regions. The latter in particular will be crucial to regional labour supply in the longer run, while the former will influence regional labour supply in the short

term. The latter may however lead to structural changes occurring in the productive tissue of a region or society due to a shortfall in access to the competences needed to pursue certain kinds of production and will thereby also eventually lead to long-run effects. Both channels in which the individual choice influences the regional trends may therefore have long-run effects. The third component refers to the choices made by individual firms. Firms may influence regional labour demand in a number of ways. One is the potential relocation of jobs to low wage cost regions or countries, i.e. outsourcing or off-shoring. This would potentially lead to the specialization of labour demand in high-end production jobs or the complete closures of manufacturing production in certain regions. A move towards specialization in high-end production jobs would occur if the more intensive use of technologies through labour substitution could ensure a sufficient increase in productivity to promote competitiveness. Closures would result in production facilities signified by labour intensive production. Increasing labour demand for certain competences is thus a result of such a choice made by individual firms.

It should be clear that these regional trends are influenced by international trends. The use of outsourcing and off-shoring to attain a cost advantage in the international value chain within different types of production will constantly change the preconditions for successful regional labour markets. This may further activate the issue of insourcing through the immigration of specific types of labour skills into the regional economy to maintain a competitive edge in the face of international competition. Competitiveness may however depend not only on the investment of local firms in new technology, but also, and perhaps, more importantly, on the influence of technology transfers through the investment of foreign and often multinational firms (MNC hereafter) in regional firms. This would increase overall regional productivity and thereby reduce the importance of wage competition from low wage countries and regions.

A model for the regional consequences of globalisation

Regional and international trends must be remedied by a set of causalities predicting the outcome of these interdependences between the two levels. Figure 2.2 offers an illustration that distils some of the thoughts central to this volume on these interdependencies. A crucial issue here is to define the causality in arguing for regional outcomes. The present setup uses both firm and individual choices as dependent in the causal relationships. Firms choose labour demand under the influence of international trends and regional attractiveness. Individuals similarly choose labour supply under the influence of the same factors. The equilibrium on regional labour markets emerges from such a process, which defines regional growth and welfare. The independent factors in the analysis will therefore be the prevailing regional attractiveness and the present international trends. These will define the contexts under which firms and individuals make their choices of producing in certain locations or living in certain locations respectively. It should, under such a causal relationship, be remembered that there might also be feedback effects, such that dynamics in labour demand and labour supply may redefine e.g. regional attractiveness. Two aspects should be remembered about such dynamic feedbacks. Regional economies will most often be of limited size – here NUTS 3 – such that the consequences of regional outcomes on global outcomes will be very limited. Scale matters for feedback. Next, the current analysis focuses on the enlargement of the European Union. As this is a rather new phenomenon, possible feedback dynamics on such issues as regional attractiveness may still be limited in magnitude.

Regional trends are to a large extent determined by the demographic changes in the incumbent population. Changes in fertility rates will gradually change the natural reproduction rate, which will in turn impact on the labour supply. It may potentially also change the quality of the labour supply due to endogenous mechanisms of adapting competences towards the service sector providing services for the increasing share of elderly people in the population. Demographic changes stand at the core of a ‘sustainable’ economic development based on

incumbent resources. The actual extent of such sustainability will depend on two factors. Policies directed towards families and children and its relative importance for different kinds of regions and the nature of regional attractiveness for families with children. The first of these reflects a policy mix determined at the national level designed according to national goals on demographic issues. The second will to a greater degree be in the hands of regional and local policy agents, as regional attractiveness for families with children could be expected to depend on the extent of public service provision for these kinds of families. These dynamics enter figure 2.2 under the label 'Demographic Change (long-term) Supply'. They reflect long-term issues of labour supply. As indicated above they are also, to a certain extent, region specific.

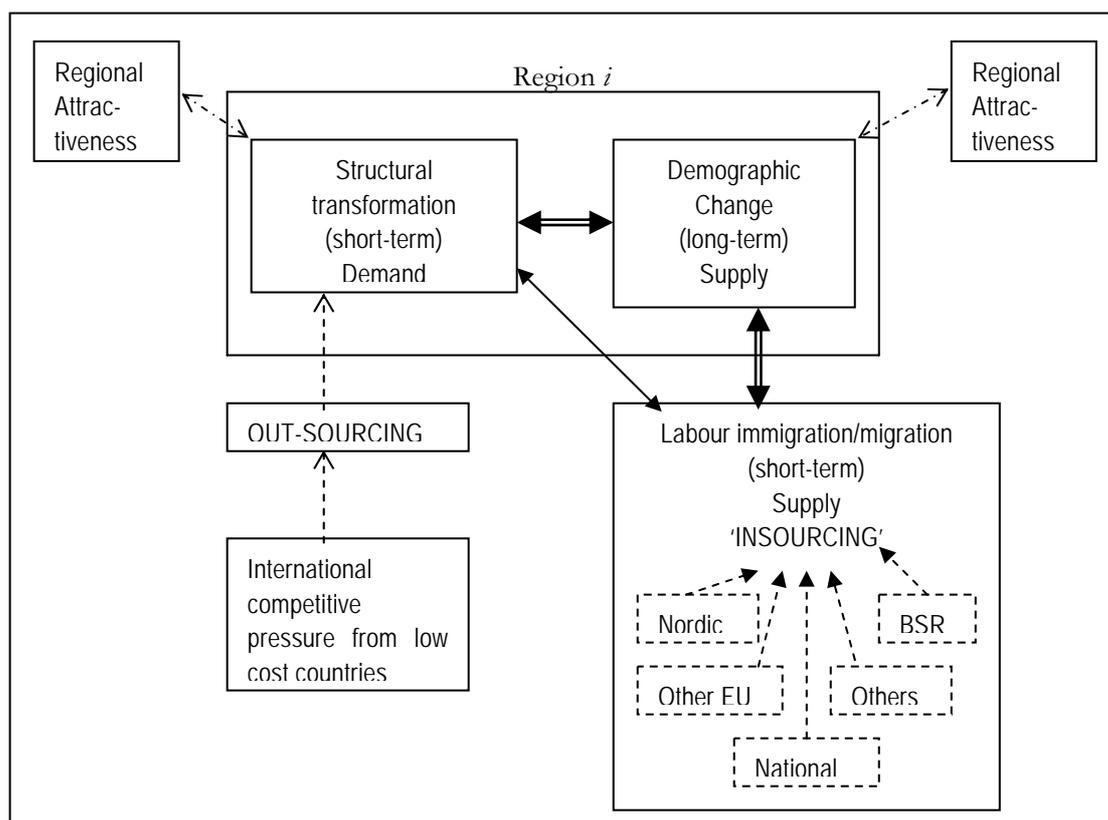


Figure 2.2: Intersections between regional trends and EU enlargement

Each region undergoes structural transformation at the industrial level, which renders changes in the labour demand for given skills in the short and medium term. Changes in the composition of, and product portfolio within, sectors will change the demand in the regional labour market for low, medium and highly skilled labour and for specific competences associated with sector specificities. The impetus for these changes may originate from both regional trends as described above but also from the international competitive pressure associated with internationalization and the enlargement processes in e.g. the EU. The competitive pressure from 'outside' may originate from changes in policies or from cross-sectoral externalities such as the reduction in transport costs due to technological changes in the transportation sector. This may lead to the exhaustion of previously regionalised strongholds in the production process in specific sectors. Policy change may relate to national or international measures. The national measures could relate to the location of national knowledge resource centres, which may be pivotal for the location of specific sectors. The international policies discussed here relate to the inexorable move towards the integration of product markets and from the enlargement of supranational geographies of cooperation and integration. EU enlargement is one such example of the emphasis on extending market access to increase international trade thereby increasing the pressure on regional structural change.

The importance of this issue is stressed by the large gap in GDP/capita measures for the accession countries relative to the incumbent countries.

The pressure to attain structural change may also originate from regional trends towards the exhaustion of regional resources. The presence of bottlenecks on the labour market and the resulting potential increases in regional wages will influence individual firms' location choice relative to regions with ample labour resources at their disposal. The extent to which such pressures in relation to a dearth of regional resources in respect of regional competitiveness will materialize depends on the labour market mechanisms available to individual regional labour markets which have, at a Nordic scale, previously been analyzed by Persson (2004).

Individual firm choices will through these mechanisms be interconnected with the mass of individual choices taking place in a region. Individual choices by the incumbent population will in the medium and long run change the natural labour supply. Migration to other regions will add to the problem of sufficient and qualitatively inappropriate labour. Demographic changes in the incumbent population of the region will change the natural labour supply through ageing and amending fertility rates. Demographic renewal from other regions is one solution through intra-national migration. A counter argument here would pertain to the in-migration and immigration of low skilled labour that prevents the necessary regional structural changes needed to preserve international competitiveness from occurring. In-migration and immigration may therefore be seen as both *the solution* and *the problem* at the same time depending on the match of competences in the flow of migrants and immigrants relative to the needed regional processes of industrial renewal.

Above all these mechanisms of interaction between regional trends determined by the choices of incumbent firms, individuals and international trends, in respect of competition from low cost countries and in-migration and immigration to a region, provide only a rather intangible form of regional attractiveness. This regional attractiveness will influence both the choices of individual firms and those of individuals and is thus endogenously determined. Regional attractiveness is to a large extent endogenous. It may however also capture trends in regional policies and preferences among individuals for certain characteristics of the region of residence. The exact outcomes of regional attractiveness are accordingly diverse depending on the location of regions and the different policy measures at hand to promote regional attractiveness. The current approach is therefore to use the concept of *revealed regional attractiveness*. Regions are attractive if individuals and firms reveal the attractiveness by staying in or moving to a given region. This allows for a rather broad interpretation of regional attractiveness and avoids doubt as to on the proper measure to use when dealing with regional attractiveness.

One further aspect should however be stressed before proceeding with some of the theories that support the current setup. Figure 2.2 implies a potential timing problem. While regions may see structural transformation changing labour demand in the short-run, the demographic changes take place in the long-run. If firms make location and investment decisions based on current structural changes, supplemented by expectations of future changes in the demographic change, the temporary labour supply may not match the labour demand adapted to future regional demographic changes. This may create further problems for a region in respect of labour market imbalances thus rendering it unable to reach its full growth potential.

3. Theoretical Considerations

Introduction

The aim of this chapter is to review some of the theories and the relevant research that are central to the current study. The following research fields will be analysed: Labour supply and demand; and international trends.

Labour supply

Three themes have been central in regional labour supply research. These themes are migration theories and push-pull factors; ageing, fertility and demographic structures; and finally brain drain, gain and waste. Each of these themes will be discussed briefly below.

Migration theories and push-pull factors

Why do people move from one country to another? Why do people move from one part of a country to another part? What are the driving forces and how is migration controlled? This section aims to provide a brief overview of some of the theories that are usually applied to offer answers to such questions as why people move and what driving forces control the process.

Neoclassic Macroeconomic Theory assumes that the economy consists of two sectors: one modern and one traditional. The traditional sector is labour intensive with a low technological level and only small amount of capital. The modern sector is characterised by high productivity a high level of technology and capital intensive production. Both sectors are assumed to be in a state of equilibrium. If the demand increases for a product in the modern sector it requires more labour. This labour is transferred from the traditional sector to the modern one. If this does not happen, the industry's increased capital formation will lead to higher wages, lower profits, less saving and less investment, i.e., lower growth (Athukorala & Manning 1999. See also Lewis 1954).

This migration theory is based on a closed economic system and access to an unlimited supply of labour. In short, international migration is seen as a result of wage level differences and labour supply and demand in different countries. With the levelling out of incomes, i.e., a new state of equilibrium, international migration will cease. Wages and conditions on the labour market are the factors generating international migration. These are assumed to be in a state of equilibrium. According to this theoretical approach other markets and factors are less important. The international flow of human capital, i.e., highly educated labour, corresponds to the differences in the return on human capital, e.g., wage levels, and generates international migration that differs from the migration of less-skilled labour (Massey et al. 1993, Schoorl 1995). Within the neoclassic macroeconomic theory of migration, models have also been developed for open economies with two sectors. These models are more complex as the balance of payments, the export of capital; relative prices, resource allocation and technological change all play a central role in the importance of migration to economic development (Athukorala & Manning 1999). Individual states can control migration through regulation or by influencing labour markets in the sender and receiver countries (Lewis 1954, Ranis & Fei 1961, Harris & Todaro 1970, Todaro 1976).

The problem with Neoclassic Macroeconomic Theory on migration is that labour has often been imported at times when there was already a plentiful reserve of domestic labour. It has often been about importing cheap labour to replace more expensive domestic labour. It has also been about counteracting the negotiating power of the domestic workforce through the trade unions (Bolaria & von Elling Bolaria 1997). According to Arango (2000) migration volumes have however been much lower than would be anticipated in respect of wage levels. There has moreover also been some change in how international migration is perceived to impact the country of origin. Some labour exporting countries e.g. in Asian-Pacific region believe that the benefits of labour emigration outweigh the potential cost. In particular, labour migration is

considered a safety-valve for unemployment and underemployment and an important source of foreign exchange (Athukorala, 1993; 28).

According to *Neoclassic Microeconomic Theory*, migration is based on individual choice, and the individuals are rational and fully informed. The individual wants to live where he or she is most productive and reaps the greatest rewards for his or her human capital. Given this, the individual can make a cost/benefit calculation that provides him or her with information on the profit of the move, the higher the reward the greater the propensity to move (Massey et al. 1993, School 1995). The individuals are assumed to estimate the wage and labour market situations in their current country and in the country to which they want to move. Furthermore, the individuals are assumed to include the physical costs of moving together with the social and psychological costs in their calculations (Sjaastad 1962, Todaro 1969, 1989, Todaro & Maruszko 1987). The net proceeds of migration are calculated for different periods by the individuals, i.e., the individual chooses the country where the proceeds of the migration are greatest in the shortest amount of time (Borjas 1990).

Individual states can influence migration by changing the migrant's psychological or material costs to increase or decrease migration to the country. Governments are able to influence international migration between different countries by pursuing a policy that affects incomes and the labour market in sender as well as receiver countries (Massey et al. 1993, School 1995).

The Neoclassic Microeconomic Theory of Migration cannot however readily explain why Algerians have moved mainly to France to work, why Turks have moved to Germany to work, or why the Polish are overrepresented among migrants to Iceland. In these cases additional factors are important, e.g. cultural relations between the countries and the social networks of the migrants (see discussion below). The question is also whether all individuals really are rational and fully informed (Castles & Miller 1993).

The migration explanation given by the *New Economic Theory of Migration* differs from the neoclassic explanations. Firstly, migration decisions are rarely taken by one individual; they are usually taken by the family. Secondly, migration is not just about maximising the income of the individual; it is just as much about minimising the risks. In many Third World countries, some of the markets are missing for the majority of the population. As parts of the family live in other places and send money home, the family can insure itself against different types of risks. This might be a need to insure against bad harvests, unemployment or an uncertain sales market. As the immigrants send money home, capital can be accumulated even if there is no functioning capital market (Stark & Levhari 1982, Stark 1984, 1991, Katz & Stark 1986, Lauby & Stark 1988, Taylor 1986). Furthermore, according to this theory, one of the driving forces of migration is relative deprivation. When some of the family members move and send money home, the family's position in the homeland can improve relative to that of others (Stark et al. 1986, Stark & Yitzhaki 1988, Stark & Taylor 1989, 1991, and Stark 1991).

The idea that labour force migration is perfectly rational from the point of view of the individual migrant is a central ingredient in human capital-based migration theory. From the calculation of expected future incomes a decision is made as to whether or not a move is advantageous. This implies that it is *total expected incomes* much more than *present income differences* that form the basis of labour migration decisions. These calculations can be extended to include psychic cost (Sjaastad 1962) as well as quality of life and amenities (Liu 1975). This means also that *ex ante* calculation can be quite different from *ex post* outcomes, but it is the *ex ante* calculations that are rational from the migrant's point of view as the *ex post* results still unknown.

The *Theory of the Dual Labour Market* or the *Segmented Labour Market Theories* – here used synonymously – does not stress the push-factors behind migration, but instead the pull-factors especially concerning those segments where migrants can find a job.¹ A central ingredient is that

¹ These theories were developed in USA during the 1960s and 1970s primarily as a response to neo-classical theory's failure to explain the matching problems on the labour market and were subsequently developed parallel to the 'war on poverty' during the 1960s and often seen as a neo-Marxist labour market theory that was combined with the thoughts of the institutionalists like Veblen and Mitchell. (See e.g. Piore 1970, Doeringer and Piore 1971, and for an analysis of the early development of the theories, Cain 1976.

there are more or less watertight bulkheads between the different segments – often called the primary and secondary sectors or segments - with low mobility between them but high mobility within them particularly within the lower segment while both surpluses and shortages of labour exist at the same time within companies, regions and nations. Some of the central ingredients in respect of the dual labour market are thus that jobs and workers are *heterogeneous* rather than *homogeneous* and the labour market is made up of two or more segments that have different characteristics and require different skills. Wages not only reflect supply and demand for labour, but also status and prestige. Trying to attract domestic labour by increasing wages when there is a labour shortage is expensive and distorts the wage hierarchy. A possible solution to the labour supply for employers is then to import labour to carry out the work the domestic labour force does not want to do for a low wage (see e.g. Piore 1979 and Claydon 2001).

The segmented labour market therefore consists of a number of sub-markets more or less separated from each other by various kinds of barriers resulting in a heterogeneous and un-substitutable labour force. This also has effects on international migration as it is caused by a various kinds of demand for immigrant labour that is built into the economic structure of the immigration countries. It is a well-known fact that it is in the lower segments in particular that the new immigrants are likely to find employment.

The migration pattern also seems to have changed over time. The existence of dual labour markets in combination with irregular migratory movements stimulate results in a situation where the migrants fill the ‘3-D jobs’ – jobs that are dirty, dangerous and degrading. These are jobs that native inhabitants are not willing to take and despite unemployment in the destination country – at least in developed countries – it seems to be relatively easy for migrants to find jobs in the ‘3-D’ labour segments (Taran, 2005). On the other hand, foreigners in these sectors are more vulnerable to economic fluctuations and unemployment than nationals. This seems, however, to be not merely a business cycle phenomenon – rather there has been a long-term rise in the share of unemployed foreigners compared to nationals in recent decades. It also seems that it is more difficult for foreigners to find a new job when better times come. Low-skilled, manual workers – often males – in declining sectors and branches seem to have little chance of being re-employed (OECD 1997, 2004). This development is also in line with the theories of segmented labour markets in the way that the structural changes accentuate the mismatch on the labour market and increase the discrepancy between shortages and surpluses with regard to the production factor of labour between differing labour segments.

The labelling theory is closely related to the dual labour market theory. Labelling is thus understood as a social process. It involves a social interaction between one who labels another as ‘deviant’ and the one so labelled. Thus, the vulnerability of an immigrant is equal to the likelihood of being labelled as deviant from the socially accepted definitions of a national (Bustamante, 2002:347). Cultural proximity is supposed to reduce the distance between foreigners and natives (Vourc'h et al., 1999:78). There is moreover a widespread assumption that the more distant the culture of the migrant is from the culture of the host country the more problems there will be (see Wrench, 1999:237).

Cultural theories describe an immigrant's success in the labour market in terms of whether his or her ethnic background is evaluated in a positive or a negative way. A positive evaluation would be inspired by the theories of diversity management, i.e. that a multicultural workforce contributes both directly and indirectly to the success of a company. A negative evaluation is often evoked by ethnocentrism, i.e. the upgrading of natives' merits at the expense of foreign qualifications, which could lead to incidents of discrimination. Immigrants can be seen as ‘the others’ instead of ‘us’ like the natives (Ryding Zink, 2001:34-36).

It is argued that there is a sort of ‘ethnic ranking’ in the labour market. Thus, attitudes lead employers to employ natives in the first instance, and then certain nationalities rather than others in relation to their reputation in the labour market. This ranking seems connected to general ideas about the culture of different nationalities. As a result of ethnic ranking many well-educated immigrants are to be found in positions far below their level of education.

Ethnic identity influences an immigrant's chances of finding a job, in particular a position corresponding to his or her qualifications (Ryding Zink, 2001: 47).

It is difficult for governments to make any great changes to the demand for immigrants through wages, laws and regulations, as the demand for people to do the jobs that no one else wants is built into the system. To reduce the demand for immigrant labour requires radical changes to the economic structure and organisation of society (Piore 1979).²

The main criticism that can be levelled at Dual Labour Market theory is that the line between the upper and lower segments is fluid. In addition, professions and sectors that have belonged to one segment at one time can belong to another segment at another time. This makes it difficult to carry out empirical studies based on this theory.

Network Theory emphasises the importance of knowledge, contacts and different kinds of costs for the potential immigrant. At the macro level, these networks are about institutional factors (legislation within different areas, the situation of the labour market, immigration policy, etc.). At the micro level, Network Theory is about the informal networks and social capital of the individual immigrant. If the immigrant knows people in a new country, the search costs for accommodation and work can be lower, making it easier to build up a social network. Massey (2002: 146) points out that the concentration of immigrants in certain destination areas creates a 'family and friends' effect that channels immigrants to the same places and facilitates their arrival and incorporation. The macro and microstructures are interconnected (Castles & Miller 1993). These networks have a tendency to grow over time as they reduce the costs and risks for new immigrants and, at the same time, contribute to providing a market for knowledge and experience of earlier immigrants. Once immigration reaches a certain level the network itself will generate the social structure that is necessary for the migration to be self-generating (Massey et al. 1993, Schoorl 1995).

'Migrant networks are notoriously difficult to measure as network ties (type and intensity) are cumbersome to define and risk being understood differently by researchers and by individual respondents' (Schoorl 1995: 6). Once they become self-generating, these migrant networks are difficult for governments to control as they are completely outside the control of the State. Changes in legislation therefore have little effect on migration (Massey et al. 1993).

World System Theory sees migration as a natural consequence of economic globalisation and markets transcending national borders (Massey et al. 1993: 444-448). According to Wanner (2002: 11) there are four explanatory factors for migration in Europe: (1) historical bonds, which have formed during e.g. the colonial era or for East Europe as political alliances, (2) geographic proximity, which is especially important in the Mediterranean countries and in Scandinavia, (3) a common language, and (4) immigration policy, which defines how open the country is for immigration. The last factor will be particularly important in the coming decades considering Europe's current demographic development.

Neo-Marxist/dependency theories 'conceive migration as a socioeconomic process rather than as an amalgamation of individual movements with specific reasons and motives' (Shrestha, 1988: 185) These theories deal with the importance of the power of capital over individuals and that the roles labour migrants fulfil are conditioned by, and dependent on, the distribution of capital. Geographical differences in economic development thus stimulate labour migration and these differences are to be found in every social formation. However, 'nowhere are such inequalities more pronounced than in societies undergoing capitalist development or transformation which is not only geographically uneven, but intensifies spatial inequalities' (ibid: 193).

Theories on Fertility, Mortality and Demographic Development

Births, deaths and migration are analysed in demography by differing theories and models. This implies that a unified and general theory of these demographic processes does not exist.³

² Massey et al. (1993) and Schoorl (1995) provide a clearer overview of migration and the Theory of the Dual Labour Market. See Doeringer & Piore (1971) for an overview of the Theory of the Dual Labour Market.

³ This section is based on Johansson (2000) and ESPON (2005).

From a natural population development point of view ‘demographic transition’ has been a central ingredient in analysing population development from the agricultural society through the industrial society and up to the post-industrial society of today. The relation between crude birth (CBR) and death rates (CDR) is of the utmost importance in explaining the various stages in the development and transformation of the population in differing countries and regions.⁴ In the earlier stages both birth and death rates were high and the population increase/decrease was mainly dependent on variations in death rates. The development of births is the central explanatory factor in the model of fertility decline and this is therefore essential in the model of demographic transition (See e.g. Leibenstein 1954, 1957, 1974; Becker 1960, 1965, 1993; Schultz 1974). This model argues that with the change in the economic structure from an agrarian to an industrial and eventually to a post-industrial society, the value of having many children has fundamentally changed. In the pre-industrial period children were useful and welcome additions to the work force. In the industrial and post-industrial societies children are, however, cost factors in a twofold way: there are direct costs for schooling and maintaining children up to the time when they leave the common household and there are indirect costs when the mother (and sometimes the father) has to give up their employment to stay at home and take care of the child/children. With the ongoing rationalisation process in modern society the changing function and societal value of children has become apparent and the reduction of births is the consequence. This is, however, more a description of fertility decline than a theory of fertility changes.

Death rates are relatively stable today though birth rates fluctuate in many parts of Europe and are so low that the result will inevitably be natural population decline. The strategic variable in post-industrial society is thus *fluctuations in birth rates* and not in the *death rates* in analyses of natural population variations. At the regional level the age structure has a considerable influence on these variations and it is therefore of the utmost importance to differentiate between the crude birth rate and the total fertility rate (TFR) and consequently also between the crude death rates and the age-specific death rates.⁵ Population increase/decrease is thus not only dependent on the TFR but also on the age structure of women – a precondition for natural population growth – which is, in itself, dependent on the number of women of childbearing age. This reasoning is also more *ex post* descriptive in character than a theoretical approach *per se*.

According to human capital theory the demand for children can be treated in the same way as the demand for consumer durables. The rise in female participation levels in the labour force and general investments in higher education have thus resulted in higher family incomes while also having two contradictory effects with regard to childbearing, namely, an *income effect* and a *price or substitution effect*. From a human capital theory point of view, this indicates that the income effect results in higher fertility as households with higher incomes have more money to spend on children than households with lower incomes. The price or substitution effect, however, implies that higher incomes also result in an increase in the relative price of children. This, in its turn, reduces the demand for children and increases the demand for other commodities (Becker 1960, 1965, 1993).

Becker also discusses, in line with the income and substitution effects, the difference between quality and quantity elasticity. Higher incomes result in an increased demand for children but also in an increased demand for children of ‘better quality’. This also entails higher expenditures in respect of raising children, which has a negative effect on fertility development and hampers the quantity effect (Overbeck 1974). This could explain the variations between different types of households and across various types of societies.

⁴ The crude birth rate (CBR) is defined as the number of births per thousands of total population. This measure ignores the age and sex structure of the population. The total fertility rate is a theoretical measure and is defined as the number of births related to the number of women in the childbearing ages and is standardised for variances in cohort sizes. The Crude Death Rate (CDR) is the number of deaths per thousand people in the population in a given year. This measure also ignores the age and sex structure of the population.

⁵ The total fertility rate is a theoretical measure and is defined as the number of births related to the number of women in the childbearing ages and is standardised for different cohort sizes. TFR can thus be defined in the following way::

$$TFR_t = \sum_{x=16}^{49} f_x \text{ where } t = \text{year and } x = \text{age}$$

According to this reasoning, the impact of the quality and quantity elasticity is different in regions characterised by different economic structures, with the quantity elasticity being higher in agricultural regions than in urban and more post-industrial ones with higher income levels. This is also in line with the human capital theory applied to population development sketched out above.

In reality, the substitution effect seems to have had a greater impact on childbirth than the income effect, at least in the recent past. Investment in higher education has also had a decreasing effect of its own: having invested in a higher education, one is more oriented towards capitalising on ones investment in human capital, even if the return is not as high, *ex post*, as it was supposed to be, *ex ante*. Education and working life should consequently also be included in the utility functions that differ between various categories on the labour market. This also means that the same income increase/decrease or the same income levels have different effects on TFR depending on the level of satisfaction with ones working life.

Another trend factor here is the increase in single people or one-person households. The proportion of 'singles' or one-person households is thus significantly higher in the post-industrial than in the industrial and agrarian eras – the share of one-person households has increased in recent decades across most parts of Europe, while the social institution of life-long marriage has declined as a consequence of the rise in the number of divorces. On the other hand, there has been a sharp rise in non-marital cohabitation. This looser type of relationship results in a rise in the share of 'singles', as many of these relationships are not as long-lived as those of traditional marital cohabitation. For this category the substitution effect seems to be higher than for married or cohabiting people. The obvious significant negative correlation between the share of singles and childbirth, for this reason alone, is not surprising.

Following these theoretical insights it is essential to include several indicators in the analyses in order to measure the number of births in a valid manner and to explain it in a theoretically satisfying way. It is necessary to use age-standardised indicators – e.g. TFR which is a theoretical as well as an empirical concept – for the level of births. Other indicators, like CBR, are sensitive concerning the age structure of mothers. For the number of births it is essential to know whether potential mothers are relatively young or old. Therefore CBR could potentially be more affected by the age structure than by fertility. The theoretical construct of a total fertility rate, expressing how many children a female will bear in her life, is therefore a very useful indicator in analyses of future natural population development.

The development of death is conceptualised in the model of epidemiological transition, which can also be seen as a part of the model of demographic transition (see Phillips 1994, Rockett 1999). This model explains the very characteristic decline of several diseases (such as infectious diseases), the increase of other diseases and the overall decline in mortality. It has, however, been shown that regional life expectancy rates are very difficult to estimate thus the average length of life is commonly used.

The third demographic event with regard to regional and national natural population development is migration as it has consequences for the age and gender structure in various regions. Theories of migration will not however be presented in this section, as they are a central ingredient in other parts of the report. It is, however, necessary to be aware of the implications that this issue has on natural population development as migration has an impact both on age and gender structures and then on the CBRs and CDRs. There is then a connection between natural population development and migration – a fact that is often neglected or downgraded in the analyses of population changes.

It must however be noted that neither theoretically nor empirically clear-cut results exist to show a link between a change in the population structure and its economic effects. The results are dependant on the assumptions that have been made. Depending on the institutional and organisational changes that take place at the time of the population changes population decline can result in both positive and negative economic developments (Rosenberg & Birdzell 1986; Easterlin 1996; Kelley & Schmidt 1994; Coale & Hoover 1958).

Brain drain, gain and waste

The concept of 'brain drain' has frequently been used to refer to the movement of educated individuals from their homeland, where they have received their education, to another country

(Sánchez-Arnau and Calvo 1987, Grubel 1987, Angell 1991, Mosterman 1991). This phenomenon could also be called the economics of the globalisation of human capital. A more thorough definition by Ian O. Angell (1991) not only covers the migration of educated individuals between countries, but also intellectual work, patents and other intellectual property, information and expert knowledge. It should also be noted here that brain drain has both positive and negative aspects. The negative aspects have traditionally been focussed on, i.e. those nations that lose highly educated people have to suffer an inferior standard of living and reduced income because of lost scientific and technological knowledge. The positive aspects, however, are found in the fact that the migration of educated people and science experts between countries has contributed to worldwide progress in science and technological development (Mosterman 1991).

Push-pull analysis is one of the migration theories which are based on the notion that migration is an individual choice based on a (rational) evaluation of various push and pull factors in the place of origin and the possible destinations along with an evaluation of the intervening obstacles (Lee, 1966). Contrary to the theories of centre-periphery relations and its effects on regional human capital i.e. the brain drain from lagging regions to core regions, it is important to stress that in push-pull analysis migration is viewed as a free choice taken by the individual. The decision of individuals to move between countries is certainly a complicated process for which several explanations have been put forward, such as better income, career and living conditions, a more favourable tax system, and better study opportunities (Sánchez-Arnau and Calvo 1987, Grubel 1987, Angell 1991, Mosterman 1991). According to the brain drain approach, individuals assess the conditions in their home countries and abroad on the basis of the above factors and accordingly decide on their future country of residence. Various circumstances have also been mentioned which create obstacles to migration between countries. Those are, among others, limited interest in becoming an immigrant, upheaval of family life, nationalism and limited language skills (Angell 1991).

Brain exchange and brain waste are terms used to describe the movement of highly skilled labour (Salt 1997). The former refers to an exchange of expertise between the countries of origin and destination, but when the flow is heavily in one direction it results in brain gain or brain drain as described previously. On the other hand the concept of 'brain waste' refers to the waste of skills occurring when highly skilled individuals migrate into forms of employment not requiring the application of their real skill levels and experience from previous job(s).

Mahroum (2000) classified highly skilled migrants into five groups with each group having a specific set of push and pull factors attached to it. The first group of migrants in accordance with this classification is termed, *accidental tourists* since their migration often occurs unplanned and even comes as a surprise. These are primarily managers and executives of multinational companies who are being relocated due to corporate policies such as mergers and the expansion of activities abroad. Engineers and technicians are referred to as *economy passengers* because they are primarily pushed and pulled by economic factors, i.e. best offers. The third group consisting of academics and scientists is referred to as *pilgrims*. The existence of international contacts between scientists is traditional in scientific life and the movement of this skilled labour group is most often the result of bottom-up developments in academia and science as a part of the spatial diffusion of knowledge and ideas. The fourth group, entrepreneurs, is termed *explorers*, i.e. business-oriented persons migrating to set up activities. These migrants are controlled by various governmental policies, e.g. visas, taxation, protection etc. The fifth group, i.e. students is termed *passengers*, being the main source of employment for the labour market and a contribution to local and global knowledge. These migrants are mostly affected by inter-governmental or inter-institutional policies.

There are signs also of the return migration of educated people to their home countries. This applies e.g. to IT scientists from India who migrated at one time to a western country for education in the field and have now returned after training abroad (Balasubramanyam & Balasubramanyam, 1997). These return migrants now appear to have transplanted management techniques they had learned abroad, e.g. in the US. However, the brain drain from India

consisted of 100,000 skilled computer professionals moving to the US alone (UN Development Programme Human Development Report 2001).

Brain drain theory thus provides a part of the puzzle as to why individuals choose to move abroad or within countries. It does not however provide any information as to *why* some regions are more attractive than others.

Labour demand

Structural transformation, substitution and productivity

Theories of structural transformation in advanced capitalist societies stress the combined impact of major technological changes where information-communication technologies play a leading role, the formation of a global economy, and a process of cultural change whose main manifestations are the radical change in respect of women's role in society and the rise of ecological consciousness (Castells, 1999). In short, the development towards a post-industrial society is, first and foremost, characterized by a transition from goods-producing to service-handling activities, where services such as education, health and other professional services become central in society (Bell, 1973). Second, a change in the class structure has taken place where occupations based on professional and technical knowledge - in particular managers, professionals, and technicians - have escalated in number and will eventually outnumber industrial workers. The decreasing weight of manufacturing in employment and in its contribution to gross domestic product is cited as a critical indicator of the decline of the industrial society. Lastly, Bell argues that theoretical knowledge is becoming ever more important in society. In the post-industrial society, for the first time in history, new knowledge applies primarily to the generation and processing of knowledge and information. In addition, from the growing importance of knowledge follows an ever increasing possibility for societal planning in diverse areas which sees the role of the state increasing. According to Bell, the control over knowledge and information decides who holds power in society. Technocrats are the new dominant class, regardless of the fact that political power is exercised by the politicians controlling the state.

An important issue for regional competitiveness stems from Bell and other information society theorists, i.e. the centrality of knowledge in the economic development manifested in such industries as information-communication technologies, optics and biological science.

During periods of structural transformation the demand for labour with a certain competences and skills will exceed the supply. Problems with mismatch and with the allocation of labour will also occur. A labour shortage occurs when demand for labour exceeds labour supply at a specific wage level. The shortage is said to be *relative* if the imbalance can be fixed by a change in prices (wage or reservation wage). Otherwise the shortage is said to be *absolute*. Absolute labour shortages thus reflect the difficulty of finding a worker, in the working age population, with the adequate skills without transferring them from a similar post (OECD 2003).

Labour shortages can be 'partial' and 'general'. A *partial* labour shortage occurs when there is a shortage of labour in a specific profession or sector of the economy, e.g., farm workers, nurses, bus drivers or construction workers. A *partial* labour shortage can also be geographical, i.e. there is a labour shortage in a defined geographical area. A *general* labour shortage is a result of demographic changes in the population, i.e., there is a shortage of labour in all professions and sectors of the economy (Rauhut, 2002).

According to standard economic theory, the demand for labour depends on the fluctuations of short-term business cycles. In a short-term perspective, the opportunity cost of replacing labour with capital, i.e. investing in new technology, will be too high. If the labour shortage continues, or even worsens, over time, the opportunity cost of not replacing labour with capital will be too high. In a long-term perspective, labour shortage is not about being short of labour, but about lacking the capacity to adjust to the structural changes in the

economy (Begg et al., 1987; Wonnacott & Wonnacott, 1986; Elliott 1991; Fallon & Verry, 1988; Schön, 1994, 2000).

It is possible to estimate the effects of changes in the relative prices of a factor commodity, according to economic theory, especially when it comes to the demand for that specific factor commodity and substitution effects. Given the assumption that a company is profit-maximising, the shortage of a factor commodity will result in an increase in its price. As a consequence, this specific factor commodity will be replaced by another, cheaper, factor commodity. If it is labour that is in relative shortage, capital will be substituted for labour. Elliott states that the 'substitution effect distinguishes the firm's reaction to the change in the relative price of capital and labour, holding constant the scale of production' (Elliott, 1991: 236).

Begg *et al.* state that 'the substitution effect leads the firm to produce a given output using a technique which economizes on the factor that has become relatively more expensive. Thus, a rise in the wage rate of labour leads to a substitution effect towards more capital-intensive production methods at each output' (Begg *et al.*, 1987, p. 214). According to Wonnacott & Wonnacott (1986: 723):

[I]n a competitive, fully employed economy, the wage rate increases as productivity increases. This conveys a clear message to those producers who can no longer afford the higher wage. The message is: society can no longer afford to have its scarce labour employed in your activity. There are now too many other, more productive pursuits. This may seem harsh, but it is the sign of economic progress.

In general, there are five ways to deal with a relative change in the price of labour (Rauhut 2003):

- 1) If the relative factor price for labour increases on a short-term basis, the increase in cost will be paid by the consumer of the commodity or service.
- 2) If the relative factor price of labour increases on a long-term basis, capital will, if possible, be substituted for labour.
- 3) If the relative factor price of labour in labour-intensive production increases on a long-term basis, organisational or institutional changes will take place in order to use the labour more efficiently.
- 4) If the relative factor price of labour increases on a long-term basis, labour immigration can be used, provided that imported labour can replace domestic labour. This is easily done for some sectors of the economy, but for others, it is more troublesome to replace domestic labour with immigrated labour.
- 5) If the relative factor price of labour increases on a long-term basis, labour-intensive production will be moved to countries where labour is cheap and in abundance.

An increase in wages is to be expected when labour is scarce, which leads to an increasing wage ratio in the production. When the marginal cost of a continued increase in production is higher than the marginal cost of substituting capital for labour, institutional, organisational and technological changes will be required in order to replace the scarce and expensive factor commodity labour in production. Despite using less labour, production will be kept up due to increased productivity. This is so not only because firms are profit maximising, but also because they are cost minimising! (Fallon & Verry, 1988).⁶

Historically, situations of long-term labour shortage have led to labour being replaced through technological, institutional and organisational changes. This has meant that productivity improvements have resulted in increased growth. The creation of an economic

⁶ Fallon & Verry (1988) also provide an overview of the theoretical models used to describe the substitution of labour for, primarily, capital.

surplus through economic growth is a condition of welfare (Dillard, 1967; Rider, 1995; Cameron, 1997 and Landes, 1998).

Global shift and the new international division of labour

According to Peter Dicken (2003) globalization is a 'syndrome' of processes and activities rather than a single phenomenon and its effects are much dependent on specific circumstances in different locations. With regard to labour issues, the increasing level of globalization signifies 'the emergence of a *new global division of labour*, a transformation of the old geographical pattern of specialization, in which the industrialized countries produced manufactured goods and the non-industrialized countries supplied raw materials and agricultural products to the industrialized countries and acted as a market for some manufactured goods.' (2003: 9). The process of globalization has changed the world in the way that it has become more 'multi-polar' as new centres of production have emerged in parts of what was previously known as the periphery in economic terms. Outsourcing and off-shoring have become central concepts. Outsourcing displaces parts of the production chain of a firm to other firms, while off-shoring displaces parts of the production chain to other low wage locations in the world, while maintaining executive control in the firm. The dangers of outsourcing lie in the transferral of executive control. It become harder to control the quality of services and intermediate goods rendered to the chain of production by other firms. Off-shoring may though require similar instruments due to the hazards to information flows over distance and cultures.

The transformation of the new geo-economy is primarily the outcome of three interconnected processes.

- Transnational corporations are the primary movers and shapers of the global economy due to their ability to control or coordinate production networks across several countries and to take advantage of different factor conditions in different locations through outsourcing and off-shoring.
- States continue to be important for the global economy due to their desire and ability to regulate economic transactions within and across national boundaries. As many individual countries have attempted to stimulate growth, deregulation has often been practiced. Furthermore, increasing trade proliferation has been observed, especially in respect of regional trade, moving the regulatory power up to a different level.
- Technology is the important enabling factor in this new geo-economy. It is the main factor behind many processes of economic growth and development. Technological advance is very uneven through time and space thus perpetuating uneven development. The fundamental changes here have been space-shrinking technologies and information technology which have drastically changed the way we go about living our life (Dicken, 2003).

The developed countries have clearly been the 'winners' in this global economic transformation. Among the most radical changes is the de-industrialization of the economy; the restructuring resulting primarily in the movement of jobs from manufacturing to services. This development has brought about, and coincided with, many other changes in the labour market. Most notable here being the *increased job participation rate of women* in the service-based economies and *increased unemployment*. The impact of unemployment has been socially selective. Women, young people, older workers and minorities are more likely to become unemployed. These groups also have a greater tendency to be less skilled which is, of course, a critical factor when it comes to the competitiveness of individuals on the labour market. *Changes in individual income*, is the third significant trend in the labour markets of the older industrialized countries. This is a twofold picture. On the one hand we see a general increase in wages but on the other changes in how income is spread across different segments of the labour market have occurred. During the economic boom of the 1960's and 1970's an increasingly even wage level distribution was observed in the developed countries. This has changed and during approximately the last 25 years the wage gap has increased. Countries, e.g. some countries in

Western Europe that had similar levels of wage distribution over the period appear to have experienced higher unemployment rates than those with increasing inequality in this regard 'such wage levels may have been maintained at the expense of jobs with an increase in unemployment' (Dicken, 2003: 531). In addition to these differences observed *between* countries considerable shifts have also occurring at a regional scale, towards the southern regions of some western countries, along with the decline of older manufacturing centres and the hollowing out of inner city areas in industrialized countries.

Outsourcing and off-shoring were first applied in manufacturing and termed global shift by Dicken (2003) and reflected a first wave of the new international division of labour concept. The second 'global shift' is related to services due to advances in information and communications technology that enable programming, call centres, back-office-services and other service activities to be transferred between regions and countries.

Unlike the first 'global shift' the geography of the second is determined by the educational and language abilities of service workers located in low-cost locations (United Nations, 2004: 165; Bryson 2006). For the English speaking world, this means that potential suppliers must be able to provide English speaking employees and, for other countries, a pool of staff fluent in the required language. The continued development, adoption and integration of technologies will lead to an increase in off-shoring as more information becomes automated and digitised (Millar, 2002). Special challenges exist relating to the management of teams and functions spread over different locations. Language and cultural differences and different approaches to work may add additional costs to off-shoring projects. Operating in different time zones can on the other hand be beneficial as it enables work packages to be transferred between centres positioned around the globe. Advanced call routing and networking technologies enables companies to implement a 'follow-the-sun' geographical policy for customer servicing. Companies can link two or more centres together with each open from between 8 to 12 hours per day. When one centre closes, all calls or projects are routed to other centres located across the horizon. Such aspects can be important in the sourcing activities of firms when choosing between the new EU member states and countries in the Asian sphere.

The two concepts of outsourcing and off-shoring illustrate the complexity of adapting to international competitive pressure in a regional context. Outsourcing may lead to specialization in regional production within and in between the regional economies with adjoining clustering of competences, while off-shoring implies moving specific types of jobs away from the local economy. Regional or sub-regional specialization into different core competences may result but a general specialization at both regional and sub-regional level into the same processes may also result. The first would imply reduced diversity in production at the sub-regional level, while preserving diversity at the regional level. The latter would remove diversity both at the regional and sub-regional levels. Both cases clearly influence the industrial renewal process taking place in a regional context. This will depend on the level of regional attractiveness for different kinds of production and thus determine the regional specialization reachable. Along the lines of thinking outlined in Ejermo (2004), the 'production function' of nations may be subject to nation-specific technological constraints, explaining why their output *per capita* will differ due to technological heterogeneity in space. A similar argument can be made for regions within the same nation and across nations – regional technological constraints on the regional 'production function' may lead to different patterns of specialization, outsourcing and off-shoring outcomes. This leads to different structural changes in regional labour demand depending on factors of regional attractiveness.

Competitive advantage, networks and clusters

Interest has grown in the 'competitive performance' of individual countries, regions and cities, with identifying the key determinants of regional and urban competitiveness, and with driving policies to promote and foster those determinants. Regional and urban competitiveness might be defined as the success with which regions and cities compete with one another in some way.

This might be over shares of national or, more particularly, international export markets, or it might be over attracting capital or workers (Kitson *et al.* 2005: 3-4).

In his work on the competitive advantage of nations Porter (1990) focused on different outcomes in respect of their competitiveness. As such, according to Porter, there are four determinants of national advantage. These are as follows, *factor conditions* in the respective country; e.g. skilled labour and infrastructure are highly important for competing in particular industries; *demand conditions* for firms' production in the country; the presence or absence of *related or supporting industries* is important; and finally; *firm strategy, structure, and rivalry* is also an important determinant. This pertains to how companies are created, organized and managed as well as the nature of domestic rivalry. How this relates to international migration is however not in the focus of his work. Even if it will not be dealt with systematically, the question will however be addressed in parts of this study.

Michel Porter (1998) finds that clusters are a striking feature of virtually every national, regional, state, and even metropolitan economy, especially in the more economically advanced nations. Among the best-known clusters are Silicon Valley and Hollywood. Clusters are important for regional competition as they affect it in three broad ways: first, by increasing the productivity of companies based in the area, second, by driving the direction and pace of innovation, which underpins future productivity growth; and third, by stimulating the formation of new businesses, which strengthen the cluster itself. As these issues are quite important, let us look at them in detail.

The ability of regions to attract skilled, creative and innovative people; to provide high-quality cultural facilities; and to encourage the development of social networks and institutional arrangements that share a common commitment to regional prosperity, are all key regional 'externalities' or 'assets' that benefit local firms and businesses, and hence are major aspects of regional competitive advantage (Kitson *et al.* 2005: 7). Regions are active players representing regional interests, with the goal of preserving or enhancing their competitiveness. Regional collective strategies can influence the outcome of the competition process, but some regions e.g. due to their relative location or economic history provide more opportunities for successful policy-making than others. Regions always carry with them a past that may affect the competitiveness of firms either positively or negatively (Boschma 2005: 11).

One of the striking features of modern societies is the geographical concentration of economic activity. The classic concept of agglomeration economies emphasises the 'positive externalities', or external economies of scale, scope and complexity, that follow from the co-location of many businesses. For example firms gain from access to a more extensive labour pool, which makes it easier to find specialist skills. Workers also benefit from a larger choice of potential employers and better career prospects (Turok 2005: 21).

According to Florida (2002) talent is not just an endowment or stock that is in place in a given region, but that certain regional conditions are required to attract talent, i.e. certain regional factors appear to play a role in creating an environment or habitat that can attract and retain talent or human capital. Paramount among these factors is openness to diversity or low barriers to entry for talent. Zachary (see Florida 2002) argues that openness to immigration is a key factor in innovation and economic growth. Regions may have much to gain by investing in a 'people climate' as a complement to their more traditional 'business' climate strategies. Peripheral and smaller cities compete in very different ways from large cities, with a more restricted set of policies and no chance of matching national capitals and world cities. Because the playing field is uneven, the dynamics of competition are fraught with negative rather than positive connotations, particularly for disadvantaged places (Malecki 2005: 28).

4. Demographic Change

Population development in the Nordic regions – a background

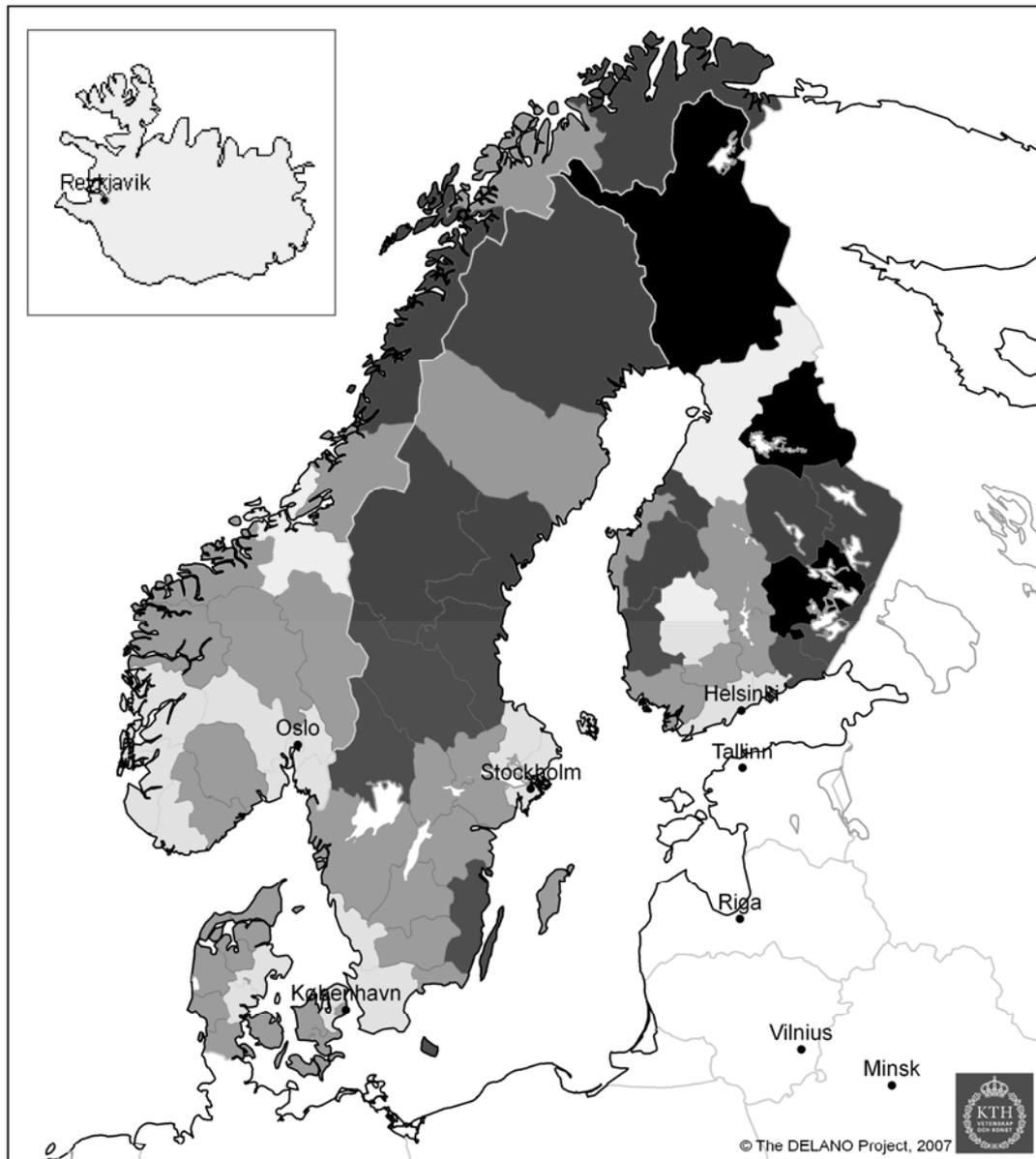
Total population change in respect of size and direction is a function of the difference between the number of births and deaths (natural population change) and the difference between in- and out-migration (net-migration). This demographic equation has also been a point of departure for the analyses of regional demographic change in the Nordic countries between 1991 and 2004 or 2005. The argument for 1991 as starting year and 2004/2005 as ending years is that, between these years, data exists for a more or less consistent time series for analyses of population changes with respect to size and structure. The central components in terms of natural population change are the total fertility rates (TFRs) and the age structure. As noted in chapter 3, it is, however, not only the TFR that is of importance in respect of natural population change – at the regional level the age structure also has a significant impact on natural population development and on total population development. Even the gender structure in fertile ages is also of course of importance – no women, no childbearing. A skewed gender structure in respect of fewer women in the fertile age ranges can however counteract the drop in TFR even if the result will be negative from a natural reproduction point of view. It is therefore important to differentiate between the crude birth rate (CBR) and the total fertility rate (TFR). Population increase/decrease is thus not only dependent on the TFR but also on the age structure of women – a precondition for natural population growth – which is, in itself, dependent on the number of women of childbearing age. Generally speaking, changes in the number of births are a consequence of the development of the birth rates in differing ages and the size of the female cohorts of childbearing age.

The population change between 1991 and 2004 in the Nordic regions is illustrated in map 4.1. The huge majority of the Nordic regions – around 90 percent in Denmark and Norway, 67 percent in Sweden and 50 percent in Finland – experienced a population increase between 1991 and 2005. From map 4.1 it can be shown that the most expending regions are – more or less – the metropolitan and big city areas. From this map it can be shown that the expending regions are – more or less – the metropolitan and big city areas. This is in line with the development that has been noticed in other studies with regard to the redistribution of people in Europe. In the ‘Pentagon’ a more polycentric development has occurred while a more monocentric development has been the case in the Nordic and Eastern periphery (see e.g. ESPON 2004, 2005, 2006a, 2006b).⁷ Negative population change is to be found in sparsely populated and old industrial areas where deindustrialisation and high unemployment are central ingredients in the economy. That Norway had a positive population development in most of their regions is not surprising as Norway had a much higher population increase than the other Nordic countries – with the exception of Iceland which experienced a one percent population increase yearly during the period 1991-2005. In Norway only two regions saw a population decrease between 1991 and 2005 – Nordland and Finnmark respectively, two regions in the most peripheral parts of the country. Even in Norway the fastest population growth was localised to metropolitan and big city areas but this concentration did not result in sharp population decreases in other parts of the country with the exception of the two regions mentioned above. On the other hand, if the concentration process to the metropolitan and big city areas has been hampered it is possible – but not certain – that other regions would have experienced even better population development.

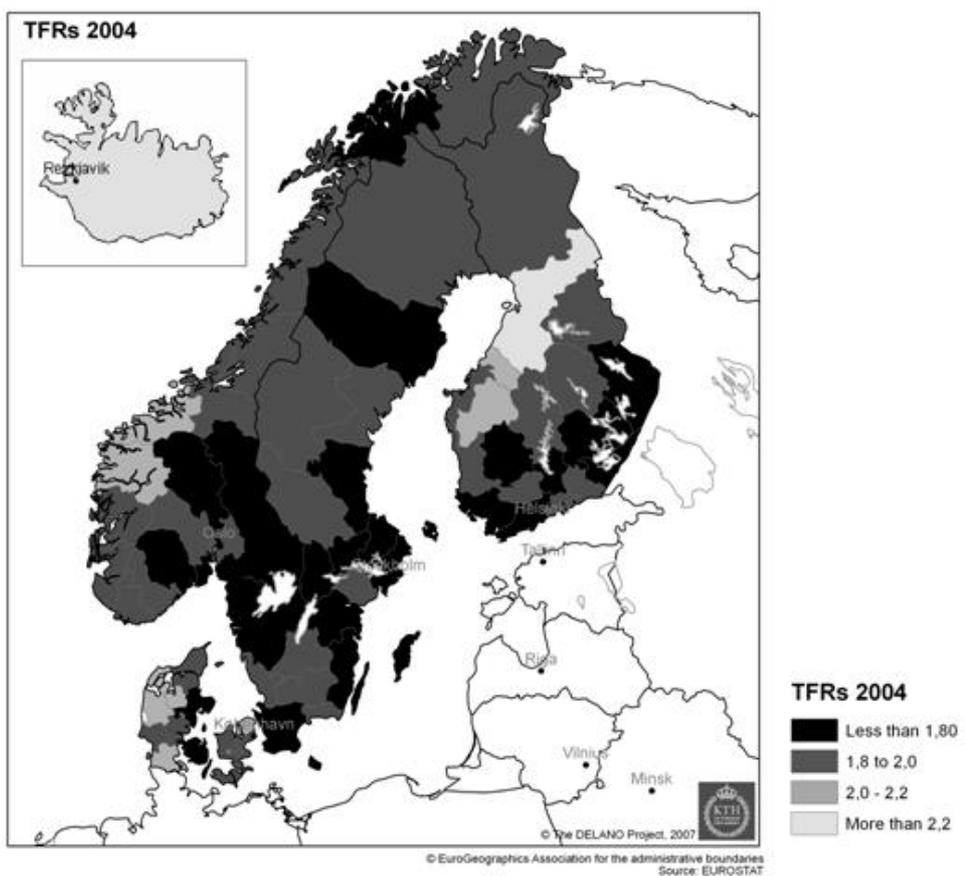
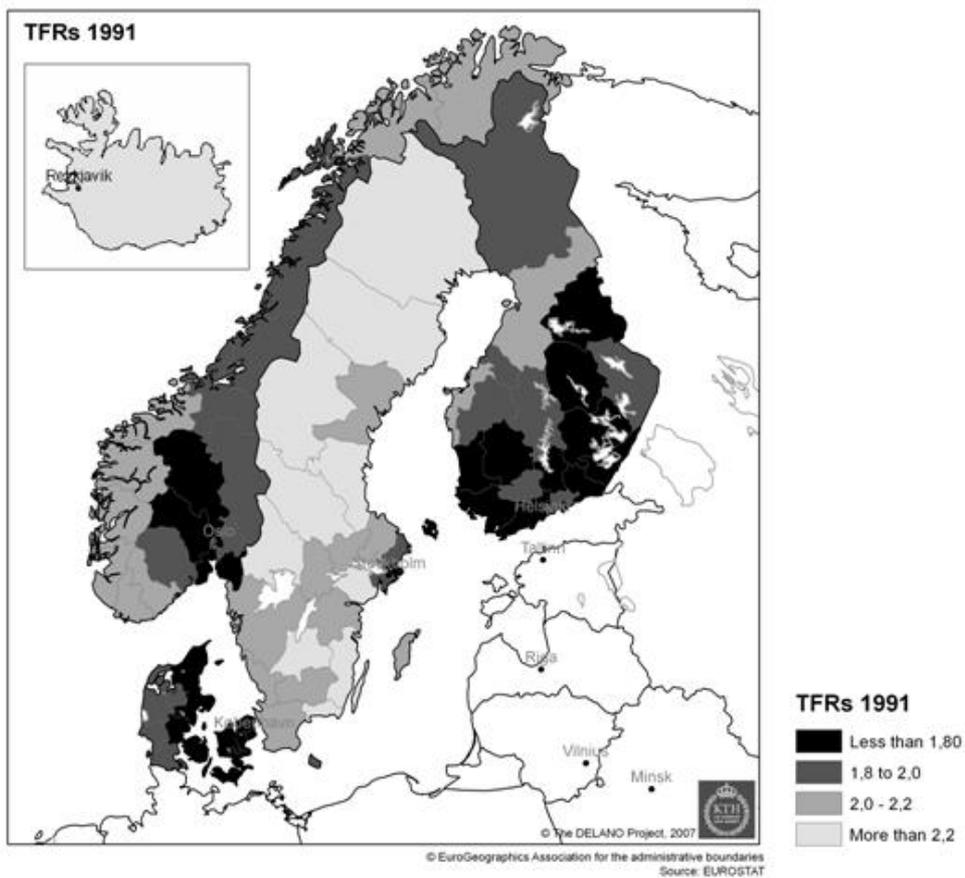
The other countries had almost the same population change rate during the 1991 and 2005 period – around 0.35 percent per year in all three countries. This population growth was, however, not distributed in similar ways in the three countries despite them having the same national population growth rate. In Denmark, only one region experienced a population decrease, Bornholm, this region is also the most peripheral part of Denmark. On the other hand, the

⁷ See also, Adolphsson *et.al.* (2006) for a discussion concerning monocentric and polycentric development in differing parts of sparsely and densely populated areas.

metropolitan areas in Denmark did not show the same high figures as the corresponding ones in Sweden and Finland. This implies that the monocentric development with concentration tendencies were more pronounced in these countries than in the smaller – in respect of area - but more densely populated Denmark. In Finland and Sweden the effects of deindustrialisation and depopulation seem to be more pronounced and the consequences seem to have more impact on the redistribution of people in the country even if the new post-industrial settlement pattern among youngsters may also have been of great importance.



Map 4.1: Total population change 1991-2005, percent per year. Source. Eurostat.



Map 4.2: Total fertility rates (TFRs) in the Nordic regions 1991 and 2004. Source: National Statistics Offices in the Nordic countries.

Fertility and natural population development

The tendency towards fertility decline and negative population change emerged in Europe during the 1960s and 1970s, while the low TFRs were established at a low level during the 1980s and 1990s. Even if the age and gender structure both have a significant impact on the natural population development, it is the total fertility rate that has been in focus when natural population development is discussed. The general background of the 'renewed' interest in population decline and depopulation is the recent fertility decline that, in most countries, took place from the middle of the 1960s to the 1980s. After a major fall in fertility rates, fertility tended to remain stable or to decline more slowly. No European examples of enduring upward shifts have however as yet occurred – instead the TFR changes seem to be of a short-term and temporary character (see ESPON 1.1.4 2005). During the 1960s and 1970s the Southern parts of Europe had higher TFRs than other parts of Europe. During the period from the late 1960s to the early 1980s fertility fell well below replacement level (ca. 2.1) in most European countries including the Nordic countries. In respect of the Nordic countries it is only Sweden that during the end of the 1990s and the first years of the new century had a negative natural population development, but within the countries variations are, however, relatively clear (see map 4.3). Most of the regions with natural population decrease are to be found in Sweden where ten of 21 regions had a natural population decrease between 1991-2004 and this is a result of a combination of low TFRs and an ageing population – process that were further accentuated at the end of the 1990s.

Data indicates that the end of the 1980s was a notably good period in respect of labour market conditions in the Nordic countries and particularly so for women (Hoem 1998). After topping the European fertility league at the beginning of the 1990s there was a sharp drop by the end of the 1990s but not at levels corresponding to the Eastern or Southern parts of Europe. At least in the Swedish case the connection with economic cycles and fluctuations in labour market conditions during the 1980s and 1990s has been confirmed, particular as they relate to areas beyond the metropolitan areas. The metropolitan areas seem not to be so vulnerable to economic fluctuations with the labour market conditions in general as the old industrial areas resulting in e.g. lower unemployment and higher employment rates.

The fact that TFR has been higher in rural and sparsely populated areas than in big cities and regional service centers is not surprising. The gender structure is skewed and the female labour force participation rate is low compared to the metro areas and the regional service centres. In the latter categories, female labour force participation is almost as high as the male participation rate. The average age of the women having their first baby is lower in rural and sparsely populated areas resulting in more space for a second and third child as compared to areas where the corresponding average age is higher. These observations seem, however, to a great extent to be a relic of the pre-industrial society, where children were both a production and a security factor while in today's societies, children are more like consumption products (see e.g. Becker 1960, 1965, 1993). During good times, however, there seems – at least in Sweden – to be a negative correlation between population density and TFR, though this almost disappears during recessions (for Sweden, see Johansson 2000). This phenomenon should imply that sparsely populated areas – and even crisis areas – are more sensitive to economic fluctuations than metropolitan areas and regional service centres with their more diversified economic structures. The regional development of TFR between 1991 and 2004 is shown in map 4.2.

This is also in line with the fact that countries with the highest female labour force participation rates also had the highest fertility rates. These are indications that countries with a well-developed welfare system (child care, paid paternal leave) also have the highest fertility rates (Vogel 2003). This has resulted in a diminishing gap in the regional TFRs, while the regional gaps have almost been closed (Johansson 2000). From other studies it is a well-known fact that national TFRs in Europe have been converging and even altered after 1960 (ESPON 2005).

In order to examine the convergence/divergence processes at a more disaggregated level, comparisons between the coefficients of variance have been done for some years between 1991 and 2004. The coefficient of variance (C.V.) is a better measurement than the standard deviation as the mean value is changing over time and is independent of the size of the mean value. The results are presented in table 4.1.

Table 4.1: Some measures with regard to convergence/divergence in the TFR development in the Nordic countries 1991 and 2004. The size effect estimates to what degree large regions have higher or lower TFRs than the national TFR. (100=neither nor). Sources: Estimations based on data from National Statistics Offices.

Country	National TFR	Average reg. TFR	Std	C.V.	Size effect
DK 1991	1,68	1,76	0,148	0,084	95,4
DK 1995	1,81	1,89	0,135	0,071	95,8
DK 1999	1,74	1,82	0,123	0,067	95,6
DK2004	1,78	1,88	0,141	0,075	94,7
FI 1991	1,79	1,82	0,139	0,075	98,4
FI 1995	1,81	1,86	0,165	0,089	97,3
FI 1999	1,73	1,78	0,158	0,088	97,2
FI 2004	1,80	1,86	0,162	0,087	96,8
NO 1991	1,92	1,93	0,151	0,78	99,5
NO 1995	1,87	1,88	0,145	0,077	99,5
NO 1999	1,85	1,87	0,139	0,074	98,9
NO 2004	1,83	1,83	0,112	0,061	100
SE 1991	2,12	2,19	0,098	0,045	96,8
SE 1995	1,74	1,76	0,057	0,032	98,9
SE 1999	1,50	1,51	0,057	0,038	99,3
SE 2004	1,75	1,76	0,105	0,060	99,4

Table 4.1 shows that significant variations exist between differing years and between the various countries. The highest fertility level can be found in Iceland (not shown in table 4.1) which in 2004 had a TFR as high as 2.19 – the highest in Europe at the national level. Otherwise the most spectacular series is for Sweden with its large fluctuations between 1991 and 2004 and when TFR. was as high as 2.12. TFR dropped, however, drastically during the bad times during the 1990s and was only 150 in the end of the decade – 1.39 in Uppsala County - turning up again after 2000. Otherwise it is interesting to note the stable TFRs in the three other countries – despite the fact that at the beginning of the 1990s Denmark saw a relatively sharp rise in the national TFR.

By analysing the coefficient of variance it is obvious that there is no common pattern in the variations between the Nordic countries neither concerning stability nor development. The highest regional variation is generally to be found in Finland and the lowest in Sweden. Concerning convergence or divergence Denmark has experienced a development toward regional convergence, especially so during the 1990s. Finland, on the other hand, went through a process of divergence at the beginning of the 1990s but shows a stable C.V. after 1995. Norway shows a continuous decrease in C.V. indicating a convergent development. Sweden shows perhaps the most interesting development path. As mentioned above, Sweden has the most regionally equal TFR during all the investigated years and this was accentuated during the 1990s when the regional gap TFRs was almost closed. Today the picture is quite different as a consequence of the sharp rise in TFR in the metropolitan areas in particular. From being one of the regions with the lowest TFR at the beginning of the 1990s Stockholm County has today one of the highest TFR and the lowest rates are to be found in the northern part of Sweden – Västerbotten, Norrbotten and Gotland's county – the latter a peripheral island in the middle of the Baltic Sea (RTK 2006). The tendencies towards increasing divergence are thus not a consequence of a rise in traditional high fertility regions – instead it is a result of a baby boom

in the big city areas that, at least partly, has altered the ranking between the Swedish regions concerning the level of TFR. This tendency can also be seen from the development of the size effect that has increased since the beginning of the 1990s when the small regions had higher TFRs – today the size effect is almost 100 implying that neither small nor large regions are over- or underrepresented in respect of TFR-levels. The same development can be seen concerning Norway where the size effect has been almost 100 since the beginning of the 1990s. Denmark, on the other hand, still has higher TFRs in the rural areas than in the metropolitan or big city areas and this difference has been further accentuated between 1999 and 2004. This description is valid also for Finland.

In order to investigate the relationship between fertility, and both total and natural population changes a lot of regressions have been done for the years 1991 and 2004 (see figure 4.1). From this it seems obvious that there are in a few cases only significant relations between these variables. The exceptions that are significant at 95 %-level are both in Finland and are related to the connection between TFR and natural population change 1991 and 2004. Denmark shows almost the same connection in 1991 between TFR and natural population 2004 (significant at 90%-level). Sweden, on the other hand, demonstrates a negative correlation between TFR and total population change 1991 at 95%-level, a fact that more or less illustrates the effect of ageing and/or a high share of fertile women in the population than the effect of a low TFR.. The negative slope of the regression line between TFR and both total and natural population development in many cases also underlines this pattern. TFR thus seems not to be the prime driver for either total population change or natural population change. Consequently – as has been shown in other studies at the European level – the prime driver behind population development at the regional level is instead migration – internal as well as international (see e.g. ESPON 2005).

A typology with regard to regional demographic change in the Nordic countries

Sustainable demographic development implies continuous balanced population changes and rapid population disruptions are considered inconsistent with a sustainable population development. Other ingredients are that the population structure – e.g. age and gender structure – will not be disturbed in the development process, i.e. the reproduction potential is not eroded, that natural population development will not be negative for a long time, and that migratory movements are balanced with respect to different demographic categories. It must, however, be kept in mind that sustainable development is not synonymous with a stagnant population or a static population structure, neither with increasing population. Instead – even areas with population increase can be in the risk zone as a consequence of low fertility rates, ageing and low reproduction potentials. Furthermore population decrease can be consistent with sustainable population development – it depends on the effects of the changed population size and structure. Depopulation is not, however, in general consistent with sustainability as the base for a future balanced demographic development is thereby eroded. In table 4.2, regions with respect to sustainable regional demographic development six different types are defined and based on total population change, natural population change and migration are classified and shown in map 4.3. The typology is adapted from ESPON 2005 and developed in Copus et.al. 2006.⁸

This typology has been applied to the Nordic regions at NUTS3-level using data for the period 1991-2005, in order to examine the distribution of regions according to the 6 types of population sustainability. Tables 4.3 and 4.4 presents both the distribution of regions and the relative distribution of population according the differing types but with different base year

⁸ The typology is adapted from ESPON 2005 and developed in Copus et.al. 2006.

concerning the population shares. By comparing tables 4.3 and 4.4 it is possible to get a hint if the population change stimulated a concentration process or not in the Nordic countries between 1991 and 2004. If the population share is larger than the regions' share the largest regions have had the best population development at least concerning size and increase. In order to compare if the concentration process has been accentuated or not between 1991 and 2004 both years are used as base years with respect to population size.

Table 4.2 : A schematic typology with regard to sustainable demographic development

Type	PT (Total change)	PN (Natural change)	PM (Migration)	Regional characteristics
1	PT>0	PN>0	PM>0	Double positive regions - In-migration and young population/'high' TFR. High sustainability both in short and long term. The most favourable case
2	PT>0	PN>0	PM<0	Growth regions with out-migration - Out-migration and young population/'high' TFR and natural population increase. Short term – sustainability. Long term – eroding sustainability because of lopsided age structure (out-migration).
3	PT>0	PN<0	PM>0	Growth regions with natural decrease - In-migration of people with low TFR. Natural population decrease because of lopsided age structure and/or low TFR. Dependent on in-migration. No sustainability in long term – weak reproduction potential
4	PT<0	PN<0	PM>0	Declining regions with in-migration - In-migration and lop-sided age structure (old population)/low TFR. In-migration of elderly people and/or singles, low reproduction potential. Dependent on in-migration. Low sustainability both in short and long run.
5	PT<0	PN>0	PM<0	Declining regions with natural increase - Out-migration but still young population/'high' TFR. Traditionally high fertility regions. Falling TFR -> low sustainability
6	PT<0	PN<0	PM<0	Double negative regions - Out-migration and lop-sided age structure with old population/low TFR. No sustainability in short as well as long term. Depopulation. The worst case.

Source: ESPON 2005 and Copus et.al. 2006.

Table 4.3: A typology of the Nordic regions with regard to different types of sustainable demographic development 1991-2005 (% of regions, % of population 1991)

Types	Distribuiton	Countries		DK (N=15)		FI (N=20)		NO (N=19)		SE (N=21)	
		reg	pop	reg	pop	reg	pop	reg	pop		
1	Double positive regions	67	79	30	54	42	54	29	17		
2	Growth regions, out-migration	13	10	5	3	37	29	5	17		
3	Growth regions, natural decrease	13	11	15	8	11	10	33	45		
4	Declining regions, in-migration	0	0	0	0	0	0	5	3		
5	Declining regions, natural increase	0	0	40	26	11	7	19	11		
6	Double negative regions	7	1	10	9	0	0	10	6		

Source: Estimations based on Eurostat data

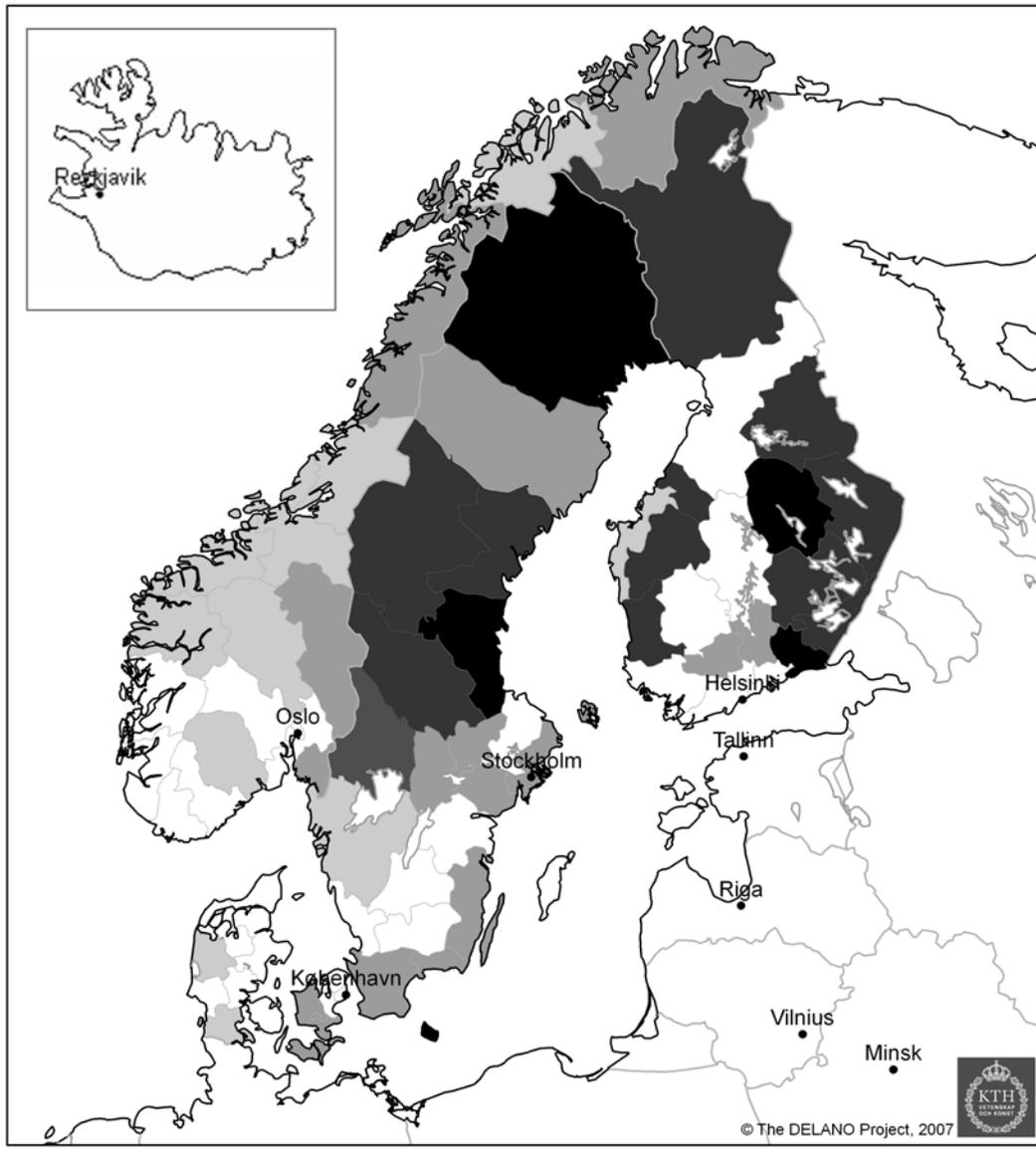
Table 4.4: A typology of the Nordic regions with regard to different types of sustainable demographic development 1991-2005 (% of regions, % of population 2004)

Types	Distribution	Countries		DK (N=15)		FI (N=20)		NO (N=19)		SE (N=21)	
		reg	pop	reg	pop	reg	pop	reg	pop		
1 Double positive regions		67	79	30	57	42	56	29	17		
2 Growth regions, out-migration		13	10	5	3	37	27	5	17		
3 Growth regions, natural decrease		13	10	15	7	11	10	33	47		
4 Declining regions, in-migration		0	0	0	0	0	0	5	3		
5 Declining regions, natural increase		0	0	40	23	11	7	19	10		
6 Double negative regions		7	1	10	8	0	0	10	6		

Source. Estimations based on Eurostat data

As mentioned earlier, the huge majority of the regions experienced a population increase between 1991 and 2005 and this is also valid concerning population distribution. Most of the growing regions can be placed in type 1, where both the natural population change and net-migration were positive and table 4.3 and 4.4 indicate that it was the large regions that dominated. This means that large regions were overrepresented in type 1 – the most favourable case. The exception is Sweden where Stockholm County is placed in type 3 that explains the overrepresentation of large population agglomerations in that category. Among the declining regions, most regions are classified in type 5 and almost none in type 4 – Sweden is even here an exception. The most unfavourable type – type 6 – can be characterized as a depopulation type and if the time period would be concentrated to the end of the 1990s this type would be more frequent (ESPON 2005). It is only in Finland, especially, and Sweden where this unfavourable situation seems to be more or less acute even if type 5 also are frequent in these two countries – a type that in the long term can be transformed to a situation like that of type 6 with both natural population decrease and out-migration.

By comparing tables 4.3 and 4.4 it can be shown that the population redistribution was not much affected by population changes in the sense that the concentration process was accentuated between 1991 and 2005. Instead it is a salient feature that the pattern was almost the same in the beginning of the 1990s as it is today. Regions with a high population growth are overrepresented in the first category – Sweden in the third type is a consequence of the population development in Stockholm County – and the small regions are overrepresented in the declining types and then especially types 5 and 6. In both Finland and Sweden, type 5 are frequent and this is probably a consequence of the fact that many places experienced a deindustrialisation process with out-migration as one result. It seems also to be clear that it was the small regions that were hurt – regions with small population shares. The effect was that even if the concentration process was influenced to some degree, the concentration of people to metropolitan and big city areas was not so much affected by this phenomenon. Instead, it seems to be other factors that are lying behind the redistribution of people in the Nordic countries and then – at least in Sweden – the higher propensity of youngsters to move and the redistribution of immigrants after arrival to the new country. This latter is, however, more a political and social problem than a demographic one even if it has demographic implications in form of higher fertility and a younger population. This is factor that – at least partly – can explain the rise in TFR and natural population increase in the metropolitan areas (RTK 2006).



Typology with regard to population change 1991 - 2005

© EuroGeographics Association for the administrative boundaries
 Source: Typology developed in ESPON 1.1.4
 EUROSTAT

- 1: PT>0 PN>0 PM>0
- 2: PT>0 PN>0 PM<0
- 3: PT>0 PN<0 PM>0
- 4: PT<0 PN<0 PM>0
- 5: PT<0 PN>0 PM<0
- 6: PT<0 PN<0 PM<0

A schematic typology with regard to demographic development, based on total population (PT), natural population change (PN) and net migration (PM).

Map 4.3: A typology with regard to population change 1991-2004 in the Nordic regions

5. Regional Structural Change

A conceptual introduction

Change, transition and transformation are concepts that often are used synonymously in the social sciences. These concepts do however have different meanings with respect to continuities and discontinuities in the development process. With only a little embellishment the concept of 'transformation' includes both the concepts of transition *and* change while that of transition includes the concept of change. A transformation process without transition is impossible and the same is valid for a transition process without change. Analogously, change may be possible without transition and transition without transformation.

It should also be kept in mind that these concepts have different meanings with regard to continuities and discontinuities in the development process. Transformation is in general more connected with abrupt and revolutionary processes than transition. Transformation is not however so obviously related to the stages in the development process as is transition. The new EU-countries from the former Soviet bloc have, since the beginning of the 1990s, often been termed 'transition countries'. The correct term should perhaps instead have been 'transformation countries' during the first part of the decade and only thereafter 'transition countries' as a consequence of their smoother development since the middle of 1990s. Change is, thus, associated more with continuous evolutionary processes such as the development of the industrial society and not so much with the transition from e.g. the pre-industrial to the industrial society – different stages of development – even if this process is of course a form of change.

Transformation is then associated more with an alteration between different branches, cities or regions within different societies – the development from a raw-material based industrial society to a knowledge-based one is an example of the term structural transformation.

The following figures illustrate in a schematic way the differences between the three concepts. Figure 5.1 shows the concept of 'change' and shall be interpreted in the following way. The two lines illustrate continuous increase respectively decrease and in this case the two lines are not going to be connected to each other. Instead, they are expressions of two different processes for example, two nations, two regions or two branches that are developing in different ways but in both cases with some continuity. It is no doubt that both are in a process of 'change' but perhaps not in a process of discontinuous transition from one stage to another.

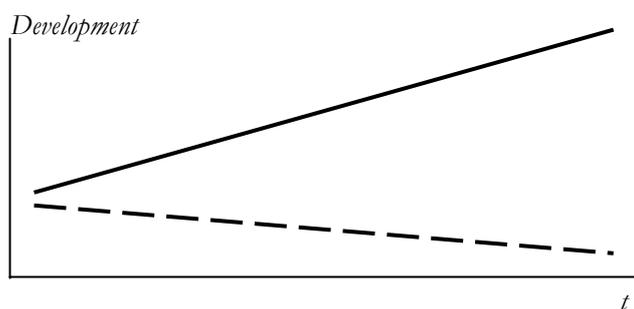


Figure 5.1: A schematic view of 'change'

Figure 5.2, on the other hand, consists of three periods where the mid-period is one of transition from one stage to another. This figure has much in common with the stage theories (e.g. Rostow 1990, Lewis 1954) which have been important in analyses of national and regional development and retain importance in respect of the discussion on 'lagging' regions. The point of departure here is that societies, nations and/or regions are going through the same types of stages in the development process (Rostow 1990) or that the economy is of dual character in

nature and consists of different segments with respect to ‘modernisation’, sector structure - e.g. agriculture/industry – and labour shortage/labour surplus (Lewis 1954). Even in Figure 5.3, the two lines are separated and not interconnected with each other – they illustrate two different processes that in this case have much in common. As in the ‘change’ case even here there may be transformation processes hidden in the development of the different lines – a transformation may even be a precondition and a central ingredient in the transition phase.

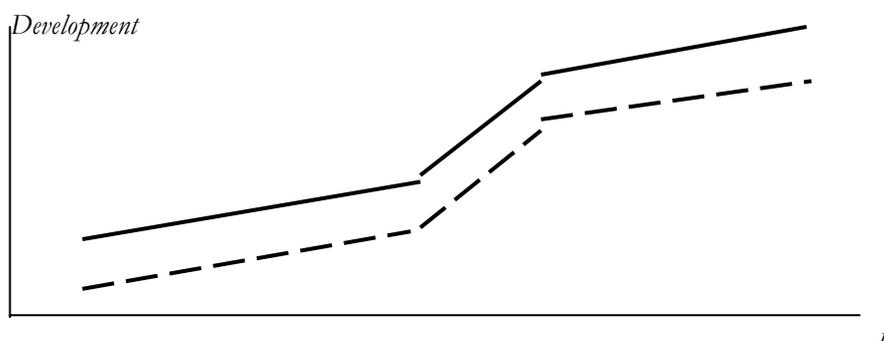


Figure 5.2: A schematic view of ‘transition’

Figure 5.3 shows the transformation process in a very schematic manner. In this case, it is very important to relate the two lines to each other – it is the feedback process between them that constitutes the concept of transformation. Otherwise, there would be no principal difference between Figure 5.3 and Figure 5.1. It can be said that each of the lines in Figure 5.1 and Figure 5.2 may include many of the processes illustrated in Figure 5.3. It must also be remembered that the lines in Figure 5.3 include more segments that have impacts on the transformation process. There is also a time aspect to the concepts. Usually ‘change’ illustrates a short-term perspective while transformation – at least in a statistic way - is more of a long-term process. This means that it is structural change more than structural transformation that is the focus of this chapter as a consequence of the limited time perspective (1991-2004).

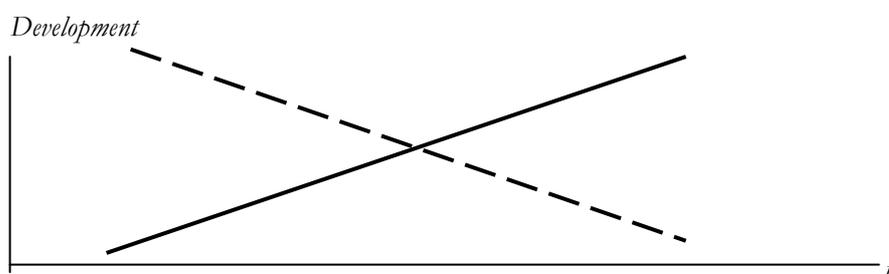


Figure 5.3: A schematic view of ‘transformation’

Regional change 1991-2004

Between 1991 and 2004 employment in the Nordic countries increased by 0.3 percent per year. The only country that did not register an employment increase was Sweden which however went through a huge labour market crisis during the middle of the 1990s and did not again regain the level of 1991 in any year thereafter up to 2004. Indeed between 1991 and 2004 Sweden suffered an employment loss of 0.07 percent while Finland endured an almost stagnant employment development situation with an almost negligible employment increase. The most expansive labour market in the Nordic countries was that of Iceland – 2.69 percent yearly – and among the larger countries Norway scored best with an increase of one percent per year.

From Table 5.4 and Table 5.5 it can be seen that the changes on the country level were also reflected *within* the Nordic countries with large variations occurring between differing regions. In Norway only two of the 19 regions experienced any employment decrease and in Denmark two

of 15 regions had diminishing employment. This can be easily contrasted with developments in Finland and Sweden where employment dropped in 17 of 20 and 14 of 21 regions respectively. Table 5.1 provides a hint in respect of the territorial balance concerning employment change in the sense that it shows the coefficient of variance (C.V.) – that neutralises the effects in respect of the different sizes of the mean values - and the size effect that gives an indication to what degree large regions are over- or underrepresented with regard to employment development. The size effect is constructed as a ratio of the national change and the regional average change as an un-weighted mean value multiplied by one hundred.

From Table 5.1 it seems obvious that the large regions – with the exception of Iceland – experienced better labour market conditions during the period 1991-2004 than the smaller ones. This was most pronounced in Finland and least so in Norway. It can also be seen here that the variations concerning employment development are also largest in Finland and lowest in Sweden, once again with the exception of Iceland which consists of only two regions. This indicates that the large city regions expanded relatively faster in Finland than in Sweden and that slow growth was more equally distributed regionally in Sweden than in Finland.

Table 5.1: Employment change 1991-2004 in the Nordic countries. Index 1991=100. (Iceland is in italics as a consequence of having too few regions). The size effect estimates to what degree large regions are over- or underrepresented (100=neither nor). Sources: Eurostat and National Statistical Agencies.

Country	DK	FI	NO	SE	<i>IC</i>
National change	106,6	100,0	113,1	99,0	134,9
Regional average	104,6	94,5	111,1	97,0	138,2
Std	6,93	8,21	8,48	5,71	<i>13,31</i>
C.V.	0,066	0,087	0,076	0,059	<i>0,096</i>
Size effect	102,0	105,9	101,8	102,1	<i>97,6</i>

From an income point of view the well-known facts in respect of the relative regional income distribution in the Nordic countries were more or less verified by Table 5.2 as were the connections between regional incomes and employment change in Figure 5.4. The highest regional variations are to be found in Norway and the lowest in Sweden. The size of the region in respect of regional GDP has the largest impact in Finland and the slightest in Denmark. The high value in Finland is probably a result of the high GDP in the big city areas and the low level of differentiation in Denmark is likely to be an effect of the fact that the municipalities of København and Frederiksberg, København, Fredriksborg and Roskilde counties (*amt*) have the same GDP. Same values are also notified for Oslo and Akershus (Hanell & Neubauer 2005). The discrepancy between C.V. and the size effect in Sweden may be an effect of the huge difference in incomes between Stockholm County and the other counties.

Table 5.2: Some statistical estimates concerning regional GDPs 2002 in the Nordic countries (EU25=100). Iceland is excluded because of missing data. The size effect estimates to what degree large regions are over- or underrepresented (100=neither nor).

Countries	DK	FI	NO	SE
National GDP	123	114	169	115
Regional average	119	101	155	103
Std	23,25	22,36	34,68	13,65
C.V.	0,196	0,222	0,224	0,132
Size effect	103,6	113,0	109,1	111,5

The relationship between GDP (2002) and employment change 1991-2004 also show the expected connection. More prosperous regions have experienced better employment development than regions with lower incomes. It is only Sweden that does not show a significant correlation between regional GDP and employment change. In the other countries it is – as in Sweden – the capital regions that have had both the highest GDP and the most

favourable employment development. Figure 5.4 also shows the obvious fact that there is a large difference between the capital regions on the one hand and all other regions on the other. Particularly in Sweden regions outside those of the capital areas are more alike and balanced with respect to the regional deviations in incomes.

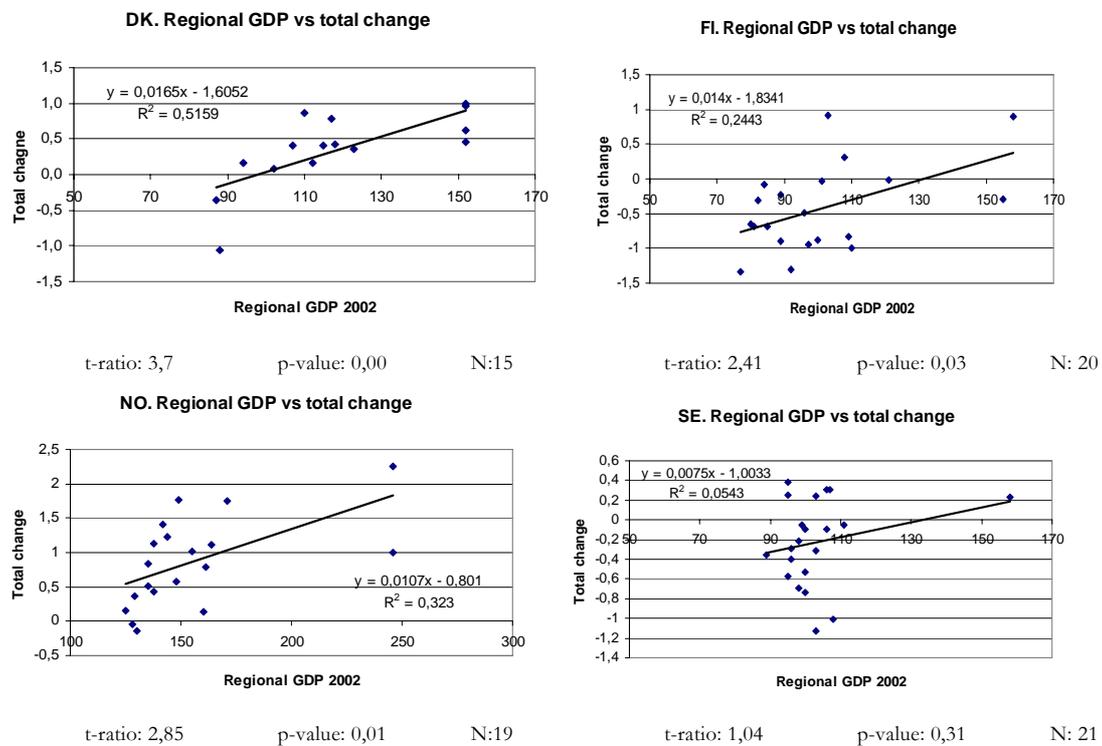


Figure 5.4: The correlation between regional GDP's 2002 and employment change 1991-2004 in the Nordic regions. Sources: Estimations based on data from Eurostat, National Statistics Offices and Hanell & Neubauer 2005

Structural Change, Deindustrialization and the Rise of the Service Sector

Deindustrialization can be interpreted in two ways: either in a broad sense or in a more restricted fashion. The broader interpretation comprises the decline in all goods-producing sectors while the more restricted interpretation refers to developments in 'pure' manufacturing industry. In this study the term deindustrialization is interpreted in the broader sense, and refers to changes in employment and not to changes in production or productivity as a consequence of missing comparable time-series data both concerning labour productivity and – perhaps more importantly – total factor productivity.

Deindustrialization is regarded as a positive feature of economic change as long as labour and capital are being moved out of low-productive and into high-productive activities. However, in the debate on the effects of deindustrialization, it is generally however the negative effects that have been emphasized. Capital and labour are not moved sufficiently quickly and in a friction-free manner from low productive to high-productive activities. The result is thus a stagnant rather than an expanding economy. Furthermore, different types of activity are not evenly spread over the country geographically, which means that certain localities and regions are hit harder than others by deindustrialization, which gives them an image of crisis, stagnation, and apathy. This phenomenon is not only a national process – instead it has been even more accentuated as a consequence of the globalisation and

internationalisation of production processes where the EU-enlargement is one central ingredient especially concerning the development of the European – including the Nordic – countries and regions.

Deindustrialization is, thus, intimately bound up with the structural transformation of the economy (for a discussion of the deindustrialization debate during the 1980s, see e.g. Rowthorn and Wells, 1987; Rodwin, 1989). However, friction-free economic transformation does not happen as a rule – disharmonies arise by virtue of the fact that resources are not shifted out of stagnating activities into expanding ones. The effect is instead a stagnant economy with continually increasing unemployment, which has hit particularly hard in traditional industrial regions with one-dimensional labour markets. This ought to give rise to increased out-migration from these decaying industrial regions – a migration analogous to the decline of the agrarian society and the rise of the industrial society. A neutralizing factor that causes this to happen to only a limited extent, however, is the emergence of the post-industrial society, with its increasing segmentation of the labour market. Today, the consequence is that there is no alternative target-destination for the labour force thrown out of work by deindustrialization to migrate to, such as there once was for the farmer who had been rationalized out of existence. Instead, stagnation, depression and apathy characterize the districts hit by deindustrialization which has an inhibiting effect on the in-migration of both people and enterprise.

Simultaneously with deindustrialization is the process of reindustrialization. This means that new industries are replacing old ones and are thus a natural element of the transformation process. Reindustrialization, like deindustrialization, is not a cyclical but a structural phenomenon. Its significance is that new industries are replacing the old ones, something which has always been both a central and a natural element of the process of economic change. The term reindustrialization has however assumed an extra dimension when it is coupled with deindustrialization and the rise of the service society and also by virtue of its being associated more with nonmaterial investment than with material investment, while at the same time the labour force has increasingly become a location factor for the new expansive firms and industries. Moreover, change in the concept of industry also affects the interpretation. Much of what is growing in the borderlands between manufacturing industry and service production - industry-related service production – belongs to the reindustrialization process. Industry-related service production has grown via two processes – firstly through the sector's 'intrinsic' growth, secondly through the statistical reclassifications occurring when departments and units of industrial firms have become independent businesses and workplaces. The latter means that both deindustrialization and the expansion of the private service sector are overestimated – at least according to the official statistics.

The problem is, though, that these processes do not coincide spatially; what frequently happens instead is that reindustrialization occurs in districts quite different from the traditional industrial regions (see e.g. Cheshire and Hay, 1989; Commission of the European Communities, 1991, 1993; Hall, 1991; Fothergill and Guy, 1991). This also ties in with the changed alignment of investment. In the traditional industrial regions, productivity, profitability, and expansion were associated in high degree with material investments in buildings and machinery – i.e. the investment pattern of the old industrial society. Today and tomorrow it is likely to be non-material investments – R&D, product development, training, and marketing – that will form the foundations for regional transformation and expansion. The result has been that traditional industrial districts dominated by large-scale companies and with an image of stagnation and apathy have problems attracting knowledge-intensive and dynamic companies (Johansson, 1996).

One element of this transformation process is the increasing segmentation of the labour market. As noted previously, in the industrial economy labour and real capital used to be interchangeable to a large extent. Today the picture is rather different. The introduction of new technology requires labour with certain qualifications and thus also a certain degree of training – labour as a factor of production has become increasingly heterogeneous. Applying a

production-theory conceptual apparatus, we can say that there are ‘vintages’ of both capital and labour. Today, increased labour market segmentation hampers the transfer of unemployed industrial workers from traditional ‘blue-collar’ jobs to new jobs in knowledge-intensive activities – neither in the manufacturing industry nor in the dynamic parts of the service sector. This phenomenon has also resulted in higher structural unemployment as compared to the situation when the industrial society was at its peak.

From Goods to Service Production

The Nordic economies have passed through successive structural transformations since the middle of the 1960s. The Nordic regions have here been analysed with respect to structural transformation based on data from the late 1980s and up to 2004. The purpose of this chapter is to highlight the ‘transformation history’ of the regions at the turn of the last century, i.e. how the Nordic regions have developed concerning structural transformation in relation to each other and to the relevant Nordic national economies. The purpose is also to identify the driving forces of development and transformation in the different Nordic regions and to investigate the successes and failures attributed to the different preconditions.

Around 1965 employment in manufacturing industry reached its highest level in the Nordic countries, with the economy having expanded continually since the end of the Second World War. But during the second half of the 1960s the growth rate slowed and during the 1970s the Nordic economies generally experienced stagnation and decline even if there was some dissimilarity existed between stages and branches. This structural transformation was generally expressed in the deindustrialisation process and the rapid growth of services in both the private and the public sectors. The goods-producing sector has been decreasing all over the country, with first the primary activities and then the manufacturing activities declining. There were, as noted previously, differences between the various regions in the Nordic countries with regard to the transformation of the national economies. The same is also the case for the Nordic regions and their economic structure and performance.

One of the most striking features in the transformation of the Nordic economies during the post-war period is that goods production has shrunk in importance while service production has become much more important. The change from an industrial to a service economy has resulted in redistribution with respect to both production and consumption.

The increasing importance of the service sector has had a stabilizing effect on regional development, as the majority of services are produced where they are consumed. As a result of this expansion of the local market's importance, the regions have become much less vulnerable to external factors of either a national or an international character concerning employment development and the increasing globalisation of international competition and dependency. Instead, this structural change means that the Nordic countries are destined to arrive at a stage where population settlement patterns determine employment development on the regional level. This change from goods producing to a service producing societies – or from global to local production – has had a major impact upon regional employment development in recent decades.

The industrialization process in most of the Nordic countries was initially a non-urban phenomenon, with the raw-material dependent industry locating near the material and, to a large degree, dependent of the export markets. It was not until the end of the nineteenth century, with the rapid rise of the engineering industry, that industrial production became an urban and a big city activity, which it has remained up to the post-war period. The raw-material based industries are, however, still of great importance in many Nordic regions.

Patterns of rapid economic growth have been associated as a rule with the movement of resources between different firms, trades, and industries. These structural changes were an important growth factor in the economies during the post-war years and their structural transformation also resulted in extensive geographical mobility. Resources had to be shifted from low-productivity to high-productivity enterprises which had positive and stimulating effects on economic growth at the aggregate level. A precondition for the success of this policy was that it had to be possible for labour to be shifted swiftly and simply out of low-

productivity and into high-productivity firms. Because these firms were not evenly distributed geographically the consequence was great geographical mobility especially during the 1960s. That decade can also be said to be the last – at least in Sweden and perhaps even in Finland and Norway also – to be marked by the migration patterns typical of the industrial society (Bengtsson and Johansson, 1994, 1995).⁹

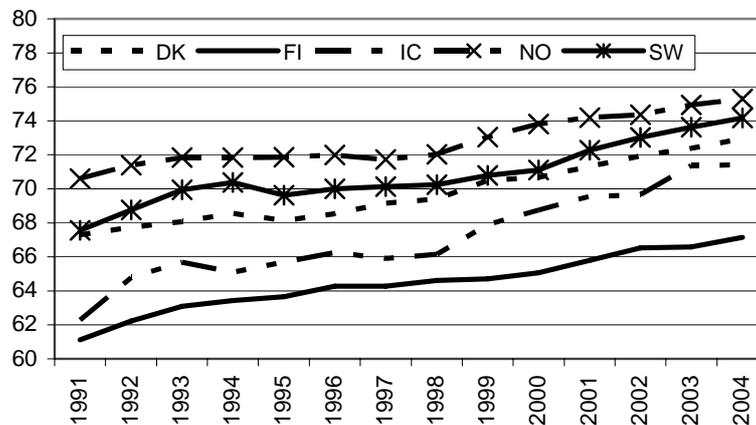


Figure 5.5: The development of the service sector 1991-2004 in the Nordic countries (%). Sources: Eurostat and National Statistics Office

The continuous structural change occurring at the turn of the century is illustrated in Figure 5.5. As can be seen from Figure 5.5 the sector development in the Nordic countries has continued to being more service-oriented during the period from the beginning of the 1990s up to the middle of the first decade of the new century. The highest level is to be found in Norway both in the beginning and at the end of the period 1991-2004. The ranking between the Nordic countries is also constant over time with Finland having the lowest level in respect of the service sector both in 1991 and in 2004. It is also obvious however that the gap between the Nordic countries with regard to the gap in employment shares in the service sector has diminished between 1991 and 2004. The coefficient of variance (C.V.) dropped from 0.060 to 0.044 between 1991 and 2004. This convergence process is not only detectable in respect of developments within the different Nordic countries but also in the spread between the regions where it is even more pronounced (see Table 5.3).

The smallest gap – besides that of Iceland – can be found in Sweden and the largest in Denmark. All countries have, on the other hand, gone through a phase of regional convergence with respect to the service sector shares. This is, however, not surprising as there is an upper limit to the level of the size of the service sector share – the share of the service sector cannot be higher than 100 percent. This has implications for the convergence process as regions with lower levels at the starting point and those lagging in respect of structural transformation have better preconditions for a fast growth than the more mature regions where the structural transformation began earlier. It should however be noted here that regions with a high share of their employed in the service sector in 1991 still have a high share in 2004 and there is a very high correlation in all Nordic countries – the R²-coefficient varies between 0.89 (Sweden) and 0.96 (Denmark). It must, however, be bourn in mind that the development of the service shares does not say anything about employment development either within the service or the goods-producing sector.

⁹ For analyses of the settlement pattern concerning different kinds of people in the post-industrial society in the 'Western World' se e.g. Champion 1990, Hall 1991, Castells 1999, Florida 2002.

Table 5.3: Some statistical estimates 1991 and 2004 concerning the Nordic countries (NC) and within them with regard to the development of the level of service shares (Iceland is in *italics* as a consequence of having too few regions). The size effect estimates in what degree large regions are over- or underrepresented (100=neither nor).

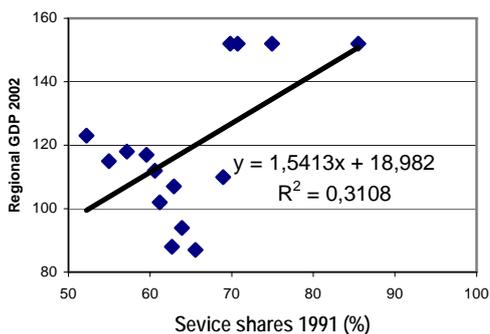
	DK		FI		NO		SE		<i>IC</i>	
	1991	2004	1991	2004	1991	2004	1991	2004	<i>1991</i>	<i>2004</i>
Total share	67,3	72,9	61,1	67,1	70,6	75,3	67,6	74,2	<i>62,3</i>	<i>71,4</i>
Regional average	64,2	69,8	57,3	62,9	67,6	72,4	63,5	70,5	<i>50,4</i>	<i>67,7</i>
Std	8,41	8,28	6,67	6,92	7,36	6,44	5,73	5,10	<i>30,42</i>	<i>14,69</i>
C.V.	0,131	0,119	0,117	0,110	0,109	0,089	0,090	0,072	<i>0,603</i>	<i>0,217</i>
Size effect	104,8	104,5	106,7	106,8	104,4	104,0	106,3	105,2	<i>123,5</i>	<i>105,5</i>

The transformation process towards a regionally developed service sector is particularly apparent in Iceland but here the number of regions is too small to draw any thoroughgoing conclusions. It is, however, without doubt a fact that the growth of the service sector outside the capital region – from 33 percent 1991 to almost 60 percent 2004 – has sharply diminished the gap between these two regions.

Table 5.3 also shows that large regions have a higher share of employed persons in the service sector than smaller regions. This overrepresentation has been relatively constant between 1991 and 2004 for at least three of the countries – it is only Sweden that shows some tendencies towards closing the gap. The overrepresentation of the larger regions is perhaps a little surprising in the sense that the discrepancy seems to be so low and that the diminished spread (C.V.) seems to have only a limited impact on the size effect. Another observation of note here is the reverse correlation between the size of the service sector and the size effect. Finland has the lowest share of employed persons in the service sector but the highest overrepresentation of the larger regions while Norway shows the reverse relation – a high share of employment in services and low value on the size effects. This may be an indication of the fact that the post-industrial economy creates a more equal and regionally based distribution of services and that Finland remains rooted in the industrial economy much more so than the other Nordic countries. This is a natural ingredient in the transformation process but it must also be bourn in mind that the service sector cannot exceed the level of 100 percent of the employed. This means that the increase of the relative size of the sector is a consequence of two different processes – deindustrialisation on the one hand and real employment growth in the service sector on the other.

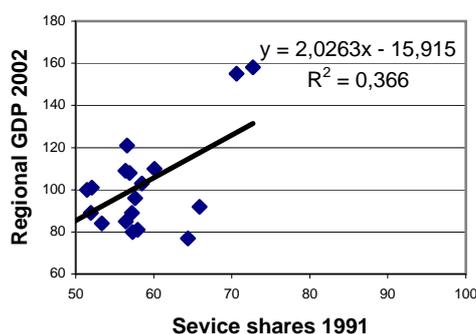
Figure 5.6 highlights the relationships between the service sector shares and regional GDP. This figure shows that there are significant correlations between the level of the service shares and regional GDP in the sense that a high level of services indicates a high level of incomes and *vice versa*. All figures are significant to the 95%-level and this is valid for both 1991 and 2004 – a pattern that is not surprising as the ranking of the regions concerning service shares has not altered over time except in respect of some minor changes. Even if this observation is based on cross-section data it underlines more or less the established fact that regions in later phases of the transformation process also have higher incomes than regions in earlier phases. This also indicates that urban regions have higher income levels than rural ones even if this is not explicitly shown in the figures.

DK, Service shares 1991/regional GDP 2002



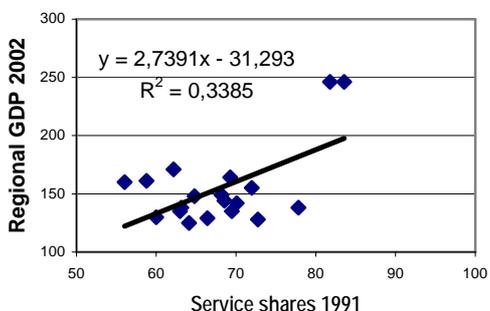
t-ratio: 2,42 p-value: 0,03

FI, Service shares 1991/reg GDP 2002



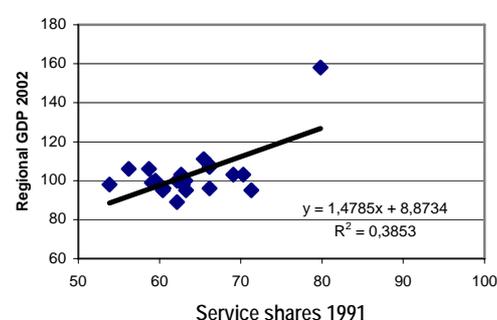
t-ratio: 3,22 p-value: 0,00

NO, Service shares 1991/reg GDP 2002



t-ratio: 2,95 p-value: 0,01

SE, Service shares 1991/reg GDP 2002

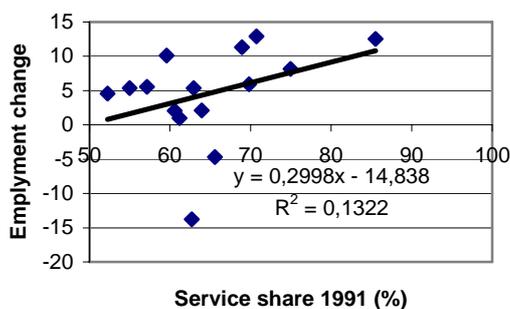


t-ratio: 3,45 p-value: 0,00

Figure 5.6: Connections between regional service shares (%) and regional GDP in the Nordic Countries. Index EU25=100. Source: Eurostat, National Statistics Offices and Hanell & Neubauer (2005).

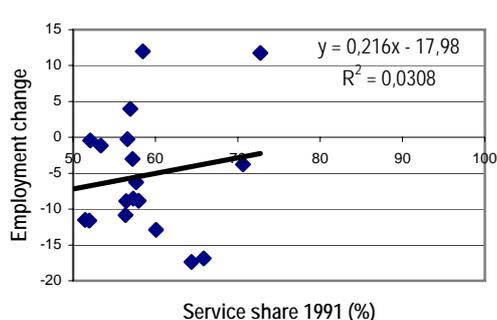
Figure 5.7 can be seen as an indication of the declining role of the service sector as an employment creating factor at the regional level where the regional shares of the service sector 1991 in the Nordic countries, without Iceland, are correlated to the employment development between 1991 and 2004. As can be seen there are no connections between the level of the service sector and employment change. The figure for Norway is based on the employment shares in the service sector in 1991 is the only exception with regard to this common pattern (t -ratio=2.19, p -value=0.04). The almost negligible pattern is even more pronounced if the regional service shares of 2004 are used in corresponding estimations and figures (2005).

DK, Service shares/employment change



t-ratio: 1,41 p-value: 0,18

FI, Service shares/employment change



t-ratio: 0,76 p-value: 0,46

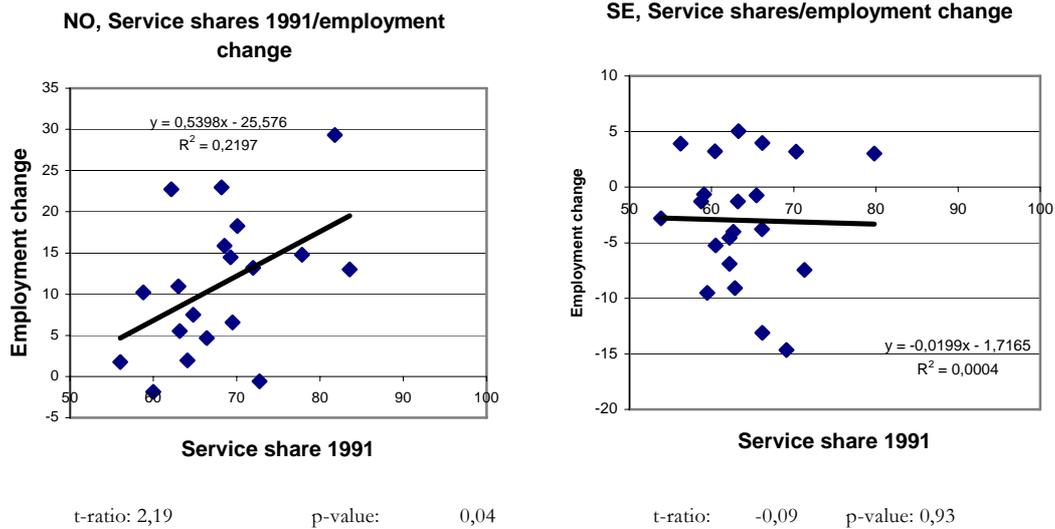


Figure 5.7: Correlations between regional service shares (%) 1991 and regional employment change (%) for the period 1991-2004 within the Nordic countries. Sources: Eurostat and the National Statistical Agencies.

Regional Structure, Attractiveness, and Change

The different development patterns in the various regions can be studied via shift/share analysis. Two effects can be distinguished - one is a function of the different structure of the economy in the regions and the other a function of change in the branches. The first effect can be termed the 'national structural effect' (NSE) and the second the 'branch effect' (BE). The two effects are related to the change of employment on the national level and can be seen as indicators of the economic transformations.

Table 5.4: Comparison of the development of employment in the Nordic regions 1991-2004. percentage change per year (change) and compared to the national change (diff), national structural effect (NSE) and branch effect (BE). The estimations are related to the national change rates (percent) and based on three sectors. *Source: Eurostat and National Statistical Agencies.*

Regions	Change	Diff	NSE	BE	Regions	Change	Diff	NSE	BE
Denmark	0,51				Finland	0,00			
København, Frederiksberg	0,96	0,45	0,97	0,00	Etelä-Savo	-0,66	-0,66	-0,24	-0,42
København	0,63	0,12	0,78	-0,16	Pohjois-Savo	-0,68	-0,69	-0,25	-0,43
Frederiksborg	0,46	-0,05	0,63	-0,17	Pohjois-Karjala	-0,68	-0,68	-0,24	-0,44
Roskilde	0,99	0,48	0,61	0,38	Kainuu	-1,33	-1,34	-0,03	-1,31
Vestsjælland	0,16	-0,35	0,41	-0,25	Keski-Suomi	-0,48	-0,48	-0,09	-0,40
Storstrøm	-0,36	-0,87	0,40	-0,76	Etelä-Pohjanmaa	-0,31	-0,31	-0,54	0,23
Bornholm	-1,06	-1,57	0,26	-1,32	Pohjanmaa	-0,03	-0,03	-0,25	0,22
Fyn	0,08	-0,43	0,34	-0,27	Keski-Pohjanmaa	-0,09	-0,09	-0,35	0,26
Sønderjylland	0,16	-0,35	0,30	-0,14	Pohjois-Pohjanmaa	0,92	0,92	-0,12	1,05
Ribe	0,43	-0,08	0,25	0,18	Lappi	-1,30	-1,30	0,07	-1,37
Vejle	0,78	0,27	0,38	0,40	Uusimaa	0,90	0,90	0,34	0,56
Ringkøbing	0,35	-0,16	0,09	0,26	Itä-Uusimaa	-0,94	-0,95	-0,25	-0,70
Århus	0,87	0,36	0,56	0,31	Varsinais-Suomi	-0,02	-0,02	-0,08	0,06
Viborg	0,41	-0,10	0,13	0,28	Satakunta	-0,88	-0,89	-0,19	-0,69
Nordjyllands	0,41	-0,10	0,34	0,07	Kanta-Häme	-0,23	-0,23	-0,08	-0,16
					Pirkanmaa	0,31	0,30	-0,02	0,32
					Päijät-Häme	-0,89	-0,89	-0,11	-0,79
Iceland	2,69				Kymenlaakso	-0,99	-1,00	0,01	-1,00
Capital region	2,21	-0,47	3,47	-1,25	Etelä-Karjala	-0,83	-0,84	-0,09	-0,74
Other regions	3,66	0,97	1,09	2,58	Åland	-0,29	-0,29	0,05	-0,34
Norway	1,01				Sweden	-0,07			
Akershus	2,25	1,24	1,29	0,96	Stockholm	0,23	0,31	0,22	0,02
Oslo	1,00	-0,01	1,30	-0,30	Uppsala	0,25	0,32	-0,02	0,26
Østfold	0,84	-0,17	0,89	-0,05	Södermanland	-0,35	-0,28	-0,20	-0,15
Buskerud	0,58	-0,43	0,91	-0,33	Östergötland	-0,31	-0,23	-0,19	-0,12
Vestfold	1,41	0,40	1,10	0,31	Örebro	-0,10	-0,03	-0,17	0,07
Telemark	0,43	-0,59	0,90	-0,47	Västmanland	-0,73	-0,66	-0,25	-0,48
Hedmark	0,36	-0,65	0,90	-0,54	Blekinge	-0,05	0,02	-0,27	0,22
Oppland	0,15	-0,86	0,78	-0,63	Skåne	0,31	0,38	-0,11	0,42
Aust-Agder	1,22	0,21	1,03	0,19	Värmland	-0,70	-0,62	-0,18	-0,51
Vest-Agder	1,77	0,75	1,01	0,76	Dalarna	-0,53	-0,46	-0,20	-0,33
Rogaland	1,75	0,74	0,88	0,87	Gävleborg	-0,40	-0,33	-0,24	-0,16
Hordaland	1,11	0,10	0,99	0,12	Västernorrland	-1,01	-0,93	-0,11	-0,90
Sogn og Fjordane	0,14	-0,87	0,59	-0,45	Jämtland	-0,57	-0,50	-0,01	-0,57
Møre og Romsdal	0,79	-0,23	0,72	0,07	Västerbotten	-0,29	-0,22	-0,11	-0,18
Sør-Trøndelag	1,02	0,01	1,00	0,02	Norrbottnens	-1,13	-1,05	-0,04	-1,09
Nord-Trøndelag	-0,14	-1,15	0,61	-0,76	Jönköping	0,30	0,38	-0,34	0,64
Nordland	0,51	-0,50	0,91	-0,41	Kronoberg	-0,10	-0,03	-0,28	0,18
Troms	1,14	0,13	1,12	0,02	Kalmar	-0,22	-0,14	-0,40	0,19
Finnmark	-0,05	-1,06	1,05	-1,09	Gotland	0,39	0,46	-0,21	0,60
					Halland	0,25	0,32	-0,25	0,50
					Västra Götaland	-0,06	0,02	-0,12	0,06

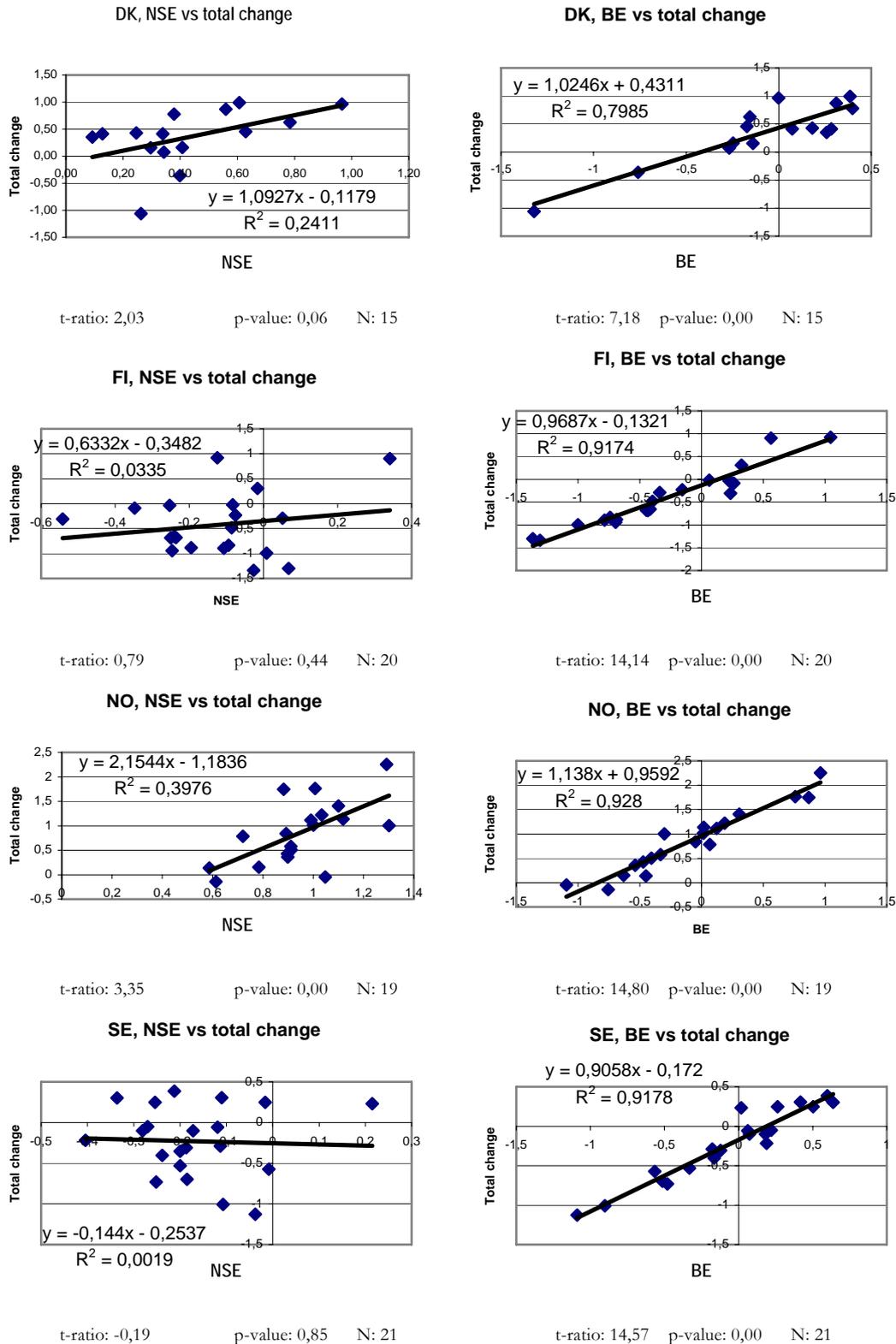


Figure 5.8: The correlation between the national structural effect (NSE) or the branch effect (BE) and total employment change 1991-2004 (percent per year) in Swedish regions. Source: Own estimations based on data from Eurostat

The NSE can be estimated in two ways. The point of departure in the first method (*method A*) is the changes of different branches on the national level, which are applied to the different level branches in the differing Nordic regions. The differences between the hypothetical changes in

the various regions and the real change on the national level are ‘explained’ by the different structure or composition of the economy in the Nordic regions and the composition on the national level. The rest of the difference (BE) - or the difference between the actual and the hypothetical change - is then ‘explained’ by the different development patterns within the various branches in the Nordic regions and in the Nordic economies.

In the second method (*method B*), the point of departure is the structure of the Nordic economies. These structures are applied to the branch changes in the Nordic regions. The differences between the actual changes in the B-regions and the hypothetical estimations are ‘caused’ by the differing economic structures in the various Nordic regions and the economic structure on the national level. The rest of the difference - or the difference between the hypothetical change in the region and the actual change on the national level - is consequently an effect of the changes within the industrial branches in the Nordic regions and the changes on the national level.

These different development patterns occurring over the whole period 1991-2004 have been summed in Table 5.4 where the difference with overall national development is also showed. The estimations according to method A - on which the analyses here are based - are then also represented in table 5.4.

Regional Structural Change – A Typology

With the structural effect (NSE) as a point of departure, a six-type typology can be distinguished where this effect is related to the difference (Diff) between the actual development in the Nordic regions and the development on the national level.¹⁰ With this method it is also possible to obtain an indication of the preconditions and transformation in the various Nordic regions during the different phases – transformations that resulted in the Nordic regions’ present structures. A positive sign (+) indicates that the hypothetical development - the structural effect (NSE+) – in the Nordic regions is more positive than the development on the national level. Here we see many of the rapidly growing branches and few of the stagnating or retarding branches with respect to national employment changes. A negative sign (NSE-) indicates the reverse. Here we see many of stagnating or retarding branches and few of the fast growing ones. It must, however, be bourn in mind that the term ‘modern’ in the reasoning below refers to employment development and not to technical renewal or innovation capacities. These employment cases are illustrated in a schematic manner below. It must however be noted here that slow branch growth is a relative concept in the sense that it can also include regions with negative branch changes (BE-).

1. NSE(+)<Diff(+):

Positive structure, faster branch changes than changes at the national level. Both the structural and the branch effect result in faster growth than that at the national level. This case is termed *MG-Winner* (Modern branch structure, fast branch growth and winner).

2. NSE(+)>Diff(+):

Positive structure, slower branch changes in the region than at the national level. The positive structural effect is larger than the negative branch effect which results in a faster growth in the region than at the national level. This case is termed *MS-Winner* (Modern branch structure, slow branch growth, but winner relative to national-level development).

3. NSE(+)>Diff(-):

Positive structure, slower branch changes in the region than at the national level. The positive structural effect is not large enough to neutralize the negative branch effect. The result is slower growth in the region than at the national level. This case is termed *MS-Loser* (Modern branch structure, slow branch growth and loser).

¹⁰ This typology was developed by Carlsson, F., Johansson, M., Persson, L.O. and Tegsjö, B. (1991, 1993) and then applied to Swedish labour market regions and their development 1965-1985.

4. $NSE(-) < Diff(+)$:

Negative structure, faster branch changes in the region than at the national level, which results in faster growth in the region than in the national economy. This case is termed *OG-Winner* (Obsolete branch structure, fast branch growth and winner).

5. $NSE(-) > Diff(-)$:

Negative structure, slower branch changes in the region than at the national level. Both the structural and the branch effects reinforce each other resulting in slower growth than in the national economy. This case is termed *OS-Loser* (Obsolete branch structure, slow branch growth and loser).

6. $NSE(-) < Diff(-)$:

Negative structure, faster branch changes in the region than at the national level. The positive branch effect is not large enough to neutralise the negative structural effect. The result is slower growth in the region than at the national level. This case is termed *OG-Loser* (Obsolete branch structure, fast branch growth but loser).

The typology for the Nordic countries is showed in table 5.5 below. When undertaking interpretations in this manner it must be remembered that the structure is composed of only three sectors. A typology based on more disaggregated sectors and branches would probably deliver – at least in part – a rather different table even if it would probably not alter the scheme in a fundamental way. It must also be bourn in mind here that it is employment data that the typology is based on not production volumes or productivity changes. This is a consequence of the aim of the study where labour market and employment changes are in focus.

One interesting point of note here however is the difference between the countries concerning the importance of the ‘modern’ structure in the development process. Again note should be made of the fact that ‘modern’ regions can be winners as well as losers and the branch effect in many cases compensates for the slow growth in the ‘modern’ sector.

Of Denmark’s 15 regions eight were characterised as ‘modern’ with regard to their development patterns. In Norway, the corresponding figure was six of 19. Sweden had only four of 21 while in Finland three of 20 were characterised as having a ‘modern’ structure. With the exception of Finland these ‘modern’ structures were concentrated around the big cities and this is a consequence of the high share of the service sector in these areas. The other side of the coin is, however, that other regions with a low share in the expanding service sector start from a lower level and this results in relatively fast growth as a consequence of the ‘advantage of backwardness’ in this context and the fact that they are still in a catching-up process as a consequence of the structural change in their regional economies. For many regions with a high share in the service sectors some maturity has also been apparent. Instead of employment expansion of the service sector there has instead been redistribution *within* this sector – from public services to more knowledge-based business-oriented activities. Form other studies it is well-known that this phenomenon has primarily been a metropolitan phenomenon but even in this case the ‘spread effect’ has resulted in fast growth in many regions outside the metropolitan areas. This seems especially to be the case in Sweden and – perhaps even more so – in Finland. The lesson to be learned here then is that nothing is static and change and transformation are both central and natural ingredients in regional development both within and between countries.

Table 5.5: A typology based on the structural effect (NSE) in relation to the difference (Diff) between the change in the Nordic regions and the change in the national economies. Source: Estimations based on data from Eurostat and National Statistical Agencies.

Regions	Type	Characteristics	Regions	Types	Characteristics
Denmark			Finland		
København og Fredriksberg	2	MS-winner	Etelä-Savo	5	OS-loser
København	2	MS-Winner	Pohjois-Savo	5	OS-Loser
Fredriksborg	3	MS-Loser	Pohjois-Karjala	5	OS-Loser
Roskilde	4	OG-Winner	Kainuu	5	OS-Loser
Vestsjælland	3	MS-Loser	Keski-Suomi	5	OS-Loser
Storstrøm	3	MS-Loser	Etelä-Pohjanmaa	6	OG-Loser
Bornholm	3	MS-Loser	Pohjanmaa	6	OG-Loser
Fyn	3	MS-Loser	Keski-Pohjanmaa	6	OG-Loser
Sønderjylland	3	MS-Loser	Pohjois-Pohjanmaa	4	OG-Winner
Ribe	6	OG-Loser	Lappi	3	MS-Loser
Vejle	4	OG-Winner	Uusimaa	1	MG-Winner
Ringkøbing	6	OG-Loser	Itä-Uusimaa	5	OS-Loser
Århus	4	OG-Winner	Varsinais-Suomi	5	OS-Loser
Viborg	6	OG-Loser	Satakunta	5	OS-Loser
Nordjylland	6	OG-Loser	Kanta-Häme	5	OS-Loser
			Pirkanmaa	4	OG-Winner
			Päijät-Häme	5	OS-Loser
Iceland			Kymenlaakso	4	OG-winner
Capital region	3	MS-Loser	Etelä-Karjala	5	OS-Loser
Other regions	4	OG-Winner	Åland	3	MS-Loser
Norway			Sweden		
Akershus	1	MG-Winner	Stockholm	1	MG-Winner
Oslo	3	MS-Loser	Uppsala	1	MG-Winner
Østfold	5	OS-Loser	Södermanland	5	OS-Loser
Buskerud	5	OS-Loser	Östergötland	5	OS-Loser
Vestfold	1	MG-Winner	Örebro	6	OG-Loser
Telemark	5	OS-Loser	Västmanland	5	OS-Loser
Hedmark	5	OS-Loser	Blekinge	4	OG-Winner
Oppland	5	OS-Loser	Skåne	4	OG-Winner
Aust-Agder	1	MG-Winner	Värmland	5	OS-Loser
Vest-Agder	4	OG-Winner	Dalarna	5	OS-Loser
Rogaland	4	OG-Winner	Gävleborg	5	OS-Loser
Hordaland	4	OG-Winner	Västernorrland	5	OS-Loser
Sogn og Fjordane	5	OS-Loser	Jämtland	3	MS-Loser
Møre og Romsdal	6	OG-Loser	Västerbotten	5	OS-Loser
Sør-Trøndelag	4	OG-Winner	Norrbottens	3	MS-Loser
Nord-Trøndelag	5	OS-Loser	Jönköping	4	OG-Winner
Nordland	5	OS-Loser	Kronoberg	6	OG-Loser
Troms	1	MG-Winner	Kalmar	6	OG-Loser
Finnmark	3	MS-Loser	Gotland	4	OG-Winner
			Halland	4	OG-Winner
			Västra Götaland	4	OG-Winner

6. Regional and International Mobility and Migration

Introduction

This chapter looks at international mobility and migration in the Nordic countries at the beginning of the 21st century. The chapter addresses the following questions: Is there a convergence in mobility patterns in the Nordic countries? Have mobility trends changed after EU-enlargement? Is the immigration settlement pattern the same as that of the Nordic citizens? And finally can the data presented reveal any reason for these mobility patterns?

The study exploits the fact that the Nordic countries are divided into regions¹¹: the so-called NUTS3-level in the European Union. In the study, the term 'county' is also used as a synonym for region. There are, in total, 83 regions in the Nordic countries. In this analysis, NUTS3-level data was gathered mainly for the years 2003-2004 but analysis of net immigration to individual countries is based on data for 20 years or more. In addition, statistics from the years 1988 to 2004 are examined. Such detailed regional data is available in all the Nordic countries. This chapter investigates migration in the Nordic countries, although particular emphasis is placed here on regions, using both net flow and gross flow data on immigration. The idea here is to identify the attractive immigration regions in the Nordic countries while asking whether the immigration settlement pattern in the Nordic countries follows the same settlement pattern as that for Nordic citizens. One of the main features of the development in the geographical distribution of population – not just in the Nordic countries but globally – in the 21st century has been the movement of people to urban areas and the subsequent depopulation of rural areas. In a broader sense, spatial polarization is also an issue as urban conglomerations grow at the expense of peripheral areas at the national level. Using Nordic demographic statistics to address the question, that immigration is likely to concentrate into the certain regions, i.e. in the capital regions and other centres in the Nordic countries in the 21st century. In addition, it seems that an important determinant of international migration (for example tied movers and family reunification) and the internal migration of foreign residents is to settle close to their compatriots. By analysing the origin countries, it is also possible to determine whether differences in GDP, for example between Nordic countries and new EU-10 countries, affect the attraction of Nordic labour markets among labour immigrants (Heikkilä et al. 2004: 9; see more on welfare gaps in Chapter 9). In addition immigrants from the New EU Member States (NMS) may even accept jobs outside the major towns and metropolitans' areas in the Nordic countries because they will increase their salaries simply by moving to *any* region in the Nordic countries. This chapter consists of two parts. The first presents a common analysis of recent migration in the Nordic countries, allowing for an easy comparison of Nordic trends, by region as well as by country. In the second part of the chapter five individual Nordic country profiles are provided.

Nordic migration trends

In 2000-2004, the total immigration into Nordic countries was 869 364 persons. The largest amount of total immigration in the period of 2000–2004 was directed to Sweden, 35.6 % (309 364), Denmark received 30 % (261 291), Norway 21.1 % (183 367) while Finland received 10.6 % (92 134) and Iceland 2.7 % (23 474). The highest annual in-flow was recorded in Sweden in 2002, 64 087 persons. Traditionally Sweden has been the chief destination country for immigration in the Nordic countries. Looking at the totals in the period 2000–2004 in the country, Sweden remains top with the largest number of immigrants in each year. Iceland

¹¹ 'Region' is the English equivalent of the Danish 'amt', Norwegian 'fylke', Finnish 'maakunta' and Swedish 'län'.

however received the highest number of immigrants per 1 000 inhabitants in 2000–2004, followed by Denmark and Norway. In relation to the total population Finland enjoyed the least immigration in 2000–2004, and the figure was the lowest in 2000, at 3.3 %, whereas Iceland had 18.5 %. The immigration peak to the Nordic countries occurred in 2002, at 179 315 immigrants while the lowest figure was 170 214 in 2000. When we take the size of the total Nordic population into account, there were 7.1 immigrants per 1 000 inhabitants in the Nordic countries in 2004.

Net immigration in the 2000–2004 period has been positive for the Nordic countries. The exception here was Iceland, which had two negative net immigration years; there was a total net immigration loss of 408 as more people left Iceland than entered in 2002 and in 2003. Of the net immigration, 268 601, into any Nordic country from abroad in 2000–2004, Sweden received the most, 52 per cent (138 514). In 2004, fifteen of the highest net immigration regions in terms of numbers in the Nordic countries were located in Sweden, Norway and Finland. Eight of the regions (Skåne, Stockholm, Västra Götaland, Västerbotten, Kronoberg, Värmland, Jönköping and Norrbotten regions) with the largest number of immigrants in the Nordic countries were in Sweden. Six regions (Oslo, Akershus, Rogaland, Hordaland, Nordland and Sør-Trøndelag) were in Norway and one region (Uusimaa) was located in Finland. However, the greatest numbers of immigrants per 1 000 inhabitants were located in only six of those fifteen regions the figures being 4.9 per thousand in the Kronoberg region, 4.5 per thousand inhabitants in the Skåne region, 3.9 per thousand inhabitants in the Västerbotten region, 3.4 per thousand inhabitants in the Rogaland and Nordland regions, 3.3 per thousand inhabitants in the Norrbotten region, and 3.1 per thousand inhabitants in the Värmland region while the highest rate was 640.5 per thousand inhabitants in Fljótsdalshreppur, Iceland. In 2004, three Nordic regions experienced a net immigration loss. In Iceland, three regions had a net immigration loss (Capital area -70, Northwest -37 and Southwest -22), though in total Iceland witnessed a net immigration gain of 530 persons in 2004. Seven of the fifteen regions with low immigration in absolute terms were in Iceland, six could be found in Finland and one each in Denmark and Sweden. Nine of these fifteen regions were also among the regions with the lowest net immigration per thousand inhabitants.

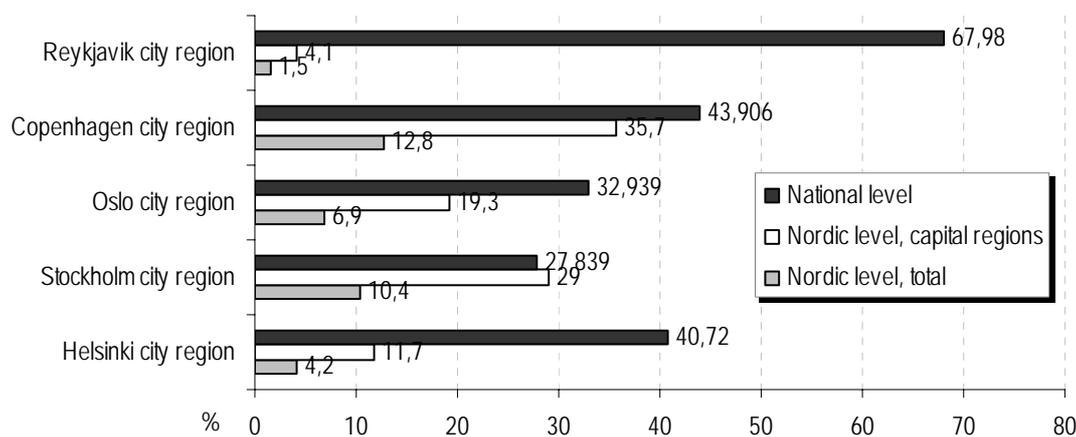


Figure 6.1: Share of immigration to the Nordic city regions in 2003 (in per cent at the national level, at the level of Nordic capital regions and Nordic level, total) Source: Statistical Yearbook of the City of Helsinki 2004: NORDSTAT-database

The immigration pattern in the Nordic countries has however changed markedly. In the 1970s, immigration to the Nordic countries, particularly to Sweden, consisted primarily of labour immigration mostly from Europe. During this time most of ‘foreigners’ living in the Nordic countries were themselves ‘Nordic-born’ persons. In the 2000s, immigrants to the Nordic countries have tended to come from a wider range of countries with many of the new immigrants being born outside Europe. The proportion of Nordic-born persons has therefore

decreased. During the period 2000–2004, total foreign immigration to the Nordic countries amounted to 580 821 persons, of which the net immigration gain was 329 824 persons. The foreign net immigration flows to the Nordic countries were not evenly distributed between the five Nordic countries. Sweden received the greatest amount of this net Nordic immigration in each year in 2000–2004. All of the Nordic countries received net immigration while the immigration of foreign citizens compensated for native emigration in the Nordic countries in 2000–2004.

Nordic countries have experienced a rapid growth in their foreign-born population in recent decades. In 2004, the residents of Nordic countries included 1 073 532 foreign citizens, 4.4 per cent of the total population. In Nordic city regions' in particular the population is growing faster than the total population of the Nordic countries. In 2000–2004, the majority of immigration into the Nordic countries at the national level was directed to major Nordic city regions. Nordic city regions are presented here with capital cities and their regions (Figure 6.1). Helsinki city region includes the city of Helsinki and eleven other municipalities¹² while Stockholm region includes, in addition to Stockholm city, 21 municipalities¹³. Oslo region has 22 municipalities¹⁴ while Reykjavik region¹⁵ nine. Copenhagen region includes the municipalities of Copenhagen and Frederiksberg and the regions of Copenhagen, Frederiksberg and Roskilde. In 2003, capital city regions received 35.8 per cent of all immigration to the Nordic countries. All of the Nordic capital city regions received immigrants, with Copenhagen, Oslo and Stockholm city regions clearly leading in terms of shares. The capital region of Denmark in particular (Copenhagen city region) tempted most immigrants with 35.7 per cent of the Nordic capitals total. In 2003, at the national level Reykjavik city region received 68 per cent of the immigration, but only 1.5 per cent at the Nordic level. Copenhagen city region received 43.9 % of Danish immigration and Helsinki city region 40.7 % of Finnish immigration. Immigration at the national level in Sweden and Norway is also very much directed towards the city regions of Stockholm and Oslo, though a large proportion of immigrants also go to other city regions in Sweden and Norway. Among immigrants in Sweden and Norway another settlement pattern undoubtedly exists: many have settled along the borders of Sweden and Norway, where there has been a particular need for labour, i.e. in the oil and tourist industries. Nordic labour market trends have differed: employment has been stronger in Sweden and Norway than in the other Nordic countries. This difference can be attributed to the fact that most labour migrants to the Nordic countries head to Sweden or Norway. It is obvious that labour migrants may be more attracted to those regions where work is available, i.e. the same regions national residents are attracted to.

For example, in Finland a significant group of immigrants are refugees who are allocated to refugee receiving centres due to this matter the settlement concentrates to specific regions, like Vuolijoki in Kainuu region in Finland. The basic conclusion of this analysis is that the immigration settlement pattern is very similar in general to the settlement patterns of Nordic citizens. Immigration and immigrants' country-internal migration further strengthens the movement of people to urban areas and the subsequent depopulation of rural areas (Heikkilä & Järvinen 2003).

¹² Espoo, Kauniainen, Vantaa, Hyvinkää, Kerava, Kirkkonummi, Nurmijärvi, Sipoo, Järvenpää, Tuusula and Vihti (City of Helsinki Urban Facts 2005).

¹³ Danderyd, Ekerö, Järfälla, Lidingö, Sigtuna, Sollentuna, Solna, Stockholm, Sundbyberg, Täby, Upplands-Bro, Upplands-Väsby, Vallentuna, Vaxholm, Österråker, Botkyrka, Haninge, Huddinge, Nacka, Salem, Tyresö and Värmdö (City of Helsinki Urban Facts 2005).

¹⁴ Vestby, Ski, Ås, Frogn, Nesodden, Oppegård, Baerum, Asker, Aurskog-Holand, Sorum, Fet, Raelingen, Eneback, Lorenskog, Skedmo, Nittedal, Gjerdrum, Ullensaker, Nes, Eidsvoll, Nannestad, and Hurdal (City of Helsinki Urban Facts 2005).

¹⁵ Reykjavik, Mosfellsbær, Seltjarnarneshreppur, Kópavogur, Garðabær, Bessastaðahreppur, Hafnafjörður, Kjalarneshreppur and Kjósarhreppur (City of Helsinki Urban Facts 2005).

Table 6.1: The gross number of immigrants to the Nordic countries in 2004 by exit country.
Source: National statistics offices

Country	Nationals (total)	Nordic countries	Old EU countries (excl. Nordic)*	NMS countries	Other Europe (excl. EU)	Africa	America	Asia	Oceania	Unknown
total										
Denmark	21 990	8 438	13 512	3 400	8 772	2 221	5 013	7 737	1 203	583
Finland	5 222	4 963	3 751	2 358	3 234	1 099	1 300	3 140	201	287
Iceland	2 838	2 358	1 368	407						
Norway	8 618	8 147	5 860	2 765	4 417	3 875	2 853	8 848	354	256
Sweden	14 448	13 021	10 952	4 077	7 116	4 456	5 648	15 200	752	651
in per cent of Nordic immigration										
Denmark	41,4	22,9	38,1	26,1	37,3	19,1	33,8	22,2	47,9	32,8
Finland	9,8	13,4	10,6	18,1	13,7	9,4	8,8	9,0	8,0	16,2
Iceland	5,3	6,4	3,9	3,1						
Norway	16,2	22,1	16,5	21,3	18,8	33,3	19,3	25,3	14,1	14,4
Sweden	27,2	35,3	30,9	31,3	30,2	38,2	38,1	43,5	30,0	36,6
	99,9	100,1	100	99,9	100	100	100	100	100	100

*Luxembourg is missing

Table 6.1 shows that the highest immigration numbers are for native return migrants in all Nordic countries, and Denmark's share is the largest here in per cent of Nordic immigration. Immigration within the Nordic countries has been directed most often to Sweden though immigration volumes to Denmark and Norway are comparable in size. Immigrants from the EU 15 countries, excluding other Nordic countries, have been attracted to Denmark and Sweden, and among immigrants from the New Member States the first choice has been Sweden and then Denmark. Actually, immigration flows have not been as large from the New Member States as was originally expected given the obvious GDP differences. Immigration from distant countries has however been more substantial in volume, for example in the case of Asia, than from closer New Member States. Among single New Member States, for example, Estonians have been moving to Finland, Iceland has attracted immigrants from Poland, and Norway from Poland and Lithuania. There are signs that immigrants have been moving, not only to capital regions, although they are the main destination areas, but also outside the major towns and metropolitan areas. Immigrants are thus to be found in relatively high numbers in other regions such as that of Eastern Iceland, and in the counties of Troms and Finnmark in Norway. Explanation for these immigration flows and their destination areas are usually to be found in relation to specific questions of economic demand.

Table 6.2 shows that the rate of immigration has increased from the expansion of the EU on 1 May 2004 but also that no major immigration has occurred. In the Nordic countries, the number of NMS immigrants accounts only for seven per cent of total immigration in 2000-2005. In the five years 2000-2005, the Nordic countries received 65 635 immigrants from the NMS countries. The main destination countries have been Denmark and Sweden. Sweden did not institute a transition period before allowing free movement of NMS nationals into its labour market, which could explain why it had the highest immigration flows from the NMS countries. Nevertheless, in Norway, Iceland and Finland the impact of immigration flows has increased sharply since the turn of the century.

Table 6.2: The gross number of New Member States immigration to the Nordic countries in 2000-2005.
Source: National statistics offices

	2000	2001	2002	2003	2004	2005	Total
Total							
Denmark	2 817	3 040	2 978	2 814	3 400	4 659	19 708
Finland	1 220	1 700	1 782	1 652	2 358	2 607	11 319
Iceland	537	662	429	247	407	1 912	4 194
Norway	949	1 215	1 668	1 384	2 765	4 805	12 786
Sweden	1 670	1 948	2 388	2 191	4 077	5 354	17 628
in per cent at national level							
Denmark	5,3	5,4	5,6	5,7	6,8	8,9	7,5
Finland	7,2	9	9,8	9,3	11,6	12,2	12,3
Iceland	10,3	13,2	10,2	6,7	7,6	24,6	17,9
Norway	2,6	3,5	4,2	3,8	7,6	12	7
Sweden	2,8	3,2	3,7	3,4	6,6	8,2	4,7

National Trends

Denmark

In 2004, the number of immigrants to Denmark was 49 860, of which 27 870 (55.9 %) were foreign citizens. The main immigration flow, 20 489 persons, came from EU countries. The largest group of immigration from the EU came from the United Kingdom, 3 465 persons, followed by Germany, 3 347 persons. Over half of the total immigration flow (59 %) to Denmark came from outside the EU. The highest inflow of immigrants from outside the EU countries came from other European countries, excluding the EU, the largest immigration flow from non-EU countries to Denmark came from Iceland (1 717), followed by Russia, 571 persons and Switzerland, 538 persons. The largest group of foreign citizens to Denmark came from U.S (1 693). These U.S immigrants also constituted a majority of the immigrants coming to Denmark from outside Europe. The immigration from Asia was 7 737 persons, of which 5 836 were foreign citizens. The overall immigration from Africa to Denmark was 2 221 persons of which 1 361 were foreign citizens.

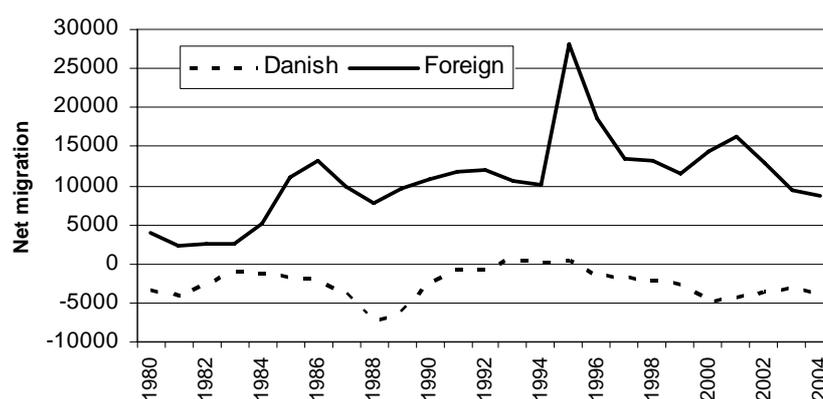


Figure 6.2: Net immigration to Denmark by Danish and foreign citizens 1980-2004. Source: Statistics Denmark

Immigration is a relatively recent phenomenon in Denmark. Until the First World War period Denmark was country of emigration. During the inter-war years neither immigration nor emigration was frequent in Denmark. Denmark had a net emigration deficit in the first

decades of the post-WW2 period but became a net immigration country in the late 1960s. In the 1970s the nature of immigration changed in Denmark from being mainly labour force immigration to that of refugees. Before 1960, foreign residents in Denmark came almost exclusively from other Nordic countries but from 1960 to around 1974 a significant number of immigrants came to Denmark mostly from Turkey, Yugoslavia and Pakistan. Since 1980 Danish citizens have been net emigrants and foreign citizens have been net immigrants to Denmark. Without foreign immigration the total net migration for Denmark would have been negative (Figure 6.2). In Denmark, 63 per cent of the all gross immigration in 2004 is headed for the municipalities of Copenhagen and Frederiksberg and the regions of Copenhagen, Fyn, Nordjylland and Aarhus. These counties were the destination for more than 61 per cent of all the foreign citizens in Denmark in 2004. For example, Odense (in the region of Fyn) and Århus (in the region of Aarhus) host large universities, attracting labour immigrants and students. The biggest proportion, 12.7 per cent of the all gross foreign immigration, was to the region of Copenhagen, followed by Aarhus, 11.9 per cent. The stock of immigrants by citizenship shows the same settlement pattern as the total national population; the region of Copenhagen has 14.8 per cent of immigrants and 11.5 per cent of the national population while the region of Aarhus has 10.7 per cent of the immigrant population by citizenship and 12.1 per cent of the national population. This illustrates rather well the general European immigration pattern – immigrants cluster in the same metropolitan areas and major towns as the national population.

Denmark's positive rate of natural increase and net immigration has caused its population to grow slightly. In the year from 2003 to 2004, Denmark's population increased by 14 000 persons. The number of births exceeded the number of deaths by 8 803. This natural increase was 1 778 greater than in the previous year 2003. However, the effects of ageing on population in Denmark show the common European problem where the proportion of older people is growing and the population of the age group when families are set up is diminishing. In 2004, there was a noticeable amount of old people in Denmark: 18.9 % were under 15 years of age, while 14.9 % were over 65. In 2004, excess of births was positive in twelve out of fifteen regions in Denmark. The positive rate of natural increase was highest in the municipalities of Copenhagen and Frederiksberg (4.9 ‰) followed by Aarhus (4.2 ‰), Roskilde (3.0 ‰) and Ringkøbing (2.4 ‰). In terms of numbers, excess of births was highest in municipalities of Copenhagen and Frederiksberg, at 2 927; while the lowest was in the region of Storstrøm where the amount was -827.

In 2004, the net immigration rate was highest in Sønderjylland (2.0 ‰) followed by Bornholm (1.9 ‰), Roskilde (1.8 ‰) and Vejle (1.6 ‰). In 2004, there was a positive net immigration balance in each of Denmark's regions but only in the region of Bornholm was immigration the single component of population growth. However, positive net immigration was not sufficient to compensate for natural decrease and country-internal migration loss in Bornholm. Regions with a positive natural increase and with positive flows, both net internal migration and net immigration include; Aarhus, Vejle, Fyn, Vestsjælland, Roskilde and Frederiksborg. Vestsjælland gained, in relative terms, the biggest portion of net internal migration with a migration rate of 6.7 per thousand. The worst situation was in the region of Ringkøbing where the net internal-migration loss was the highest in relative terms (at -4.2 ‰), while the region of Ribe (-3.6 ‰) and the region of Viborg (-3.4 ‰) also suffered from a significant country-internal migration loss related to their share of the total national population.

There were eight regions with population loss through country-internal migration and seven regions with a positive number of country-internal migrants. Net internal migration was highest in terms of numbers in the region of Vestsjælland (2 040), followed by the regions of Aarhus (1 199), Frederiksborg (1 195) and Fyn (1 154). In terms of numbers, the municipalities of Copenhagen and Frederiksberg experienced the largest population loss through country-internal migration, at -2 498 persons. In addition, the municipalities of Copenhagen and Frederiksberg suffered from the largest total net migration loss (i.e. the loss from country-internal migration and immigration), losing -2 311 persons. However, in 2004 there were

11 830 immigrants to the municipalities of Copenhagen and Frederiksberg, which was the largest flow of gross immigration – almost one-fourth of the total gross immigration to Denmark. The second largest gross immigration flow was to the region of Aarhus, at 6 602 persons, followed by Copenhagen, 6 045 persons and Bornholm, 3 638 persons. In 2004, none of the eight Danish regions with internal net migration loss, namely, the municipalities of Copenhagen and Frederiksberg, Copenhagen, Bornholm, Sønderjylland, Ribe, Ringkøbing, Viborg and Nordjylland, were able to compensate their total net migration loss through immigration, although they all had positive net immigration figures. The region of Vejle gained

*Table 6.3: Distribution of net and gross immigration in 2004 and the stock of immigrants by citizenship and the stock of immigrants by country birth by region in Denmark in 2004. Index: The share of total population in each region is set at 100. Source: Statistics Denmark; *1: Source: VAN11; *2: Source: BEF1A*

Region	Total population	Stock of	Stock of	All gross immigration	All gross	Total net immigration	All gross
		immigrants citizenship	immigrants by country of birth		emigration (*)		foreign Immigration
Municipalities of Copenhagen							
And Frederiksberg	100	213	210	216	236	36	245
Region of Copenhagen	100	129	140	105	110	63	110
Region of Frederiksborg	100	96	99	86	86	77	70
Region of Roskilde	100	77	82	80	66	202	80
Region of Vestsjælland	100	71	70	54	52	77	50
Region of Storstrøm	100	67	65	64	51	163	55
Region of Bornholm	100	63	63	75	50	213	63
Region of Fyn	100	83	85	83	83	84	81
Region of Sønderjylland	100	94	94	100	87	219	104
Region of Ribe	100	76	71	81	71	169	86
Region of Vejle	100	83	79	80	70	176	79
Region of Ringkøbing	100	73	65	83	78	108	78
Region of Aarhus	100	88	93	109	116	52	98
Region of Viborg	100	61	54	67	56	165	56
Region of Nordjylland	100	71	64	77	79	59	75
Region	All gross foreign immigration (**)	Foreign net migration	Nordic immigration	EU12 immigration	EU10 immigration	Others	
Municipalities of Copenhagen							
And Frederiksberg	261	206	331	325	115	205	
Copenhagen Amt	120	91	80	107	85	129	
Frederiksborg Amt	67	74	39	43	83	91	
Roskilde Amt	48	121	50	41	91	107	
Vestsjælland Amt	38	79	32	21	57	66	
Storstrøm Amt	43	84	33	33	51	76	
Bornholm Amt	50	100	50	25	175	63	
Fyn Amt	82	80	80	69	123	77	
Sønderjylland Amt	87	140	66	168	98	89	
Ribe Amt	71	114	48	83	138	88	
Vejle Amt	68	100	94	55	122	74	
Ringkøbing Amt	75	86	47	47	149	88	
Aarhus Amt	109	75	126	109	102	83	
Viborg Amt	47	81	63	30	81	60	
Nordjylland Amt	83	57	77	67	88	74	

from the largest net immigration flow, with 560 persons; the second largest net immigration flow was to Sønderjylland, 500 persons, followed by Roskilde, with 433 persons.

In Table 6.3 indexes for regional concentration are shown. When we examine immigration figures by the index approach, the different time effects of immigration can more easily be seen; a definition of immigrants by country of birth includes a variety of settlement period for the immigrants in the destination country compared with immigrants defined by citizenship, or compared with immigrants who arrived in the examined period in 2004. In the index approach the regional distribution of the total population is settled by the percentage of each region's share of the total population at 100. So, the percentage of each region's share of immigration is measured as an index relative to each region's share of the total national population. The effect of all gross immigration to Denmark in 2004 does not show a clear concentration with respect to Danish regions. Twelve regions out of the then fifteen in Denmark received less gross immigration than their share of the total national population would suggest, and one region, Sønderjylland, received as large a part of the gross immigration to Denmark as its' share of the total national population would suggest (index = 100 in Sønderjylland). Only the index for the municipalities of Copenhagen and Frederiksberg (index = 216) shows a 116 per cent higher share of all gross immigration than the region's share of the total national population would suggest. Moreover the indexes for the regions of Copenhagen (index = 105) and Aarhus (index = 109) show, to some extent, the effect of concentration. When we look at the indexes for the municipalities of Copenhagen and Frederiksberg according to immigration from Nordic countries (index = 331 in the municipalities of Copenhagen and Frederiksberg) and EU12 countries (index = 325 in the municipalities of Copenhagen and Frederiksberg) the both indexes definitely show high concentrations of Nordic and EU12 citizens, and in the case of Denmark with respect to the region's share of the total national population. The region of Vejle gained the largest flow of overall net immigration. If we look at the net immigration to Denmark in 2004 by an index relative to each region's share of the total national population, we can see that Vejle received more than its share would suggest (index = 176 in Vejle). The second largest net immigration flow was to Sønderjylland and the index relative to its share of the total national population was 219. This means that the effect of net immigration to Denmark in 2004 shows concentration with respect to Vejle and Sønderjylland. The index for Vejle (176) indicates a 76 per cent higher share of the net immigration than the region's share of the total national population would suggest and for Sønderjylland (index = 219) the share was 119 per cent higher than the index would suggest. In addition, foreign net immigration for the region of Sønderjylland also shows high index (index = 140). The region of Roskilde (index = 121) gained more foreign net immigration than their share of the total national population would suggest.

Denmark is a country with a large foreign-born population. In 2004, citizens of foreign countries accounted for 5 per cent of the population. Danish citizens with a foreign background amount to some 41 per cent of the foreign background population in Denmark in 2004. 39.7 per cent (42 170) of foreigners with Danish citizenship were born in Asia. 8.7 per cent (9 638) of Denmark's foreigners with Danish citizenship originated in other Nordic countries. Geographically, 80 per cent of Denmark's Nordic-born population, in 2004, was from the neighbouring countries of Sweden and Norway. 23.4 per cent (53 034) of the foreign citizens in Denmark lived in the municipalities of Copenhagen and Frederiksberg, the second largest population was in the region of Copenhagen 14.8 per cent (33 589) and in the third largest came from Aarhus with 10.7 per cent of the total of foreign residents. The number of immigrants was lowest in Bornholm with 1 200 foreign citizens.

Finland

In 2004, the number of persons who immigrated to Finland was 20 333, of which 11 511 (56 %) were foreign citizens. The main immigration flow, some 70 per cent (14 306) of total immigration to Finland came from Europe. The three largest inflows to Finland came from Sweden (3 570), Russia (2 007) and Estonia (1 854). It should be noted that numerous

immigrants from these countries have former Finnish nationality (Swedes) or others of Finnish descent (Russia, Estonia). Half of the total immigration came from outside the EU. Outside the EU countries the highest inflow of foreign immigrants came from Russia (1 877).

Traditionally Finland has been an emigration nation with negligible net immigration. In the 1980s the direction of migration in Finland was reversed: from 1981 onwards Finland recorded higher immigration than emigration. The nature of migration altered greatly throughout in early 1990s when emigration slowed markedly and in addition the immigration of foreign citizens increased. Large-scale foreign net immigration is a new phenomenon in Finland. It was as recently as 1991 when Finland first experienced foreign immigration that was significant compared to former inflows. In 1991, more people entered Finland than left it, leaving Finland with a net immigration of 13 017 people, of whom 12 122 were foreign citizens. Foreign immigration was exceptionally high and the total net immigration was the highest ever experienced in Finland. In total, in the previous eight year period 1980–1988 Finland had seen a foreign net immigration of 14 379 people. Since then however the average for foreign net immigration – in the period 1992–2004 – has been 6 875 each year. Overall foreign net immigration was confirmed as 7 325 people (total net immigration 6 677) in 2004 thus continuing the pattern of clear positive foreign net immigration. Finnish citizens have been net emigrants for the period 1993–2004 and without foreign immigration the total net immigration for Finland would have been negative. In 2004, a total of 8 822 Finnish citizens immigrated to Finland and 9 470 emigrated from Finland. Thanks to foreign immigration net immigration grew in Finland and, by 2004, was 6 677 persons. Net immigration by Finnish and foreign citizens in the period of 1988–2004 is illustrated in Figure 6.3.

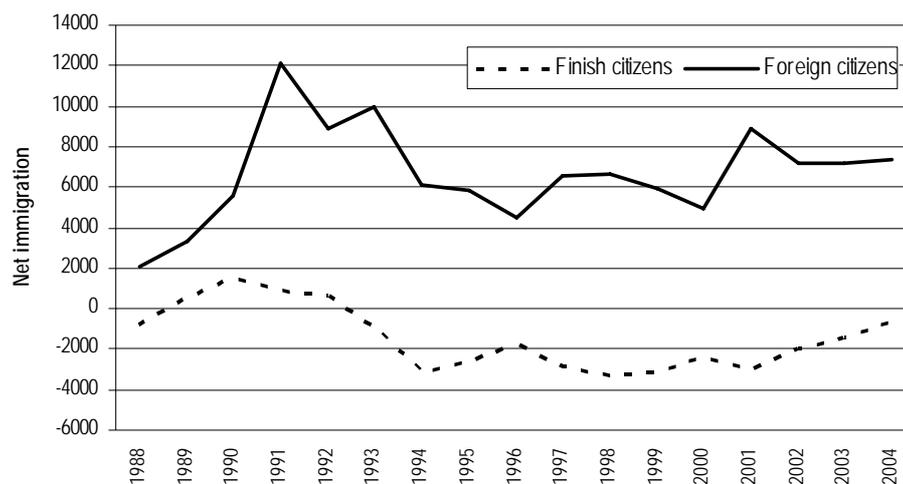


Figure 6.3: Net immigration in Finland by Finnish and foreign citizens in 1988–2004. Source: Statistics Finland Population Statistics: Demographics

In 2004 there were 7 833 immigrants to Uusimaa, which was 38.5 per cent of the total immigration flow to Finland. Varsinais-Suomi received 8.4 per cent (1 701), Pirkanmaa 8.1 per cent (1 656) and Pohjois-Pohjanmaa 5.4 per cent (1 103) of immigrant. The smallest net immigration gain was to Ahvenanmaa (88 persons). The region of Uusimaa also gained the largest flow (1 367) of the overall net immigration to Finland; its proportion was 20.5 per cent. The metropolitan area of Helsinki in Uusimaa in particular gained a positive international migration balance: around 15 per cent of the net immigration to Finland was to the Helsinki capital city region¹⁶, while the proportion for the city of Helsinki was 8 per cent. Along with the city of Helsinki, Tampere (Pirkanmaa), Turku (Varsinais-Suomi), Jyväskylä (Keski-Soumi),

¹⁶ Helsinki capital city region is Helsinki, Espoo, Vantaa and Kauniainen (Statistical Yearbook of City of Helsinki 2005).

Rovaniemi (Lappi) and Oulu (Pohjois-Pohjanmaa) were the municipalities that gained from this net immigration into Finland. In addition to these cities, the city of Salo (Varsinais-Suomi) gained a large amount of foreign immigrants, something that has to do with the location of *Nokia* Enterprises in the city. Varsinais-Suomi gained the second largest share of gross foreign immigration (8.6 %) to Finland in 2004 and the largest foreign flow was to Uusimaa, 39.7 per cent. Over half (56.8 %) of all the foreign immigrants head for the regions of Uusimaa, Varsinais-Suomi and Pirkanmaa.

In 2004, excess of births was positive in 12 regions in Finland. The positive rate of natural increase was highest in the region of Pohjois-Pohjanmaa (6.5 ‰) followed by Uusimaa (5.1 ‰) and Keski-Pohjanmaa (2.8 ‰). In terms of numbers, the excess of births was highest in – the region of Uusimaa, 6 869, and lowest in Etelä-Savo, where the amount was – 576. The high number of births in Uusimaa and Pohjois-Pohjanmaa occurred because of their large proportion of people in the population of the age groups when families are set up. In 2004, in Uusimaa there were approximately 581 000 people (43 %) in the 15-44 age group and in Pohjois-Pohjanmaa 40.2 per cent of the region's population was in the 15-44 age group. In seven regions natural population growth had declined into negative territory in 2004. Etelä-Savo had the lowest rate of excess of births, -3.6 ‰, followed by Etelä-Karjala (-3 ‰) and Kainuu (-2 ‰). 33.2 per cent of the population in Etelä-Savo belongs to the 15-44 age group, with 51.5 per cent being over 45 years old, whereas the proportion of the young population under 15 was only around 15 per cent. In Etelä-Karjala and Kainuu around 49 per cent of the population was over 45 years, 19 per cent were over 65 years and 16 per cent was under 15 years. The demographic dynamics in eleven regions, including Etelä-Savo, Etelä-Karjala and Kainuu, reflects the common European problem of an ageing population where the proportion of older people is higher than the proportion of the young people under the age of 15. Demographic ageing refers to the increase in the relative number of old persons (65 years and over) in the total population due to low fertility and longer life expectancy.

In 2004, the net immigration rate was highest in Ahvenanmaa (3.3 ‰) followed by Kainuu (3.2 ‰), Pohjanmaa (2.7 ‰) and Kymenlaakso (2 ‰). Since natural population growth is low, the composition of the population in many of regions is affected by a positive net country-internal migration and a positive net immigration. In 2004, immigration was the only component of population growth in Kainuu, Pohjois-Karjala, Pohjois-Savo, Etelä-Savo, Etelä-Karjala, Kymenlaakso and Satakunta. Although there is a positive net immigration balance it is not sufficient to compensate for natural population decrease and the country-internal migration loss in these regions. Positive net immigration was able to compensate for a low natural population increase and a negative rate of net country-internal migration in only three regions, Päijät-Häme, Etelä-Pohjanmaa and Pohjanmaa. Regions with a positive natural increase and with positive migration flows, both net migration and net immigration included, Uusimaa, Itä-Uusimaa, Varsinais-Suomi, Pirkanmaa, Keski-Soumi, Pohjois-Pohjanmaa and Ahvenanmaa. Pirkanmaa gained, in relative terms, the largest portion of country internal-migration with a migration rate of 5 per thousand. The population growth of Uusimaa contracted from the highs reached in previous years because its net internal migration gain dropped to just a couple of hundred from close to 10 000 at the turn of the millennium. The situation is still bleakest in the region of Kainuu, where the net internal-migration loss was the highest in relative terms (-8.2 ‰), in Keski-Pohjanmaa (-5.5 ‰) and in Lappi (-4.2 ‰) all of which suffered from a significant net internal migration loss related to their share of the total national population.

Table 6.4 provides indexes for regional centralization. In the index approach the regional distribution of the total population is settled by the percentage of each region's share of the total population at 100. So the percentage of each region's share of immigration is measured as an index relative to each region's share of the total national population. In the context of this index approach the different time effects of immigration can more easily be seen; a definition of immigrants by country of birth includes a longer settlement period of the immigrants in the

destination country compared with immigrants defined by citizenship, or compared with immigrants who arrived in the examined period 2004.

Table 6.4: Distribution of net and gross immigration in 2004 and the stock of immigrants by citizenship and the stock of immigrants by country birth by region in Finland in 2004. Index: The share of total population in each region is set at 100. *Source: Statistics Finland*

Region	Total population	Stock of immigrants by citizenship	Stock of immigrants by country of birth	All gross immigration	Total net migration	All gross foreign immigration
Uusimaa	100	188	174	150	80	154
Itä-Uusimaa	100	89	89	89	111	83
Varsinais-Suomi	100	116	111	97	98	99
Satakunta	100	38	45	41	45	39
Kanta-Häme	100	52	56	59	100	56
Pirkanmaa	100	80	81	91	125	96
Päijät-Häme	100	89	87	87	129	89
Kymenlaakso	100	42	39	43	79	53
Etelä Karjala	100	156	144	113	188	125
Etelä-Savo	100	5	48	61	110	71
Pohjois-Savo	100	37	42	52	58	50
Etelä-Karjala	100	62	56	66	100	81
Keski-Soumi	100	60	67	69	108	57
Etelä-Pohjanmaa	100	26	41	41	46	35
Pohjanmaa	100	103	118	156	215	148
Keski-Pohjanmaa	100	42	62	69	100	54
Pohois-Pohjanmaa	100	44	63	75	69	60
Kainuu	100	57	50	106	256	138
Lappi	100	50	75	114	103	83
Ahvenanmaa/Åland	100	280	300	500	260	460

Region	Foreign net migration	Nordic		EU10	
		immigration	EU12 immigration	immigration	Others
Uusimaa	109	126	182	167	148
Itä-Uusimaa	106	56	39	139	67
Varsinais-Suomi	92	79	87	111	100
Satakunta	45	32	43	59	34
Kanta-Häme	78	28	38	125	47
Pirkanmaa	126	60	136	92	97
Päijät-Häme	103	37	42	150	95
Kymenlaakso	72	17	28	42	72
Etelä Karjala	169	19	44	88	169
Etelä-Savo	97	42	81	42	94
Pohjois-Savo	58	40	40	63	48
Etelä-Karjala	113	31	75	34	119
Keski-Soumi	75	45	69	47	63
Etelä-Pohjanmaa	43	35	30	78	24
Pohjanmaa	158	248	109	73	167
Keski-Pohjanmaa	46	31	15	92	15
Pohois-Pohjanmaa	61	83	68	31	61
Kainuu	225	50	6	31	169
Lappi	89	186	108	33	67
Ahvenanmaa/Åland	500	3860	240	320	120

On the other hand if we look at the net immigration to Finland in 2004 by an index relative to each region's share of the total national population; Uusimaa received less than its share would suggest (index=80 in Uusimaa). This also means that the effect of net immigration to Finland in 2004 does not show a concentration with respect to Uusimaa. The concentration effect in Uusimaa definitely increases when we look at foreign net immigration to Finland. The index for Uusimaa rises then to 109, which means a 9 per cent higher share of the foreign net immigration than the region's share of the total national population would suggest. All gross immigration index rates for Uusimaa are higher than net immigration figures. The lower total effect of net immigration in 2004 is due to high emigration. However, if we look at immigrants by both stocks, country of birth (index= 74) and citizenship (index=188), for Uusimaa both indexes increase markedly, which means that the longer the settlement period of the immigrants in the destination country the higher their concentration in Finland with respect to Uusimaa. In addition to the region of Uusimaa, the regions of Ahvenanmaa (index=300), Etelä-Karjala (index=144), Pohjanmaa (index=18) and Varsinais-Suomi (index=111) show the highest indexes for the stock of immigrants by country of birth. The regions showing the lowest long-term effect of immigration are the regions of Kymenlaakso (index=39), Etelä-Pohjanmaa (index=41), Pohjois-Savo (index=42) and Satakunta (index=45).

Figures show high indexes of foreign net immigration for the regions of Ahvenanmaa (index=500), Kainuu (index=225), Etelä-Karjala (index=169), Pohjanmaa (index=158) and Pirkanmaa (index=126). These regions clearly gain more foreign net immigration than their share of the total national population would suggest. High indexes also reflect a strong immediate regional effect of concentration due to net immigration in 2004 to Finland with respect to these regions. The reason for the much higher indexes in these regions compared to other regions can be explained by the low level of emigration but also, in Kainuu and Pohjanmaa, by the remarkable level of foreign flows which are result of a refugee reception. The highest stock of refugees compared to the share of the total population are to be found in the region of Kainuu (index=531) and then Pohjanmaa (index=291). When we look at the long-term effect of immigration, Kainuu reduces its share of stock of immigrants by country of birth (index=50) to half of what could be expected. Yet, Kainuu's share of the stock of immigrants by citizenship also decreases (index=57). It is clear that the high net immigration flow of foreign citizens in 2004 to Kainuu actually tells us very little about the size of the foreign population in Kainuu. This refugee-based immigration to Kainuu is mainly short-term because these immigrants have a propensity to move away from Kainuu rather than remaining as new immigrant inhabitants (Heikkilä & Järvinen 2003: 110).

The regional distribution of the population in Finland is highly uneven. The population is very much settled in Southern Finland. The foreign population displays the same settlement pattern as Finnish natives, which means that foreigners also live mostly in Southern Finland. 44.8 per cent of the persons born outside Finland were settled in Uusimaa and 9.7 per cent of foreign born persons lived in Varsinais-Suomi. The stock of immigrants by citizenship in Finland at the end of 2005 was 113 852, amounting to 2.2 per cent of the national population. The largest group of foreigners living in Finland in 2004 were other European citizens (37 234), among whom the largest group were Russian citizens. In Uusimaa, the proportion of Russian citizens as a percentage of foreigners was 17 per cent but in Etelä-Karjala their proportion was as high as 67.7 per cent and in North Karelia, 64.4 per cent. Finland has a long common border with Russia in the East, which partly explains the high number of Russian immigrants in the Eastern regions of the country.

Iceland

In 2004 the number of immigrants to Iceland was 5 350 of which 2 416 (45.2 %) were foreign citizens. Most immigrants of foreign nationality were from Portugal (520), followed by immigrants from Poland (233), Italy (164), and Denmark (154). In the late 1990s there was an increase in the number of immigrants while the number of emigrants declined. International migration in Iceland has undergone more annual fluctuations than is the case with internal

migration. A peak was reached in 2000 when net immigration was 1 714 persons. Icelandic citizens have been net emigrants for most of the period since 1961 while foreign citizens have mainly been net immigrants for the same period. Without foreign immigration the total net immigration for Iceland would have been negative (Figure 6.4).

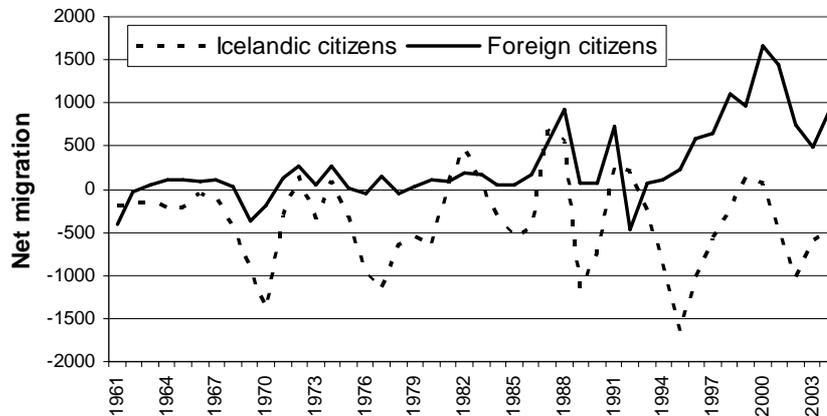


Figure 6.4: Net immigration in Iceland by Icelandic and foreign citizens 1961-2004. Source: StatisticsIceland

In 2004 the size of the population in Icelandic regions (1st of December 2004) varies from 7 698 inhabitants in Westfjords region to nearly 18 400 in the Capital area. Two regions out of eight in Iceland have less than 10 000 inhabitants, namely, the Westfjords and Northwest regions. The three largest population regions are the Capital area (183 990), the Northeast region (26 881), and South region (21 793). Together these three most populous regions have a population of 215 500 inhabitants, which represents 73.5 % of the total population of Iceland. The population of the Capital area of Iceland constitutes 62.7 % of the total population of Iceland. In 2004, the population of East region constituted 4.2 % of the national population, Westfjords region's share was 2.6 % and Northwest region has only 1.3 %. In 2004, there were 10 636 immigrants by citizenship living in Iceland, of which 1 576 were other Nordic citizens. 56.5 % (890) of the Nordic citizens in Iceland were Danish. The stock of immigrants by citizenship in Iceland amounted to 3.8 % of the national population.

In 2004, there were 3 101 immigrants to the Capital area, which was 58 per cent of the total immigration flow to Iceland. East region received 18.1 per cent (969), Northeast region 5.8 per cent (308) and Southwest region 4.5 per cent (243) of immigrant arrivals to Iceland in 2004. The Capital area lost the largest amount (4 820) of migrants through emigration; its proportion was 20.5 per cent of the total emigration from Iceland. In the year from 2003 to 2004, the Iceland's population increased by 3 007 persons. Around 77 % of this increase was due to natural increase and 23 % due to net immigration. The number of births exceeded the number of deaths by 2 309. This natural increase was only eight persons less than in the previous year 2003. In contrast to many other European countries the increase in population in Iceland can in the main be explained by high natural increase.

In 2004, the excess of births was positive in all of the regions of Iceland. The positive rate of natural increase was highest in the Capital area (9.2 ‰) followed by Southwest region (8.9 ‰) and West region (6.7 ‰). In one region, the Northwest, an excess of births was the only component of population growth. Although across the country internal out-migration from many Icelandic regions is high and the net immigration is low, due to the excess of births, the population in many of the regions is refreshing. In 2004, the excess of births was able to compensate for negative migration in four regions. In 2004, there were five regions with positive net immigration figures. The net immigration rate was highest in East region (47.7 ‰) followed by Westfjords region (4.7 ‰), South region (1.9 ‰), Northeast region (0.3 ‰) and West region (0.1 ‰). Although there was a positive net immigration balance in many regions

in Iceland, net immigration was a significant component of population growth only in East region.

Overall, the immigration rate for Iceland was positive (1.5 ‰) in 2004. The capital area gained, in relative terms, the largest portion of country internal-migration with a migration rate of 3.3 per thousand, followed by Southwest (3.1 ‰) and South (2.9 ‰). The only region with a positive natural increase and with positive migration flows, both net migration and net immigration, was the South Region. In 2004, the situation was worst in the region of Westfjords, where the net internal migration loss was highest in relative terms (-28.8 ‰), though Northwest (-14.8) and East region also suffered from a significant net internal migration loss related to their share of the total national population.

Country-internal migration between regions amounted to 9 082 persons in Iceland in 2004, which is 532 more than in the previous year. Measured in relation to the population, internal migration has increased slightly in recent years. In Iceland, areas outside the capital area revealed negative net internal migration in 2004, while positive net internal migration was recorded in two regions besides the capital area. Net internal migration was highest in terms of numbers in the capital area of Iceland, 615, followed by South region, 63 persons, and Southwest region, 53 persons. Moreover when measured in relation to the population, the capital region had the highest rate in terms of net internal migration, (3.4 ‰). The region of Westfjords experienced the largest population loss through country-internal migration in terms of numbers, -222 persons, followed by Northeast region, with -136 persons. Westfjords also suffered from the highest net internal migration loss per 1 000 inhabitants, (-29.4 ‰).

Table 6.5 shows indexes for regional centralization. In the context of the index approach we can easily see the different time effects of immigration; a definition of immigrants by country of birth includes a variety in terms of settlement periods in the destination country compared with immigrants defined by citizenship, or compared with immigrants arriving in the examined period for 2004. In the index approach the regional distribution of the total population is settled by the percentage of each region's share of the total population at 100. So, the percentage of each region's share of immigration is measured as an index relative to each region's share of the total national population. East region gained the largest flow of the overall net immigration to Iceland in 2004 and if we look at the net immigration to Iceland by an index relative to each region's share of the total national population. East region received more than its share would suggest (index = 2664).

Table 6.5: Distribution of net and gross immigration in 2004 and the stock of immigrants by citizenship by region in Iceland in 2004. Index: The share of the total population in each region is set at 100. Source: Statistics Iceland

Region	Total population	Stock of immigrants by citizenship	All gross immigration	All gross emigration	Total net migration	All gross foreign immigration	Foreign net migration
Capital region	100	96	93	105	-23	64	30
Southwest region	100	122	78	97	-84	60	84
West region	100	85	63	69	4	57	39
Westfjord region	100	161	81	62	262	104	138
Northwest region	100	61	45	81	-294	58	-39
Northeast region	100	56	63	67	16	49	42
East region	100	221	431	186	2664	857	1448
South region	100	105	95	93	104	118	103

This also means that the effect of net immigration to Iceland in 2004 shows concentration with respect to the East Region. The concentration effect in East region is very high when we look at any other rate for the region. In addition to East Region the regions of Westfjords (index = 262), and South Region (index = 104) show the highest indexes for total net immigration. A high index also undoubtedly exists for all gross foreign immigration for the East Region (index = 857). East clearly gains (index = 1448) more foreign net immigration

than its share of the total national population would suggest. Its high index also reflects a strong immediate regional effect of concentration due to the net immigration in 2004 to Iceland with respect to East Region. Westfjords Region also had a high index score for foreign net immigration. When we look at immigrants in Iceland by the stock of immigrants by citizenship, the East Region (index = 221) shows the highest index, which means that there are more immigrants in the region than the region's share of the total national population would otherwise suggest. Five of the regions in Iceland had less immigrants than their share would suggest, for example the index for the Capital region was 93, which means that a seven per cent less share of the immigrant population resides there than what would otherwise be expected.

Norway

In 2004, the total number of immigrants to Norway was 36 482 persons, of which 27 864 (76 %) were foreign citizens. Immigration to Norway was highest from Europe (20 296), with the largest inflows coming from other Nordic countries, Sweden (4 308) and Denmark (2 893). The total flow from the Nordic countries was 8 147 with the number of Nordic citizens immigrating to Norway being 4 903. The next largest immigration source region after Europe was Asia (8 848). Immigration from Asia mainly came from Thailand (1 220), Iraq (919) and China (862). In total 1 060 Thai citizens, 979 Iraqi citizens and 512 Chinese citizens immigrated to Norway in 2004. The largest group of immigrants came from Sweden (2 418). Outside the Nordic countries, the highest inflow of foreigners came from Russia 1 724, Germany 1 653 and the United Kingdom 1 653. The second largest groups of foreign citizens immigrating to Norway after Swedes were Russians in 2004. Immigration to Norway from the new EU countries in 2004 was mainly from Poland (1 576) and Lithuania (526), in all 1 573 Polish citizens and 526 Lithuanian citizens moved to Norway.

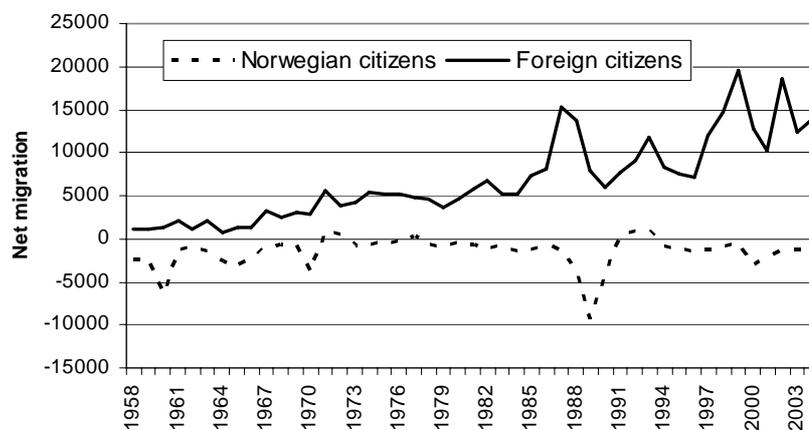


Figure 6.5: Net immigration to Norway by Norwegian and foreign citizens in 1958-2004. Source: Statistics Norway

Norwegian citizens have, in general, been net emigrants for the period of 1958-2004 while foreign citizens have been net immigrants. Without foreign immigration the total net migration for Norway would have been negative. This is illustrated in Figure 6.5. Immigration from neighbouring countries to Norway was the dominant factor historically; in particular many immigrant workers arrived from Finland and Sweden. Later more distant countries have been represented among the Nordic migrant workers, and recently, refugees have assumed a dominant role. In 2004, the majority of the refugee population by country background in Norway were from Iraq, Bosnia-Herzegovina, Iran and Somalia and they comprise 45.3 per cent of the total refugee population, which was 107 208 refugees. At the beginning of 2005,

the immigrant population of Norway accounted for 8 per cent, 364 981 persons, or by citizenship the immigrant population was 4.5 per cent of the total population, 204 731 persons.

One third of the immigrant population by country of birth lived in Oslo in 2004. Only 1 per cent of the Norwegian immigrant population lived in Nord-Trøndelag. The second smallest immigrant population was found in Finnmark (1.1 %). Norway has experienced net immigration since 1960s. The birth rate among Norwegians has declined and the overall percentage of population growth caused by immigration has risen significantly. In 2004, Norway had a total population of 4 606 400. The population rose by 28 900 persons during 2004 which is as much due to net immigration as to excess of births. The reason behind the growth of the immigrant population is net immigration.

In 2004, the excess of births was positive in 16 regions in Norway. The positive rate of natural increase was highest in the region of Oslo (7.2 ‰) followed by Rogaland (6.5 ‰) and Akershus (5.5 ‰). In terms of numbers, the excess of births was highest in the region of Oslo, 3 809, and lowest in Hedmark, where the amount was -324. In one region, Telemark, the demographic development has brought zero population growth and in the regions of Hedmark and Oppland natural population growth declined to negative in 2004.

In 2004, the net immigration rate was highest in Vest-Agder (4.0 ‰) followed by Aust-Agder (3.8 ‰), Nordland (3.4 ‰) and Telemark (3.1 ‰). Immigration to Norway has been important both for growth and for the composition of the population in Norway. In 2004, immigration was the only component of population growth in Hedmark, Oppland, and Telemark. A positive net immigration balance was sufficient to compensate for natural decrease and country-internal migration loss in two regions, Hedmark and Telemark. In 2004, there were twelve regions in Norway with a negative rate of net internal migration and seven regions had gained in domestic migration. Positive net immigration was able to compensate for a negative rate of net internal migration in six regions: Hedmark, Buskerud, Telemark, Aust-Agder, Vest-Agder and Nord-Trøndelag. The largest gain in country-internal migration was to Oslo (4.3 ‰), followed by Østfold (4.1 ‰). In 2004, the situation was worst in the region of Finnmark, where the net internal migration loss was the highest in relative terms (-7.7 ‰), however Sogn and Fjordane (-7.1 ‰), Møre and Romsdal (-5.8 ‰) and Norland (-5.6 ‰) also suffered from a significant net internal migration loss related to their population. Regions with a positive natural population increase and with positive migration flows, both net internal migration and net immigration included Østfold, Akershus, Oslo, Vestfold, Rogaland, Hordaland and Sør-Trøndelag.

In 2004, net immigration to Norway was 13 200, an increase of approximately 2 000 from 2003. Russian, Polish and Thai citizens were the largest groups with 1 400, 1 300 and 900 respectively. Country-internal migration between regions in Norway numbered a total of 109 826 persons in 2004. Net internal migration was most positive in terms of numbers in the region of Oslo (2 274), followed by the regions of Akershus (1 628), Østfold (1 066) and Vestfold (512). The two regions with the highest internal net migration – Oslo and Akershus – were the same as the regions with the highest net immigration. These two counties attract 22.4 per cent of the net immigrants. The net immigration to Oslo was 1 555 persons and to Akershus 1 409. Rogaland gained the third largest amount of net immigration, 1 317 persons.

The region of Møre and Romsdal experienced the largest population loss through country-internal migration in terms of numbers, -1 423 persons. In addition, Møre and Romsdal suffered from the largest total net migration loss (loss from country-internal migration and immigration), -685 persons. The second largest internal migration loss was in Nordland, -1 325 persons. In 2004, the largest total net migration gain was to the region of Oslo, 3 829. The second largest total net migration gain was to Akershus, 3 037 persons, followed by Rogaland, 1 766. The regions of Hedmark (387), Buskerud (650), Telemark (174), Aust-Agder (52) and Vest-Agder (600) have also been able to increase their total net migration gain through immigration even though they suffered from country-internal migration loss. Table 6.6 presents indexes for regional concentration. In the context of the index approach the regional distribution of the total population is settled by the percentage of each region's share of the

total population at 100. Thus, the percentage of each region's share of immigration is measured as an index relative to each region's share of the total national population. The regional distribution of the total net immigration to Norway in 2004 shows that the capital region (the region of Oslo and the region of Akershus) received approximately as large a share of the net-

Table 6.6: Distribution of net and gross immigration in 2004 and the stock of immigrants by citizenship and the stock of immigrants by country birth by region in Norway in 2004. Index: The share of total population in each region is set at 100. *Source: Statistics Norway*

Region	Total population	Stock of immigrants by country of birth	Stock of immigrants by citizenship	Total net immigration	Foreign net immigration	All gross immigration
Østfold	100	100	94	83	90	83
Akershus	100	116	119	100	87	101
Oslo	100	284	220	103	140	204
Hedmark	100	55	65	101	99	69
Oppland	100	52	63	94	88	67
Buskerud	100	111	108	98	97	90
Vestfold	100	81	84	86	78	81
Telemark	100	77	83	109	102	81
Aust-Agder	100	69	82	132	128	84
Vest-Agder	100	96	102	139	135	92
Rogaland	100	88	97	117	107	103
Hordaland	100	70	77	68	63	84
Sogn and Fjordane	100	52	68	110	109	91
Møre and Romsdal	100	47	59	105	101	73
Sør-Trøndelag	100	64	74	103	102	92
Nord-Trøndelag	100	36	50	82	85	58
Nordland	100	42	60	117	114	74
Troms	100	53	76	92	92	104
Finnmark	100	69	101	105	95	112

Region	All gross foreign immigration	A gross Nordic Immigration	All gross EU12 immigration	All gross EU10 immigration	All other gross immigration
Østfold	71	71	35	98	75
Akershus	93	111	85	118	86
Oslo	198	297	181	222	169
Hedmark	68	44	40	64	81
Oppland	70	72	83	58	69
Buskerud	89	112	78	115	80
Vestfold	72	58	56	81	78
Telemark	88	75	88	57	96
Aust-Agder	85	51	67	71	101
Vest-Agder	96	59	76	30	122
Rogaland	103	55	193	93	99
Hordaland	83	63	87	79	88
Sogn and Fjordane	105	57	128	174	103
Møre and Romsdal	80	44	106	82	85
Sør-Trøndelag	99	92	131	124	90
Nord-Trøndelag	63	26	36	51	82
Nordland	80	53	30	40	105
Troms	116	149	132	45	115
Finnmark	126	167	60	37	143

immigration to Norway as these counties' share of the total national population would suggest (index = 103 in Oslo and 100 in Akershus). This means that the immediate or short-term effect of the net immigration to Norway shows no concentration with respect to the capital region.

The highest short-term effect of the net immigration seems to come in the two southernmost counties of Aust- and Vest-Agder, with indexes at 132 and 139 respectively, while the lowest short-term effect of net immigration is to be found in the region of Hordaland (index = 68), where we find Norway's second largest town, Bergen. It is also important to note the relatively high index (117) in the North-Norwegian region of Nordland, reflecting a 17 per cent higher share of the total net immigration to Norway in 2004 than this region's share of the total national population would suggest. If we look at the net immigration to Norway in 2004 for all foreign citizens, the concentration effect definitely increases. The index for Oslo thus rises to 140, which entails a 40 per cent higher share of the net immigration of foreigners than the capital's share of the total national population would suggest. On the other hand the index for the surrounding region of Akershus decreases to 87. This reflects the fact that a strong flow of foreign citizen immigration exists to the capital of Oslo. The southern counties of Aust- and Vest-Agder and the North-Norwegian region of Nordland have much higher proportion of the foreigner's net immigration than their share of the national population would suggest. When we look at the total gross immigration in 2004, the figures change quite substantially. The index for Oslo rises to 204, which means that the share of the total gross flow of immigrants to Norway is about twice as high in the capital of Oslo as the capital's share of the total national population would suggest. Besides the capital of Oslo, it is the region of Rogaland and the two northernmost counties of Troms and Finnmark that have the highest indexes of gross immigration.

For example, many Finnish nurses have moved to the county of Troms to work in the health care sector. The region of Sogn and Fjordane in West Norway also shows high indexes for the gross inflow of foreigners. The lowest gross inflow of immigrants compared to the share of the total population is to be found in the region of Nord-Trøndelag and the regions of Oppland and Hedmark. The regional distribution of the stock of immigrants by citizenship shows, to some extent, what happens, after some years, with regional patterns of immigration. The central effect is now very clear: the capital of Oslo increases its index to 220 and the surrounding region of Akershus also increases its index (119) clearly above the counties share of the population, although much lower than the capital city of Oslo. The intermediate term effect of immigration is also higher than the share of the population in the region of Buskerud (featuring the town of Drammen). Country of birth can be used to investigate the long-term regional effect of immigration. The index of the capital of Oslo now increases to 284, which means that the long-term effect of the immigration to the capital of Oslo is almost three times higher than what the capital's share of the total national population would otherwise suggest. The region of Akershus also shows a high index score, though there are hardly any additional effects compared with the somewhat shorter intermediate term effect (indexes: 119 and 116 respectively). The county showing the lowest long-term effect of immigration is that of Nord-Trøndelag.

Sweden

In 2004, a total of 62 028 persons immigrated to Sweden while net immigration was 25 442. Of these immigrants, 14 448 were Swedish citizens. Compared to 2003, gross immigration decreased by 767 persons. In 2004, the majority of immigration came from other Nordic countries and from Asia. The largest group of persons from other Nordic countries came from Norway, 4 884, followed by Denmark, 4 674, while immigration from Asia came especially from Iraq, 2 054. Immigration from new member states of the European Union also continued to rise. In 2000, 1 670 persons immigrated to Sweden from the new member states and in 2005 Sweden already received 5 354 new member state immigrants. In 2004, 4 077 people immigrated to Sweden from these ten new EU countries, 2 521 of whom were from Poland.

Inflows of immigrants to Sweden have fluctuated in terms of totals and in respect of exit countries since World War II when immigration to Sweden began notably to increase (Figure 6.6). In the late 1960s and the 1970s workforce immigration predominated. In 1984 Sweden received a total of 31 591 immigrants and the excess of immigrants was 8 567. Net immigration reached a peak of 50 702 in 1994 mainly because of the existence of large groups of refugees. By 1996 the number of net immigrants had fallen to 5 690 but rose again in 2001 to around 28 000. The number rose slightly again to around 31 000 in 2002 and then fell back to around 28 000 in 2003. In 2005, the number of net immigration was 27 111. Overall, Swedish citizens have been net emigrants for the period 1984–2005 and the positive net immigration to Sweden during that time is due to positive net foreign immigration. Without foreign immigration the total net migration for Sweden would have been negative.

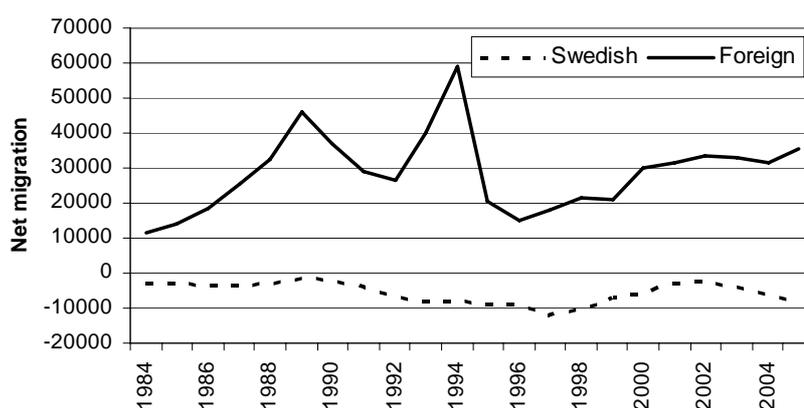


Figure 6.6: Net migration to Sweden by Swedish and foreign citizens 1984–2005. Source: Statistics Sweden

In 1970 about 37 percent of the population lived in the regions with metropolitan cities, while 54 per cent of the foreign born population lived in the same regions. The share of foreign born persons in the regions with metropolitan cities had however increased to about 65 per cent by 2005. At the same time 51 per cent of the total population lived in these regions (SCB 2004, 2006). The large share of foreign-born persons in the metropolitan areas in Sweden follows the general European development (Vandermotten et al. 2004, 2005). In 2004, the size of the population in Swedish regions varied from 57 661 inhabitants in Gotland to 1 872 900 in the region of Stockholm. Three regions out of twenty-one in Sweden had more than one million inhabitants in 2004 (Stockholm, Västra Götaland and Skåne). Together these three most populous regions have a population of 4 555 774 inhabitants, which represents around 50 per cent of the total population of Sweden. The population of Stockholm region constitutes 20.8 per cent, around one-fifth. The population of Gotland constitutes only 0.6 per cent of the total population of Sweden, Jämtland has 1.4 per cent of the national population and Blekinge's share is 1.7 per cent. In 2004, there were in total 481 141 foreign citizens living in Sweden, of which 33.1 per cent (159 170) were settled in the region of Stockholm. 17.3 per cent (83 136) of the foreign citizens were living in the region of Västra Götaland and 14.4 per cent (69 163) in the region of Skåne. The population of foreign citizens displays the same settlement pattern as that of Swedish citizens, which means that foreigners predominantly live in the most populous regions in Sweden. The number of foreign citizens was lowest in Gotland's region, 955, amounting 0.2 per cent of the total population of foreign citizens. The three regions of Sweden in which the proportion of residents of foreign citizens in 2004 was higher than the average of 5.3 per cent for the whole country were Stockholm, Skåne and Västra Götaland.

In 2004 the excess of births was positive in eight regions in Sweden. The positive rate of natural increase was highest in the region of Stockholm (5,5 ‰) followed by the region of

Uppsala (3,9 ‰) and the region of Halland (1,7 ‰). In 13 regions the natural population growth was negative in 2004. The region of Kalmar had the lowest rate of excess of births, -3,9 ‰, followed by Gotland (-3 ‰) and Jämtland (-2,9 ‰). Stockholm (-2 538), Kronoberg (-145) and Västerbotten (-41) regions in Sweden differ from the other net immigration gain regions in that more internal migrants moved out rather than in. These regions enjoyed positive net immigration but lost a large number of people through internal migration. Eight regions had a positive net in-migration from the rest of the country; Skåne region in particular had a significant (1 952) in-migration from rest of Sweden in 2004. All counties enjoyed positive net immigration.

Table 6.7: The regional distribution of migration in Sweden 2005. *Source: Statistics Sweden*

	Net domestic			Net immigration	Total net migration
	migration	Immigration	Emigration		
Stockholms län	1223	18470	12814	5656	6879
Uppsala län	568	1903	1686	217	785
Södermanlands län	232	1403	680	723	955
Östergötlands län	-756	2108	1077	1031	275
Jönköpings län	-77	1559	751	808	731
Kronobergs län	-500	1253	523	730	230
Kalmar län	-446	1094	440	654	208
Gotlands län	-126	163	103	60	-66
Blekinge län	-116	913	329	584	468
Skåne län	2036	11918	6577	5341	7377
Hallands län	1180	1446	927	519	1699
Västra Götalands län	861	10409	6444	3965	4826
Värmlands län	-637	1997	895	1102	465
Örebro län	-560	1663	615	1048	488
Västmanlands län	-212	1528	776	752	540
Dalarnas län	-374	1361	623	738	364
Gävleborgs län	-359	1306	629	677	318
Västernorrlands län	-565	1286	446	840	275
Jämtlands län	-389	650	311	339	-50
Västerbottens län	41	1309	659	650	691
Norrbottnens län	-1024	1490	813	677	-347

In 2005, a total of 65 229 persons immigrated to Sweden while the net immigration was 27 111. In 2005, the number of immigrants to the region of Stockholm was 18 470, which was 28.3 per cent of the total immigration flow to Sweden. The region of Stockholm also gained from the largest flow (5 656) of net immigration in Sweden. The region of Skåne received 18.3 per cent (11 918) and Västra Götaland 16 per cent (10 409) of immigrant arrivals to Sweden in 2005. These same regions were also listed as those with largest foreign populations in Sweden. The smallest proportion of gross immigration was to the region of Gotland, 163 persons, followed by the region of Jämtland with 650. The regions of Stockholm, Skåne and Västra Götaland attract 62.5 per cent of the immigrants. In 2004, more than 64 per cent of all foreign-born persons in Sweden resided in the three counties with metropolitan areas; Stockholm, Skåne and Västra Götaland. Table 6.7 shows the regional distribution of net domestic migration and immigration in 2005 in Sweden.

Conclusion

The Nordic countries attract immigrants from all over the world. The numbers are small in some countries, for example in Iceland and Finland while the main destination country remains Sweden. The diversity of immigrants' countries of origin can be explained not only by labour immigration but also by the fact that refugees have been received into the Nordic countries from across the globe.

Geographic proximity and a common language affect the choice of destination country among immigrants, as World System Theory points out. For example in Finland, the biggest immigration flows are from the neighbouring countries of Russia, Estonia and Sweden. Many of the immigrants from Russia and Estonia are perhaps also often familiar with Finnish language before moving there. Åland has, similarly, gained immigrants from Sweden as they can use Swedish language there.

Immigration from the EU-10 member states have not arrived in numbers once predicted, although some increase did occur. Sweden has been the most attractive destination of the Nordic countries in terms of volume, but in terms of the national shares of NMS immigration Sweden's percentage has not been so remarkable. The proportion of NMS immigrants has been highest in Iceland. One explanation, after EU enlargement, for Sweden's highest absolute numbers of NMS immigrants is perhaps the fact that, unlike Finland, no transitional arrangements were put in place. GDP differences between the Nordic and the EU-10 countries create the possibility that higher immigration flows could occur but in reality the countries of greatest attraction for the EU-10 immigrants have been the English speaking countries of the United Kingdom and Ireland which also did not put in place transition periods.

At the regional level, the capital areas and major cities have been the most attractive destinations for immigrants to the Nordic countries. The concentration of immigration to the same cities where the native population is moving in the country-internal migration process has thus accelerated the urbanisation process. Refugee-receiving municipalities have also often acted as short-term living areas after which many refugees subsequently move to the main growth centres. This perhaps also indicates that immigrants concentrate to those areas where people of the same ethnic background are already located. Networking creates greater possibilities to adjust and/or integrate into the new country. Networking also reduces the risks connected with international migration as the New Economic Theory of Migration and Network Theory emphasize. Thus, social and psychological costs can be reduced by the 'family and friends' effect and also, in economic terms, it is easier to find a job through networking. Their potential labour market participation is however the topic of discussion in the next chapter.

7. Migration and Labour Market Participation

Backgrounds and accomplishments

This chapter deals in the main with the question of the ‘in-sourcing’ of immigrant labour as a part of the total national labour force and particularly with how this labour supply functions in relation to the labour market and in different sectors of the economy and different regional labour markets. We have noted in the previous chapters how the demographic change occurs at the national and regional level both according to the ageing of the population and to in- and out-migration in the regions. Furthermore, we have seen how the number of immigrants varies across the Nordic nations as well as how the regional distribution of immigrants takes place both in the years of immigration as well as after some years of living in the destination countries. The patterns of size and of the regional distribution of immigrants will also reflect the potential supply of immigrant labour, though there may be differences both across the Nordic nations as well as between the regional labour markets in this respect. Important questions to be raised here include the following: To what degree do the immigrants take part in the labour market in the Nordic countries and to what degree do their labour market participation rates vary across the different regional labour markets? Furthermore, it is also important to ask how homogeneous the different immigrant groups are with respect to labour market participation. A number of hypotheses put forward in this respect envisage that immigrant labour is likely to offer its labour to some parts of the economy more than to others. This pattern of potential selection reflects the demand side of the labour market, where some employers more than others are willing to cover the vacancies with immigrant labour. As noted in the theoretical discussion, immigrants often offer their supply of labour to a particular part of the economy which often has difficulty filling vacancies with native labour. This predominantly occurs in various branches of the private services sector (e.g. personal services, cleaning industries, hotels and restaurants, retail and building and construction), but also in manual functions in public sectors like health and social services. In the same way the need for labour in the labour intensive sections of manufacturing industry is also often reliant on immigrant labour. On the other hand specific labour market functions exist that can only be covered by more qualified and well educated immigrants able to cover shortages in the native labour force both quantitatively and qualitatively. This may include technological functions in many of the manufacturing sectors as well as specialist functions both in the private and public services. An example of the latter includes the need to fill vacancies for medical staff such as doctors and nurses in many regions. As such then we will also try in this chapter to answer questions such as in which sectors of the economy do immigrants participate? In addition we will also address questions concerning the relative level of education among immigrant labour.

Finally, we will also raise the question of whether immigrant behaviour changes over time, particularly in relation to the length of time they have lived in their country of destination, according to the level of labour market participation as well as their participation in different sectors of the economy and in different regional labour markets. We expect that their participation behaviour may vary from the first year of immigration and alter after a period of settlement in the destination country. As newcomers many immigrants have little information of the destination country, while knowledge of language may vary from some to almost no knowledge at all. Their potential for labour market participation should therefore grow as they gradually increase their knowledge of the labour market in the destination country and in parallel with increased knowledge of the language of their destination country.

In the process of creating an extended European labour market however expectations exist in respect of creating an increased temporary flow of labour. This means that people now come for shorter periods of time to work without actually immigrating to the destination

countries. Large discrepancies in wage levels between the countries of origin and destination make it profitable for people to move temporarily to find work. These temporary workers will obviously also represent a certain supply of labour while being dependent on the extent of this type of labour. Most obviously this supply of labour will represent a small part of the total labour supply from immigrants. On the other hand, this temporary supply of labour might represent a larger part of the annual change of net demand for labour in the destination countries than their percentage of the total supply of immigrant labour would suggest.

Due to the existence of different approaches to data collection and handling and to better illuminate these topics, we will present the results for each country separately. Basically the data has been collected from published official statistics in each country. Due to differences between the countries in this respect, the methods, contents and details of the analyses however vary somewhat across the nations. The results from all countries should however, in sum, indicate to some extent plausible answers to the questions put forward above. The sections are mainly organised such that labour market participation among immigrants and natives is initially investigated at the national level. Thereafter, we break down some of the results at the regional level, and mostly then at NUTS 3 level. The most detailed analyses here are to be found in the Norwegian section. This is due to the fact that in Norway we have used special flow data from 2002-2003 specifically constructed for this project. In the Finnish section we also use, in part, flow data, but this is restricted to what it has been possible to obtain from earlier data collected in relation to the former ERDEC-project (see e.g. Persson et al 2004). The data on other nations is limited to what it has been possible to derive from published official statistics.

Labour market participation

Providing a general overview figure 7.1 indicates the dimension of labour market participation by foreign citizens in each of the Nordic countries in the first years of the 2000s. The results in each country concern the share of the total labour force. More generally we find that the infusion of foreign labour into the national labour force is greatest in Sweden. The highest share of foreigners is, however, to be found in Iceland for 2005. Generally, both Iceland and Norway have a higher share of foreigners in their labour force as compared to Denmark and Finland, where Finland consistently shows the lowest percentage of foreigners in their labour force across all Nordic nations. The labour force is defined as the sum of employed persons and unemployed persons. The figure below then does not necessarily tell us the percentage of foreigners actually in work. Unemployment rates among foreigners vary both between nations as well as between regions.

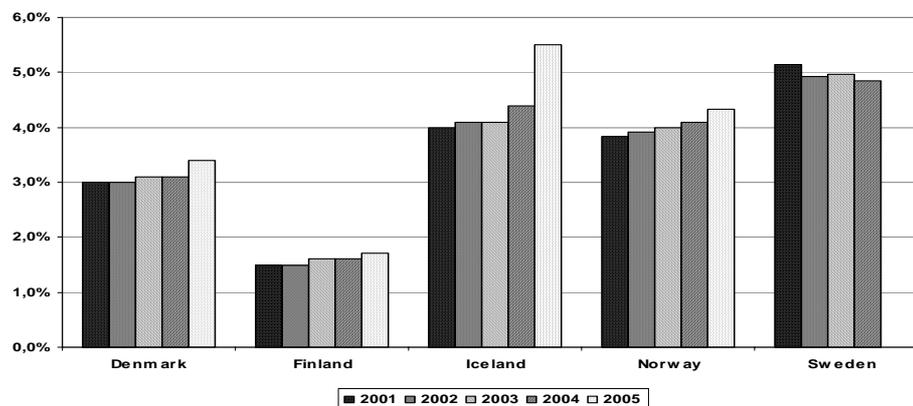


Figure 7.1: The share of foreign citizens in the labour force in the Nordic countries 2001-2005 (The figures for 2005 concern only those foreign citizens born abroad).

Source: Unpublished data compiled 2006 by Frank Fridriksson, Directorate of Labour, Iceland.

In the figure above information for Sweden in 2005 is lacking. However, Sweden differs from the other countries as it saw a declining percentage of foreigners in the national labour force during the period 2001-2004, while all other Nordic countries show an increase in the percentage of the national labour force consisting of foreign labour. This special Swedish phenomenon may have its background in a lower inflow of employed students though the history of labour immigration is both longer and more extensive in Sweden as compared to the other Nordic nations. The potential change from foreign citizenship to citizenship of the destination country is thus probably stronger in Sweden than in the other countries.

Denmark

Figure 7.2 below shows labour market participation in Denmark distributed by Danish counties and by broad nationality groups for 2005. The total population in the age group 16-66 years is further distributed into three status groups; employed, unemployed and those outside the labour force. Thus it is possible to investigate the regional variation in employment participation, labour force participation (employed plus unemployed) and those not participating in the labour force. The broad nationality groups consist of population of Danish origin, other Western origin and non-Western origin.

By comparing the different figures, the significantly highest employment rates are definitely to be found among people with Danish origin, while other Western immigrants have a higher employment rate as compared to the population of non-Western origin. These differences between nationality groups are also to be found in respect of unemployment rates. The population of Danish origin shows a somewhat lower level of unemployment as compared to other Western immigrants, while the highest unemployment rates are to be found among non-Western immigrants. Consequently, the highest level of inactivity on the labour market is found among the non-Westerners.

When we turn to the regional level a number of general differences in participation rates emerge where the island of Bornholm in the Baltic Sea definitely shows the lowest employment rate and the highest unemployment rate. Consequently, the rates of inactivity are also high on Bornholm, with however one exception. The unemployment rate of the non-Western immigrants here is so high that the rate of inactivity outside the labour force among non-Western immigrants actually falls far below the Danish average. The highest employment rates are generally found in the regions surrounding the capital city of Copenhagen and in the more central parts of Jutland in the Western part of the country.

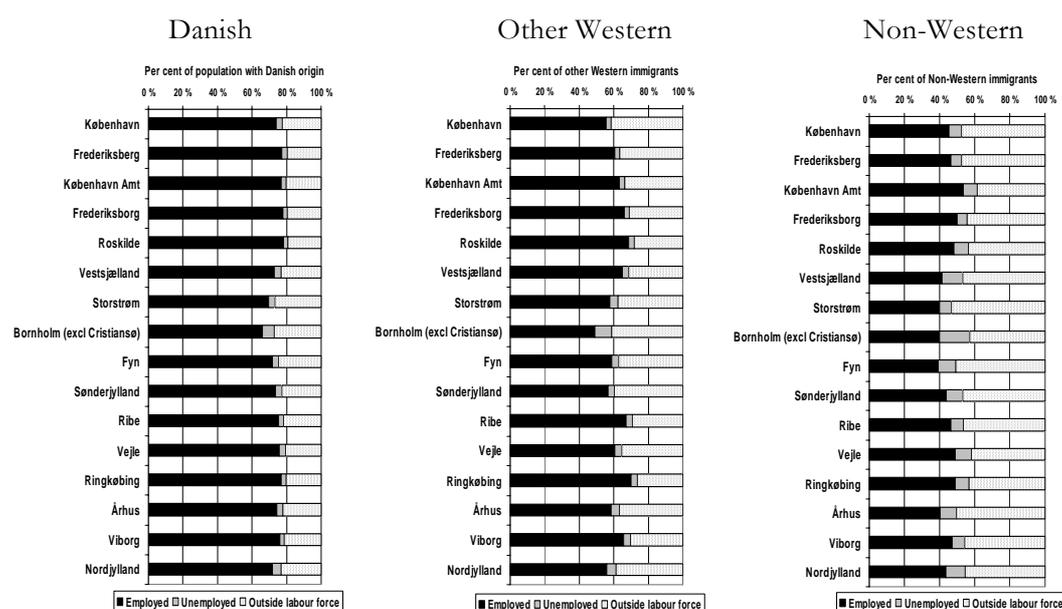


Figure 7.2: Population by countries of origin in the age group 16-66 years by status groups and Danish counties in 2005. Percentage of population within each group *Source: Statistics Denmark*

The structure by statuses among the population of Danish origin differs less between the regional labour markets as compared with the structure between other Western and non-Western immigrants respectively. The regional structure of employment rates among the Danish population follows the main distribution of high rates in the surrounding regions of Copenhagen and some central regions at Jutland, while the lowest rates are to be found in the counties of Bornholm, Storstrøm, Fyn, Nordjylland and Vestsjælland as well as in the city areas of the capital of Copenhagen. Consequently, the highest inactivity rates outside the labour force are also to be found in these counties showing the lowest employment rates. Besides the county of Bornholm, the highest unemployment rates among the Danish population are to be found in the county of Nordjylland.

The highest employment rates among other Western immigrants are found in the counties of Ringkøbing and Ribe in the western part of Jutland and in the county of Roskilde, which is situated within the areas of commuting of the capital of Copenhagen. The highest unemployment of other Western immigrants is as well found in the counties of Bornholm and Nordjylland. In addition to these two counties, the inactivity rate among other Western immigrants is very high in the city areas in the capital of Copenhagen.

Finally, when looking at the non-Western immigrants, the highest employment rates are to be found in the county of Copenhagen, which surrounds the city area of Copenhagen, in the county of Fredriksborg north of the capital area, and in the counties of Vejle and Ringkøbing in Jutland. As noted previously, unemployment rates are very high among non-Western immigrants in the county of Bornholm, but also in counties like Vestsjælland and Nordjylland. The highest rates of inactivity among non-Western immigrants are to be found in the counties of Storstrøm, Fyn and Århus.

Finland

In the same manner we have examined the different labour market participation rates among the native Finnish population and the foreign population in Finland. We will first look at some national level tendencies before breaking some of the results down at the regional level.

Figure 7.3 below shows the labour market participation rates of the whole population in the age group 16-74 years in Finland in the years 1999 and 2000. The population is broken down into four different status groups; employed, unemployed, students and others outside the labour force. Compared to Denmark in the previous section, employment rates are somewhat lower, while unemployment rates are higher. As the figure illustrates, only small differences occur in participation rates between these two years, with a slightly higher employment rate in 2000 very close to 60 per cent of the population. When we include the unemployed, the labour force participation rate rises to slightly above 66 per cent of the total population within this age group.

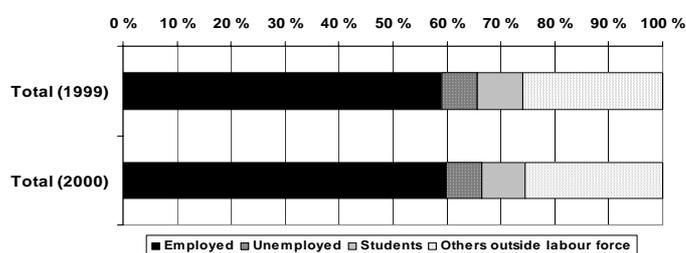


Figure 7.3: Labour market participation of population in the age group 16-74 years in 1999 and 2000 in the Finnish labour market. Percentage of total population in the age group 16-74 years. *Source: Statistics Finland*

In figure 7.4 these participation rates are shown for immigrants to Finland in 1999 illustrating how they eventually change their participation rates the year after immigration in the year 2000. The participation rates for all immigrants to Finland are further broken down by gender and education. In this presentation the results include immigrants in the age group 16-

74 years while the status groups used in addition to those shown in figure 7.4 also include retired persons.

The total results show that the immediate employment participation rate is rather low. For all immigrants in 1999 the average employment rate was just above 30 per cent. We also note that approximately 20 per cent of the immigrants immigrated directly into unemployment, while about 12 per cent were students. Approximately 30 per cent of all immigrants in this year were inactive and classified among others outside the labour force. However, the employment participation rate among immigrants increased the year after immigration, with a rise of approximately 10 percentage points, to well above 40 per cent. The unemployment rate and the percentage of immigrants outside the labour force decreased correspondingly, while the percentage of students and retired persons were more stable.

Furthermore we note that the employment rates among male immigrants are significantly higher than those for women. In the first year of immigration the employment rate for men was above 40 per cent, while the corresponding female rate was just above 20 per cent. Both male and female employment rate however increased from the first to the second year after immigration and mostly then for women. The unemployment rate was also clearly higher among female immigrants as compared to newly immigrated men as well as the inactivity rate of those others outside the labour force.

When we turn to education the employment rates definitely increase with higher education. While initial employment rates in the first year of both persons with low and secondary education are approximately 30 per cent, the employment rate for higher-educated persons is above 45 per cent. All educational groups increase their employment rates from the first to the second year after immigration. The highest share of unemployment is, however, found among immigrants with secondary and higher education, although these rates fall significantly the second year after immigration. The highest share of students is not surprisingly found among immigrants with secondary education and thus embarking on their higher education. The inactivity rate of immigrants outside the labour force is definitely highest among poorly educated immigrants.

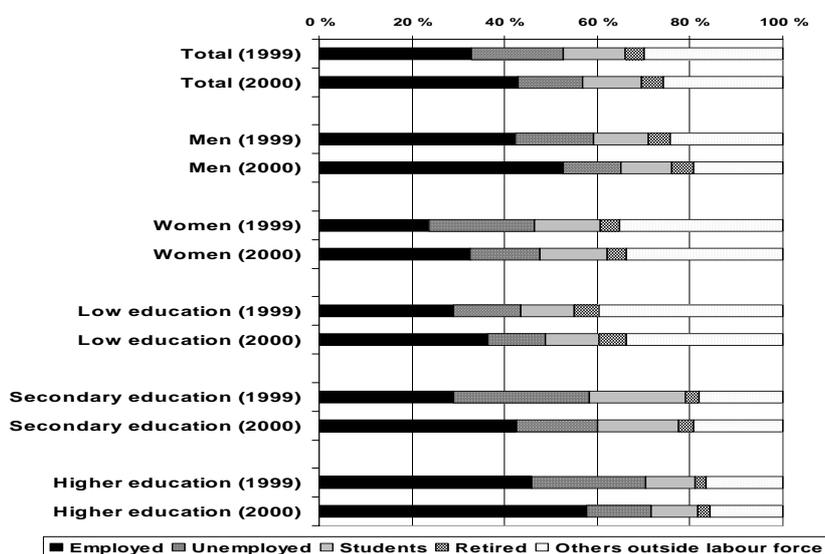


Figure 7.4: Labour market participation of 16-74 years old immigrants in the year of immigration (1999) and in the following year after immigration (2000) in the Finnish labour market. In total, by gender and by education. Source: Statistics Finland

Furthermore, employment in Finland in total and among immigrants is broken down by different sectors of the economy. Figure 7.5 shows the sector structure of all employed in Finland broken down by gender in 1999. In total a sector classification of 28 sectors in addition to one sector showing unspecified production is used. The largest sector in this

respect is health and social work, and especially then among female employed, where ¼ of all female employed in Finland are to be found. The manufacturing sectors also have a solid position, both in traditionally manufacturing branches as well as in the more modern ICT-branches. As could be expected employed males dominate these sectors. The same is to be found in construction, wholesale and transport, while female dominance is clear in the retail, hotel and restaurant sectors as well as in basic education.

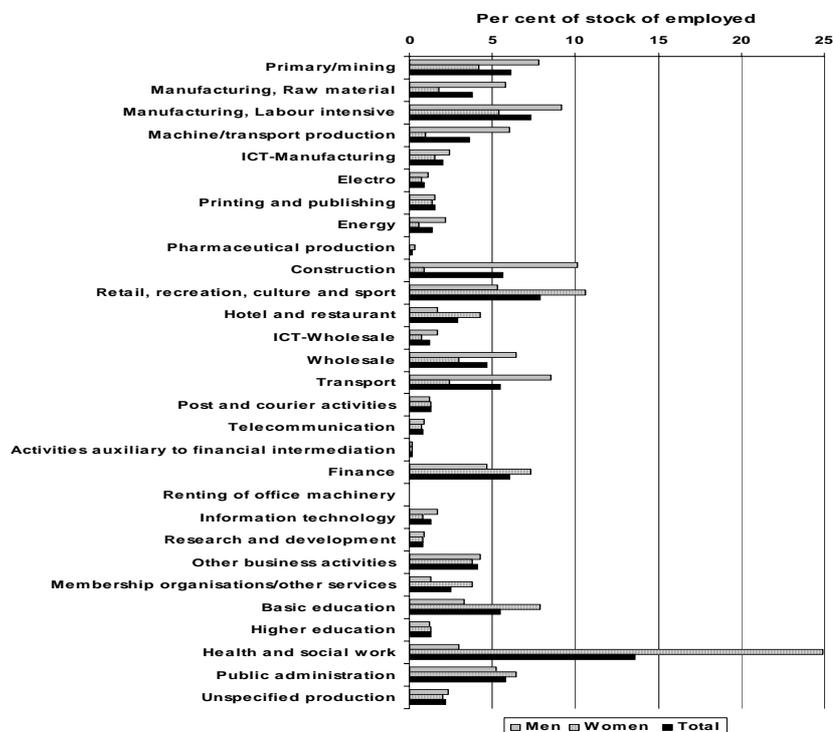


Figure 7.5: Employment structure of population of Finland in 1999 by gender. Source: Statistics Finland

In figure 7.6, this employment structure is used to illuminate the newly immigrated male and female employed. The figures show the employment structure in the first year of immigration (1999) and how this structure looks the year after immigration (2000). Figure 7.6 shows that a very high share of male immigrants goes into the ICT-manufacturing sector. This is opposite to the main structure of all employed in Finland, where the ICT-manufacturing sector has a much lower share of the employment compared with other manufacturing branches. However, a sizeable share of newly employed male immigrants gains employment in the other manufacturing branches. Furthermore, the main sectors for new immigrant male labour are finance, construction, hotel and restaurants and the more modern high qualification service sectors like information technology and other business activity.

When we turn from the first year of immigration to the year after immigration, some structural change tendencies emerge, though they are not strong. Some tendencies towards a somewhat lower participation in the ICT-manufacturing sector emerge while the share of employed male immigrants increase in labour intensive manufacturing, construction, retail, hotel and restaurant and the service branches of information technology and other business activities. It is however important to note the fall in unspecified production, showing a significantly higher share of immigrants in specific sectors in the year after immigration.

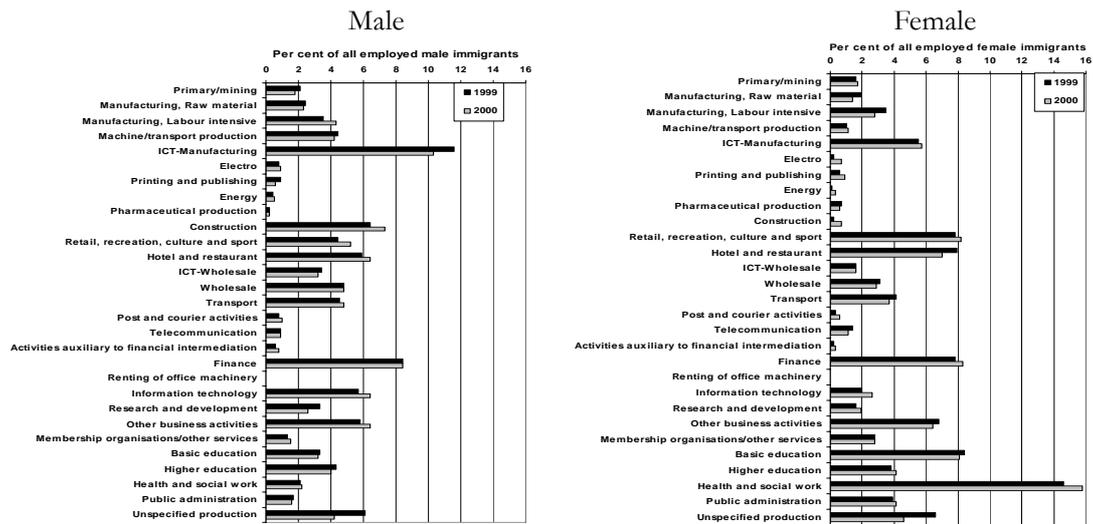


Figure 7.6: Employment structure of immigrant to Finland in 1999 and the year after (2000) by gender.

In the same manner figure 7.6 also highlights the employment structure of female immigrants. The highest share of employed female immigrants is undoubtedly to be found in the health and social work sectors. Other important sectors however include retail, hotel and restaurant, basic education, other business activities and finance. The high share of newly immigrated females employed in finance is however partly due to the number of females that become employed in the industrial cleaning sector which was included in this sector in our former ERDEC project. It is also worth noting the relatively high share of newly immigrated females in the ICT-manufacturing sector.

Structural changes also occur among employed immigrant women when we turn from the first year of immigration to the year after immigration. The strongest increase is to be found in health and social work, though ICT-manufacturing, retail, finance and information technology also increase their share of immigrant women. On the other hand, raw material and labour intensive manufacturing, hotel and restaurants and other business activities all show a reduced share of female immigrant labour.

Immigrants of different origins have fared differently in the labour market (Figure 7.7). Those born in Finland's neighbouring countries, in Estonia and Sweden, as well as those born in Great Britain and Germany, have taken the most active role. Finnish returnees have also attained a relatively high employment level. Of those born in distant countries, the Chinese immigrants' employment level is on par with that of Western immigrants. The Chinese immigrant population includes many students. The weakest, and, in this respect, the most vulnerable group in the labour markets have been the Iraqis, the majority of whom are refugees: their employment level is extremely low and their unemployment level is noticeably higher than that of other groups. As in the case of other groups, the employment level of Iraqis improved slightly after living a year in Finland (Heikkilä and Pikkarainen 2006).

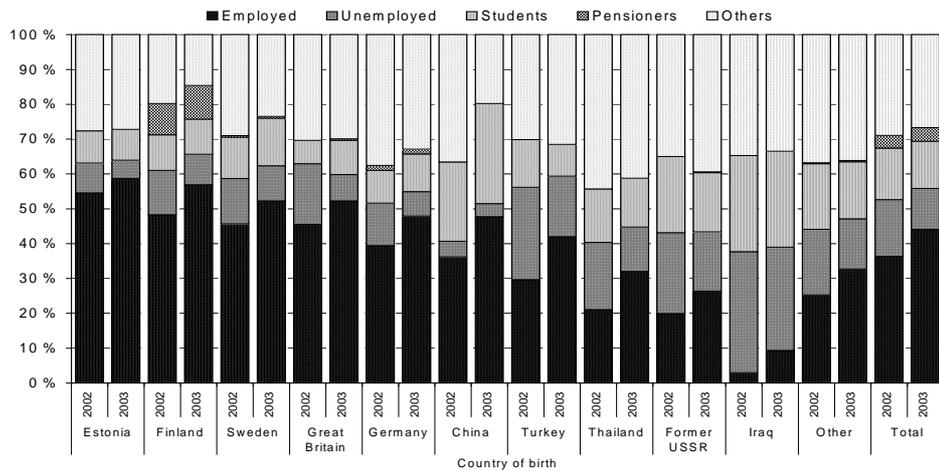


Figure 7.7: Main activity of immigrants in the age group of 15-74 years olds who moved to Finland in 2002, at the end of their year of immigration and at the end of the following year (2003), by country of birth. Source: Heikkilä and Pikkarainen 2006; Data: Statistics Finland.

The employment of immigrants remains a difficult in a number of counties (Figure 7.8). The employment rate for immigrants who moved to Finland in 2002 as a whole was 35 % and 65 % in Finland's counties, where employment rates were lower than the country average. Åland represents the most positive case: two-thirds of its immigrants had found work by the end of the year of immigration. The majority of immigrants there however were Swedes, so integration into Swedish-speaking Åland has probably been easier. Surprisingly, in Uusimaa, which provides the majority of jobs, only 42 % of immigrants found work during the same year in which they moved. Kainuu's situation is the grimmest, since only 15 % of immigrants there are employed. Remarkably, in all parts of the country, many immigrants are unemployed or remain outside the workforce as labour reserves (Heikkilä and Pikkarainen 2006). The situation of immigrants in the labour market tends to improve slightly in the year after their immigration (by the end of 2003): 44 % were now employed. Clearly, length of residence in the country is significant. Another important factor is command of the Finnish language, which employers naturally stress in the workplace (Heikkilä 2005). Moreover, in the case of Kainuu, an improvement has occurred in the labour market, but one peculiarity here is that only one-fifth of students have found a job in the following year, while half have ended up unemployed and one-third have moved outside the labour force (Heikkilä and Pikkarainen 2006).

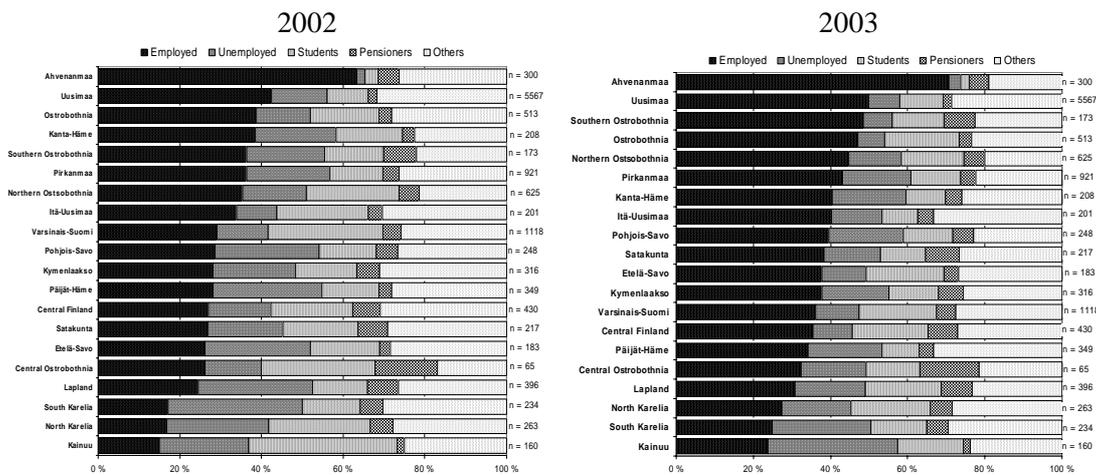


Figure 7.8: Main activity of immigrants in the age group of 15-74 years olds who moved to Finland in 2002, at the end of their year of immigration, and one year after having immigrated (2003) by county of destination. Source: Heikkilä and Pikkarainen 2006; Data: Statistics Finland.

Iceland

This section brings together some of the results from the Icelandic analyses. Figure 7.9 shows the employment rates measured as the number of employed in the age group 16-74 years as a percentage of the total population in the same group, both in total and for different groups, by nationality. It is, however, important to note that according to Statistics Iceland the official participation rate was 81.9 % in 2005. The difference can in part be explained by the different sizes of population used, since those living abroad have been omitted. Furthermore, in the labour surveys those who responded as having worked at least one hour during the week are considered to be working. In the case used here the number of people working is in accordance with the tax register of Statistics Iceland.

Iceland has one of the highest employment rates in the world. We also note that there has been a slight increase in the employment rate from the turn of the millennium and up to 2005. This is due in the main to higher participation rates among foreign labour. Both persons from other Nordic countries as well as other Western countries and persons from the new EU-10 countries show significantly higher employment rates in 2005 as compared with that of 2000. Persons from non-Western countries have also raised their participation rates during this period, while only a weak increase in participation rates exists among persons with Icelandic citizenship.

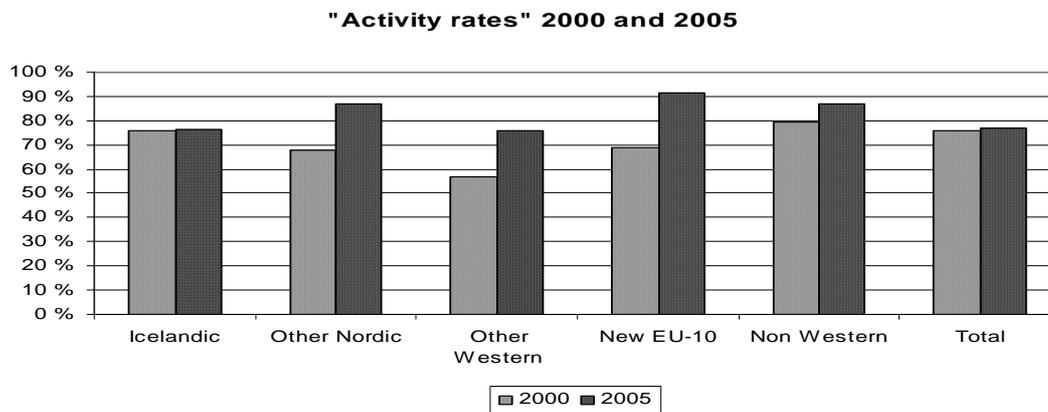


Figure 7.9: Employment participation rates in Iceland in 2000 and 2005 by different groups of nationality measured by citizenship in 2005. Employed 16-74 years in per cent of population 16-74 years.

In figure 7.10 employment participation is broken down by different sectors at the national level for the years 2000 and 2005 respectively. Sector participation differs between national groups. The Icelandic employed are mostly to be found in manufacturing, the wholesale and retail trade and in health services and social work. The most obvious destination for those from immigrant groups is reflected in the concentration of employed from the new EU-10 membership countries and non-Western employed in the manufacturing sectors. Other Nordic and other Western employed also show higher shares in manufacturing than their Icelandic counterparts. Furthermore, there are relatively high shares of other Nordic employed in wholesale and retail, other Western and non-Western employed in hotel and restaurants, other Western employed in real estate and business activities and other Nordic, other Western and non-Western employed in health services and social work.

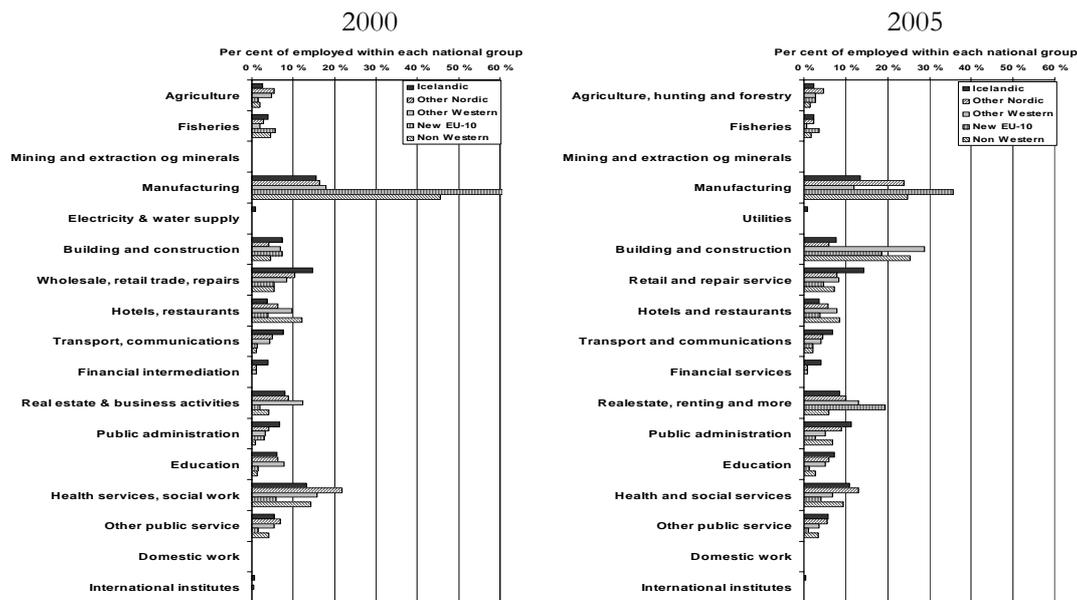


Figure 7.10: Employment structure by national groups measured by citizenship in 2000 and 2005. Iceland. Per cent.

When we turn to 2005, the distribution of employed persons by sector differs somewhat from the corresponding results for the year 2000. The structure among the Icelandic employed, with the highest share in manufacturing, wholesale and retail, and in health services and social work remains, more or less, the same. The concentration of employed from the new EU-10 countries and non-Western countries in the manufacturing sectors also continues, although the share percentage is nearly half that of the corresponding share in 2000. The largest change from 2000 to 2005 can be seen in respect of building and construction, which shows a very large increase of employed from other Western, non-Western and new EU-10 countries. The significant increase in the numbers of those employed from the new EU-10 countries in real estate and business activities is also remarkable.

Norway

Due to calculations being based on individual data from Statistics Norway, the analyses are somewhat more detailed and extended. We have in this chapter also taken into consideration the methods that we introduced for parts of chapter 6 above, by analysing the immigrants according to their different settlement periods in the country. In Norway the statistics show much higher figures of immigrants by country of birth as compared to the numbers of immigrants measured by citizenship. This is due to the fact that many immigrants change their citizenship after a certain number of years of settlement in their destination country, and this is particularly so among persons with non-Western backgrounds. We utilize these different definitions of immigrants constructively in this analysis. A definition of immigrants by country of birth thus includes a longer average settlement period in the destination country as compared with immigrants defined by citizenship.

In a very rational way we have made a 'historical' analysis of the immigrants' labour market participation by collecting data from only one year, here the year 2003. By collecting immigrant data both by citizenship and by country of birth, we produce two data sets including two different periods of the immigrants' settlement history. When we separate immigrants that arrived in 2003, we can analyse them in three different historical settings: 1) The short-term settlement of immigration (new immigrants in 2003 measured by citizenship). 2) The intermediate term settlement of immigration (the stock of immigrants in 2003 defined by citizenship) and 3) The long term settlement of immigration (the stock of immigrants in 2003 defined by their country of birth). What then is the national and regional labour market participation of these immigrants according to their different history of settlement in the

destination country? Do we see any divergence or convergence between national groups, regions and sectors of the economy in this respect?

The analysis is based on population in the working age group of 16-74 years, basically from 2003, with some added information from 2002. We have used the county level, which is defined as NUTS-3 in Norway. Labour market participation is concentrated on the distribution and structure by status groups and by groups of nationality. We have used the following definitions of status groups: Employed persons, employed persons in education, persons in education, unemployed persons and other persons not in the labour force. The national groups are classified as follows: Norwegians, other Nordic, other Western, new EU-10 and non-Western. Finally we have concentrated most of the sector analyses on a classification by 28 economic sectors. For a more details of definition of the status groups, see Stambøl (2005).

Figure 7.11 shows how each of these national groups are distributed in Norway in 2003 by each of the five status groups mentioned above. The figure shows the structure of status both according to a definition of persons by citizenship (intermediate term of settlement) and according to a definition by country of birth (A longer period of settlement).

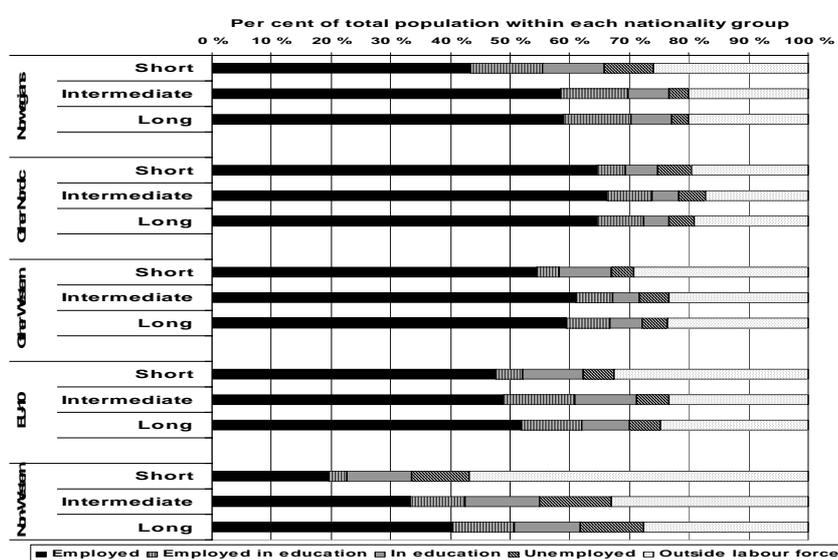


Figure 7.11: Population in the age group 16-74 years by status groups and nationality groups in 2003. Norway. Per cent. By short, intermediate and long time of settlement in Norway.

The activation rates are highest among other Nordic persons, while the activation rates of the group 'employed persons' are rather equal among Norwegians and Other Western persons. The Norwegians increase their activation rate when including the second status group employed persons in education, but even then the activation rate is highest among other Nordic persons. The activation rate is lower among persons from the new EU-10 countries and particularly so among non-Westerns. It is, however, interesting to note that the percentage of persons in education and employed in education is relatively high among EU-10 countries and non-Western countries. The unemployment rate is highest among persons from non-Western countries and lowest among Norwegians.

We then put forward a second question; what is the short-term effect on the labour market status structure of immigration? The most striking result is a much lower participation rate in the labour market as compared with the results above with however one exception (figure 7.11). Other Nordic citizens primarily go to Norway for work reasons. When we look at the status group 'employed persons', other Nordic citizens show even higher labour market participation rates the first year of immigration as compared to the already settled citizens from these countries. Norwegian citizens returning back to Norway do not show high activation rates, especially when compared with other Nordic immigrants, but also compared with other Westerns and immigrants from the new EU-10 countries. The labour market participation rate

of recently arrived non-Western immigrants is rather weak. When we also include employed persons in education into the labour market activation rates, the Norwegian return immigrants increase their activation rates relatively to all other national groups, but they continue to lag behind other Nordic and other Western immigrants according to labour market participation. We also note here that a certain portion of the immigrants do immigrate directly into unemployment. This tendency seems to be strongest among non-Western immigrants and Norwegian return immigrants.

The next questions to be raised then are to which sectors of the economy do we find the different nationality groups settled in the country moving into, and to which economic sectors do the immigrants move directly into? In figure 7.12 we show the employment structure by economic sectors for employed persons who lived in Norway in 2003 measured by citizenship (intermediate time of settlement). We have measured how large a part of the total number of employed from each nationality group is found in each sector of the economy. As a definition of employed persons we take into consideration both the status group ‘employed persons’ and the status group ‘employed persons in education’.

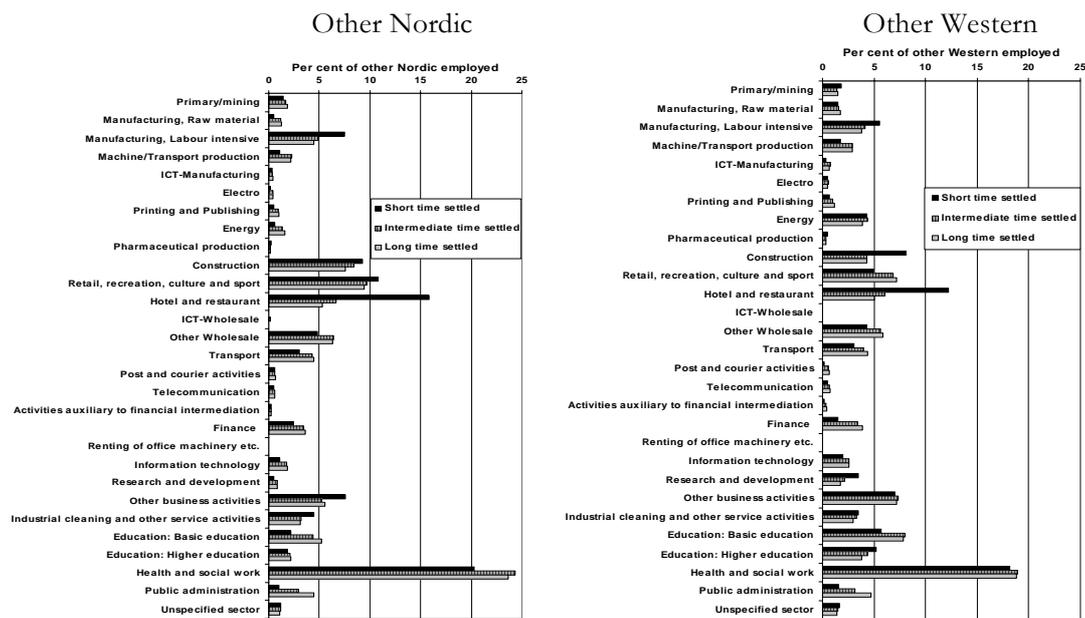


Figure 7.12: Employment structure by nationality groups measured by citizenship in 2003 by intermediate and short time of settlement in Norway. Percentage of all employed within each nationality group.

The highest share of each nationality groups’ employed is found in ‘health and social work’, and the highest percentage in this sector is found among those employed from other Nordic countries and from the new EU-10 countries. The large sector of ‘retail, recreation, culture and sport’ also shows a high share of employed from most nationality groups, but highest among Norwegians and other Nordic employed. ‘Industrial cleaning and other service activities’ shows a high share of employed among those employed from non-Western and the new EU-10 countries. It is however important to note the high share of employed from these nationality groups in ‘labour intensive manufacturing’. Perhaps somewhat surprising is the relatively lower share of employed from non-Western and new EU-10 countries in ‘construction’, while it is perhaps expected that the high percentage of non-Western employed are to be found in the ‘hotel and restaurant’ sector. It is also interesting to note the relatively higher share of employed from other Western countries in growing branches like ‘energy’, ‘information

technology’, ‘research and development’, and ‘other business activities’ as well as ‘basic and higher education’.

In order to compare this intermediate settlement effect on employment participation with the short-term settlement effect we have in figure 7.12 also distributed the newly arrived immigrants on the same economic sectors. The results show much of the same structure as in the intermediate term effect, but with an even stronger percentage of labour-immigration towards those sectors of the economy that are most known as typically ‘immigrant-sectors’. It is however important to note here the relatively high percentage of immigrants from the new EU-10 countries in the unspecified sector, thus giving a somewhat lower percentage of employed to be distributed to other sectors of the economy as compared to the other nationality groups.



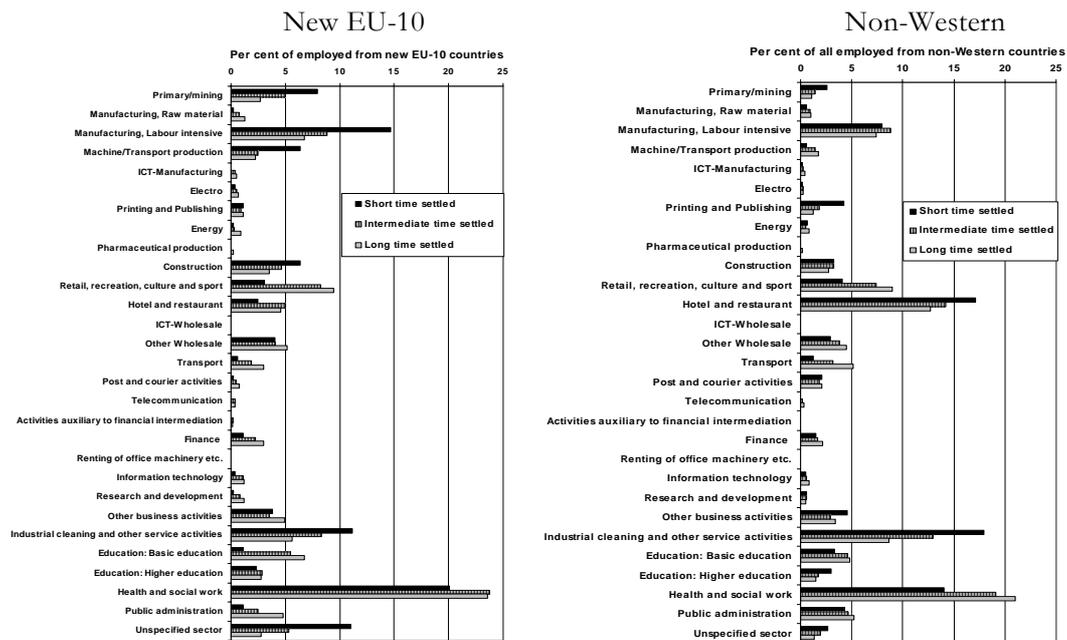


Figure 7.13: Employment structure in Norway in 2003 by employed from different nationality groups measured in a short (first year), intermediate (by citizenship) and long (by country of birth) period of settlement in Norway. Per cent

In figure 7.13 we have collected the short, intermediate and long-term settlement effects on the employment structure in a separate box for each of the foreign nationality groups. The change of economic sectors among immigrants is strong according to the average period of residence in the destination country. The short time effect of immigration is strong in labour intensive sectors that we expect will demand less expensive labour, such as for example 'primary/mining', 'labour intensive manufacturing', 'construction', 'hotel and restaurant' and 'industrial cleaning and other service activities'. These employment effects seem to decrease gradually from the first year of immigration towards an increasing time period of residence in the country. On the other hand employment seems to increase by the time period of residence in the growth branches of the service sector, both concerning private enterprises as well as fundamentally public sectors like 'health and social work' and 'public administration'.

It seems that immigrants changing their sector participation in the labour market gradually in the direction of the sector participation of the native labour force when taking into consideration the length of their settlement period in Norway. The fact that immigrants show a certain tendency to start up in, but continue out of, the economic sectors with the lowest wages, is probably however not a surprise. Even the wage level in many of the lower-paid sectors of the economy may look attractive to immigrants in the initial period after immigrating, particularly among immigrants from non-Western and the new EU-10 countries. After living in the country for some period they become more aware of the different wage possibilities available and at the same time become aware of, and experience, the high cost-level of living. To obtain higher wages within the low cost branches is probably not the easiest solution. A better solution is then to try to move towards other sectors of the economy, offering better wage conditions. One important question to put forward is then whether a change of economic sectors among immigrants will also include a change of regions. If the answer is yes, this structural change of participation between economic sectors will have an impact on the internal migration patterns among immigrants within the country.

It is also interesting to connect this supply side analysis of the immigrants' participation in the labour market ('in-sourcing' of labour) to the procedure of 'off-shoring' of jobs from the country. Alongside the theories put forward in chapter 3 it is mostly the labour intensive part of the manufacturing sector that is expected to be at the highest risk in terms of the 'off-

shoring' of jobs. As we see from figure 7.13, it is first and foremost persons from the new EU-10 and non-Western countries that initially display a high tendency to immigrate directly into the labour intensive manufacturing sectors. The procedure of 'in-sourcing' of labour and 'off-shoring' of jobs may, however, be seen to be complementary. One alternative to 'off shoring' the jobs and production to other countries with 'cheap' labour is however to employ persons directly from these countries through immigration. But as we have seen, the effect of this immigration process does not seem to last, due to the fact that the participation rate of labour from so called 'low-cost' countries in the labour intensive manufacturing sectors seems to fall after only a few years of settlement in the country. The labour intensive manufacturing sectors thus seem to be dependent on a continual flow of 'refresher immigration' of people from 'low-cost' countries in order to reduce the risk of the 'off-shoring' of jobs. On the other hand we can also argue that the risk of 'off-shoring' from the labour intensive manufacturing sectors would be even higher if these observed short-term immigration effects of labour from 'low-cost' countries did not take place.

As noted above, the labour market participation of Norwegian return immigrants is rather weak. Figure 7.14 shows that the highest labour participation is to be found in the county of Møre og Romsdal. The capital of Oslo and the counties of Buskerud, Sør-Trøndelag while the northernmost counties of Troms and Finnmark also show higher than average participation rates. The lowest participation rates are, however, to be found in the counties of Vestfold and Aust-Agder. The highest inactivity rates are found in the county of Hedmark besides the county of Vestfold, while the unemployment of recent Norwegian immigrants is particularly high in Nord-Trøndelag and Sogn og Fjordane.

As we have already observed, it is among recent other Nordic immigrants that we find the highest employment participation rates. At the regional level this is most pronounced in the counties of Troms, Sør-Trøndelag and Oslo. The lowest rates are to be found in the counties of Hedmark and Østfold, which also show the highest inactivity rates. The unemployment of other Nordic immigrants is especially pronounced in the counties of Vestfold, Aust-Agder and Rogaland.

The regional variations in participation increases when we turn to recent other Western immigrants. The highest employment participation is here to be found in the counties of Finnmark, Sogn og Fjordane and Oppland, while employment participation is rather low in the southernmost counties of Aust- and Vest-Agder, where we also find the highest inactivity rates. Many other Western immigrants go straight to studies in Sør-Trøndelag and Troms, while many immigrate directly to unemployment in Telemark. Even more uneven participation across regions is to be found among recent immigrants from the new EU-10 countries. Very high employment participation is recognized in the northernmost county of Finnmark, while there is a very low labour participation rate in this group in the county of Telemark, which also shows the highest inactivity rate. As we have already noted, the labour participation rates are very low among non-Western immigrants. The lowest labour participation rate is to be found here in the county of Nord-Trøndelag, which also shows an extremely high inactivity rate. Very high unemployment figures are observed in the north-Norwegian counties of Finnmark and Nordland, and in the capital of Oslo.

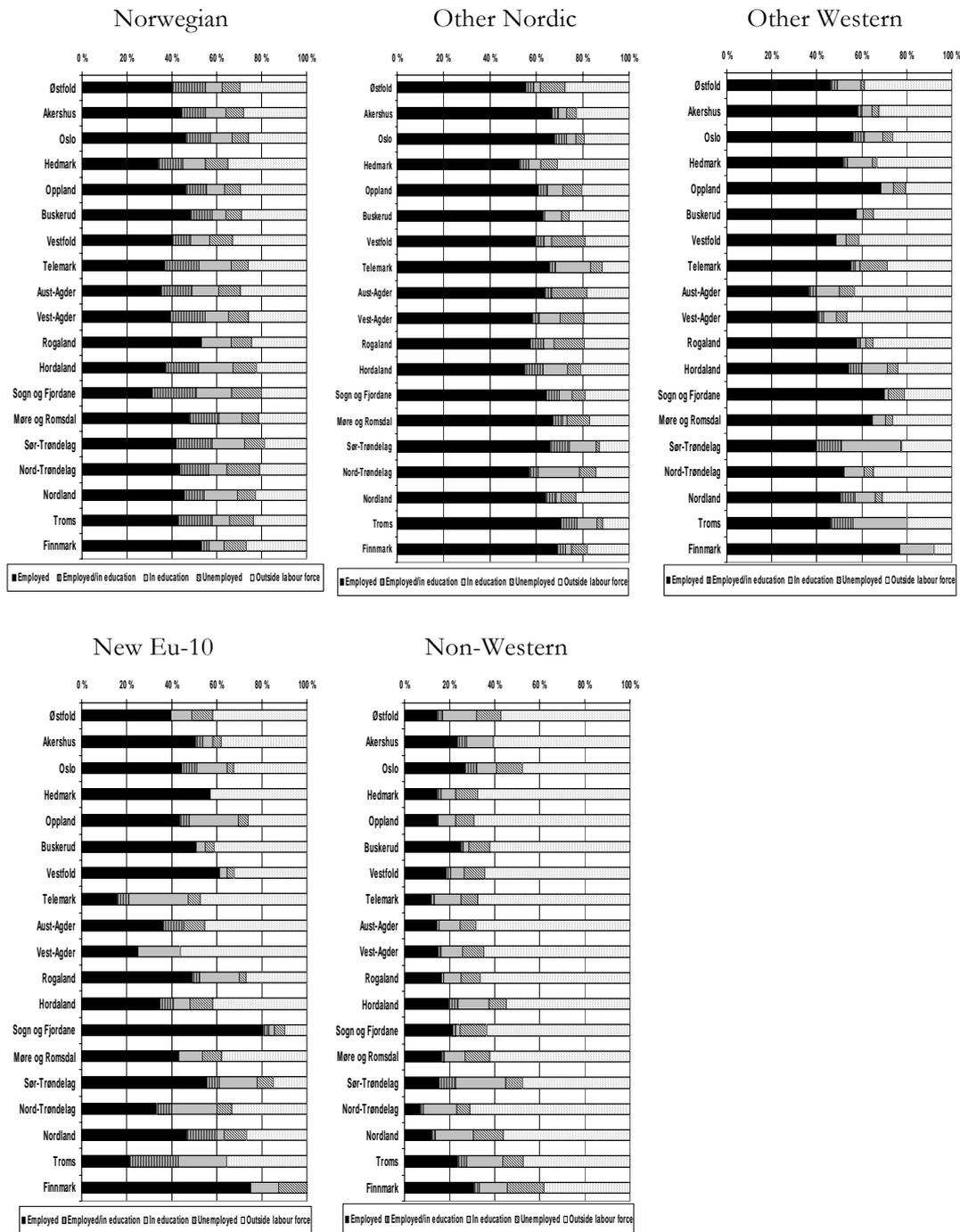


Figure 7.14: Immigrants to Norway in 2003 distributed by status groups in 2003. Persons in the age group 16-74 years by nationality groups and counties. Per cent of total

Figure 7.15 shows similar regional results for the stock of immigrants defined by their citizenship which means immigrants with an intermediate time of settlement in Norway. For the purposes of comparison we also show the participation distribution among Norwegian citizens. The regional variations among Norwegians are not so very pronounced. Highest employment participation is found in the counties of Sogn og Fjordane and in the county of Akershus while the highest inactivity rates are found in the counties of Hedmark and Østfold. A somewhat stronger regional variation is observed among other Nordic citizens, but not dramatically so.

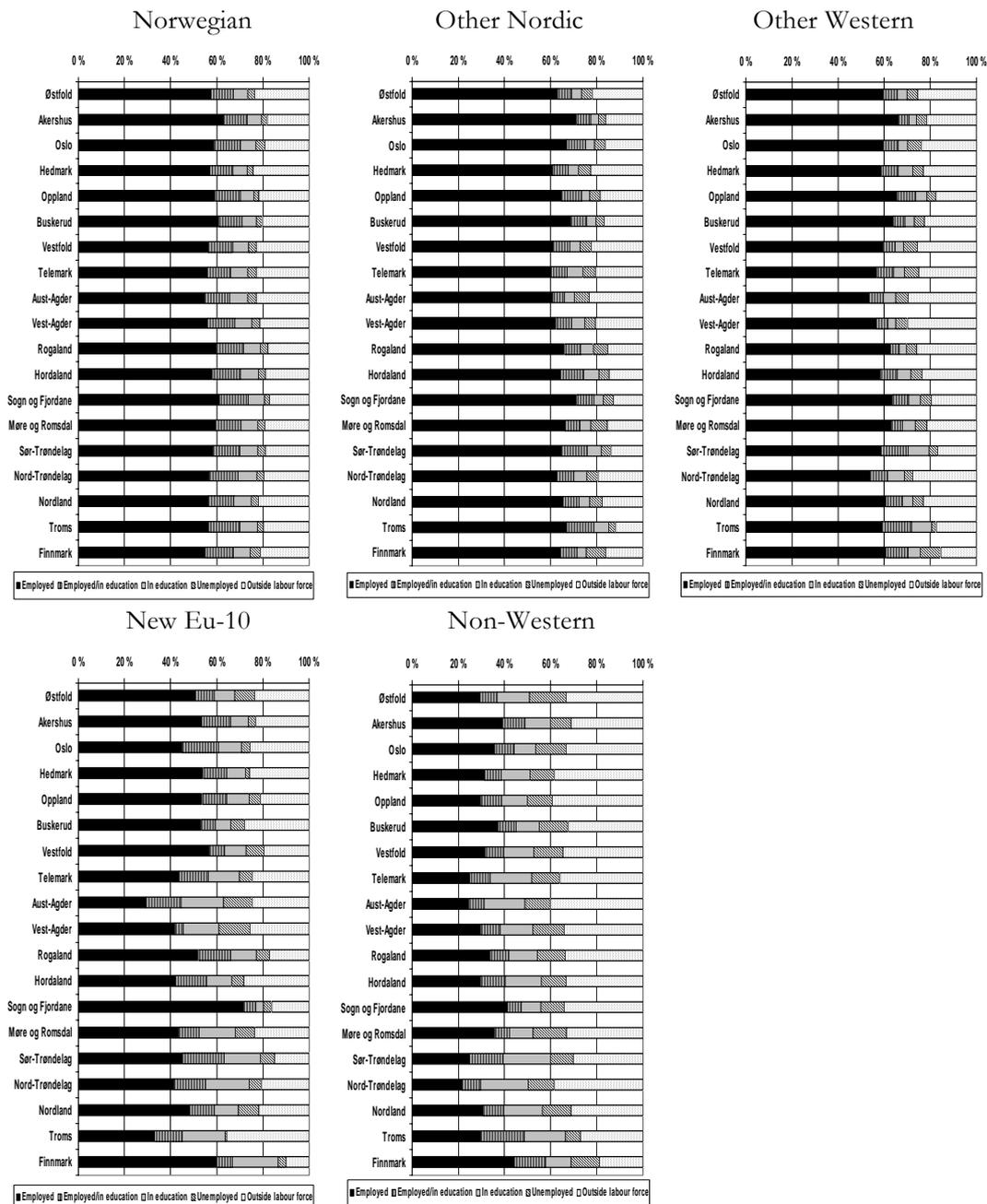


Figure 7.15: Persons living in Norway in 2003 distributed by status groups. Persons in the age group 16-74 years by nationality groups by citizenship and counties. Per cent of total

The highest employment rates are to be found in the counties of Troms and Sogn og Fjordane and in the capital area, with Akershus and Oslo. The highest inactivity is found here in the counties of Aust-Agder, Hedmark, Østfold and Vestfold. Other Western immigrants show highest employment rates in Oppland, Akershus, Sør-Trøndelag and in the northernmost counties of Troms and Finnmark. Lowest employment rates are found in the counties of Aust-Agder and Nord-Trøndelag. Inactivity is highest in the southernmost counties of Aust- and Vest-Agder. When we turn to the participation of persons from the new EU-10 countries regional variations increase. The highest employment rates are found in the county of Sogn og Fjordane and the lowest in the southernmost counties of Aust- and Vest-Agder. Inactivity is especially pronounced in the county of Troms. Finally, the same distribution is shown for non-Western immigrants. The variation in participation structure across the counties is here also highly pronounced. The highest employment rates are found in the northernmost county of

Finnmark, while the lowest employment participation is observed in the county of Nord-Trøndelag. Inactivity is especially pronounced in the counties of Hedmark, Oppland, Aust-Agder and Nord-Trøndelag.

In table 7.1 we have distributed the share of all employed in each county by different groups of nationality. We show the distribution of recent employed immigrants that immigrated to Norway in 2003 (Recognized by the columns (S): Short time settlement), the corresponding distribution where the stock of employed immigrants in 2003 is defined by their citizenship (Recognized by the columns (I): Intermediate time of settlement), and finally the same distribution by employed immigrants defined by their country of birth (Recognized by the columns (L): long time of settlement). This methodology is also used in chapter 6 above, where we distributed the total population correspondingly. In this chapter we concentrate on the population in working age, 16-74 years, and those persons registered as employed. In order to make a basic comparison, we have standardised each county's share of the national population in the age group 16-74 years with an index set at 100. All columns in the table reflect the share each county has of the national employment in relation to their share of the total national population in working age.

Table 7.1: Distribution of employed immigrants in 2003 (Short time) and the stock of employed by citizenship (intermediate time) and country of birth (Long time) by county. Index: The share of the national population in working age (16-74 years) in each county is set at 100.

	Employed total			Norwegians			Other Nordic			Other Western			New EU10			Non-Western		
	S	I	L	S	I	L	S	I	L	S	I	L	S	I	L	S	I	L
Østfold	65	96	96	113	97	97	46	101	111	39	64	68	58	87	116	52	75	84
Akershus	109	105	105	119	104	103	129	164	161	99	144	143	130	139	142	90	101	114
Oslo	247	100	100	220	94	88	305	218	199	216	181	178	172	210	214	253	263	288
Hedmark	50	96	96	48	98	100	53	73	88	47	44	46	56	58	58	49	53	46
Oppland	56	101	101	56	103	105	47	57	61	61	55	54	53	67	55	60	62	50
Buskerud	95	102	102	97	102	101	72	113	114	95	95	94	94	102	114	105	112	109
Vestfold	61	96	96	91	97	97	47	82	94	46	84	90	76	87	89	56	68	72
Telemark	65	95	95	62	96	97	89	75	75	52	63	64	21	66	71	51	65	67
Aust-Agder	60	94	94	81	95	96	38	70	73	35	88	113	43	44	53	69	48	54
Vest-Agder	68	97	97	98	97	96	47	69	71	71	123	171	22	49	74	77	90	95
Rogaland	99	103	103	122	103	103	46	77	73	158	151	141	76	88	96	71	81	89
Hordaland	86	101	101	87	102	103	63	56	56	115	102	100	80	77	74	94	81	77
Sogn Fjord	95	106	106	37	107	110	64	57	50	117	77	62	587	255	139	85	68	56
Møre R.dal	60	101	101	58	103	105	54	46	47	72	62	56	92	73	61	62	64	53
Sør-Tr.lag	86	101	101	76	102	104	77	60	64	93	75	68	108	86	81	96	71	63
Nord-Tr.lag	35	99	99	47	102	104	24	41	55	29	29	31	42	40	33	32	36	30
Nordland	56	97	97	44	99	101	48	52	57	48	40	39	68	48	44	76	66	42
Troms	121	101	101	71	102	104	182	99	100	135	78	69	69	53	46	134	86	56
Finnmark	131	97	97	38	96	98	207	162	166	41	35	33	72	42	33	216	142	77

S = Short time settled I = Intermediate time settled L = Long time settled

As the table shows, Oslo receives almost two and a half times the share of the new employed immigrants than the share of the working age population would otherwise suggest. This very strong centralisation effect is mostly pronounced among other Nordic immigrants. New non-Western employed immigrants also show very high centralisation, with an index above the average for all new employed immigrants. The lowest centralisation effect is observed among the employed from the new EU-10 countries, although an index at 172 also reflects a very strong centralisation, high above the capitals share of the population in working age. The surrounding county of Akershus also shows a higher share of the new employed immigrants than the share of the working population would otherwise suggest, but not as

strong as that for Oslo. Many newly employed immigrants however also immigrate to the two northernmost counties of Troms and Finnmark. They show indexes high above the share of the national population in working age would otherwise suggest. In both counties this is due, primarily, to high gross immigration of new employed from other Nordic countries and from non-Western countries.

In Troms the contribution of other Western new employed immigrants is high, while the opposite is true in Finnmark. Other Western new employed immigrants have a clear tendency to immigrate to the counties of Rogaland, Hordaland and Sogn og Fjordane. The highest index in the whole table is found in the county of Sogn og Fjordane concerning new employed immigrants from the new EU-10 countries due to their employment in the manufacturing sectors. In the remaining counties the gross stream of recent new employed immigrants is far below these counties' share of the national population in working age.

In table 7.1 the same distribution is made for the stock of immigrant employed in 2003 measured by citizenship (the (I)-columns=intermediate time of settlement). When it concerns the share of the total number of employed in Norway, relatively high indexes are observed in the capital areas, in Oppland and Buskerud, in the counties in Western Norway and Sør-Trøndelag, and in the county of Troms in Northern Norway.

The centralisation of the employed immigrants is very clear, although the indexes are a bit lower than in the S-columns. This is partly due to the fact that in the I-columns we show the distribution of the stock of employed persons, while in the S-columns we show the distribution of the gross immigration of labour. The net results of recent immigrated and emigrated foreign labour will give less centralisation than the gross figures in table 7.1 suggests. This is also in accordance with the findings in chapter 6, where we observed that the effect of the recent net migration of foreigners was almost in accordance with the capital region's share of the total national population. However, the capital region's share of the gross immigration of new immigrant workers is higher than the corresponding share of the total gross immigration shown in chapter 6. This is due to much higher than average employment participation among recent immigrants to the capital region. It is worth noting that the high indexes for both other Nordic employed and non-Western employed are still very high in the county of Finnmark even after taking into consideration the effect of a certain number of years of settlement history in Norway. In the same manner it is also worth noting that the high share of employed immigrants from the new EU-10 countries remains high in the county of Sogn og Fjordane, thus reflecting the concentration to the manufacturing sectors.

In the table 7.1 the same results are also shown for employed defined by their country of birth. The centralisation effect is still very strong, and becomes even stronger for all immigrant groups in the counties of Oslo and Akershus as compared to the results in the I-columns. Other Nordic employed immigrants however show a slightly lower centrality effect after a longer settlement period as compared to that in respect of intermediate time of settlement in the country. The strong effect of immigrant workers in the northernmost counties of Troms and Finnmark declines after a longer time period of settlement. With the exception of other Nordic employed immigrants, all other immigrant groups show much lower shares of employment than these two counties' share of the working age population would suggest. This means that there is a strong tendency among immigrant workers to move away from the northernmost counties after a longer period of settlement in Norway. It is also worth noting the very strong variations of indexes between the different counties both across the nationality groups and also within the same nationality groups.

Sweden

Both labour immigrants and refugees were relatively quickly integrated into the Swedish labour market during the 1950s and 1960s. Immigrants had a higher labour force participation rate than the natives at that time. At the end of the 1970s this changed. In the 1980s labour market participation for immigrants showed an increasing lack of integration something which worsened in the 1990s (Gustafsson *et al.* 2004). This development is related to the structural

changes in the Swedish economy. In the 1950s and 1960s both labour immigrants and refugees could easily get unqualified jobs in the manufacturing sector. The structural crisis of the 1970s however hit the manufacturing sector very hard – especially the textile and clothing industry, shipyards, the steel industry and parts of the engineering industry – a sector with a large share of immigrant labour. Since the 1980s the greatest demand has been in the service sector, while the manufacturing sector has declined. This has meant that the importance of a *Swedish specific capital* has increased, i.e. knowledge of the Swedish language, the ability to communicate, knowledge of social and cultural codes etc., defining the ability to get a job in the service sector. The transition to a service economy (post-industrial society) has lowered the demand for immigrant labour in Sweden since immigrants' Swedish specific capital is weak (Lundh & Ohlsson 1994, 1999, SCB 2002). The demand side explanation has been tested in several studies, and the result is about the same – the transition from a goods producing economy to a service producing economy has lowered the demand for immigrant labour (see e.g. Scott 1999, Bevelander 2000).

A study by Lundh & Bevelander (2004) points to two important conclusions regarding immigrants' labour market participation. (1) The chance of getting a job differs between different immigrant groups: immigrants from the other Nordic countries as well as Western and Southern Europe have the best chance of getting a job in the major towns and larger cities in Sweden, while immigrants from Eastern Europe and outside Europe have the best chances of getting a job in small towns and small regions. (2) Some immigrant groups, especially refugees, have a relative better chance of getting a job in regions dominated by traditional manufacturing industry than in the service sector in the metropolitan areas and university towns. Lundh & Bevelander (2004) conclude that their results, to some extent, support the hypothesis that the structural change of the Swedish economy has made it more difficult for some immigrant groups to find work. Immigrant groups with a good level of Swedish specific capital show a labour market performance close to the natives, while immigrant groups with at weak Swedish specific capital show a weak labour market performance.¹⁷

Immigrants from non-refugee countries, such as the Nordic countries and the 'old' West-European EU-members, show a very similar performance on the labour market as the natives, while immigrants from refugee sending countries differ substantially from the natives when it comes to labour market performance. The same pattern exists when it comes to material standard of living and welfare consumption: immigrants from non-refugee countries show a very similar performance to native Swedes, while immigrants from refugee sending countries display an altogether different performance (Vogel *et al.* 2002, Vogel & Hjerm 2003). Sadly, it has been observed in a comparison of Denmark and Sweden that second generation immigrants of non-European origin show the same performance at the labour market as their parents. This provides major challenges for the future (Lundh *et al.* 2002).

The working environment for immigrants is worse in relative terms to the working environment for the total population, especially for women born outside Europe relative to all women in the Swedish labour force. Immigrants are also over-represented when it comes to sickness, long-term sickness and early retirement. This is not surprising, according to Häll (1997), since immigrants are over-represented in the 3D-job sector. The over-representation in the 3D-job sector is nothing new: a majority of the immigrants to Sweden in the 1950s and 1960s picked up these jobs (Wadensjö 1981). Suggestions have also been raised to encourage and stimulate unemployed immigrants to take on 3D-jobs in the public sector – unqualified jobs especially in the elderly care sector (Broomé *et al.* 2001).

In order to better illuminate immigrant labour market participation at the county level figure 7.16 shows the labour market participation rates with a focus on employed persons born outside Sweden in 2004. The participation rates are grouped by those who have lived in Sweden for less than five years, and those who have been living in Sweden five years or longer.

¹⁷ Note also when employers give notice of the cancellation of work contracts, persons with an immigrant background are more likely to be among the ones who receive their notice relative native born labour (Ekberg 2006). This makes the labour market performance of some immigrant groups even weaker.

For comparison the figure also shows the participation rates for all employed in the age group 20-64 years, and the results indicate much lower participation rates among persons born outside Sweden. Among those born abroad the results indicate much higher labour market participation when the period of settlement in Sweden is increasing. The relatively low labour market participation rates for those with a shorter period of residence behind them is due, in part, to the fact that this group also includes many students. At the regional level the highest labour market participation rates are found in the counties of Jämtland, Jönköping, Kronoberg and Dalarna when it concerns those with longer settlement periods in Sweden and in the counties of Stockholm, Jämtland, Jönköping and Gotland for those with shorter periods of settlement in Sweden. The lowest participation rates are found in the county of Skåne in respect of both shorter and longer periods of settlement in Sweden.

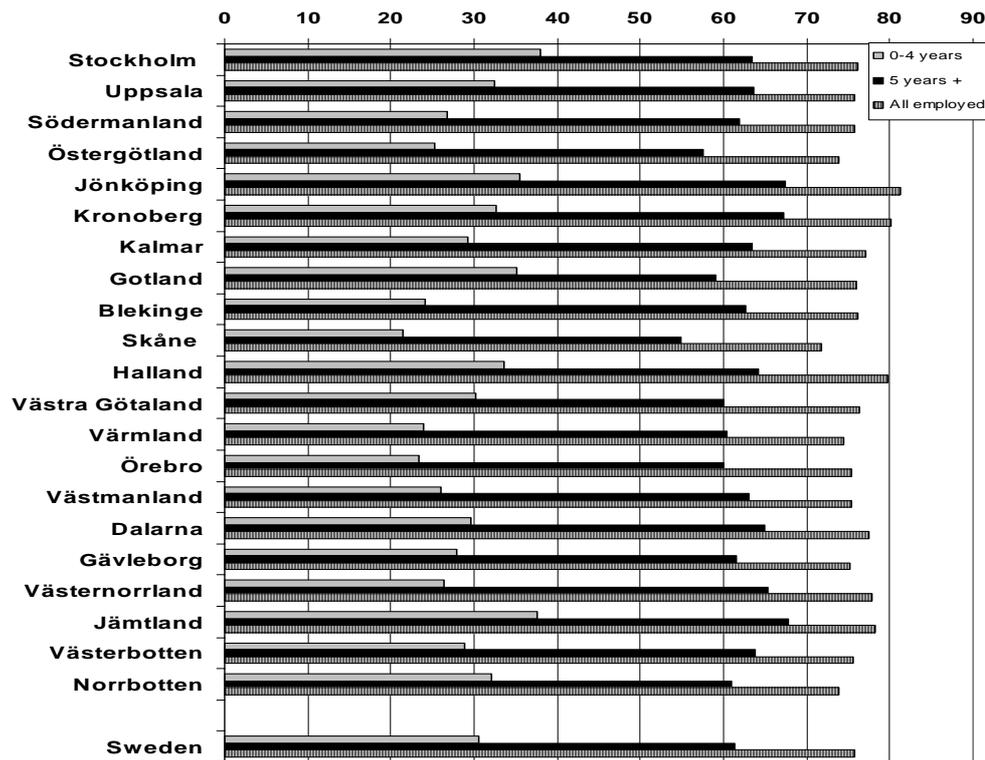


Figure 7.16: Labour market participation rates for people 20-64 years totally and for people born outside Sweden by shorter (0-4 years) and longer (5 years or more) time of settlement in Sweden by Swedish counties in 2004. Source: The Swedish Integration Board

Summary

The results have shown that higher employment participation rate exist among natives and other Nordic and Western immigrants as compared to the non-Western immigrants. Non-Western immigrants do, however, increase their labour market participation after some years of living in the Nordic countries, but their employment rates are still far below that of the natives. Iceland deviates somewhat from other Nordic countries in this respect however with high participation rates among immigrants. At the regional level labour market participation is somewhat more homogeneous among both natives and other Nordic and Western immigrants, while the participation rates vary significantly among persons from the new EU-10 countries and non-Western countries.

The sector participation also varies significantly both among different nationality groups, but also across the Nordic countries and between regions within each country. The Finnish results deviate from the Norwegian distribution of foreigners. Finland shows a high share of immigrants in the ICT-manufacturing. Probably the main explanation here is the existence of

NOKIA. On the other hand Norway has a higher share of its immigrants go into the public sector, and particularly to health and social work. Norway benefits from ‘in-sourcing’ of petrol money enabling it to finance deficits in the public budget, which would otherwise have been in deficit. On the other hand the Icelandic results show a high concentration of foreign labour into the manufacturing sectors and in building and construction.

It is undoubtedly the case that immigrant labours become employed in sectors that are traditionally described as typically ‘immigrant-sectors’. The results indicate, however that immigrants gradually change their sector participation in the direction of the sector participation of the native labour force when taking into consideration the length of their settlement period.

There is a certain measure of centrality in the regional employment structure of immigrant workers, although several non-central regions show higher participation rates among immigrant labour than the national average would suggest. The results however indicate that immigrants change their labour market participation moving towards the most centrally located regions when taking into consideration the length of their settlement period. Indications from the Norwegian results tell us that immigrants contribute to raising the average level of education of all employed, as well as contributing to a convergence in educational levels at the regional level. These results also indicate a strong growth in temporary foreign workers in these regional labour markets.

To conclude we have highlighted below the five regions in each country showing the highest labour market participation (in employment) among foreigners. These results are shown in table 7.3. In the same manner we have also highlighted the five economic sectors where most of the immigrant labour is to be found. These results are shown in table 7.4.

Table 7.3: The regions showing the highest labour participation among foreigners

Denmark	Finland	Iceland	Norway	Sweden
- Ringkøbing	- Ahvenanmaa	- Reykjavik	- Akershus	- Jämtland
- Roskilde	- Ostrobothnia	- East	- Finnmark	- Jönköping
- Københavns Amt	- Uusimaa	- South	- Troms	- Stockholm
- Frederiksborg	- South Ostrobothnia	- Sudurnes	- Sogn og Fjordane	- Kronoberg
- Ribe	- Itä-Uusimaa	- West	- Buskerud	- Uppsala

Table 7.4: The economic sectors where most of the immigrant labours are employed.

Denmark	Finland	Iceland	Norway	Sweden
n/a	-ICT-manufacturing	-Manufacturing	-Health and social work	-Personal and cultural services
	-Health and social work	-Construction	-Hotel and restaurant	-Health and social services
	-Finance	-Real estate	-Industrial cleaning	-Manufacturing
	-Retail	-Health and social work	- Manufacturing (Labour intensive)	-Finance
	-Hotel and restaurant	-Retail	- Retail	-Retail and communication

8. International Competition and Regional Attractiveness

Introduction

The concept of globalisation and the accompanying division of labour across the different regions and countries of the world is now central to our understanding of international political economy and regional economic development. This necessarily brings together the issues of international competition and regional attractiveness juxtaposing them in debate. Will regional competences be sufficient to ensure the international competitiveness of the Nordic regions in this process of globalisation? Given the nature of the Nordic regions, the answer will depend on the nature of the regional context, or rather, on regional attractiveness. The point of departure for dealing with the issue of regional attractiveness then will here be labelled 'revealed regional attractiveness'. It is the international and national trends and the ability of regional specificities and structures to operate in the face of these trends that define regional attractiveness. It cannot therefore be measured directly but must rather be illustrated by the actual performance of regions in the context of these changing trends.

From a theoretical perspective a number of concepts can be seen to be at play when dealing with international competition and regional attractiveness. Theories of labour demand will be central to the understanding of the interdependency between international competition and regional attractiveness. With the increasing integration of societies in the context of globalisation, the international organisation of production chains becomes central and should lead to regional restructuring. This again implies changes in the level of regional labour demand. Regional attractiveness as reflected in the competitiveness of a region will be determined from theories on agglomeration, clusters and competitive advantage. Intra-firm spillovers in terms of the importance of market denseness will create agglomerations and clusters. These may be elucidated from network theory stressing the importance of knowledge flows between firms in similar sectors or between firms in different sectors. Given that personal interaction is important in such networks the importance of the spatial organisation of production chains emerges. This may lead to clusters of production. Other mechanisms are focussed on production and market-related issues. The Stiglitz and Dixit type of model, see Stiglitz and Dixit (1997), used in the new economic geography models emphasizes the importance of the presence of intermediate goods (backward linkage) and market closeness (forward linkage), which dates back to Marshall (1920). These kinds of effects lead to agglomerations in the production chain. Porter (1990) points to four determinants of national advantage, which may in a regional perspective, reflect regional attractiveness: factor conditions, demand conditions, related supporting industries and firm strategy, structure and rivalry. Different theories therefore predict spatial structures of the production chain, which can be related to the concepts of polycentric structures, see e.g. Krugmann (1993, 1994). The later concepts focus on the urban structures supporting the development of knowledge and will therefore reflect similar arguments as those embedded in the theories on clusters and agglomeration. All of these theories can moreover be given a centre-periphery interpretation, as they lead to a focus in certain regions with certain structures – which can be interpreted as regional attractiveness. It is at the same time however important to emphasize the dynamics of the process in these theories. Strongholds in space implicating a high level of regional attractiveness may be self-amplifying over time. The presence of educational institutions and other knowledge institutions may lead to a positive development in the same regions while others lag behind. It should also be noticed however that such processes are vital for labour substitution, wages and productivity. Regional specialization and restructuring according to some texture of regional attractiveness will render different outcomes for labour substitution, wages structures and labour productivities. Revealed regional attractiveness will therefore be

reflected in the different types of labour substitution taking place in a given regional context and the resulting outcomes in labour productivities.

In an international context these spatial structures in organising the production chain are subject to trends in relation to the international division of labour. Integration in Europe is but one example here. The accession of new member states has introduced new variation in the labour cost structures prevailing in the different countries of the European Union. To participate in the international division of labour, it will be necessary to reorganise the production chain. Some parts of the production chain are reallocated to low labour cost countries – offshoring. Others are outsourced to firms in the vicinity. Finally, it may be necessary to pursue insourcing, which implies the imports of certain labour market competences from elsewhere in the world due to the scarcity of such competences in the local, regional or national setting. These trends can moreover be understood from the perspective of ‘global shift’, see Dickens (2003). The organisation of international production is changing with less emphasis on the tradition division between developed industrial countries and less developed countries providing raw materials to the former. The process of globalisation has thus changed the economic structure into a multi-polar texture with the transformation of the geo-economy dependent on three processes: *transnational corporations* with ‘know how’ on how to organize production on a transnational production chain, *states* attempting to regulate within national boundaries – European integration being an example of a supranational attempt to widening the reach of regulatory enforcement across more countries as a response to intra-firm and inter-firm trade from globalisation and finally *technology* promoting a shrinking space across different localities in the world. International competition will through these channels be decisive for the outcomes and the restructuring of labour demand taking place in a given context of regional attractiveness.

The research question of the current chapter is thus whether international competition leads to very different patterns of restructuring in terms of labour demand and thus of labour productivity in different contexts of regional attractiveness. Restructuring should lead to a reallocation of jobs to parts of the production chain and sectors that have an advantage in a given regional context as reflected in their regional attractiveness. While restructuring may not lead to *more* jobs, it should lead to a reallocation of resources to jobs with a higher productivity given a regions attractiveness so as to maintain a regions international competitiveness.

Determinants of international competitiveness

Porter, in his well-known work on the competitive advantage of nations (1990) classifies the determinants of national competition into four major groups, i.e. *factor conditions* in the respective country, such as skilled labour and infrastructure. Secondly there are *demand conditions* for firms’ production in the country. Thirdly, the presence or absence of *related or supporting industries* is an important factor. Finally, the *firm strategy*, structure, and rivalry are important determinants. How this relates to demographic changes such as international migration was however not highlighted in his work.

If we use Porter’s ideas and analysis as a point of departure, the question arises, which factors should we focus on to shed a light on the notion of competitiveness. It appears that the factor conditions at the national scale within the countries of the study should become the centre of attention. These are, primarily, conditions relating to the quality and characteristics of labour such as the education of the labour force and wages, economic strength and to some extent, the question of the availability and cost of infrastructure. As in the context of this study we are focusing on the labour market, factors relating to that issue will be at the centre of our attention. A comparative view of the performance of Nordic countries according to these factors will be given, as this will indicate their relative strength in terms of international competitiveness. The benchmark will be the EU-space (2004) in general and also the new EU-

10 countries, as these represent the most recent opportunity for a new international division of labour within the closed market of the EU.

To present the relative strength of the Nordic economies in an international competition perspective, it is natural to use a number of the indicators offered by the European statistical bureau, Eurostat. There are seven types of indicators pointing to the international competitiveness of the Nordic countries:

- International price competitiveness
- Labour productivity
- Lifelong learning
- Turnover from innovation
- Public expenditure on education

Each of these indicators must be perceived as decisive in determining the international competitiveness of the Nordic countries, which is important for regional restructuring and implied changes in regional labour demand. Regional restructuring takes place in national contexts of policy making. The indicators range from price measures to facilitating indicators that should be improving the quality of labour. The first indicator reflect the pure price effects, while the last four can be interpreted as reflecting the quality of labour and the policy efforts to increase its quality. These measures can all be related to the previously mentioned hypothesis of regional differences in productivity, although they do not offer any intra-national regional evidence. They do, on the other hand, represent the national contexts of labour costs and labour quality under which intra-national regional variation unfolds. This will be of importance, as a number of factors influencing regional productivity and regional attractiveness will come under the influence of the ability of national policies to ensure international competitiveness. A region may be thought of as scoring highly in terms of regional attractiveness, but if national policies work against these regional structures of attractiveness, it may not matter when identifying the ‘revealed regional attractiveness’. Regional attractiveness in this sense becomes embedded into a national policy context.

International price competitiveness (real effective exchange rate) assesses the price competitiveness of a country (or currency area) relative to its competitors in international markets. This is done through focussing on the real effective exchange rate, which reflects the

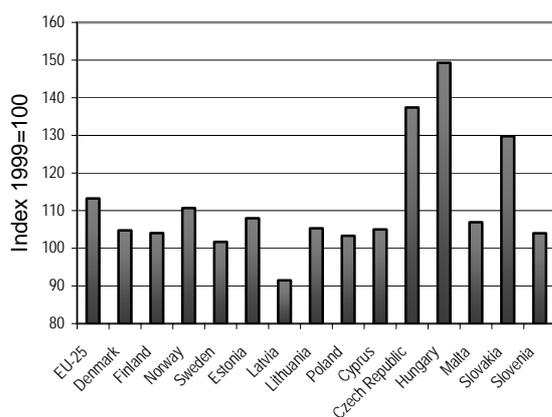


Figure 8.1: International price competitiveness in the Nordic countries and the new member states in 2005

Source: Eurostat

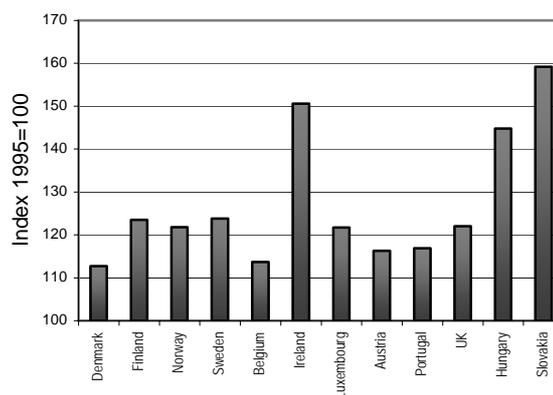


Figure 8.2: Labour productivity per worked hour in the Nordic countries, some western European countries and some of the new member states in 2004

Source: Eurostat

relative prices in a country relative to prices in other countries using purchasing power parity arguments. They accordingly comprise both differences in inflation levels and changes in exchange rates of currencies.

Using this measure of international price competitiveness shows a moderate loss of competitiveness for the Nordic countries and the index has grown in the past years, as illustrated in figure 8.1. The same applies to most other European countries, with the loss in international competitiveness for the Nordic countries being very similar to that of the EU-25 average. However, some of the new EU countries in Eastern Europe such as the Czech Republic, Hungary and Slovakia experienced sizeably higher losses in the competitive edge with rises in the index from 100 in 1990 to between 130 and 150 in 2005. This shows some of the inflationary powers set free from the breakdown of the socialist economies and illustrates well their particular situation as transition economies, see Dicken (2003). From a Baltic Sea Rim (BSR) perspective, it should however be noted that the same pressures have been much less pronounced in Latvia, Lithuania, Estonia and Poland. Some of these countries have actually experienced a rise in the international price competitiveness over parts of the period from 1999 to 2005. This can be interpreted as presenting a special opportunity for the Nordic countries in building product chain structures including countries in the BSR and this has been observed to a considerable degree. This can at the same time however be seen as a special challenge in restructuring industries in the Nordic regions when participating in such a new division of labour. Awareness of using regional attractiveness becomes pivotal. Outsourcing, insourcing and off-shoring may thus become important ingredients in such restructuring in order to attain the full potential from the regional attractiveness.

International price competitiveness relates to *labour productivity*. Low labour productivity levels will reduce international price competitiveness due to the inflationary pressure from the labour market in particular in relation to low labour productivity. Labour productivity does not, on the other hand, necessarily reflect job growth but would probably to a higher extent reflect the restructuring of the production chain. Labour productivity expressed as GDP at constant prices per hour worked has developed very differently in the European countries, as shown in figure 8.2.

Some countries have experienced sizeable growth, e.g. Ireland with a 50.6% growth in the period 1995-2004 while some of the new EU member countries have also shown impressive growth, such as Hungary and Slovakia 44.8% and 59.2% respectively in the same period. The Nordic countries experienced growth ranging from 12.7% in Denmark to 23.8% in Sweden. Finland, Iceland and Norway showed a growth rate just under that of Sweden. The Nordic countries are therefore not at the top-end in terms of gains in labour productivity. Countries at the lower end of the GDP *per capita* measure of affluence have seen sizeably larger gains in labour productivity. These figures must however be interpreted with caution, as they may reflect a convergence or simply the 'catching up' process of these countries. Initial conditions may matter for the relative labour productivity gains achievable by different countries. Even so, it seems clear that labour productivity in the Nordic countries has developed moderately. This moderate increase in labour productivity should be observed carefully in the future, as it may hamper the ability to operate in Nordic welfare regimes, and thus the ability to ensure regionally balanced changes. In this context, it will become increasingly important for regions to benchmark regional attractiveness in an international context.

An initial indicator of the quality of labour can be identified from the propensities to pursue *lifelong learning* in the population. This information is derived from the EU Labour Force Survey. Lifelong learning refers to persons aged 25-64 who have received education or training in the four weeks prior to their time answering the questionnaire. This number of persons is benchmarked against the total population of same age, but excluding non-response persons, i.e. persons that did not answer. The detail of this survey on lifelong learning is for the Nordic countries and the ten new EU members shown in figure 8.3.

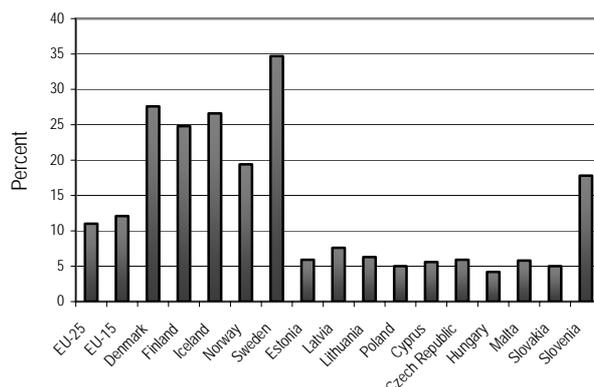


Figure 8.3: Lifelong learning in the Nordic countries and the ten new member states in 2005. Source: Eurostat

A clear divide appears when comparing the Nordic countries with the ten new EU members. Lifelong learning is a much more pronounced phenomenon in the Nordic countries – even compared with the EU-15 average. The only new member state that has a higher propensity for lifelong learning than the old member states average (EU-15) is Slovenia. Sweden has the highest propensity in the survey followed by the UK. This is a first indication of the types of jobs that will in the short run be subject to the international division of labour. Nordic regions must be presumed to restructure into jobs requiring lifelong learning, which is often associated with intermediate goods and services at the higher end of the production chain. It must though be remembered, that this is a short-term situation. Slovenia indicates that as countries become more affluent, the propensity to participate in lifelong learning instruments will increase. The medium and long-term situations will therefore most probably change, which provide be a future challenge to the regional attractiveness of the Nordic regions.

Lifelong learning identifies the input from the education efforts of societies into the continual effort to adapt to international competition. This should for example ideally result in higher *turnovers from innovation* in the firms. The indicator measures the turnover from new products in an enterprise and turnover from products that are new to the market as a % of total turnover across all kinds of products. It is based on the Third community innovation survey (CIS3) and samples enterprises with at least 10 employees. An innovation is a new or significantly improved product (good or service) introduced to the market or the introduction within an enterprise of a new or significantly improved process. The data refers to the year 2000 and thus the new EU-10 member states *are not included* in the study. Some of the EU-15 countries are also not included here, e.g. Sweden.

The figure below indicates that Denmark has the most turnover from innovation among its Nordic counterparts followed closely by Finland. The turnover from innovation is approximately twice that of Iceland and Norway. Finland scores generally quite highly in the secondary sector while Denmark has a strong position in the tertiary sector. Finland does however also take a strong position in those sectors concerning infrastructure and communication – the *Nokia* effect. Iceland scores highly in terms of real estate, renting and business activities. It may also be noted that the Icelandic outreach of business firms had however, at this point in time, not achieved much momentum. Taking this into account there seems to be a correlation between propensities to pursue lifelong learning and the ability to create turnovers in enterprises from innovation. Norway has the lowest propensity to pursue lifelong learning and has the lowest turnover from innovation in enterprises. Finland on the other hand has the second highest turnover from innovation but is only third in the ranking with respect to lifelong learning.

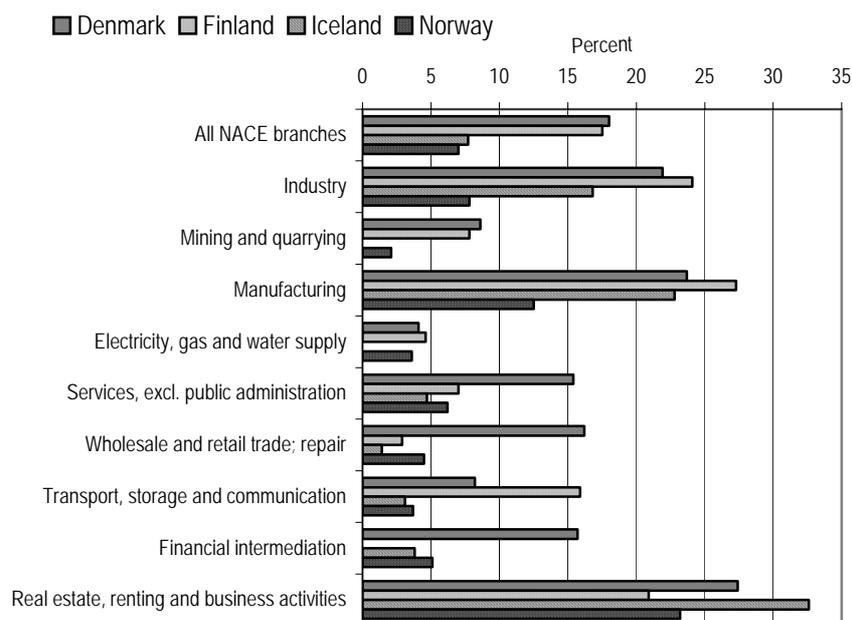


Figure 8.4: Turnover from innovation in the Nordic enterprises by sector in 2000. Source: Eurostat

This leads to the last and most important issue from a regional attractiveness perspective. Does the ability to promote international competitiveness depend on public intervention or does it reflect the local and regional attractiveness inherent in the different areas of the Nordic countries? The current approach will be to focus on public expenditure on education. This indicates the extent to which building competences in economies through public intervention is a decisive characteristic of the Nordic countries. Figure 8.5 offers insight into the cross-country variation in the level of public expenditure on education including current and capital expenses, financial support to students and families and public subsidies for educational activities as a percentage of the gross domestic product. This is taken as an indicator of the importance of public intervention through education for international competitiveness¹⁸.

The difference between the EU-15 and the EU-10 most often revealed in the previous figures is less outspoken in figure 8.5. However, the Nordic countries have historically spent a high level of public expenditure on education. The countries in the Baltic Sea Rim have an expenditure level slightly above the average for the whole of the EU-25 and for the EU-15. Among the new member states, the new members in the BSR do seem to be investors in international competitiveness as measured by public intervention in education. This can be taken to indicate the increased importance of considering regional attractiveness in a BSR context, to the extent that these investments in public education feed through the knowledge and innovation system and produce increased international competitiveness among the regions located in the new member states of the BSR. In a purely Nordic context, it is remarkable that Finland is the lowest scoring country with respect to public expenditures on education. It should though also be recalled that public expenditures on education are not quality corrected measures, why differences in the production technology in the production education services may bias the results. Expenditures may not necessarily reflect quality without such corrected measures.

¹⁸ The assumption here is that expenditures indicate the qualitative support from public education to international competitiveness. This may be subject to criticism, as shown by the Pisa studies, where Finland has a high score.

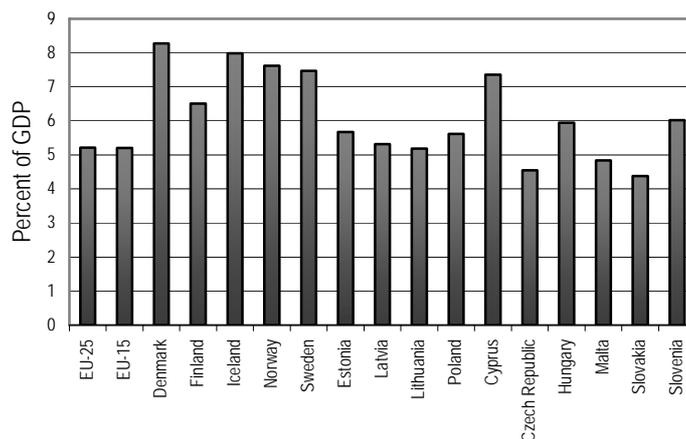


Figure 8.5: Public expenditure on education in 2003. *Source: Eurostat*

In summary, the international competitiveness of the Nordic countries and the adjoining Baltic Sea Rim countries follow rather different approaches in terms of composition. The overall picture measured by price competitiveness and cost competitiveness does not reveal extensive differences. The Nordic countries from the 1990s up to 2005 lost out in terms of international price competitiveness. Some new EU members in the Baltic Sea Rim have on the other hand seen periods of improved price competitiveness, which may indicate some potential for trade and the mobility of production within the whole of the Baltic Sea Rim. The productivity perspective, the education perspective and the perspective of rendering innovative behaviour in firms becomes an important issue with respect to ensuring international competitiveness.

These measures are all in some sense retrospective, as they report on developments in previous periods. A set of indicators on labour quality concerning education levels and the ability to innovate in firms can on the other hand be seen as drivers for future changes in international competitiveness. The structures for these types of indicators are again quite varied across the Nordic countries. Lifelong learning is a dominant feature for all Nordic countries, with the greatest propensity in the Swedish population to use lifelong learning and the lowest propensity across the Nordic countries in Norway. Does this result in a high turnover from innovation in firms?¹⁹ Denmark has the highest turnover from innovation followed closely by Finland. The sectoral composition of this turnover does however vary in important ways across the Nordic countries. One should expect this to be correlated with expenditures on R&D which however does not clearly apply across the Nordic countries. Denmark has a relatively low level of expenditure on R&D, while Sweden and Finland are in the lead. Reverting to public expenditures on education, Denmark is again in the lead position, closely followed by Iceland. Finland on the other hand scores poorly with respect to expenditures on education despite the high ranking level of the Finnish education system in international studies.

The overall picture gained from these structures of international competitiveness is a one of moderate historic differences. Indicators pointing to the future of international competitiveness thus reveal rather different compositions in terms of the mix of measures that may turn out in future to produce international competitiveness in the Nordic countries. Denmark at the one end has relatively high propensities with respect to lifelong learning, high turnovers from innovation, high expenditures on education but low expenditures on R&D. Finland has slightly lower propensities with respect to lifelong learning, high turnovers from innovation, high expenditures on R&D but moderate expenditures on education. The types of mixes chosen across the Nordic countries to ensure future international competitiveness

¹⁹ The usual criticism of measuring innovation in firms applies in general and may also be stated here.

accordingly vary in important aspects. This could then be expected to generate different regional outcomes. Different contexts of regional attractiveness will undoubtedly thus emerge from different mixes of policy instruments. Regional innovation systems that could potentially contribute to the international competitiveness of different types of regions may moreover depend on the difference in such mixes of instruments.

It should also be noted, that being located in the Baltic Sea Rim with several new EU members in the vicinity may constitute an opportunity in some respects. Having ready access to offshoring (outsourcing) and insourcing potentials in close geographical proximity to the Nordic countries may constitute a potentially useful resource in respect of maintaining future international competitiveness. These potentials may however have differential importance for different types of regions depending on the mix of instruments with which regions in a national context operate to ensure their international competitiveness. The regional restructuring and changes in regional labour demand will undoubtedly depend on such constellations of opportunities.

Having focussed rather extensively on the international competitiveness of the Nordic countries and the new EU countries in the Baltic Sea Rim, the question emerges as to whether these changes in competitiveness have led to actual changes in the international division of labour? Do we see outsourcing and offshoring as consequences of these changes in the Nordic countries? The variation in figure 8.5 and 8.6 indicate that a more detailed look at these potential drivers of future international competitiveness in the Nordic regions may be important in understanding the unfolding regional attractiveness of Nordic regions. This will be the content of the following two sections.

Outsourcing and offshoring as the engines of regional transformation

One of the most striking ongoing changes in the global economy is the increasing international division of labour. While this has been a feature of the production chain for many years, the opening of very large new markets to world trade and world investment has succeeded in placing this issue squarely at the centre of the present political debate. This debate is often related to the new options available in relation to the relocation of parts of the production processes to Asia – most often related to the changes in China and India, but it should not be forgotten that regional integration schemes all over the world constantly adjust their options in terms of trade and investment decisions. One such example here is the continuing enlargement of the European Union. Enlargement effectively enlarges the internal market to new countries with different labour cost and labour competence structures. It further provides easily attestable empirical evidence of the predominance of outsourcing and offshoring activities in the Nordic countries. Has this been a crucial characteristic of the choices of individual firms in the Nordic countries and are differences in the propensity to use such measures to reorganize the production chain found across the different Nordic countries? Answering this question would provide important evidence in relation to the pressure on labour productivity materializing in a regional context from the changes in international competition laid out in the previous analysis.

Nordic countries are, in general, doing well in the current context of the international division of labour through such measures as outsourcing and offshoring. As pointed out in *Nordisk Ministerråd* (2005), the five Nordic countries are all ranked in the top ten with respect to competitiveness – with Finland in pole position, Sweden ranked third, Denmark in fourth, Iceland eighth and Norway ninth. Focussing on technology the ranking changes thus: Iceland (2), Finland (3), Denmark (4) and Sweden (6), while the ranking scores for creativity places four of the five Nordic countries at the top of the tree: Finland (1), Norway (2), Sweden (3) and Denmark (4). This first and foremost is suggestive of an overall good understanding of the potentials in relation to ensuring international competitiveness from outsourcing and offshoring across all of the Nordic countries while also pointing to the importance of having

different mixes of instruments to ensure this competitiveness. This is an issue that will be discussed in greater detail in the next section.

Given this relative Nordic success the question becomes one of how large the potentials are to ensure competitiveness from outsourcing and offshoring. Following Farrell (2004), firms should be able to reduce their total production costs by 50 percent from reallocating production internationally. This is an impressive figure that should leave large shares of the incumbent workforces in transition due to outsourcing and offshoring. Van Welsum and Vickery (2005) calculate that the types of jobs that could potentially be carried out elsewhere cover about 20 percent of total employment in several countries. A similar percentage can be found for the US using the calculations in Mankiw and Swagel (2005), showing that about 20 percent of total employment in 2004 may potentially be affected by offshoring. Other estimates have however been suggested see e.g. Bardhan and Kroll (2003). These potentials are dynamic and spatially defined. Van Welsum and Reif (2006) show that the share has increased in EU15 from 17.1 percent in 1995 to 19.2 percent in 2003, while the corresponding percentages for the US are 19.2 percent in 1995 and 18.1 percent in 2002. The European experience is therefore one of an increasing potential for offshoring and outsourcing, while the US has already begun to see a slight decline. As such, the European countries should be ready for the phenomenon of moving labour intensive jobs abroad and this should be presumed to have increased with the enlargement of the Union in 2004. Given the close proximity of the Baltic countries in the enlarged Union similar patterns should be expected for the Nordic countries. Focussing on clerical occupations, van Welsum and Reif (2006) present country-specific evidence that partly confirms these expectations. The clerical occupations in employment potentially affected by offshoring have decreased in the US from 34.5 percent on average for the period 1995-1997 to 28.1 percent on average for the period 2001-2003 or a decline of 6.4 points. The corresponding reductions for Germany are 6.8 points, but only 1.3 points for Denmark and 2.3 points for Sweden. While the process of continual adjustment in production chains in the perspective of the international division of labour has reduced the jobs potentially affected by offshoring in all countries, the decrease has been weaker in the Nordic countries prior to the EU enlargement. This can be taken to indicate that the Nordic countries have adjusted early but it may also indicate the potentially affected jobs from EU enlargement may still be sizeable. If the Nordic countries have either production structures dependent on the proximity of suppliers and markets, or if they are especially able to take advantage of the new opportunities presented by off-shoring, EU enlargement may be important. This should be seen from the perspective that Denmark and Sweden, with only 37.6 percent and 28 percent respectively, of clerical occupations potentially affected by offshoring in 2001-2003 are among the lowest percentages quoted in van Welsum and Reif (2006).

The fundamental assumption in much of the debate over outsourcing and offshoring relates to the prevailing threat from low wage countries. In an EU enlargement perspective, it becomes important to be precise on the actual labour cost reductions attainable from outsourcing and offshoring to low wage countries in the enlarged EU as compared to other locations in the world. Do the new member countries represent an attractive alternative in respect of the competition with e.g. Asian countries? Farrell *et. al.* (2005) present an index of the average hourly labour costs in a selection of countries indexed to the US cost level. Germany is the least competitive with an index of 158, while India is the most competitive with an index of 12. The other offshore location – China – has an index of 19. Three new member states of the European Union are included: Poland (36), Hungary (41) and the Czech Republic (41). The overall picture therefore confirms new opportunities for outsourcing in light of EU enlargement. Other more distant locations do though offer considerably lower cost structures. The specialization in the production chain in terms of spatial location should therefore depend on the value of having suppliers and markets close at hand, as indicated in e.g. the theories on agglomeration and clusters. A further detail of importance when evaluating the potentials for offshoring and outsourcing is moreover the quality of labour in the different locations. Using Farrell *et. al.* (2005) only, on average, 13 percent of University graduates are

suitable to work in multinational companies located in low cost countries. These problems are particularly applicable among generalists with only 10 percent being employable, while the best performing qualification group remains in finance/accounting with on average 19 percent being employable. This must be taken into account when analysing the potentials for outsourcing and offshoring. Low wage countries are relevant for certain types of jobs, while the experiences in e.g. India with the boom in ICT-service exports seem to be the exception to the general rule, see table 2 in WTO (2005). This may also explain the moderate changes from outsourcing shown in WTO (2005) when comparing scenarios of outsourcing with the actual situation, see chart 3 in WTO (2005) Outsourcing and offshoring in services with a high knowledge level should therefore only be expected to be possible in very specific locations.

What kinds of tasks are subject to offshoring and outsourcing in the Nordic countries? Rambøll (2004) finds that 18 percent of Danish firms used one of three types of foreign activities: Sales offices (14 percent), Production units (10 percent) and R&D activities (5 percent). This could be taken to confirm the general pattern of low wage countries being alternatives for low competence jobs. This is however changed when focussing only on firms in the ICT sector in Denmark. About a third of the CEO's in the firms belonging to the ICT firm association expect to offshore 72 percent of their activities to low wage countries. The predominant offshoring location is Asia with 48 percent of the activities, followed by 24 percent to Eastern European countries and 14 percent to other Western European countries. Only 5 percent of their activities can be expected to be outsourced to other firms in Denmark.

These figures point to the emergence of new trends in respect of the outsourcing and offshoring of knowledge jobs and confirm the importance of Asia in this respect. Even so, the new member states in the EU remain important partners in this process for Danish firms. The Danish evidence moreover confirms the potential for outsourcing and offshoring in Nordic firms illustrated by van Welsum and Reif (2006). Rambøll (2004) finds that Danish firms use outsourcing much less than has become normal with firms abroad. The outsourcing of activities in wage administration has only been pursued by 16 percent of Danish firms, while 33 percent of firms outside Denmark use outsourcing in this area of operation. It should also be noted that Danish firms are content with the results obtained from outsourcing and offshoring. Following ITEK (2004) around 70 percent of Danish firms are satisfied with the results obtained from outsourcing to low wage countries. Nearly 90 percent find their costs reduced, but this comes at the cost of increased stocking – around 50 percent see their stocking increased, while for just fewer than 40 percent of firms this has resulted in increased delivery times. Outsourcing does not, on the other hand, have significant consequences with respect to transfers of knowledge or the time needed to develop products. Swedish firms are also influenced by new opportunities in respect of the enlarged EU. The changes have however already been seen prior to the accession of the new member states, which should have been expected from a rational expectations perspective. Using Hansson (2004), the Swedish-owned multinational firms have seen a rapid expansion of employed in Central- and Eastern Europe from 1990 to 2001 – from virtually nothing to over 38,000. The corresponding development in employment terms in the context of Swedish owned multinationals in Asia increased from over 31,000 to over 38,000 in the same period. The inverse of the employment development for Central- and Eastern Europe takes place in Latin America, where Swedish owned multinationals reduced their employment from over 51,000 to around 27,000 for the period. Accession expectations have thus led to sizeable reallocations of foreign activities by Swedish-owned multinationals from Latin America to Central- and Eastern Europe. This tendency is underlined by ITPS (2004). Swedish firms expect moreover to pursue significant new investments in Eastern Europe that will outperform the levels for Latin America and even China. 16 percent of Swedish firms expect to direct larger FDI flows to Eastern Europe over the period 2003-2007, while only 7 percent will make such investments in China – and none expect to do so in Latin America. The enlargement of the EU does therefore seem to have had a massive effect on their global orientation in terms of organising the production chain in Swedish firms – an effect that is not to the same extent observable in Denmark. It should

finally be noted however that a consequence of outsourcing and offshoring might be either closures of activities in the Nordic countries or the transformation of activities towards higher competence occupations. ITPS highlights only 8 firms that have relocated activities abroad out of a total of 188 firms, while the Danish evidence indicates that outsourcing and offshoring is complementary to domestic production, such that domestic jobs are maintained and often increased. Outsourcing and offshoring can therefore be seen as an engine for structural transformation and will accordingly represent a challenge in a regional perspective in respect of adapting regional structures to the new international division of labour. Regional attractiveness as interpreted in a traditional industrial society may then come under pressure in respect of regional attractiveness from a post-industrial perspective. This should be carefully followed within the Nordic countries with very large regional differences prevailing and transnational differences in policy and institutions to handle to challenge from globalisation the norm.

Given the pressure from outsourcing and offshoring on the regional production structures in the Nordic countries – for some Nordic countries engineered by pressures from Asia and from pressures those related to an enlarged EU – the question becomes, what can be done to ensure the continued competitiveness of the Nordic regions, such as to continually ensure regional attractiveness in the Nordic countries. The measure most often referred to here is that of focussing on innovation and R&D so as to ensure international competitiveness – something that is particularly important for Nordic welfare states characterised by rigid wages structures and modest regional variations in wage levels.

Innovation and R&D in a Nordic context

Innovation is a centre place concept when discussing the continuation of competitiveness in the industrialized countries. Industries have since the turn of the century increasingly experienced competitive pressure from low cost countries like China, Indonesia, Vietnam and others. This has in a European context been worsened by the currency pegging to the USD by China preventing the appreciation of the Chinese currency (the Yuan), as the economy develops and becomes stronger. The enlargement of the European Union as of May 1st 2004 has added further to the complexities. The new members often have quite different welfare and tax systems leading to less wage cleavage from these systems. They therefore tend to have lower wages, making them potential 'low wage' segments within the Union, at least temporarily. Enlargement has already resulted in considerable industrial dynamics in e.g. the Czech Republic, Slovakia and Hungary with the emergence of a new car-manufacturing cluster.

Innovation is seen by many countries as a vital instrument in the arsenal of counter-measures designed to prevent the loss of international competitiveness in respect of national and regional industries. The baseline idea is that as other countries are able to produce traditional products at lower prices, national and regional production must be pursued more rigorously with respect to establishing smarter production processes and products with higher knowledge levels. This would ensure a competitive advantage given that the low cost countries are unable to implement similar innovation measures or given that there is usually a first adopters' bonus in terms of these processes. How may this be reflected in a regional context? Following OECD (2005a), there are in general three instruments of policy measures that stand out in the effort to ensure the innovative potential of regions. These three are:

- Real estate based projects emphasizing the co-location of science and firms in science parks, *technopoles* and other pre-designated areas to facilitate networking between firms and research institutions
- Relational asset/cluster policies focusing on the advantages of the co-location of networks of firms to ensure the exchange of competitive practices and market knowledge.
- Linking research and industry through such instruments ensures that the knowledge produced by research institutions reaches relevant firms, thereby

leading to the marketization of R&D and innovative activities taking place in science.

These activities may be strongly interdependent, as networking and linkages are common ingredients in most of the different instruments. The list is however not exhaustive. Innovation and knowledge may also be transferred to regions from outside sources. This may originate from FDI by foreign firms into regions or through the migration of knowledge workers from abroad or other regions into the regional context, which can in both cases be considered as a type of insourcing or inshoring. The above three innovation measures are nonetheless vitally important in defining the nature and extent of regional attractiveness from the perspective of creating a texture promoting future production and development. All three measures may be interpreted as developing regional attractiveness in respect of the emergence of new or reorganized businesses in a region.

Innovation covers many different types of business activities and their surrounding institutions. These innovative efforts have in general been divided into four different types of activities covering product innovation, process innovation, organizational innovation, and marketing innovation. *Product innovation* focuses on providing customers with products embodying new functions or user characteristics, while *process innovation* focuses on the production implementing new equipment, software and specific techniques. *Organizational innovation* concerns the people and organization of work and *marketing innovation* deals with the marketing of products like e-commerce.

The regional potential to pursue all these types of innovation will depend on the institutional structures prevailing in the regional context. OECD (2005b) describes the institutional preconditions for innovation as follows:

- The university system
- The specialized technical training system
- The science and research base
- Common pools of codified knowledge
- Innovation policies
- Legislative and macroeconomic settings
- The communication infrastructure
- Financial institutions
- Market accessibility
- Industry structure

Several of these institutional settings will differ between countries and regions. Facilities to train and educate the population may differ between regions and may also be expected to vary with the degree of urbanization. The same would be true for a number of the other institutional preconditions. Some may not however be responsive to regional location as compared to large national metropolises, but may rather depend on the location relative to export markets. Some regions moreover may have a high degree of market accessibility relative to export markets but may be in the periphery relative to national centres.

Figure 8.6 illustrates the relative strength of the Nordic regions according to aspects of infrastructure, such as the networks of roads and cities, which would indicate their relative position in the location hierarchy. This can be used as an indicator of the institutional preconditions for the Nordic regions.

spatial patterns of innovation? The issue is that there *is* a spatial ranking. Foreign multinationals may be presumed most often to locate in or in the neighbourhood of national metropolises or correspondingly strong urban structures. Domestic multinationals may to a higher degree locate their R&D centres at the metropolis and similar urban structures, while production facilities with adjoining process and product innovation may be spread spatially across a country. The domestic non-multinationals will on the other hand have a higher propensity to locate their innovation activities in the vicinity of local or regional production. This is why their innovation efforts will be spread across a country. These assumptions on the spatial structure will be maintained, as metropolises such as Stockholm and Copenhagen in the Nordic countries, have attracted considerable investments from foreign multinationals.

The first issue is the type of innovation activity pursued by firms in the different Nordic countries. As indicated previously, innovation implies a wide array of activities in and between firms. The current presentation will select three measures from Ebersberger and Lööf (2005), which in terms of results represent clear differences across different types of firms and across the Nordic countries. These are continuous R&D, process innovation and public funding for R&D. Other types of innovation are clearly important such as product innovation, but most types of firms report high activity in these fields across most Nordic countries. Figure 8.7 shows the share of firms in the different groups of firms and in the different Nordic countries that engage in continuous R&D.

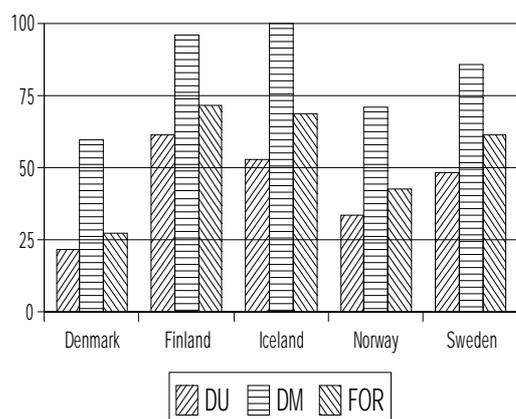


Figure 8.7: Continuous R&D in the Nordic Countries
Source: Ebersberger and Lööf (2005)

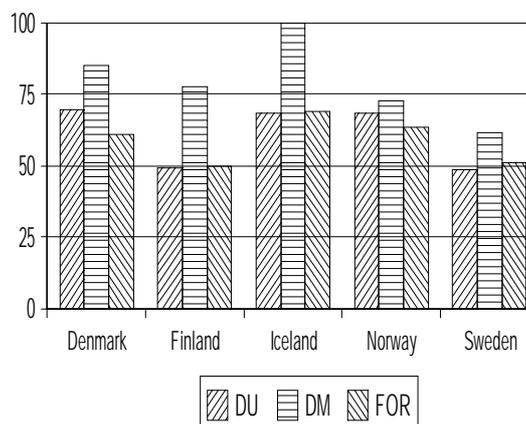


Figure 8.8: Process Innovation in the Nordic Countries
Source: Ebersberger and Lööf (2005)

While certain types of innovation may be substitutes, e.g. continuous innovation, product innovation and process innovation, figure 8.7 shows a significant difference in innovation activities across various types of firms in the Nordic countries. Domestic multinationals is the firm type with the highest share of firms engaging in continuous R&D in all the Nordic countries, ranging from a 100 percent in Iceland to 60 percent in Denmark. Domestic non-multinationals on the other hand exhibit a much smaller propensity to engage in continuous R&D. This is especially so in Norway and Denmark with just over 20 percent of the domestic non-multinationals pursuing continuous R&D. These variations reveal important differences in the innovative tissue of the Nordic countries and in the importance of regional attractiveness. In a spatial context, it is also important to note that countries do not segregate into groups by size. Denmark has a rather poor performance, while Iceland has a correspondingly good performance in continuous innovation for all types of firms. It is not then the lack of regional variation in small countries that drives the differences, but rather different potentials in terms of regional attractiveness as reflected by variations in legislation, institutions and individual attitudes and behaviour.

A type of innovation that represents an important supplement to the classic types like R&D and product innovation is process innovation. To what extent are firms able to implement process innovation? This would be an important question with the upturn of e.g. LEAN management. Does the ability to implement process innovation vary across different types of firms and do these abilities vary across the Nordic countries? Figure 8.8 illustrates the share of firms pursuing process innovation.

The importance of process innovation varies across types of firms and countries in quite another manner than continuous R&D. Iceland continues to be in a rather advantageous situation. The performance of the different types of firms in Sweden and especially Finland does however deteriorate, when focusing on process innovation. It is moreover remarkable that domestic non-multinationals are more active in process innovation than foreign multinationals in both Denmark and Norway. The ranking of domestic multinationals as being the most active continues to hold, but for some countries the domestic non-multinationals become comparably more active in terms of process innovation. Given the assumed spatial distribution of the different types of firms, this can be taken to indicate that innovation processes will vary considerably in a regional context. The dependence of innovation on regional attractiveness may take quite different forms across different types of regions with different types of regional characteristics and attractiveness. Conceptualizing one type of innovation process should therefore be pursued with caution, as regional attractiveness may render different outcomes in terms of innovation compositions.

Two issues related to this different contextualization of regions concern the extent of public R&D policies in a spatial and thereby international dimension and the existence of partnerships for innovation in a regional context. This clearly relates to the issue of regional attractiveness in respect of firms desires to pursue innovation in different kinds of regions. Active regional policies promoting innovation in lagging regions will contribute to regional competitiveness through industrial renewal and will moreover be important for regional variation in labour market conditions, i.e. demand for specific kinds of competences in specific regions. This first issue is reflected in figure 8.9, which illustrates the share of firms across the different types that have received public funding for R&D.

Public funding for R&D is administered quite differently in the Nordic countries. In terms of levels, Finland has the highest share of firms in any group receiving public funding for R&D, while Sweden has the lowest share for firms.

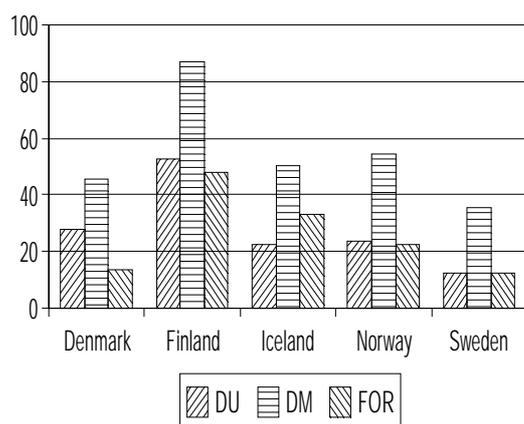


Figure 8.9: Public Funding for R&D in the Nordic Countries
Source: Ebersberger and Lööf (2005)

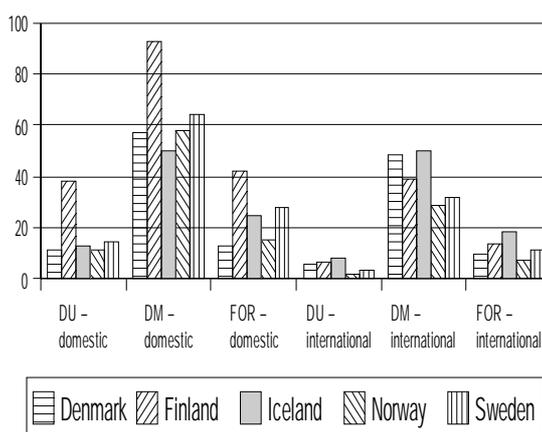


Figure 8.10: Firms Cooperation with Universities in the Nordic Countries
Source: Ebersberger and Lööf (2005)

The composition also varies considerably. A very low share of foreign multinationals receive public funding for R&D in Denmark and Sweden, while a considerable share receive funding in Finland equivalent, to that for domestic non-multinationals. The variation across the

Nordic countries is also considerable in respect of domestic non-multinationals. A comparably high share of domestic non-multinational firms receives public funding for R&D in Denmark, Finland and partly also Norway. Denmark therefore seems to have a home bias in terms of public funding for R&D, while e.g. Iceland has a much less pronounced home bias in public funding for R&D. Domestic multinationals consistently have the highest share of firms receiving public funding for R&D in the Nordic countries. This can be expected to reflect a spatial pattern showing the relative regional attractiveness of larger cities, where domestic *metropolises* often place their R&D activities. Public policies will, according to this measure of public intervention, have different impacts in their ability to foster innovation and R&D in firms located in different kinds of regions with different kinds of regional attractiveness. This will produce different regional abilities to ensure regional industrial renewals in different regions. Supporting regional attractiveness from an innovation and R&D perspective will therefore be subject to quite different conditions in terms of public funding for R&D.

Universities function as one of the most important preconditions for innovation according to the OECD (2005b) as they are vital incubators for innovation and R&D for the business community and thereby function as engines for regional industrial renewal. They are therefore a vitally important part of regional attractiveness. What is the importance attached by different kinds of firms to their cooperation with universities in the innovation process? This kind of question would be important for an evaluation of the role of universities in the innovation systems embedded in the notion of regional attractiveness in the Nordic regions. Figure 8.10 highlights the share of firms cooperating in the innovation system with universities segregated into domestic universities and international universities.

Cooperating with domestic universities is especially high in Finland, which applies for all kinds of firms. Domestic non-multinationals have a low propensity to cooperate with domestic universities, while domestic multinationals have a considerably higher propensity to cooperate with domestic universities in all the Nordic countries. The cooperation between foreign multinationals and domestic universities is the intermediate case, with a lower propensity than domestic multinationals but a higher propensity than domestic non-multinationals, especially in Sweden and Iceland. Notice here that foreign multinationals cooperate more intensely with domestic universities than domestic non-multinationals in Finland. This indicates that universities are engines for foreign investments in the sense of being attracted by the regional attractiveness constituted by tacit and codified knowledge anchored in universities. The importance of universities for foreign multinationals seems to be confirmed by the comparably higher propensity to cooperate with domestic universities as compared to international universities in all Nordic countries. Universities are important factors in the regional innovation system defining regional attractiveness for innovation and R&D. They can therefore be seen as vital contributors to regional attractiveness in the process of industrial renewal.

Innovation processes are diverse phenomena constituted by various components. A number of initiatives are important when instrumentalising regional attractiveness in the form of furthering innovation and R&D. This instrumentalisation must take into account a number of different aspects. The most important factor here is the fact that innovation and R&D do not necessarily work in similar ways in different regions populated by different kinds of firms. The other is that highly valued tacit and codified knowledge embedded in universities remains important. This is reflected in the relative importance of foreign multinationals in cooperating with domestic universities in the innovation system. Foreign multinationals may see domestic investments as an opportunity to extract local and regional tacit knowledge from universities and an opportunity to combine foreign knowledge bases within the MNC with domestic knowledge bases at the universities. The latter indicates the value to foreign MNC's of mixing knowledge across national borders. The high propensity of domestic multinationals, on the other hand, point to the spatial embeddedness of Nordic MNC's in general with respect to the innovation system.

'Revealed' regional attractiveness and labour productivity

International competition imposes pressure on the Nordic regions towards regional structural change which will take place depending on the regional attractiveness. Structural changes will therefore depend on regional attractiveness's and these two factors will accordingly jointly establish the regional competitiveness. Regional competitiveness can therefore be interpreted as reflecting the implicit 'revealed' level of regional attractiveness. The crucial question thus becomes, whether the very different mixes of structures in the determinants of international competitiveness and in innovation and R&D across the Nordic countries shown in the two previous sections of this chapter regions in very different situations of regional attractiveness. The approach used here is to consider regional variation in labour productivity in a given Nordic country. High variation indicates that regional attractiveness will be decisive in the process of ensuring regional competitiveness, while modest regional variations within a given Nordic country will be taken to indicate a modest level of importance for the regional context in terms of regional attractiveness. This will provide important empirical evidence in testing the hypothesis that the different Nordic regions will specialize in the areas in which the regional specificity or regional attractiveness produces the highest labour productivity – given the international and national trends.

Before illustrating regional variation in labour productivity, it may be beneficial to summarize the national trends and variation in trends across the Nordic countries found in the previous section. This can be found in table 8.1.

Table 8.2: Types of international competitiveness and innovation in the Nordic countries Note: The number of plus or minus signs indicate the relative performance in the group of Nordic countries for the period indicated. Classification is done in a tentative manner.

	Denmark	Finland	Iceland	Norway	Sweden
International price competitiveness 1999-2005	- -	-	n.a.	- - -	- -
Labour productivity growth 1999-2003	+	++	++	++	++
Lifelong learning 2000-2003	+	+	++	+	+++
Turnover from innovation 2000	++	++	+	+	n.a.
Public expenditure on education	0	+	+++	+	0
Continuous R&D in firms	+	+++	+++	+	++
Process innovation in firms	++	+	+++	++	+
Public funding for R&D	++	+++	++	++	+
Firms cooperation with Universities	+	+++	++	+	++

Although the typology presented in table 8.1 may for obvious reasons be subject to criticism due to the decision rules and accuracy in measurement, as may most typologies, it does however make an important point. Nordic countries see different outcomes in terms of international competitiveness and undertake very different levels of effort to ensure future international competitiveness. This is so for both public policies and intra-firm processes. The mix of efforts does moreover vary considerably across the Nordic countries. Finland is a public-private high-tech regime with significant efforts within measures indicating R&D in firms, the public funding for R&D and firm cooperation with Universities. Iceland on the other hand appears to be a private high-tech regime with emphasis on firm R&D and innovation, while Sweden may be labelled a learning regime stressing the importance of life-long learning. Norway and Denmark seems to be mixed regimes with no significant efforts within specific areas but moderate efforts in most areas designed to ensure international competitiveness. The result of these differences in present and future potential international competitiveness will be decisive for the regional attractiveness of the Nordic regions. The

national context becomes important. Firms will be successful in regions that are able to use the differences in national contexts to their advantage and these regions should moreover attract investment – both domestic and foreign. Such processes should be expected to be decisive for labour productivity levels and the development in productivity. Successful firms that are internationally competitive are so because of an ability to maintain this position through a continually positive change in labour productivity. The indicators in table 8.1 will therefore all be expected to influence the outcomes in terms of labour productivity, e.g. organizing production in a smarter manner and introducing new products with higher ‘value added’. This will on the other hand depend on the level of regional attractiveness exemplified by the geography of Nordic regions in figure 8.6. This again produces different outcomes in terms of wages and income and thus also welfare for the regions and their inhabitants.

The hypothesis to be tested in this chapter was that firms specialize in the products that produce the highest productivity given the regional attractiveness of their location under the increasing influence of international competitiveness. The very different types of ‘innovation and competitiveness regimes’ across the Nordic countries shown in table 8.2 should lead to very different experiences in terms of the regional variation of productivities across the Nordic countries. Figure 8.11 illustrates the labour productivity levels in the Nordic regions at NUTS3 levels for the year 2000.

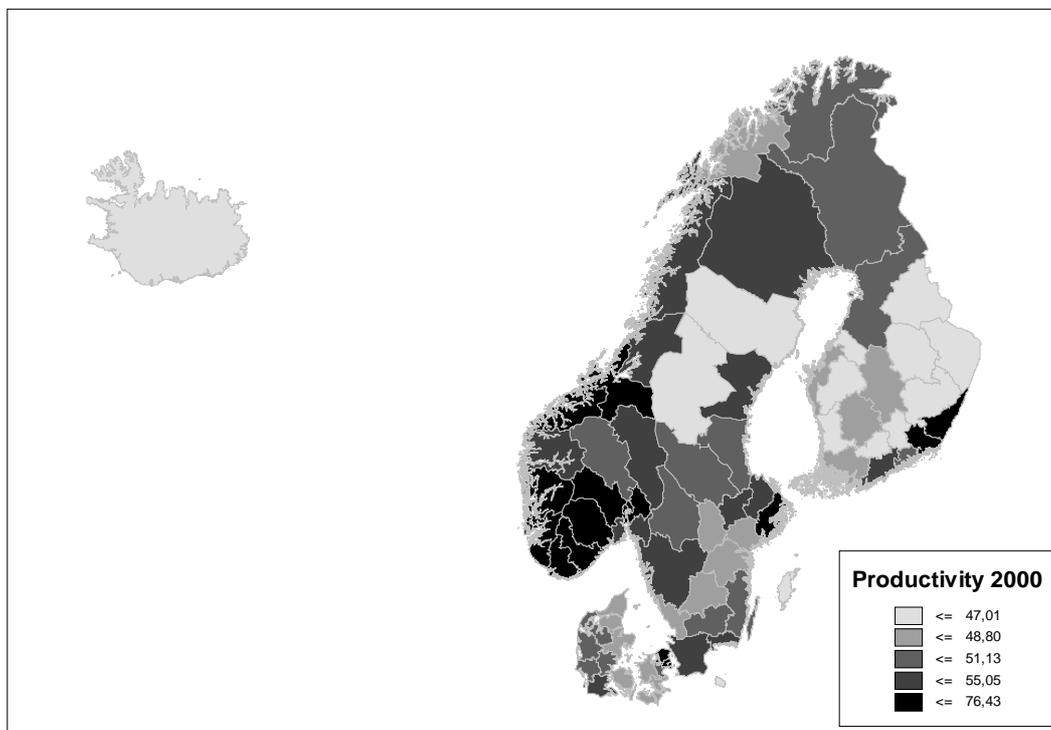


Figure 8.11: Labour productivity in the regions of the Nordic Countries 2000. Source: Eurostat database Regio, Statistics Norway and Statistics Iceland

Note: Labour productivity has been calculated using the gross ‘value added’ and the employment in each region. This has been the standard approach in the literature; see e.g. Esteban (2000).

There are important differences in the regional consequences in terms of regional labour productivity across the Nordic countries. Norway shows a comparably high level of productivity, while some regions in Sweden, Denmark and Finland are lagging considerably in productivity terms from a Nordic perspective. Finland experiences comparably high productivity levels in the southernmost regions and partly also in the north, while regional productivity is comparably high in Denmark in the southern parts of Jutland and around Copenhagen. Sweden sees high productivity levels in the south and around Stockholm and partly also in the high north, while the regions located in-between are comparably less

productive. Productivity levels in Iceland are at the lower end of the Nordic 'benchmark' table. Figure 8.11 therefore show that the meso-structure of productivities resulting from the macro-structure in terms of international competitiveness, offshoring and innovation varies considerably in the Nordic area. It is however important to note, that figure 8.11 uses a Nordic benchmark showing the relative productivity of a region *relative to* all other regions in the Nordic countries. Focusing on the national level changes the variation of structures as the benchmark changes. Using a national benchmark however produces somewhat different results. Comparing regional variation within each of the Nordic countries with the least productive region produces results that are adjusted for the fact that the regional productivities may vary systematically across Nordic countries. Norway has the most pronounced intra-national variation in terms of productivity levels across regions with the most productive region being over 56 percent more productive in 2000 than the least productive region. The corresponding measures for Finland were over 53 percent, Sweden nearly 50 and Denmark over 31 percent²⁰. Norway does therefore exhibit high productivity levels from a Nordic perspective, but at the same time sees considerable regional variation reflecting differences in the ability to take advantage of international competitiveness due to its considerable variation in regional attractiveness.

From a Baltic Sea Rim perspective, it is not surprising that labour productivity levels are considerably below Nordic performances in terms of regional productivity. The region with the highest productivity in Estonia only reflects 28 percent of the productivity of the region that is the least productive in Finland in 2002. The same figure for Lithuania is around 21 percent. This reflects the sizeable productivity differences in the Baltic Sea Rim area, but it also shows that offshoring activities from Nordic regions to the neighbouring countries depend, significantly, on wage structures. Wages must compensate for these productivity differences by off-shoring to neighbouring countries in the Baltic Sea Rim. This must at the same time be seen from the perspective of regional attractiveness. While the least attractive regions in the Nordic countries may be lagging behind in intra-national and intra-Nordic contexts, they may seem attractive from an intra-BSR perspective.

The issue of revealed regional attractiveness through regional labour productivity structures must however be further elaborated in a dynamic context. Regions that experience high productivity levels may not be those that experience dynamic adjustments from pressures from international competition ensuring positive development over time. Figure 8.12 therefore show the changes in regional productivities from 2002 to 2002. While being a rather short period, it delivers an impression of the dynamics of regional productivity and thereby revealed attractiveness only few years prior to the EU enlargement.

A striking feature in figure 8.12 is the weak development in terms of productivity levels in Sweden and partly also in Finland. By far the strongest developments are seen in Iceland, Norway and partly also in Denmark. There have been marked differences in the performance of labour productivity between the Nordic countries. This can, in part, be taken to indicate the consequences in differences in 'innovation and competition regimes' across the Nordic countries as responses to the pressure for structural transformation originating from the international division of labour through outsourcing and offshoring. It may also however depend on specific differences in structural changes in the Nordic countries. Norway may have seen the extraction of natural resources as contributing to productivity changes while Iceland may in the same manner have seen industries benefiting from the ample presence of thermal energy as providing high labour productivity gains. Even so, it seems clear that differences in regional attractiveness across the Nordic countries have produced different types of regions in very different situations in terms of labour productivity.

²⁰ Iceland does not allow for similar calculations, as the minimum productivity equals the maximum productivity with only one NUTS3 region.

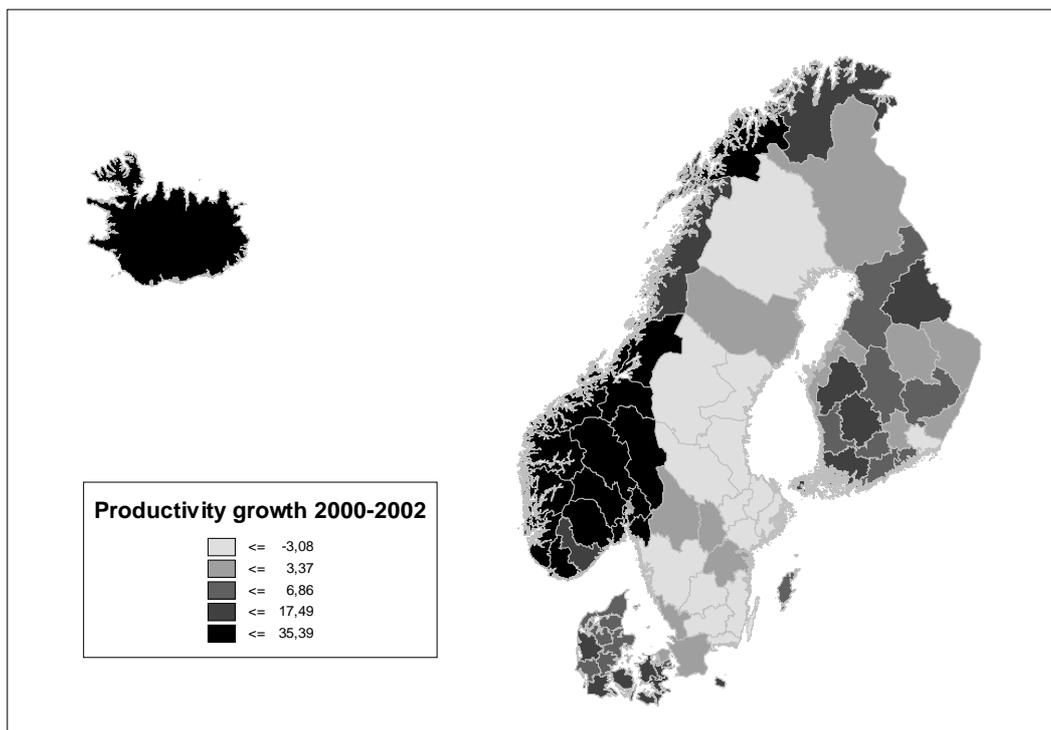


Figure 8.12: Labour productivity growth 2000-2002 in the regions of the Nordic Countries.
 Source: Eurostat database Regio, Statistics Norway and Statistics Iceland

Does this reflect a process of convergence or do the different policies supporting international competitiveness support specific regions that continue to accelerate relative to regions of less pronounced regional attractiveness? Iceland has improved its position within the group of Nordic countries, starting out from a moderate level of labour productivity in 2000 but with a high growth rate among the Nordic regions from 2000 to 2002. The same applies for Norway. It may furthermore be noted that the regional variation in regional competitiveness measured by labour productivity has been reduced considerably from 2000 to 2002. Comparing the Norwegian region with the most productive labour to the region with the least productive shows that the difference has been reduced from the highest being over 56 percent more productive in 2000 to only being around 34 percent more productive in 2002. Norway has therefore seen something of a development in terms of convergence relating to labour productivity. The corresponding convergence level in the other Nordic countries has been much less pronounced with a reduction in Denmark from around 31 percent to 27 percent, a reduction in Finland from around 53 percent to 42 percent and a decrease in Sweden from around 50 percent to 40 percent. The dominant feature is therefore a process of regional labour productivity converge with the most pronounced development in Norway. These differences at the same time illustrate the dominance of regional attractiveness in the performance of regions will vary across different Nordic regions though all countries have witnessed dynamics leading to convergence.

Returning to the other countries in the Baltic Sea Rim the conclusion in respect of regional labour productivity convergence for the Nordic countries is reversed. In Estonia the region with the highest labour productivity in 2000 is 67 percent more productive than the region with the lowest labour productivity while this difference had increased to around 94 percent in 2002. The similar difference for Lithuania is around 65 percent in 2000 rising to around 140 percent in 2002. A number of countries in the Baltic Sea Rim have therefore seen sizeable divergences emerge in terms of their regional labour productivities. This may reflect the fact that their 'innovation and competition regimes' are less targeted at ensuring the regional

attractiveness of different types of regions. Their revealed regional attractiveness should have undergone a similar divergence process.

Comparing the simple typology of ‘innovation and competition regimes’ illustrated in table 8.1 may be important for regional performances in terms of labour productivity. Countries with a certain mix of measures to ensure international competitiveness and thus regional competitiveness, given the regional attractiveness, will lead to different outcomes in terms of labour productivity. Moreover the convergence in labour productivities across regions will also vary considerably. The empirical evidence presented in the previous three sections therefore tends to confirm that the different Nordic regions will specialize in the areas in which their specificity or regional attractiveness produces the highest productivity – given the prevailing international and national trends. This specialization process will depend on the national contexts in terms of ‘innovation and competition regimes’ and it can be expected that these differences in regimes make the importance of regional attractiveness materialize differently in terms of labour productivity.

International competitiveness and regional attractiveness – the Nordic potential

As a part of the global division of labour, the Nordic regions have to adapt to the new international trends of international competition following on from more open economic conditions across the world. This is most clearly seen from the development of the single European market and the enlargement of the European Union but also through the increasing role of the World Trade Organization in facilitating trade between the different countries in the world. This must be expected to influence the regional potentials of development and prosperity. Using the concept of revealed regional attractiveness, the previous analysis indicates that international competition and the national measures to ensure this is of vital importance for regional performance. Productivity measures vary considerably across the Nordic countries and the trends towards convergence are also very different. The importance of ‘innovation and competition regimes’ in supporting regional attractiveness and thus labour productivity appear undeniable. This clearly reflects endogenous dynamics leading to the outcomes. The migration patterns and structural changes taking place in the Nordic regions should support the ability to maintain regional attractiveness. It is moreover clear that these links between regional attractiveness and regional performance are closely associated with welfare and prosperity. The ability to ensure satisfactory wage and income developments will depend on the ability to ensure regional competitiveness by remaining attractive. The importance of previous differences in respect of ‘innovation and competition regimes’ ensuring regional attractiveness will not only produce different outcomes in terms of revealed regional attractiveness but will also determine the level of regional differences in welfare and prosperity among the Nordic countries.

The outcomes in the preceding analysis will also depend on the aspects of migration, labour market integration of inflows, wage rigidities, ‘hire and fire’ costs and other aspects associated with the ‘labour market regimes’ in the different countries. The importance of these factors may, in general, be expected to be moderate, as most Nordic countries are often classified in the context of the Nordic Welfare Regimes. Given this homogeneity, the aspect of inherent regional attractiveness is stressed. Even so, aspects of training and education on the labour market may vary across countries and will produce very different outcomes. The importance of this aspect becomes even clearer when realizing that regional patterns in the ability to pursue training and education in elaborate institutional setups will vary across national contexts.

Recalling the differences between the Nordic countries and other countries in the Baltic Sea Rim such as Estonia and Lithuania, the question thus becomes one of the consequences expected from enlargement and international competition. The divergence in productivity levels in the other countries of the Baltic Sea Rim may be taken to illustrate that policies

supporting spatial equity may come under pressure. Moving production internationally has become increasingly common among firms, even firms of moderate size that would not normally be labelled as multinationals. Given the continued strong development in the centres of the new countries in the enlarged Europe, this may constitute a challenge to the non-centre regions of the Nordic countries. As international competition puts pressure on the organization of production in the Nordic countries, it may become increasingly difficult for regions with comparably weak regional attractiveness to ensure welfare and prosperity. The off-shoring of production in particular may come to be seen as a threat to regions with comparably weak regional attractiveness. This situation is however somewhat paradoxical. Production in regions with moderate or low regional attractiveness may depend strongly on reorganizing production process through international outsourcing, inter-regional outsourcing, intra-regional outsourcing and off-shoring, but it may at the same time be expected that these will also be the regions that have the hardest time in attracting competences that can manage such processes of restructuring while modernizing the organization of production. One solution to this is however the insourcing of competences from the international society.

The research question for this chapter was whether international competition leads to very different patterns of the restructuring of labour demand and thereby of labour productivity in different contexts of regional attractiveness. The analysis presented here points to the significance of regional attractiveness for the performances of regions. Labour productivity as an indicator of maintaining and building regional strongholds and maintaining regional attractiveness is very diverse across the Nordic regions. This will reflect the outcomes from pressures from international competition but also the dependence of regional contexts in terms of regional attractiveness. From a policy perspective the analysis indicated that the differences in 'innovation and knowledge regimes' across the Nordic countries may be one important factor in influencing the prevailing level of regional attractiveness and thus regional growth potentials and welfare. Regional outcomes in terms of revealed regional attractiveness differ considerably across the Nordic 'innovation and knowledge regimes'. The link to regional restructuring would seem important. Regional restructuring so as to maintain the international competitiveness of the regional labour force may essentially depend on the ongoing 'innovation and knowledge regime' in a country and could thereby contribute to the cross-country variation in regional outcomes and revealed regional attractiveness. More detailed information on these links does however seem desirable.

9. Structural Change, EU-Enlargement and Mobility

Background

Ten new countries were formally integrated into the EU-family on 1 May 2005 with a further two joining on 1 January 2007. Significant, and growing, disparity levels however now exist in respect of economic structure and income levels between the new EU-members and the old ones. As can be seen from Table 5.7 the transition towards a post-industrial economy is considerably less advanced in the new EU members than in the Nordic countries. This will also have implications for trade, investment and migration pattern between the Nordic countries on the one hand the new member states on the other in respect of symmetrical and asymmetrical flows. As a consequence of the lack of compatible and relevant data much of the reasoning in this section will be of a theoretical and/or hypothetical character. For the Nordic countries developments around the Baltic Sea are of greater interest than those in the new member states more generally. The hypothetical reasoning utilised here will then be more focused on developments across the Baltic Sea region (BSR) than on those relating to the whole CEE area. This is also in line with growing interest in the BSR as an emerging and potentially powerful region in Europe.²¹

The BSR has thus then emerged as one of the most identifiable economic sub-regions in the new Europe. It is also, however, still a well-known fact that a considerable gap remains between the standard of living in the Western European and the Nordic countries on the one hand and those of the new member states on the other.

Even between the regions in the new EU-countries large differences in living standards and economic structure, though such differences are not as large as those between these countries and their Nordic neighbours, where differences in living standards between regions of different characters are almost negligible – at least if the capital regions are excluded from the calculations.

Moreover, significant contrasts exist between the economies of the new member states beyond obvious differences in wages and living standards. The Nordic countries are today firmly established as post-industrial societies, with a majority of their populations employed in the service sector while this is not the case in the new EU-member states. Statistical comparisons between Western market economies and the formerly socialist planned economies are, however, very hard to make. Such comparisons must be interpreted with the utmost care, and even then be seen only as indications of potentially existing similarities or differences. It is without question the case however that a larger share of the economically active population in the new EU-members is employed within the goods-producing sector. More than 50 percent are employed within the goods-producing sector, and primary production is still of great significance to the both economy generally and to employment (see table 5.7). This also indicates that a labour surplus exists in these economies that can be employed in standardised production.

Accounting for these reservations, it can be seen that the largest differences between the Nordic countries on the one hand and the economies of the new member states on the other relate to the importance of the goods-producing sectors in the latter countries. The new EU-countries are agrarian in many respects as measured by Western European and Nordic standards. Despite the large share of their workforce being employed within industry and construction, agricultural labour surpluses have not been absorbed in these sectors to the

²¹ This chapter is partly based on the same type of reasoning as in Johansson 1998a, 1998b but as a consequence of the fast transition in the former centrally planned economies the conclusions and future processes and outcomes are no so categorical as they were in the middle of the 1990s.

extent that they have in other countries with comparable sized industry and construction sectors. The transition from agrarian to industrial society is, however, almost complete. The road to the post-industrial society that exists in Nordic countries is, on the other hand, quite long, and the transfer of labour from the agricultural sector will not have the industrial sector as its destination in the same manner as occurred in the Nordic countries in the 1950s and 1960s. Instead it is more likely that the transfer of agricultural surplus labour will result in urban self-employment in the lower segments of the private service sector such as that which has occurred in the developing countries.

The increasing importance of the service sector in most of the new EU-countries is however in many cases mainly an effect of the structural transformation that took place during the 1990s with sweeping closures in the manufacturing sector being one result. The employment decrease resulted in a proportionally larger decline in the secondary sector compared to that in the tertiary sector. In e.g. Latvia, Lithuania, and Poland employment increased, however, even in the tertiary sector despite the loss of jobs in the economy as a whole at the beginning of the 1990s (Central Statistical Office, Warsaw 1995). This implies that the service sector has expanded in these countries. To what extent this expansion is an effect of increased demand for services or an effect of self-employment in the sector's lower segments of marginalized workers is, however, still shrouded in mystery. In any case, these sectoral changes are indications of a fast process of transformation in the former centrally planned economies.

There is, however, no common all-inclusive method to handle descriptions and analyses of integrative processes and barriers and 'convergence versus divergence'. In order to gain an indication of the divergence/divergence process the coefficient of variance (C.V) has been used in order to determine regional balance, territorial cohesion and integration both between countries and between regions within differing countries.

By using the C.V. as an indicator of convergence and divergence it is also possible to begin to understand the continuities and discontinuities in transition processes and also to learn about barriers and integration. According to neo-classical economic theory convergence is an indication of integration and of better resource allocation. According to centre-periphery models divergence between regions may be an indicator of disintegration or integration where the centre is dominant – the 'backwash effect' is larger than the 'spread effect' (Myrdal, 1957).

By analysing the cross-border mobility of different types it is possible to find indicators of integration and barriers. Increased mobility – e.g. labour force or residential migration – is a regular sign of increased integration especially if it is not a one-way process. Increased symmetric migration patterns in combination with convergence in incomes and wealth are indications on a well-functioning integration process without abrupt discontinuities in the transition process. Increased one-way migration in combination with divergence in incomes is instead a sign of an integrative process that results in spatial polarization.

Increased one-way migration in combination with convergence in incomes may be an indication of increased cross-border barriers but it can also be an effect of the integrative process. Asymmetric migration patterns are often a consequence of differences in incomes and job opportunities while convergence in incomes and wealth hamper the push- and pull-factors and also one-way migration.

In Table 5.7 some basic facts for the Nordic countries (NC) and the new member states (EU10), exclusive of Cyprus and Malta but inclusive of Bulgaria and Romania, are shown. It must, however, be borne in mind that the figures for the NC, EU10, NC+EU10 and EU27+IC and NO are based on national and regional data. The argument for this separation is that it is then possible to better understand whether the countries themselves are more alike than the regions within them.

Table 5.7 highlights a number of interesting facts with regard to structural changes in the Nordic countries and the new member states underlining the reasoning above concerning time-lags in development. More than 50 percent of the new member states' workforce worked in the goods-producing sector at the beginning of this decade – the corresponding figure is less than

30 percent for the Nordic countries. Table 5.7 also has implications for the following reasoning about the hampering effects concerning migration and labour mobility between countries at different stages of transition and the barriers that the segmentation in respect of the differing supply of and demand for labour, formal education and certificates and not at least different languages, implies.

One point seems to be clear and it is that the regional dispersion of sectors is higher in the new member states – with some exceptions – than in the Nordic countries. The service sector in particular is more evenly distributed within the Nordic countries than it is in the new EU-countries. This is partly a consequence of the greater importance of the service sector in the Nordic countries, indeed it cannot expand much more in the Nordic countries. It is however also a consequence of the high urbanisation rate in the sparsely populated Nordic countries (with the exception of Denmark). Another factor here may be the higher female labour force participation rate that both stimulates the development of the service sector and is a consequence of its expansion and its regionally equal distribution (see e.g Foss *et.al*, 2004).

It is also obvious that the Nordic countries are much more homogeneous in respect of the economic structure than are the new member states. The Nordic countries are firmly established in the post-industrial society while this is not the case for the new member states even if their transition since the collapse of the Soviet Bloc has been rapid. In many countries, the agricultural sector in particular remains relatively significant and indeed retains a level of economic significance (at least in terms of employment) that the Nordic countries left almost fifty years ago. It can also be seen that it is the large countries that have the highest share of employment in the primary sector – Poland and Romania - and this has of course a significant impact on the size effect with regard to the aggregate country level (EU10).

It also seems obvious that the differences *within* the countries seem to be larger than the differences *between* the countries. The intra-national C.V.s at NUTS3-level are, in general, higher than the corresponding values for the inter-national C.V.s at NUTS0-level. This implies that the imbalance is more a national than an inter-national phenomenon in respect of structural change. This observation is also in line with other studies that underscore regional divergent development within countries but a convergent development between countries within the EU (see e.g Button and Pentecost, 1999?).

Factor endowments and mobility – a theoretical digression with relevance for EU-enlargement and hypothetical outcomes

The point of departure for the following reasoning is that two regions exist – regions *A* and *B* – each at a different stage of economic development (while as a consequence of missing time series data the text must be of a theoretical and/or hypothetical character) with the aim being to sketch out possible outcomes. Table 9.1 can, despite these shortcomings, be used as an indicator of the differing structure in the Nordic countries on one hand and the new member states on the other and can then be utilised a starting point for the following theoretical reasoning and hypothetical outcomes.²²

²² The same reasoning was highlighted in Johansson (1997) and applied to the development of the Baltic Sea Region. In the study by Johansson (1997) other types of development with relevance to development cycles at differing stages of growth were also presented.

Table 9.1: Some estimates concerning the economic structure within the Nordic countries and the new EU-members (excl. Cyprus and Malta) and between the two European regions 2001. Iceland in *italics* as a consequence of having only two regions. Source. Estimations based on data from Eurostat.

	Share(%) Primary	Share (%) Manufact	Share (%) Services	C.V. primary	C.V. manufact	C.V. services	S.E. Primary	S.E. Manufact	S.E. Services
DK	3,8	23,5	72,7	0,521	0,269	0,122	83,5	94,2	103,1
FI	6,2	28,0	65,8	0,459	0,213	0,111	71,2	97,3	105,2
IC	7,8	22,7	69,6	<i>1,120</i>	<i>1,120</i>	<i>0,237</i>	80,4	80,4	104,2
NO	3,7	22,1	74,2	0,632	0,244	0,090	77,3	94,7	103,2
SE	2,8	23,7	73,5	0,511	0,204	0,075	70,4	93,2	104,1
NC	3,9	24,8	71,3	0,427	0,098	0,049	81,5	103,2	100,2
BG	10,9	33,6	55,5	0,375	0,121	0,187	94,0	99,7	104,4
CZ	5,3	40,5	54,3	0,509	0,158	0,152	92,7	96,8	103,3
EE	7,3	33,4	59,3	0,729	0,243	0,165	74,4	93,9	108,6
HU	7,0	32,2	60,8	0,479	0,171	0,111	82,9	92,9	106,9
LT	17,9	26,6	55,5	0,492	0,158	0,180	76,2	102,5	109,7
LV	17,0	24,1	58,9	0,177	0,057	0,054	98,3	100,0	100,5
PL	24,0	28,1	47,9	0,558	0,250	0,244	102,0	99,0	99,6
RO	43,4	26,4	30,2	0,283	0,229	0,275	98,6	99,3	102,7
SI	11,9	37,8	50,3	0,538	0,205	0,226	92,4	91,6	109,7
SK	5,9	35,6	58,6	0,412	0,180	0,128	99,7	99,3	100,5
EU10	23,9	29,9	46,2	0,776	0,169	0,170	172,9	95,6	84,1
NC+EU10	20,4	29,0	50,6	0,915	0,202	0,195	175,3	99,2	85,6
EU27+IC and NO	8,7	28,8	62,5	1,271	0,300	0,204	100,6	100,4	99,8

This reasoning is built on the fact that region A – e.g. the Nordic countries – is in transition from an industrial to a post-industrial society while region B – e.g. the new EU-members – is in transition from a centrally planned society dominated by an old industrial structure to a market economy. There also exist varying ‘vintages’ of both capital (K) and labour (L). Substitutability is limited – instead complementarity exists between the different vintages of capital and labour. This is also in line with the theories of segmented labour markets, labour mobility and the substitution of differing kinds of labour. The following relations and connections exist:

K_1 : capital with old technology
 K_2 : capital with new technology.

L_1 : unskilled labour
 L_2 : highly educated labour.

Between regions at same development stage, there are only small differences in factor endowments – differences that are in many ways effects of differences in natural resources. Between regions at differing development stages, there are, at least according to the theory of ‘revealed comparative advantages’, large differences in factor endowments. This results in the following inequalities with regard to factor endowments:

$$\begin{aligned} K_{2A} &> K_{2B} \\ L_{2A} &> L_{2B} \end{aligned}$$

The different economic structures in the two regions have also led to wage gap:

$$\begin{aligned} W_{L1A} &> W_{L1B} \\ W_{L2A} &> W_{L2B} \end{aligned}$$

However, there is not only the wage gap within the same categories. Instead the following wage relation is valid:

$$W_{L1A} > W_{L2B}$$

Capital intensity also differs:

$$\begin{aligned} K_{2A}/L_{2A} &> K_{2B}/L_{2B} \\ K_{1A}/L_{1A} &> K_{1B}/L_{1B}. \end{aligned}$$

Based on these relations the following hypothetical development paths concerning the Nordic Countries and the new EU-members – and within this group the Baltic States and Poland in particular, as a consequence of the location around the Baltic Sea – will be discussed. The focus is on capital and labour mobility and the effects they will have on integration, symmetrical and asymmetrical flows and then following the closing of the income gaps.

Implications for capital mobility

Different regions thus have differently composed capital and labour markets, which implies that the development possibilities are not equal in respect of the choices of technology available for adoption. As a mutual dependence exists between the competence structure of the labour force and the introduction of new technology, a lack of competence must be seen as a restriction on innovation and on activity in respect of technology renewal. This relationship applies in particular to old industrial regions or rural areas characterized by economic backwardness. In these regions, there is often a surplus of labour, but of the ‘wrong’ type of labour from the employer's point of view. A labour force such as this constitutes an obstacle to economic change as the technology which is suited to it tends to maintain the structure of the periphery or the backward regions, which develop an obsolete industrial structure based on old investment patterns, where only the location factor is cheap.

Even if capital moves to labour, this type of investment pattern is not post-industrial. Instead, it is a defensive investment pattern, which to a great extent characterizes the early phases of the industrial society in some regions while also acting as a sign of the development of a post-industrial investment pattern in other regions – in regions where these types of investments rarely undertaken and standardized cheap labour is no longer a competitive advantage. Such technology may be socially desirable, but the risk nevertheless remains that regional segmentation and polarization will be reinforced, leading to knowledge-based production in the centre and standardized production in the periphery. This polarization will thus be accentuated by a post-industrial investment pattern where highly educated labour will increasingly be a location factor for mobile capital in the knowledge-based sectors.

On the other hand, this investment pattern will stimulate the growth of purchasing power in these countries with an expansion of the home market in both consumer and capital goods. Besides exporting cheap industrial goods these countries and regions are turning into a large market themselves.

According to the transition economies in Central Europe – Poland, Hungary, and the Czech Republic – signs of the foreign economic penetration are apparent. Foreign direct investment has increased sharply since the beginning of the 1990s in everything from finance, computers, consumer electronics, and car assembly to retailing (Business Week, July 1 1996). The location factor here is cheap labour in standardized production – knowledge-intensive activities are still located in areas where highly educated labour and good infrastructure are the dominant location factors. This development will surely reach the new EU-countries too, where the labour costs are still lower. However, the purchasing power levels are also lower in these countries, which will be a restriction on investment in more sophisticated goods production and direct investment towards more standardized labour-intensive production.

To summarize, the composition of the labour force affects the industrial and post-industrial location patterns in the new EU-countries as well as in the Nordic countries. Post-industrial activities like knowledge-based industries and services are most frequent in regions with a high share of highly educated labour. Traditional labour-intensive industrial activities are concentrated in areas with low labour costs and a surplus of poorly educated labour. These differences in factor endowments and labour markets accentuate both regional segmentation and polarization in the transition from an industrial to a post-industrial society.

Analogous to this reasoning, it can be expected that the new EU-countries should have a comparative advantage in the production of labour-intensive goods and services. Thus, in similar circumstances, this implies that Nordic capital active in the labour-intensive activities will move to these regions. This also implies that those regions in the Nordic countries that are relatively dependent on these labour-intensive activities will face increasing difficulty. Such tendencies are noticeable today, with increased investment in e.g. the Baltic States. As noted previously, this process will lead to increased polarization and dualization between the countries surrounding the Baltic with respect to investment patterns and economic structure. Already in during the 1990s, this changed investment pattern had a more significant effects on employment levels in the labour-intensive Nordic regions than more intense trade competition in e.g. the Baltic Sea Region (Eliasson & Johansson, 1995; Johansson, 1997.). In such a process, the risk is – in this case – that e.g. the Baltic States will be ‘locked in’ to labour-intensive production, while the phasing out of these forms of production in the Nordic countries will be accentuated. This process will not only affect industrial activities, but also the kind of standardized service production that does not require direct contact with the customer. Even this service production will tend to relocate to regions with low labour costs where high education and language competence is not a requirement.

On the other hand, the result according to the relation is an increase in both employment and purchasing power in the new EU-countries and in this case the Baltic States. This will result in economic renewal and transformation if labour begins to become scarce promoting their economic development in a post-industrial direction.

Implications for labour mobility

According to traditional push-pull theories, these economic disparities should, in a free labour market, give rise to high migration levels from the new EU-countries to the Western and Nordic countries. This implies that labour surplus and low wages in the new EU-countries will be the determinant factors behind the migration decisions, high wage levels in the destination countries nevertheless continue to provide hope for the future thus further stimulating the labour mobility process. This will also be reinforced by the differences in unemployment. The rates of unemployment, hidden unemployment and marginalized workers in jobs with a high degree of self-sufficiency seem to be much higher in these countries than in the Nordic regions (Eurostat).

The economic structure in the Nordic countries around 1970 is – in some ways – comparable to that of the new EU-countries today if seen at the aggregated level. The problem that arises upon discussion is that there seems to be a time-lag of approximately 25 years in respect of structural change. Significant differences also exist in labour force composition. It is, however, very risky and perhaps even false to draw a conclusion like that in the sense that these kinds of discrepancies will continue to exist. The ‘catching-up’ process will diminish the gap between the old and the new member states, a phenomenon that perhaps is most apparent in regions in the new EU-countries that border some of the old EU-countries (ESPON 2006a).

In line with traditional push-pull theory this would stimulate the migration from the Baltic States to Sweden. As stated by neo-classical theory this will also have effects on capital mobility, which depends on the return to production factors. For simplicity’s sake, in the following reasoning capital mobility has been excluded from the discussion on international labour mobility.

However, according to the segmented labour market theories, this should result in those blue-collar workers who are released in the continued structural transition of former centrally planned economies being only to a lesser degree in demand in expanding knowledge-based service activities in the Nordic countries. It seems that even if a supply of mobile labour should appear in the new member states, Nordic demand for it remains quite limited. This does not, however, imply that no migration from the new EU-countries to the Nordic countries will occur - it only says that such a migration will not be in reply to a demand for the type of labour that the countries can currently offer.

The more far-reaching transition up to today of the Nordic economies in a post-industrial direction has thus reduced their demand for traditional blue-collar workers. Instead, there has been rapid employment growth in the service sectors – both private and public. The private service sector in particular has, in recent years, been associated with the transition of the economy in a knowledge-intensive direction. One result of this transition process is the looser connection between the business cycles and labour force migration from the Nordic countries. On the other hand, immigration to the Nordic countries has rather been a function of political events in other parts of the world and, since the beginning of the 1970s, the majority of the immigrants have been refugees with a weak foothold on the labour market or working in the lower segments of the private service sector where the educational level is very low.

The structural change of the Nordic economies, with a great increase in employment in the service sector, has also changed the picture with regard to employment opportunities for these immigrants. Instead of blue-collar work in the goods-producing sector, immigrants are now predominantly employed in the lower segments of the service sector. As a consequence of the structural transformation of the Swedish economy, the push factors are now stronger than the pull factors for immigrants. This has also resulted in a changed employment structure, with a large share of the immigrants working in jobs refused by the Swedish labour force.

The rise in unemployment after the fall of the Iron Curtain affected different groups in differing ways in the affected countries. Groups that were particularly affected by the rise in unemployment were youths and elderly people, women, and low-skilled workers. High-skilled workers seem to have been better off, but many of the highly educated workers were unemployed as a consequence of the transition from a centrally planned economy to a market economy (Fassmann, 1997).

To sum up the effects on labour mobility of the structural change in the Nordic countries, it is obvious that there was still room and demand for blue-collar immigrants up to the last part of the 1960s. Thereafter, de-industrialization and structural transformation, hampered blue-collar immigration in general as there was no longer any demand for that type of labour (see e.g. Ekberg 1993; Lundh & Ohlsson 1994, 1999, Rauhut 2002).

A common labour market within the EU would most likely have a migration-inducing character in developing countries or between countries with great income differences and not that of the currently existing common labour market between the Nordic countries. Current and future labour market segmentation will result in those migrants from the new EU-countries and those from outside Europe ending up in the lower segments of the private service sector – i.e. cleaning, dish-washing etc – or in standardized blue-collar jobs in e.g. the construction and agriculture sector. The educational level in these segments is in many cases low, certificates are not needed; language problems are no hindrance, turnover is high, unionization low, and the risk of unemployment ever present. This situation would mean that many migrants from the new EU-members would compete with yesterday's Southern European and today's non-European migrants if a completely open 'common' labour market were created in the near future. This would be a hampering factor with regard to emigration flows from the new EU-countries and as can be seen in coming chapters the labour inflow to the Nordic countries is also relatively low.

Only highly educated people with good language skills can compete in the upper segments of the labour market but they are in short supply even in the home countries too and this is a

restricting factor concerning their willingness to move. Incomes are relatively high and the career possibilities good, facts which further accentuate these hampering effects.

The economic transition in the new EU-countries will not only have implications on international migration – even internal migration will be affected. When the unemployment level increases and regional unemployment levels and living standards diverge, the internal migration pattern will be changed in such a way as to better reflect the migration pattern in development countries. This will result in out-migration from rural areas to larger towns and metropolitan areas, where the labour market is more diversified. From a human capital point of view this is rational even if there are no jobs directly in the destination areas. The more diversified nature of the labour market in these areas will provide migrants with a better chance to find a job as compared to staying home. Like the international migration pattern, many of the potential jobs will, however, be found in the lower segments of the private service sector and many of the migrants will be self-employed in these kinds of jobs. As the following chapters will illustrate, labour migration from the new EU-members with destinations in the Nordic countries has, up to the middle of the new decade, not been of a significant amount. As there are differences in the legal possibilities even after the formal EU-enlargement, migration figures must be interpreted with the utmost care. By comparing with the English-speaking countries such as Great Britain and the Republic of Ireland it can be seen that people from the new EU-countries prefer them to the Nordic countries where the language barriers are higher.

The new EU-countries: out-migration areas?

As noted in chapter 5, migration is the prime driver behind regional population change. Its impact on demographic change is partly direct – in- and out-migration – and partly indirect. The latter is connected with its impact on the age and gender structure and then on natural population development. In pre-industrial rural society with small migratory movements, population increase was predominantly a function of the natural population increase – the number of births was larger than the number of deaths. Today, with higher mobility, lower fertility rates, and in many cases natural population decrease, the population development with regard to size and structure has increasingly become dependent on migratory movements at the regional level. As the functional labour markets or regions are expanding, the rural parts will become gradually more dependent on and interconnected with the development and transformation of the urban areas. This process has been accentuated in recent decades as a consequence of de-industrialisation and the renewal process in some old factory towns and this phenomenon has now also reached the former centrally planned economies in Eastern Europe. Less attractive old industrial districts have little to offer in the new situation and location shifts concerning people and activities have been one of the main results.

According to traditional push-pull theories the new EU-countries and regions ought to be out-migration areas as a consequence of the large gap in incomes and living conditions. As Table 9.2 shows this is also the case – many regions in the new EU-members are out-migration areas but the flows are not as uniform as it could originally have been supposed. In Table 9.2 the OECD delimitation of predominantly urban (PU), significantly rural (SR) and predominantly rural (PR) areas is noticeable in hinting at migration patterns even if the gross flows are not estimated and international migratory flows also are included in the net-migration figures.

At first glance it can be seen that almost all of the regions in the Baltic States suffered net out-migration between 1995 and 2000. Only three regions out of twenty-one show an in-migration surplus and it is not too much of a qualified guess to postulate that many of these persons were return migrants to Russia though some persons may have moved to the Western European countries. This can be contrasted with the development in the Czech Republic and Slovenia where most of the regions were in-migration areas. A most interesting issue concerning the Czech Republic is the out-migration from *Praha* that is in line with the tendencies that can be seen in the central parts of Europe with peri-urbanisation and increasing polycentric development. Polycentric development is also obvious in Slovenia and Poland

which various ESPON-studies have also highlighted (ESPON 2004, 2006a). Even Slovakia seems to be developing in a polycentric direction even if the capital region seems to be the most expanding region. Here it is probably the border effects that are of most importance – it is known from other studies that cross-border cooperation has a significant impact on those regions in ‘former’ Eastern Europe (ESPON 2006a). More symmetrical migratory and commuting flows are the factors behind these phenomena as well as increasing foreign investment. This is perhaps something of a hint that regions localised close to the old EU-borders have some advantages at least in the short term as they can respond very quickly to the new situation without transforming their economy and location advantages in the way more peripheral regions must. The income level is also higher in these regions as compared to more isolated regions. This is valid also for the Baltic States where the capital regions are also transforming quickly with regard to the economic structure and the labour structure, unemployment and wages differ to a great deal compared to the situation in the more peripheral areas (see e.g. Hanell & Neubauer 2005).

Poland is the largest of the new member states and is, for historical reasons, also one of the most polycentric. Despite this it can be seen that migratory movements are directed to the big cities and this may be a consequence of the reconstruction of the Polish economy with a lot of closures and significant de-industrialisation. Poland is also a country with a relatively large emigration history especially to the English speaking countries and to Germany. Much of the negative figures concerning out-migration are a result of the emigration waves to other European countries and these migratory movements have primarily the character of labour migration. Poland is, however, also a large market which results in both increased foreign direct investments and labour inflow from other parts of Europe. The increased EU-integration of the Polish economy will probably have positive effects on the transition and development of the country despite widespread EU-scepticism in the country. As the functional regions are expanding, the rural parts will become gradually more dependent on and interconnected with the development and transformation of the urban areas. This process has also been accentuated in recent decades as a consequence of both de-industrialisation and that of renewal in some old factory towns. The losers are often old factory towns in the European periphery. Less attractive old industrial districts have little to offer in the new situation and location shifts – even with respect to manufacturing industry – have been one of the results.

The EU-Enlargement – integration, cooperation, and development

During the first half of the 1990s, the European economic map changed dramatically. The collapse of the Soviet Bloc gave rise to a great deal of turbulence in both the political and economic spheres. Today, economic development in the former centrally planned new EU-countries has however been stabilized. It is a well-known fact that friction-less contact patterns does not exist – and never have. Instead there are a lot of economic – and sometimes even institutional – barriers to be overcome as a consequence of regions’ differing positions in respect of economic development and transformation and in Europe, distance plays as a minor role in the contact frequencies between different regions. Instead, the most important factor is that of the development stage with more developed regions having more symmetrical contacts with other developed regions than with less developed ones. It must however be kept in mind that, *ceteris paribus*, the contact frequencies are a function of distance and accessibility – regions that are closely co-located have more contacts than those which are located far apart.

In any case, the integration of the new member states has been developed and will continue to be so in the future. The gap in living standards between the two blocs is still wide and this will unavoidably continue to have some impacts on migratory movements in the Western and Nordic countries as well as in the new member states. Labour and capital movements will occur, trade will be intensified – processes that according to the theory of comparative advantages will result in welfare gains accruing to the whole region. In a transition

process, however, there are often both losers and winners. This will indeed also be the case in this process. The risk here is that this will result in a policy that hampers the transition and development process in such a way that it will take the character of some form of 'fallacy of composition'. In history, there are a lot of cases where rapid transformation processes have resulted in the implementation of economic political means, which, certainly, have mitigated the bad effects of the transition and development process in the short term while also hampering the positive effects in the long term.

One of the prerequisites for the successful integration and development of the new EU-countries is the closing of the welfare gap between the countries and the establishment of more diversified economies. This also implies a transfer of knowledge and technology from the old industrial countries to the new EU-countries and not only investment in labour-intensive activities. One effect of this is a growing intra-branch trade, which of course will reduce the comparative advantages of the old EU-countries. This is, however, a natural ingredient in any development process. Otherwise, the gap in economic development will persist, even if the gap in living standards is narrowed. This is a form of centre-periphery relation - a relation that exists between the developed and underdeveloped countries. This will probably hamper the development on both sides of the borderline between EU15 and Norway and Iceland on the one hand and the new EU-members in Eastern Europe on the other and future history will undoubtedly witness a lot of 'missed opportunities'. Instead of this pessimistic scenario there is a more positive alternative - instead of future stories of 'missed opportunities' historians will see strategic activities as a consequence of the EU-enlargement, where the short-term problems did not block the vision of medium and long-term strategic and successful cooperation between the actors across the whole of the European Union and beyond.

Table 9.2: Net-migration in eight new member states 1995-2000. Per cent per year. PU=Predominantly Urban, SR=Significantly Rural, PR=Predominantly Rural. Source: Eurostat, Copus et.al. 2006.

Nuts	Region		%	Nuts	Region		%	Nuts	Region		%
cz010	Praha	PU	-0.13	lt001	Alytaus	PR	-0.68	pl111	Lódzki	PR	0.03
cz020	Stredočeský	SR	0.62	lt002	Kauno	SR	-0.76	pl112	Piotrkowsko-skiermiewicki	PR	0.01
cz031	Jihočeský	SR	0.11	lt003	Klaipėdos	SR	-0.46	pl113	Miasto Łódź	PU	-0.07
cz032	Plzeňský	SR	0.18	lt004	Marijampolės	PR	-0.42	pl121	Ciechanowsko-plocki	PR	-0.08
cz041	Karlovarský	SR	0.00	lt005	Panevezio	PR	-0.72	pl122	Ostrołęcko-siedlecki	PR	-0.08
cz042	Ústecký	SR	0.17	lt006	Siauliai	PR	-0.77	pl124	Radomski	PR	-0.50
cz051	Liberecký	SR	0.09	lt007	Taurages	PR	-0.44	pl126	Warszawski	SR	0.21
cz052	Královéhradecký	SR	0.04	lt008	Telsiu		-0.44	pl127	Miasto Warszawa	PU	0.21
cz053	Pardubický	SR	0.04	lt009	Utenos	PR	-0.74	pl211	Krakowsko-tarnowski	SR	0.19
cz061	Vysocina	PR	-0.04	lt00a	Vilniaus	SR	-0.43	pl212	Nowosadecki	SR	0.08
cz062	Jihomoravský	SR	0.14					pl213	Miasto Kraków	PU	-0.11
cz071	Olomoucký	SR	0.02	lv003	Kurzeme	SR	-0.34	pl224	Czesłochowski	SR	-0.23
cz072	Zlínský	SR	0.08	lv005	Latgale	SR	-0.10	pl225	Białsko-bialski	SR	-0.23
cz080	Moravskoslezský	SR	-0.09	lv006	Rīga	PU	-0.29	pl226	Centralny ślaski	PU	-0.23
				lv007	Pieriga	SR	0.06	pl227	Rybnicko-jastrzebski	PU	-0.23
ee001	Põhja-Eesti	SR	-0.12	lv008	Vidzeme	PR	-0.15	pl311	Białskopodlaski	PR	-0.19
ee004	Lääne-Eesti	SR	-0.21	lv009	Zemgale	PR	-0.08	pl312	Chelmsko-zamojski	PR	-0.18
ee006	Kesk-Eesti	PR	-0.22					pl313	Lubelski	SR	-0.16
ee007	Kirde-Eesti	PU	0.03	si001	Pomurska	PR	0.24	pl321	Rzeszowsko-tarnobrzanski	SR	0.00
ee008	Lõuna-Eesti	SR	0.54	si002	Podravska	PR	0.25	pl322	Krosniensko-przemyski	PR	-0.14
				si003	Koroška	PR	0.00	pl330	Świętokrzyski	PR	0.09
hu101	Budapest	PU	-0.84	si004	Savirjska	PR	0.08	pl341	Białostocko-suwałski	SR	-0.01
hu102	Pest	SR	1.83	si005	Zasavska	SR	-0.21	pl342	Łomżyński	PR	-0.22
hu211	Fejér	PR	-0.05	si006	Spodnjeposavska	PR	0.00	pl411	Piłski	PR	-0.15
hu212	Komárom-Esztergom	SR	1.03	si009	Gorenjska	SR	0.05	pl412	Poznański	PR	0.27
hu213	Veszprém	SR	-0.27	si00a	Notranjsko-kraska	PR	0.00	pl413	Kaliski	PR	0.01
hu221	Győr-Moson-Sopron	SR	0.50	si00b	Goriska	PR	0.25	pl414	Koniniski	PR	-0.09
hu222	Vas	SR	0.11	si00c	Obalno-kraska	SR	0.48	pl415	Miasto Poznań	PU	-0.02
hu223	Zala	PR	0.03	si00d	Jugovzhodna Slovenija	PR	0.07	pl421	Szczeciński	SR	0.04
hu231	Baranya	SR	-0.02	si00e	Osrednje-slovenska	SR	0.76	pl422	Koszaliński	PR	-0.11
hu232	Somogy	PR	0.09					pl431	Gorzowski	PR	-0.05
hu233	Tolna	PR	-0.04	sk010	Braťslavský kraj	PU	0.19	pl432	Zielonogórski	PR	-0.03
hu311	Borsod-Abaúj-Zemplén	SR	-0.26	sk021	Trnavský kraj	SR	0.11	pl511	Jeleniogórsko-walbrzyski	SR	-0.19
hu312	Heves	PR	0.22	sk022	Trencianský kraj	SR	-0.03	pl512	Legnicki	SR	-0.21
hu313	Nógrád	PR	0.14	sk023	Nitrianský kraj	SR	0.11	pl513	Wrocławski	PR	0.37
hu321	Hajdu-Bihar	PR	-0.11	sk031	Zilinskiy kraj	SR	0.01	pl514	Miasto Wrocław	PU	0.08
hu322	Jász-Nagykún-Szolnok	PR	-0.27	sk032	Banskobystrický kraj	PR	-0.02	pl520	Opolski	SR	-0.21
hu323	Szabolcs-Szatmár-Bereg	PR	-0.26	sk041	Presovský kraj	SR	-0.08	pl611	Bydgoski	SR	-0.02
hu331	Bács-Kiskun	PR	0.36	sk042	Košický kraj	SR	0.01	pl612	Toruńsko-wrocławski	SR	-0.07
hu332	Békés	PR	-0.18					pl621	Elblaski	PR	-0.13
hu333	Csongrád	PR	-0.05					pl622	Olsztyński	PR	-0.02
								pl623	Elcki	PR	-0.44
								pl631	Ślupski	PR	-0.18
								pl632	Gdanski	PR	0.13
								pl633	Gdańsk-Gdynia-Sopot	PU	0.05

10. Implications for the Countries of Origin and Destination

Introduction

There is no clear-cut evidence (either theoretical or empirical) showing a link between a change in the population structure and its economic effects. The results are dependant on the assumptions that have been made. Depending on the institutional and organisational changes that take place at the time of the population changes, population decline can result in both positive and negative economic developments (Rosenberg and Birdzell, 1986; Easterlin, 1996; Kelley and Schmidt, 1994; and Coale and Hoover, 1958). When analysing migration this is valid for both the countries of origin and destination.²³ However, according to Leitner (2003, p. 461): ‘The selectivity of migration by age and skill level – the majority of international migrants are in the economically productive age and the most dynamic members of their communities – has generally been seen as a drain on sending areas, further undermining the potential for development in these areas’.

There are two ways to break the vicious circle brought forth by demographic developments. Historically speaking, periods of long-term labour shortage have led to labour being replaced through technological, institutional and organisational changes. This has meant that productivity improvements have resulted in increased growth. The creation of an economic surplus through economic growth is a condition of welfare (Dillard, 1967; Rider, 1995; Cameron, 1997; Landes, 1998).

Another way to try to offset negative demographic developments is to import labour. This would make it possible to influence the dependency ratio, increase the tax base, obtain labour primarily for low skilled jobs in the service sector, as well as highly skilled workers with cutting-edge skills, engineers, etc. Labour migration can also offset structural change in the economy, as stagnant trades and sectors are maintained. Importing labour can however only solve the demographic problem in the short term because the immigrants themselves grow older (Coppel et al., 2001).

The effects of exporting labour on the sending countries are more complicated than has generally been assumed and vary among the individual sending countries depending, among other factors, on: 1) the magnitude of the outflow; 2) the employment and occupational status of the migrants before departure; 3) the proportion of migrant income saved and remitted; 4) the proportion of remittances invested in production, consumed, or saved; 5) the effects of expenditures from remittances on the price level; 6) the extent of increase in the skill levels of the return migrants; 7) the stability of the labour export market; 8) the proportion that settle permanently abroad; and 9) the effectiveness of government economic policies in organizing and controlling labour and remittances (Ecevit, 1981: 267).

This chapter will focus on what effects labour immigration from the New Member States (2004) of the European Union will have on the Nordic countries, as well as other countries of the union and the EEA. Discussion will focus on the implications, both in the countries of origin, and the countries of destination.

²³ Migration would be mutually beneficial to both the sending and receiving countries. The receiving countries would satisfy short-term labour needs but without the social burdens created by permanent immigration, and the sending countries would benefit by reducing their large pools of unskilled surplus labour, receiving remittances from the workers, and, over the long run, stimulating economic development as migrants returned with skills and modern sector experience (Kritz & Keely, 1981). While remittances have generated significant shares of foreign exchange for the sending countries, enabling them to improve their balance of payments, they have also fuelled domestic inflation, stimulated consumer tastes for imported goods, and been invested in unproductive activities (Kritz & Keely, 1981; Tanner 2004).

Implications for the sender countries

Rauhut & Johansson (2006) argue that the implications of replacement migration for the sender countries are, of course, very complex and multifaceted. They distinguish at least four different kinds of implications in their study: economic, socio-cultural, demographic and political.

Economic implications

There are several problems in estimating the effects of remittances. (a) The central banks in many developing countries have severe problems in distinguishing the remittances from other private transfers, and (b) 'a significant part of the money remitted by international migrants goes to the transfer companies as profits rather than to the migrants' families in the developing countries' (Straubhaar & Vadean 2005: 29).²⁴ In the literature review by Straubhaar & Vadean (2005) the focus lies on three themes: (1) income distribution, poverty alleviation and individual welfare, (2) the effects of remittances on employment, productivity and growth, and (3) whether remittances can cover deficits in the trade balance. Regarding (1) research cannot come up with a decisive conclusion (Straubhaar & Vadean 2005: 25). When it comes to (2) remittances can have positive direct effects on employment and growth if they are spent on entrepreneurial investments. A majority of the remittances seem, however, to be spent on consumption, housing, purchasing of land and financial savings (Straubhaar & Vadean 2005: 25ff.). Finally, (3) depending on whether the remittances can stimulate an increased rate economic activity in the home country, the increased demand for goods and services can be met by domestic producers. This will have a positive effect on the balance of payments and trade balance. If the remittances trigger a rise in the import of consumer goods the effects will however be negative (Straubhaar & Vadean 2005: 27f.).

In February 2005 an international conference, organised by e.g. the OECD, was held in Marrakech, Morocco. The focus of the conference was to discuss the complex dimensions of international migration, its economic and financial impact and its consequences on the development of the sending countries in Africa, Asia and Latin America. The OECD Deputy Secretary-General Berglind Ásgeirsdóttir summarised the results of the conference in the following way:

'Part of the *leitmotif* for this conference comes from the stylised fact that the global total of remittances in recent years has exceeded official development aid flows from OECD to non-OECD countries. This has led some observers to argue that remittances could play a greater role in stimulating productive investments in the countries of origin, thereby spurring economic and social development. However, the conference has revealed that this argument, despite its superficial attraction, is often a dead end. We were reminded, time and again, that remittances are *private* transfers and that the savings involved belong to the migrants and their families, who also decide on their allocation. Now governments may offer incentives to migrants to increase their volume of remittances and to influence the uses to which they are put in the countries of origin. We have heard of many attempts to do this which have been unsuccessful because they have failed to recognise the primacy of *individual* choice in this area' (Ásgeirsdóttir 2005: 361).

²⁴ In recent years the volume of remittances sent from OECD-countries to non-OECD countries has increased significantly. To further our knowledge of migration and remittances and, in particular, their role in development the OECD arranged a conference on this topic, resulting in a publication (OECD 2005c). Although remittances are a very important source of capital for developing countries, foreign direct investment remains the most important source of capital. Remittances cannot replace a sound macro-economic policy for the promotion of stable economic development (Straubhaar & Vadean 2005).

Socio-cultural implications

The brain-drain from less to more developed countries has predominantly been viewed as a negative phenomenon. Losing the best human capital will have many impacts on the sender countries with socio-cultural impacts being but one issue here. Khadria (1999) argues that the 'second-generation' effects of 'brain-drain' from India have led to the poverty of the educational system and of health. At the same time this deficiency in the educational and health systems trigger further 'brain-drain' and the vicious circle, which is difficult to break, continues. At the same time the OECD countries view brain-drain as a means to fill the demand for skilled professionals; it is an important policy issue for many countries (OECD 2002). Another important issue here is how labour immigrants can make use of their education and training. In an OECD report Salt, (1997) deals with the concept of 'brain waste' which refers to the wastage of skills occurring when highly skilled individuals migrate into forms of employment not requiring the application of their real skill levels and experience from previous job(s).

Demographic implications

Population increases are likely to be restricted to a number of select areas in the next 50 years; India, North Africa and Western Asia (World Population Prospects Population Database 2005). The median age of the world's population will rise during the period 2000 to 2050 as well as the share of the population aged 65+ (Rauhut 2004). The whole idea of 'replacement migration' is to replace the, in some sense, 'missing' and ageing population in the industrialised world by young migrants from the developing or less developed world. If most of the world suffers from an ageing and declining population however, most of the sending countries will suffer severely in demographic terms if their young population emigrates. This will, in turn, threaten to hamper their economic and social development. This will be even more severe if the sending countries are simultaneously experiencing stagnating population growth and ageing.

A recent study of the demographic trends and migration in Europe further illuminates this. The ten new member states of the European Union (2004) are considered by many politicians and scholars to be a labour reserve for the old member states. Most of the new members however suffer even more severely from demographic problems than do the old member states. In fact, a majority of the immigration to the European Union needs to be canalised to the new member states in East and Central Europe until 2050 (ESPON 2005). According to Lisiankova & Wright (2005) it is projected by the UN that the new EU-10 member states will lose some 30% of their work force (20-64 years) until 2050 which is twice the projected loss for the EU-15 member states. Furthermore the ageing of the population in the new EU-10 countries will be more rapid as the age group 65+ will grow by 79% up to 2050 compared with 65% for the EU-15 countries.

Political implications

Unemployment, underemployment, relative deprivation and poverty can easily lead to tension and social unrest that can be directed at those in power. If unemployed, underemployed, relatively deprived and poor emigrated this would lead to a decrease in social tension and social unrest. Emigration can thus work as a social safety valve. Many of the regimes in the countries estimated to experience population growth over the next 50 years are currently undergoing pressure for reform. Unemployment, underemployment, relative deprivation and poverty together with poor educational possibilities and poor health services are among the root causes of despair in a large part of the population, making it very easy for political extremists to expand their political influence and to recruit suicide bombers etc. Of course these regimes regard emigration as worth encouraging (Rauhut 2004).

Implications for the countries of destination

There is no general consensus regarding the economic benefits of migration. Different theories, based on different assumptions, reach a variety of conclusions on the impact of international migration on economic growth, unemployment, labour force participation, wages, taxes and transfers (Rauhut 2002, Rauhut & Blomberg 2003). However, one thing is clear: very large volumes of labour are needed to make immigration economically profitable (UN Population Division 2000, Rauhut 2004). Moreover the volume of labour needed is so large that it has been questioned whether it is realistic to promote such large immigration flows (Coppel et al. 2001, Lindh 2002).

Economically stagnant sectors can survive by employing cheaper immigrants, preserving and maintaining the existing economic structure. Access to immigrant labour can also lead to labour-intensive investment, keeping productivity down. Continued immigration will lead to lower economic growth, because the amount of low-skilled productive work increases and because immigrants send remittances home to their families. At the same time immigration can ease pressure on bottlenecks in the labour market in two ways: (a) unskilled and cheap labour is needed to do the '3D-jobs' (dirty, dangerous and degrading) in poor working conditions and with low wages, the kind of work domestic labour is not willing to do; (b) specialists are needed in the knowledge-intensive sectors (Gaspar et al. 2005). The majority of the labour immigration needed falls under the first category.

A lack of competence is a restriction to the introduction of new technology and innovative activities. Importing low-skilled labour into stagnant sectors will preserve an obsolete industrial structure based on old investment patterns. The transformation of the economic structure in the 1970's has increased the share of immigrants working in the lower segment of the service sector, the '3D'-jobs. These jobs are labour intensive with a low productivity. Since labour markets are more diversified in the metropolitan areas in the countries of destination it is rational for immigrants to head for these metropolitan areas. Finally, when discussing the effects of labour immigration in the countries of destination it is of the utmost importance to distinguish between short-term and long-term effects. While the short-term effects may reduce bottlenecks in production the long-term effects may hamper structural transformation and competitiveness (Johansson & Rauhut 2006).

Immigration can also bring about tangible economic benefits to the destination countries providing a cheap and flexible source of labour to fill gaps in the labour supply or cushion seasonal and cyclical fluctuations. On the other hand, emigration can impede development in source countries through the loss of skilled and creative workers and by delaying the need for economic restructuring to create more jobs. In many destination countries migration is seen as imposing an inordinate burden on welfare systems and public resources. Economic migrants are often seen as threatening the jobs and wages of native workers (Boswell & Crisp, 2004).

Receiving countries where unemployment is high will fear that it may rise still further as a result of the influx of immigrants, and will especially fear the social strains prompted by that influx among the local population. Furthermore, even though immigrants do the work for which there is a shortage of local labour, the children of these immigrants will perhaps want jobs different from those of their parents and will thus compete with local workers, something which cause social tensions (Piore 1979, Laroque 1987). Because the local population in immigration countries is too small owing to its low fertility, the contribution of immigrant manpower is important for the country's economy and development (Laroque, 1987: 29).

Concluding remarks

Rauhut & Johansson (2006) reach three conclusions in their study of the implications of replacement migration for the sender countries: (1) that the sender countries and sender areas are few and most face the same demographic problems as the Western World. The demographic problems in the new EU member states are even worse than in the old member

states. (2) The economic implications of migration for the sender countries are inconclusive, that the demographic implications may be exacerbated, and that large scale emigration from the sender countries may trigger extremist political activities. Furthermore, studies over the effects of a large-scale brain-drain indicate that this will lead to reductions in the effectiveness of the educational and health systems in the sender country. (3) More research is needed on the implications, on the sender countries, of replacement migration since the level of knowledge in this field remains extremely limited.

As in the case of the implications for the countries of origin, the implications for the countries of destination are also not conclusive. The short-term and long-term effects are contradictory, the location by sector and allocation as well as education seem to be important when evaluating the economic effects of immigration. The table below provides a tentative overview of the short- and long-term effects of immigration for the countries of origin and destination.

Table 10.1: Short and long term effects on the countries origin and destination

	Short-term effects		Long-term effects	
	Positive	Negative	Positive	Negative
Countries of origin	-Political safety valve (exporting unemployment, underemployment and poverty) -Remittances	-Brain drain -Loss of labour	-Lower fertility	-Stagnating economic performance -Exacerbated demographic problems
Countries of destination	-Access to labour for 3D-jobs -GDP is kept up	-Downwards pressure on wages -social problems (unemployment, poverty and lack of integration)	-Population increase	-Counteract the structural transformation in the economy

The results produced by chapter 5 show that the capital areas and major cities remain the most attractive destinations for immigrants to the Nordic countries. The concentration of immigration to the same cities to which the native population is already moving in the internal migration process has accelerated the urbanisation process. This does not necessarily however produce an optimal distribution of immigrants. In chapter six it was shown that the level of employment participation among natives and other Nordic and Western immigrants was much higher as compared to that of non-Western immigrants. At the regional level, labour market participation is somewhat more homogeneous among natives and other Nordic and Western immigrants, while the participation rates vary significantly among persons from new EU member states and non-Western countries. The sector participation also varies significantly both among different nationality groups, but also across the Nordic countries and between regions within each country. Evidence was presented in chapter seven that high-skilled productive and non-labour intensive manufacturing industry is currently undergoing a process of substitution labour for capital as labour shortages raise labour costs and low-skilled productive and labour intensive manufacturing industry relocates to countries with lower labour costs thereby lowering production costs.

11. Scenarios for Regional Convergence

Introduction

This report has offered empirical evidence on the structure of the Nordic regions with respect to demographic changes, labour demand and labour supply. It has also dealt with the interaction and structural differences between the new member states of the EU and the Nordic regions, such as to identify important similarities and differences in respect of the future development potential of the Nordic regions. The purpose of this chapter is to bring together the main findings of the project thus enabling us to highlight potential future developments in this area. It should however be clearly stated here that the scenarios described in this chapter are exclusively based on the materials in this report. One of the virtues of any report is that it uncovers a number of new research questions to be analysed in more detail in the future. The scenarios presented here are therefore not 'final' truths, but can instead be seen as an intermediate product of the analysis, and function as such until more detailed research can be undertaken on the new questions emerging from the comprehensive research offered in the previous chapters of this report.

The crucial question in any kind of scenario process is how to arrive at the descriptions of potential future developments and problems. This becomes an even more prominent question when dealing with the Nordic regions. The Nordic regions are signified by a high degree of diversity in terms of structure, governance, and interaction patterns with the surrounding world. The scenarios offered here will take a pragmatic approach to this Nordic regional heterogeneity. Moreover the chapter will limit itself to describing some of the structures that should be observed by decision makers in the different regions and in the context of different regional policies. There will not therefore be a detailed description of scenarios for each region in the Nordic countries. The scenarios should function as vehicles for policy forming and conceptualisation in the Nordic countries to ensure the future growth potentials of the different regions therein. It is the current authors' ambition that the scenarios could inspire the decision makers in different types of Nordic regions to take steps to ensure future regional convergence and growth. The scenarios may furthermore lead to new questions emerging that require analysis of an individual region in order to produce policies designed to reach specified targets or general questions that are of relevance to all Nordic regions. This would indeed denote the ultimate success of the current chapter, as it would imply a support for the creative process and thinking in terms of regional policies necessary to ensure the future of the different Nordic regions.

The structure of the present chapter is that the following section offers a short extract of the crucial results from the various empirical chapters included in the report. The next sections will then present three scenarios using these extracts while pointing to very different developments for the Nordic regions in terms of regional convergence under the influence of factors of internationalisation and globalisation. The last section will then provide a few brief comments and a discussion on the relevance of the scenarios.

Basic findings for the scenarios

The basis for the current scenarios will in part be provided by the empirical evidence uncovered during the analysis presented above. This evidence will, in the context of the scenarios, be combined with the theoretical considerations presented in chapter 3. Other aspects beyond these two sources of knowledge may also be amended to facilitate the emergence of a more complete picture for each of the scenarios.

The empirical evidence in terms of regional and international mobility and migration was generally that:

- There were 7.1 immigrants per 1000 inhabitants in the Nordic countries in 2004
- Net migration was positive for the period 2000-2004
- 4.4 percent of population in 2004 were foreign citizens
- 35.8 percent of immigration in 2003 to the Nordic countries was destined for Nordic capital city regions
- New Member States accounted for 7 percent of total immigration in the 2000-2005 period
- 23.4 percent of the foreign citizens living in Denmark are located in the Municipalities of Copenhagen and Frederiksberg
- Foreigners do, like the population in general, live in Southern Finland – 48.3 percent of foreign citizens in Finland lived in Uusimaa in 2005
- 58 percent of the total immigrations flows to Iceland in 2004 went to the Capital region
- Around 60 percent of all immigrants in Norway in 2004 resided in the regions with metropolitan areas and major towns
- 27.1 percent of all immigrants in Sweden in 2004 resided in the Stockholm region

The empirical evidence on the labour supply and labour market participation was generally that:

- Sweden, Iceland and Norway have a share of 4 percent of foreign citizens in the labour force, while Denmark has only around 3 percent and Finland has under 2 percent
- Iceland and Norway are increasingly using international labour mobility flows to increase the share of foreign citizens in their labour forces
- Finland and Denmark have the lowest share of foreigners in the labour force – especially so for Finland
- It is, first and foremost, persons from the new EU-10 member countries and non-Western countries that initially show a high tendency to immigrate directly into the labour intensive manufacturing sector in Norway.
- Labour market participation among foreigners is highest in quite different types of regions in the Nordic countries – e.g. in Denmark including both capital regions (*Københavns Amt*) and regions located more in the periphery of Denmark (*Ribe* and *Ringkøbing Amt*)
- Around 20 percent of immigrants immigrate into unemployment in Finland, while 12 percent immigrate to pursue studies.

The empirical evidence on international competition and regional attractiveness was generally that:

- The international price competitiveness of the Nordic countries has been decreasing, while the price competitiveness of some of the new EU member countries in the Baltic Sea Rim has improved.
- Very different types of policies exist to ensure future competitiveness across the Nordic countries – e.g. Finland: moderate propensity towards lifelong learning, high turnovers from innovation, high expenditures on R&D but moderate expenditures on education or Denmark: high propensity towards lifelong learning, high turnovers from innovation, high expenditures on education but low expenditures on R&D.

- The clerical occupation in employment potentially affected by offshoring has, from 2001-2003, decreased by 6.8 percent in Germany, but only by 1.3 percent in Denmark and 2.3 percent in Sweden.
- Only 13 percent of University graduates in low cost countries may be suitable to work in multinational companies.
- 18 percent of Danish firms use one or more of the three types of foreign activities: sales offices, production units or R&D.
- Swedish firms expect to pursue large new investments in Eastern Europe which will outperform the levels of Latin American and even China.
- Firms cooperation with universities vary considerably with over 90 percent of domestic multinationals in Finland pursuing such a cooperation and only little over 10 percent of domestic non-multinationals pursuing such a cooperation in Denmark, Iceland, Norway and Sweden.
- Revealed regional attractiveness in terms of productivity varied considerably in 2000 across the Nordic regions – Norway: most productive region is 56 percent more productive than least productive, Finland: ratio is 53 percent, Sweden: ratio is nearly 50 percent and Denmark: ratio is over 31 percent.
- High degree of convergence in revealed regional attractiveness from 2000 to 2002 in Norway, intermediate convergence in Finland and Sweden and low degree in Denmark – this must be interpreted from the perspective of very different regional variation patterns in productivity levels across the Nordic countries around the turn of the millennium.

These structures illustrate important differences in terms of the empirical evidence found in this report both at the national and at the regional levels. These differences must clearly be expected to render different probabilities to future scenarios of regional convergence in the Nordic countries. These then will provide the basic building blocks for the following section on scenarios in relation to globalization and regional convergence in the Nordic countries – amended by theoretical considerations and other development trends observable in the national and international contexts of Nordic societies.

Three scenarios for globalization and regional convergence in the Nordic countries

Using the structures found in this report and resumed in a very brief manner in the previous section of this chapter, the question emerges as to whether it will be possible to make some, admittedly rough, sketches of future developments in respect of regional convergence in the Nordic countries. This is the ambition of the current section.

The challenge of formulating scenarios for the future developments of regional convergence is making use of a limited set of information. There will always be supplementary information that could be included in such predictions. The current approach is to confine the information used for the exercise to the evidences found in this report. Another challenge when formulating scenarios is to avoid misunderstanding the meaning of scenarios. A scenario will most probably not emerge in the future as scenarios are, by nature, stylised prediction. Reality will render many details that will become important for the actual future developments. Scenarios should then to a much larger extent inspire and lead to thinking the renders new research questions being posed enabling proper policy planning in the context of making more positive future outcomes of regional convergence more likely. This is the essence of formulating scenarios for the future.

The current section will offer three scenarios for the future of regional convergence in the Nordic countries. These scenarios will differ markedly in three aspects: 1) The ability to attract immigrants: 2) The ability to integrate these immigrants into the labour market: 3) The ability

to ensure international competitiveness and regional attractiveness. These obviously interrelate, which renders a collective substance for the scenarios. The three scenarios will be named: *Glocal impetus*, *Glocal centrality* and *Glocal divergence*. These can be briefly described in the following manner.

Glocal impetus

Growing globalization combined with the continuing power of ICT, combined with the declining price levels for international and inter-regional broadband connections eradicate the importance of centre-periphery issues. The global mobility of labour has ensured the presence of sufficient labour resources and competences in the different types of regions. While national populations continue to exhibit traditional inter-regional mobility patterns, international mobility has to an increasing degree been less sensitive to the same factors fuelling inter-regional mobility. This has simultaneously provided new growth impetus to regions that were traditionally considered to be located in the periphery. The ability to pursue successful policies to integrate new labour resources and competences into local society and labour markets has led to more regional equality. International mobility has been a decisive factor in this. The centre-periphery structures continued to prevail, but to a lesser extent. A decisive factor here for the continual location advantage of centres has been the location of knowledge institutions. The importance, for multinationals, of shopping between the knowledge institutions of different countries had led to the emergence of hubs in terms of knowledge-generators at the centres of each country. These structures have however been weakened through the strengthening of ICT in a wider regional perspective.

Iceland and Norway were the leading Nordic countries in terms of the integration of foreign labour, but with a comparably strong focus on the capital regions. Sweden on the other hand was able to integrate foreign labour into more diverse types of regions. Ongoing demographic changes and continuing ICT developments eventually however led to a more regionally balanced structure across all of the Nordic countries. This was fortified by the ability to maintain regionally defined knowledge institutions participating in international networks of knowledge-sharing. Knowledge regions became a predominant characteristic of the Nordic regions, with a strong focus on regional knowledge institutions and knowledge transfers into regional societies. Pressures from outside the Nordic countries initially led to an influx of comparatively poorly qualified labour, but this at the same time facilitated the less painful transformation of traditional manufacturing industry. Changing structures from the gradual outsourcing and off-shoring by regional and multinational firms led to structural changes away from low skilled production in all kinds of regions. The effort of, and the ability to, use regional knowledge institutions emerged as a significant factor in ensuring this transition. Three questions were crucial to address during the transition into the *glocal impetus* scenario:

1. How should foreign labour be integrated into regional labour markets in different types of regions – not one size fits all?
2. How should foreign labour be recruited by regional firms so as to ensure the successful transition away from low skilled production at the lower end of the value chain?
3. How did regional attractiveness influence the location choices of foreign labour in terms of transitions into employment situations, namely, in respect of the importance of wage structures and knowledge/competence institutions?

Glocal ventricity

Capital regions continued to boost growth rates through the use of the international division of labour. The presence of low cost countries in the vicinity of the Nordic countries represented an advantage to all countries. The centre regions were to a greater degree able to take advantage of these options to displace specific parts of the value chain to proximate low cost countries. Nordic capitals took into their hinterlands the lower developed regions in the new

EU-member states in the Baltic Sea Rim. These structures of international specialization were especially focussed on trade patterns, while the mobility of labour remained comparably low. Regional attractiveness in national contexts was focussed on the specialization of higher developed regions in the Nordic countries and the lower developed regions in the new EU10. The remaining regions in the Nordic countries increasingly drifted into a 'lagging' situation, with stagnant growth, depopulation and low investments levels. These problems were fortified by the problems of attracting new labour from abroad. Labour did move, but most often to sectors that were very sensitive for business-cycle reasons. Foreign labour never made it to the Nordic regional labour markets. This was especially problematic for the peripheral regions, as their dependence on recruiting labour with certain competence levels in order to help jump-start business transformation was pivotal. The capital regions did not face such problems due to the existence of a strong knowledge infrastructure in these regions. The competences needed to foster the necessary transformation; innovation and networks were produced at the prestigious and internationally-acclaimed universities located in the capital regions. The dependence of these regions' on attracting such competences from elsewhere was accordingly much less pronounced.

The inability to attract labour from abroad, (i.e. from the EU10), should be seen from the perspective of systemic differences. An outspoken fear that massive immigration into the national labour markets of the Nordic countries would threaten labour market stability prevented such immigration. This was not a regionally balanced effect. The policy of restricting immigration was to the disadvantage of the peripheral regions, as these were the least productive and as such were more dependent on the possible growth and knowledge impetus attainable through immigration. The issue of regional balances in the Nordic countries therefore became increasingly relevant and ever more so through the demographic changes observable in all the Nordic countries. Three questions emerged as being crucial to address during the transition into the glocal centrality scenario:

1. How can spatial spillovers in a national context be reinforced to widen the effects of centrality?
2. How can pull effects in the more peripheral regions be strengthened in terms of immigration, such that they support the growth tissue of these regions?
3. How sensitive will the international competitiveness of the Nordic countries be to the dangers and threats to the capital regions?

Glocal divergence

Demographic changes constitute the decisive challenge to the regions of the Nordic countries. This initially was a significant problem for the peripheral regions where, in a national context, it was difficult to attract labour which only compounded such regions' problems of attracting labour internationally. This undoubtedly precipitates regional divergence in the Nordic countries. The capital regions of the Nordic countries remain rather closed to foreign labour. At the same time, other regions in the world developed strongly and absorbed considerable human resources internationally. A tendency therefore emerged in the initial phases producing a dual labour market, with lower skilled jobs occupied by foreign labour, while domestic labour got jobs at the higher end of the skill hierarchy. This was in the initial phases, but the renewal of knowledge bases in the capital regions was slowing down as compared to the dynamics observable in other regions of the world – namely in other parts of the Baltic Sea Rim. The overall competitiveness of the Nordic countries was therefore initially maintained, but eventually began to lag internationally. The regional divergence in national contexts was therefore underlined by the inferior performances of the capital regions.

These trends were eventually alleviated through labour market reforms producing more liberal recruitment patterns. The initial and temporary inability to adapt the labour markets to the need for the increasing international specialization of labour and the importance of

recruitment from other competence and production systems was countered. Knowledge-sharing was initially hampered and this was to have permanent effects in the longer run. Innovation and entrepreneurship traditions moreover began to atrophy while MNC's chose increasingly not to locate in Nordic regions. Market closeness still mattered but the potential to gain from co-locating in a dynamic production network became less clear. This process became something of a negative feedback-loop and proved increasingly difficult to reverse. The need for major labour market reform became increasingly obvious while it became increasingly difficult to either finance or recruit in the context of the public service sector that had once been the *leitmotif* of the Nordic welfare states. The university systems moreover came under pressure as they downsized their expectations and output as the surrounding production and innovation environment simply no longer offered a capably advanced environment with which to fruitfully interact. Three questions emerged as crucial during the transition to the scenario of glocal divergence:

1. How could the divergences in the national contexts be prevented in the process of the international division of labour and trends towards offshoring and outsourcing?
2. How could capital regions and regions in the periphery of the Nordic countries continue to constitute an attractive future production environment in the face of increasing international competitiveness for competences?
3. How can pull-effects on labour immigrants be strengthened in the Nordic countries to the benefit of both capital regions and regions in the periphery?

Discussion and comments on the scenarios

The future is always hard to predict. The three scenarios presented here try to point to some of the most prescient issues when dealing with policies at the national and regional level of the Nordic countries. The essential question relates to human resources and human capital. Do we need to supplement national resources with resources from elsewhere? The thrust of the demographic change data suggests that we do. On the other hand productivity developments and technological changes may prevent some of the worst aspect of the problems raised by the demography issue from emerging. Such a hope is clearly expressed in the thrust of the current research and innovation agendas of the Nordic countries. Technology in the *nano*, *bio* and leisure sectors remain high on the agenda. How then do we produce new products in relation to nano- and bio-technology and how do we address the expanding time for leisure as the population changes demographic structure? A further question here is how to renew the welfare states of the Nordic countries. The current approach seems to rely on the concept of *e-governance*. It remains however an open question whether this will be a solution to a service production mode which is, by nature, labour intensive. This seems especially relevant in a regional context with a potentially widely dispersed population base lacking labour force resources.

More then needs to be learned in order to gain a better insight into the future and the policies needed to handle the changes to come. This is essential in a world dominated by increasingly flexible structures, globalization, and internationalization. This will, moreover, become increasingly obvious as the new member countries of the European Union become more affluent. While providing opportunities for specialization for Nordic firms, the question of policy convergence is immanent. Systemic diversity represents a challenge in the Nordic national context but this challenge is magnified significantly in a Nordic regional context.

12. Concluding Remarks

The purpose of this study was to analyse the future demand for labour in Nordic regions as a consequence of ageing, structural change in the economy and the international trend towards globalization. In order to be able to analyse structural changes in the Nordic economies, the period 1991-2004 was chosen for analysis. A number of research questions were forwarded in an attempt to shed light on the research topic. These will we answered in brief below in accordance with the research findings uncovered.

In Chapter 4 the focus was on the demographic changes in the Nordic regions. The total fertility rates in the Nordic regions are compared to other countries in Europe relatively high. It has also been shown that smaller regions have higher fertility rates than larger ones. The gap in total fertility rates has diminished during the 1990s with the exception of Finland. In the beginning of the new century there are, especially in Sweden, tendencies to an increased divergence in the regional total fertility rates. This is, at least partly, an effect of the baby-booms in the capital region.

Chapter 5 addressed the following questions: How have structural changes in the economy affected labour demand in the Nordic countries? What are the regional implications? The Nordic regions have witnessed a structural change in employment in the period 1991-2004. Employment in the Nordic countries, with the exception of Sweden which suffered from a major labour market crisis in the 1990s, increased by 0.3 per cent per year. The structural change consisted of a rapid process of deindustrialization balanced by the rise of employment in the new service sector. This structural change saw a decline in the level of demand for employment in primary and secondary industries, and thus for unskilled workers (this fits well with the theory of structural transformation in advanced capitalist societies, c.f. Bell 1973, Calstells 1999). The change to employment in services has been most pronounced in Norway and least so in Finland. In all countries the share of service employment has grown as a percentage of total employment and now counts for 67-75% of total employment in each of the Nordic countries. Our analysis shows that larger regions have higher shares of services than smaller regions.

Chapter 6 takes up the question how the EU-enlargement has affected international mobility and migration in the Nordic and Baltic Sea areas. The Nordic countries attract immigrants from all over the world. The main destination country has been Sweden. The diversity of immigrants' countries of origin can be explained not only by the process of labour immigration but also by the number of refugees who have been received into the Nordic countries from across the world. Immigration from the EU-10 member states has not been as large as originally expected, although an increase has occurred in the 2000s. Sweden has been the most attractive destination of the Nordic countries in terms of volume, but at the national level the share of NMS immigration has not been particularly remarkable. In Iceland, the proportion of NMS' immigrants in terms of the country's overall immigration flow has been the highest in a Nordic context. One explanation for Sweden having the highest absolute numbers of NMS immigrants after the 2004 EU enlargement is however that nottransitory arrangements were put in place as, for example, occurred in Finland. GDP differences between the Nordic and the EU-10 countries create the possibility that higher immigration flows could occur. Undoubtedly however the most attractive countries to the new EU-10 immigrants have proven to be the English speaking countries of the United Kingdom and the Republic of Ireland which, like Sweden, did not put in place transition periods for labour. At the regional level, the capital areas and major cities have been the most attractive destinations for immigrants in the Nordic countries. This also indicates that immigrants concentrate to the areas where people of the same ethnic background are located. Thus, social and psychological costs can be reduced by the 'family and friends' effect and also, in economic terms, it is easier to find a job by networking (Network theory).

In chapter 7 the focus was on the question of the degree to which immigrants are active on the Nordic labour markets, and whether their labour market participation rates vary across the different regional labour markets. The results show that the highest participation rates among

immigrants are in Iceland and Norway, while they are lowest in Finland. In general, the same trend is to be found in all Nordic countries, that is, a higher employment participation rate is to be found among the natives and other Nordic and Western immigrants as compared to that of non-Western immigrants. Non-Western immigrants do however increase their labour market participation after some years of settlement in the Nordic destination countries, though their employment rates nevertheless remain far below that of natives. At the regional level labour market participation is somewhat more homogeneous among the natives and other Nordic and Western immigrants, while the participation rates vary significantly among persons from the new EU member states and non-Western countries. Sector participation also varies significantly both among different nationality groups, but also across the Nordic countries and between regions within each country. The Finnish results however seem to deviate quite substantially in some of the sectors from the Norwegian distribution of foreigners. The strongest deviation appears in higher shares of immigrants in Finland in the manufacturing sectors outside the labour-intensive manufacturing sector and to knowledge-based services. On the other hand Norway shows a much higher share of immigrants working in the public sector and particularly in the health and social work areas. The higher share of immigrants working in finance in Finland is probably due to the fact that all persons immigrating into the industrial cleaning sector are classified as being in this sector in Finland while this is not the case in Norway. On the other hand the Icelandic results show a high concentration of foreign labour in the manufacturing sectors.

How has the international competition and regional attractiveness in the Nordic countries changed in the last decade in light of EU-enlargement? How has this process affected the outsourcing and off-shoring of production and services? These questions were taken up in Chapter 8. The international competitiveness of countries has changed markedly during the period and the determinants of future competitiveness vary considerably even within a group of relatively homogenous states such as the Nordic countries. The pressure to find effective countermeasures to ensure future competitiveness in the Nordic countries is marked. The existence of a 'Nordic model' for handling these challenges through innovation and R&D remains unproven. Such aspects as types of innovation activities, public funding for R&D and firm cooperation with universities vary considerably across the Nordic countries. This then raises the question of the nature of regional attractiveness in ensuring the continued international competitiveness of the Nordic regions. Do all of these macro tendencies materialize differently in a Nordic regional context due to differences in regional attractiveness? Focusing on productivity, the answer does seem to be that productivity levels differ markedly across the Nordic regions but that there is a tendency towards convergence in productivity levels. This is rather contrary to the new member states in the Baltic Sea area which experience much lower productivity levels and regional divergence tendencies. Transformations do seem to take place in the Nordic regions and the importance of regional attractiveness is thus undeniable. As such transformations proceed the productivity level in high-productive and non-labour intensive production will continue to increase given the regional attractiveness thus ensuring international competitiveness. At the same time, outsourcing and off-shoring activities will pressure low-productive and labour intensive industries to relocate to low cost countries due to regional labour shortages or wage rigidities. The outcome is an overall change in business structures towards more productive businesses surviving in attractive regions.

Chapter 9 addressed the question: How have international trends, and EU-enlargement in particular, affected the mobility of capital and labour? The largest differences between the Nordic countries and the new EU member states relate to the greater importance of the goods-producing sector in the latter countries. It can therefore be expected that the new EU-countries should have a comparative advantage in the production of labour-intensive goods and services. This implies that the regions in the Nordic countries, which are relatively dependent upon these labour-intensive activities, will face increased difficulties in the future. According to traditional push-pull theories, low wages and high unemployment in the new member states generates high migration flows to the West and thus to the Nordic countries. However, according to the segmented labour market theories, the expanding knowledge-based

services in the Nordic countries limits the demand for low skilled labour from the new member states. These would be employed in manufacturing and in the lower segments of the service sector.

Finally, Chapter 10 focuses on the important issue of the implications of increasing labour mobility for the countries of origin and destination. Three conclusions were drawn on the implications in the sender countries of replacement migration: (1) that the sender countries and sender areas are few and most face the same demographic problems as in the Western World. The demographic problems in the new EU member states are even worse than in the old member states. (2) The economic implications of migration for the sender countries are inconclusive, and while the demographic implications may be exacerbated, large-scale emigration from the sender countries may trigger extremist political activities. Furthermore, studies over the effects of a large-scale brain-drain indicate that this will lead to quality reduction in the education and health systems in the sender country. (3) More research is thus needed on the implications for the sender countries of replacement migration since knowledge in this field is extremely limited. Just as in the case of the implications for the countries of origin, the implications for the countries of destination are also not conclusive. The short-term and long-term effects are contradictory, the location by sector and allocation as well as education seem to be important when evaluating the economic effects of immigration.

What are the policy implications of these findings? These findings have a lot of implications for labour market, immigration and regional policies. Only a few will be mentioned in brief below:

- From the analysis of the structural change in the economy we gather that the knowledge driven service economies in the Nordic regions need highly educated labour, while the immigrants entering the Nordic labour markets are generally low skilled labourers. How can this gap be bridged?
- For immigration policy the conclusions indicate that there is a labour shortage in rural areas, but immigrants tend to settle down, at least after a while, predominantly in metropolitan areas.
- For demographic change and labour demand labour immigration from the new EU-members cannot solve the problems. One reason for this is the future labour shortage in these countries and, a second one, is the diminishing gap in standard of living between the Nordic countries, on the one hand, and the new EU-members, on the other. Instead, more symmetrical migration flows, especially across the Baltic Sea, can be expected in the future. An other positive implication of this is an integration and that the BSR will become more competitive in the future.
- The results show that a lot has to be learned from Iceland and Norway in respect of activating immigrants. But the results here also show that a problem remains in activating immigrants who come from countries far distance from Northern Europe (non-western). Some measures have to be taken to activate this groups on the labour market.
- In terms of regional attractiveness the results indicate that the Nordic regions are internationally competitive in high-productive and non-labour intensive industries, due to the continuing high level of investments in R&D, innovation and education in the Nordic countries. Therefore, the competitiveness of the regions is dependent on further investment in those areas.
- Finally, immigration creates as many problems as it solves, and in the long run it is as well to acknowledge that it will *not* be the solution to structural change and labour shortages in the Nordic regions

References

Data

Statistics Denmark, Statistikbanken
Statistics Finland
Statistics Iceland, Migration Statistics
Statistics Norway, Statistikkbanken
Statistics Sweden, Statistikdatabasen
NORDSTAT –database 2005
Intergrationsverket - statistikdatabas
Eurostat

Literature

- Adolphsson, M., Johansson, M. and Van Well, L. (2006) *Polycentrism, Monocentrism och Regionförstoring - Alternativa och/eller Komplementära Utvecklingsförlopp*. NUTEK and Ministry of Industry, Sweden.
- Angell, I. O. (1991). 'Brain Drain' in the United Kingdom. *Report of the Working Party on „Brain Drain Issues in Europe'*. (Angell, Ian O. and Kouzminov, V. A., eds.), pp. 31–55. UNESCO Regional Office for Science and Technology for Europe.
- Arango J. (2000) Explaining Migration: A Critical View. *International Social Science Journal*. Vol. 52, Issue 165, 283-296.
- Ásgeirsdóttir, B. (2005) 'Conclusions', *Migration, Remittances and Development*. Paris: OECD Publishing
- Athukorala, P. (1993) International Labour Migration in the Asian-Pacific Region: patterns, policies and economic implications. *Asian-Pacific Economic Literature* Vol. 7 No. 2. 26-57
- Athukorala, P.C. & Manning, C. (1999) *Structural Change and International Migration in East Asia: Adjusting to Labour Scarcity*. Oxford University Press.
- Balasubramanyam V. N. and Balasubramanyam (1997) International Trade In Services: The Case of India's Computer Software. *The World Economy*, Vol. 20, Issue 6. 829-843.
- Bardhan, A.D. and C. Kroll (2003), The new wave of outsourcing, University of California Berkeley, Fisher Centre for Real Estate and Urban Economics, Fisher Centre Research Report No. 1103
- Becker, G. S. (1960) *An Economic Analysis of Fertility*. NBER: USA.
- Becker, G. S. (1965) 'A Theory of the Allocation of Time'. *The Economic Journal*, vol 75, no 299.
- Becker, G. S. (1993) *A Treatise on the Family*. First Harvard University Press. USA.
- Begg, D., Fischer, S. & Dornbusch, R. (1987) *Economics*. McGraw-Hill
- Bell, D. (1973): *The Coming of Post-Industrial Society. A Venture in Social Forecasting*. New York: Basic Books, Inc.
- Bengtsson T & Johansson M (1994) 'Internal Migration?'. In Bengtsson T (ed), *Population, Economy, and Welfare in Sweden*. Springer Verlag
- Bengtsson T & Johansson M (1995) 'The New Migration Transition - The Case of Post-Industrial Sweden' in Lundh, C. (ed.) *Scandinavian Population Studies, vol 10, 1995*. Lund.
- Berglund, Jogansson & Persson (1996)
- Bevelander, P. (2000) *Immigrant Employment Integration and Structural Change in Sweden 1970-1995*. Lund: Almqvist & Wiksell International
- Bevelander, P., Carlsson, B. & Rojas, M. (1997) *I krusbärslandets storstäder*. Stockholm: SNS
- Bolaria, B. S. & von Elling Bolaria, R. (1997) 'Capital, Labour, Migrations', *Bolaria & von Elling Bolaria (Eds.) International Labour Migration*. Oxford University Press.
- Borjas, G. (1990) *Friends or Strangers. The Impact of Immigrants on the U. S. Economy*. Basic Books.

- Boschma, R. A. (2005) *Competitiveness of Regions from an Evolutionary Perspective*. Association of Regional Observatories, 10-13.
- Broomé, P., Carlson, B. & Ohlsson, R. (2001) *Bäddat för mångfald*. Angered: SNS förlag
- Bryson, J. (2006) A Second Global Shift: Offshoring or Global Sourcing of Corporate and CUSTOMER Services. *Unpublished manuscript*.
- Bustamante, J. A. (2002). Immigrants' Vulnerability as Subjects of Human Rights. *International Migration Review* 36:333-354.
- Button, K. & Pentecost, E. (1999) *Regional Economic Performance within the European Union*. Edward Elgar Publishing.
- Cameron, R. (1997) *A Concise Economic History of the World*. Oxford University Press
- Carlsson, F., Johnsson, M., Persson, L. O. & B. Tegsjö (1991) *Lokala arbetsmarknader och förvävsregioner. Nya geografiska indelningar för regionala analyser*. SCB, Örebro.
- Carlsson, F., Johansson, M., Persson, L. O. & B. Tegsjö (1993) *Creating Labour Market Areas and Employment Zones*. CERUM Report, Umeå.
- Castells, M. (1999). *Flows, Networks and Identities: A Critical Theory of the Information Society*. Lanham: Rowan & Littlefield Publishers, Inc.
- Castles, S. & Miller, M.J. (1993) *The Age of Migration. International Population Movements in the Modern World*. MacMillan.
- Central Statistical Office, Warsaw (1995) *The Baltic Sea States*. Warsaw.
- Champion A. G. (1990) *Counterurbanization, the changing pace and nature of population deconcentration*. London: Edward Arnold.
- Cheshire, P. C. & D. G. Hay (1989) *Urban Problems in Western Europe: An Economic Analysis*. Unwin Hyman, London.
- Claydon, T. (2001). Human Resource Management and the Labour Market in Ian Beardwell, I. and Holden, L. (eds.) *Human Resource Management – A Contemporary Approach*. Essex: Pearson Education Limited.
- Coale, A. & Hoover, E. (1958) *Population and Economic Development*. Princeton
- Commission of the European Communities (1991) *Europe 2000*. Luxembourg.
- Commission of the European Communities (1993) *Regional Studies*. Luxembourg.
- Coppel, J., Dumont, J.C. & Visco, I. (2001) *Trends in Immigration and Economic Consequences*. OECD Economics Department Working Papers No. 284
- Copus, A et.al. (2006) *Study on Employment in Rural Areas*. A study Commissioned by European Commission, Directorate General for Agriculture. SAC (Scottish Agricultural College).
- Dicken, P. (2003) *Global Shift. Reshaping the Global Economic Map in the 21st Century*. London: Sage Publications.
- Dillard, D. (1967) *Economic Development of the North Atlantic Community*. Prentice-Hall
- Doeringer, P. & Piore, M. (1970) *Internal Labor Markets and Manpower Analysis*. Lexington, Mass. Fonda, N. & Hayes, C., 1988, *Education, training and business performance*. Oxford review of economic policy, 4-3
- Champion, A. (1992) 'Urban and regional demographic trends in the developed world'. *Urban studies, vol 29*.
- Easterlin, R. (1996) *Growth Triumphant*. University of Michigan Press
- Ebersberger, B. and H. Löf (eds.), 2005: FOTON – Corporate Innovation Activities, Does Ownership Matter. Evidence from the Innovation Surveys of the Nordic Countries. NIFU STEP Studies of Innovation, Research and Education, Oslo.
- Ecevit, Z.H. (1981) 'International Labour Migration in the Middle East and North Africa: Trends, Effects and Policies'. In Kritz, Mary M., Charles B. Keely & Silvano M. Tomasi (eds.) *Global Trends in Migration: Theory and Research on International Population Movements*, 259-275. New York.
- Ejermo, O., 2004. Perspectives on Regional and Industrial Dynamics of Innovation. JIBS Dissertation Series no. 024, Jönköping International Business School.
- Ekberg J (1993) 'Geografisk och socioekonomisk rörlighet bland invandrare'. *ERU Rapport 78*. Fritzes.
- Ekberg, J. (2006) 'Försvarar arbetsrätten för invandrarna på arbetsmarknaden?', Rauhut & Falkenhall (eds.) *Arbetsrätt, rörlighet och tillväxt*. Stockholm: ITPS

- Eliasson, K. & Johansson, M. (1994), 'Labor Force as a Location Factor and the New Spatial Division of Production', in Cwikliniski, H. & Owsinski, J. W. (eds.), *Nordic-Baltic Europe Is Restructuring: Looking for the Integration Fits*. Warszawa/Sopot.
- Elliott, R.F. (1991) *Labor Economics*. McGraw-Hill.
- ESPON (2004) *Urban areas as nodes in a polycentric development*, project 1.1.1. Luxembourg: European Spatial Planning Observation Network
- ESPON (2005) *The Spatial Effects of Demographic Change and Migration*, Final Report Project 1.1.4 Edited by M. Johansson and D. Rauhut. Luxembourg: European Spatial Planning Observation Network
- ESPON (2006a) Enlargement of the EU and its polycentric spatial structure, project 1.1.3. Luxembourg: European Spatial Planning Observation Network
- ESPON (2006b) Study on Urban Functions project 1.4.3. Luxembourg: European Spatial Planning Observation Network
- Esteban, J. (2000), Regional Convergence in Europe and the industry mix: a shift-share analysis. *Regional Science and Urban Economics*, 30, 353-364
- Fallon, P. & Verry, D. (1988) *The Economics of Labour Markets*. Philip Allan
- Farrell, D. (2004), Beyond offshoring, *Harvard Business Review*
- Farrell, D., M. Laboissière, J. Rosenfeld, S. Stürtz and F. Umezawa (2005), *The Emerging Global Labor Market: Part II – The Supply of Offshore Talent in Services*, McKinsey and Company
- Fassmann H (1997) 'Unemployment in East-Central Europe and its Consequences for East-West Migration', in Blotevegel H H & Fielding A J (eds), *People, Jobs and Mobility in the New Europe*. John Wiley & Sons.
- Florida, R. (2002) The Economic Geography of Talent, in: *Annals of Association of American Geographers*, 92(4), pp. 743-755.
- Foss, O., Johansen, S., Johansson, M. & Svensson, B. (2004) 'Regionalpolitikk ved et vegskill: Går Sverige og Norge i forskjellige retninger?', in R. Amdam & O. Bukve (red.) *Det regionalpolitiske regimeskiftet – tilfellet Norge*. Tapir Akademisk Forlag
- Foss, O. & Juvkam, D. (2005) 'Patterns of Demographic Ageing and Related Aspects in the Nordic Peripheries'. *Nordregio Report 2005:2*. Nordregio, Stockholm.
- Fothergill, S. & N. Guy (1990) *Retreat from the Regions. Corporate Change and the Closure of Factories*. Regional Studies Association. Jessica Kingsley Publishers, London.
- Gaspar, J., Marques da Costa, N., d'Abreu, D., Marques da Costa, E., Barroqueiro, M., Esteves, A. & Rauhut, D. (2005) *Ageing, Labour Shortage and 'Replacement Migration'*, Annex report B to ESPON project 1.1.4 Final Report. Centro de Estudos Geográficos, Universidade de Lisboa
- Grubel, H. G. (1987). The Economics of Brain Drain. *Economics of Education: Research and Studies* (G. Psacharopoulos, ed.), pp. 201–206. Oxford, Pergamon Press.
- Gustafsson, B., Hammarstedt, M. & Zheng, J. (2004) 'Invandres arbetsmarknadssituation – översikt och nya siffror', Ekberg (red.) *Egenförsörjning eller bidragsförsörjning? Invandrarna, arbetsmarknaden och välfärden*. Rapport från Integrationspolitiska maktutredningen, SOU 2004:21. Stockholm: Fritzes
- Hall, P. (1991) 'Structural transformation in the regions of the United Kingdom', in Rodwin, L. & Sazanami, H. (eds.) *Industrial and Regional Transformation: The Experience of Western Europe*. United Nations
- Hanell, T. & Neubauer, J. (2005) *Cities of the Baltic Sea Region—Development Trends at the Turn of the Millennium*. Nordregio 2005:1
- Hansson, P. (2004) 'Utländska direktinvesteringar och sysselsättning', in *Näringslivet internationalisering. Effekter på sysselsättning, produktivitet och FoU*. ITPS report A2004:014
- Harris, J.R. & Todaro, M. (1970) 'Migration, Unemployment and Development: A Two-Sector Analysis', *American Economic Review* 60.
- Heikkilä, E. (2005). Mobile vulnerabilities: perspectives on the vulnerabilities of immigrants in the Finnish labour market. *Population, Space and Place, Special Issue: Population and Vulnerability: Making Sense of Vulnerability* 11: 6, 485–497. John Wiley & Sons Ltd.

- Heikkilä, Elli & Järvinen, Taru (2003) *Migration and Employment of Immigrants in the Finnish Local Labor Markets*. Yearbook of Population Research in Finland 2003. The Population Research Institute. Helsinki.
- Heikkilä, E. & M. Pikkarainen (2006). *Vulnerable regions of Finland in population and economic development – Is immigration the response for them?* International Geographical Union, IGU 2006 Brisbane Conference 'Regional Responses to Global Changes. A View from the Antipodes, 3-7 July 2006. IGU, Commission of Population and Vulnerability website:
- Heikkilä, E., Järvinen, T., Neubauer, J. & Persson, L.O. (2004) *Labour Market Intergration in the Baltic Sea Region: Before and After the EU Enlargement*. Web report no. 3, Institute of Migration, Turku University
- Hoem, B. (1998) *Barnafödande och sysselsättning. Upp- och nedgången i fruktsambeten 1985-1997*. Demografiska rapporter 1998:1, Statistics Sweden. Stockholm
- Häll, L. (1997) 'Invandrarnas levnadsförhållanden', *Välfärd och ojämlikhet i 20-årsperspektiv 1975-1995*. Levnadsförhållanden rapport 91: SCB
- ITEK (2004) *Globale muligheder og vækst. En analyse af danske virksomheders outsourcing*. ITEK, Dansk Industri, Copenhagen
- ITPS (2004) *Näringslivets internationalisering. Effekter på sysselsättning, produktivitet och FoU*. ITPS Report A2004:014
- Johansson, M. S. (2000) Population and Regional Development – Swedish Aspects. *SIR Working Paper No. 2000:21*.
- Johansson, M. (1996) 'Flexibility, Rigidity, and Innovation Diffusion - The Case of Northern Sweden'. In Johansson, M & L. O. Persson, (eds), *Extending the Reach. Essays on Differing Mobility Patterns in Sweden*. Fritzes, Stockholm.
- Johansson, M. (1997) 'Factor mobility and regional specialization'. In Owsinski, J. W. & Stepaniak, A. (eds), *The Nordic-Baltic Europe: Integration Risks, Barriers & Opportunities*. Wasaw-Sopot.
- Johansson, M. (2000) *Population and Regional Development – Swedish Aspects*. SIR Working Paper No. 2000:21
- Johansson, M. & Rauhut, D. (2006) 'Demographic Flows towards Europe', in *Europe in the World* ESPON project 3.4.1 Final Report. Luxembourg: ESPON
- Kelley, A.C. & Schmidt, R.M. (1994) 'Population and Income Change: Recent Evidence', *World Bank Discussion Paper 249*
- Khadria, B. (1999) *The Migration of Knowledge Workers: Second Generation Effects of India's Brain-Drain*. New Dehli: Sage Publications
- Kitson, M., R. Martin & P. Tyler (2005) Regional Competitiveness: An Elusive yet Key Concept? *Association of Regional Observatories*, 3-9.
- Kritz, M.M. and Keely, C.B. (1981) Introduction. In Kritz, Mary M., Charles B. Keely & Silvano M. Tomasi (eds.) *Global Trends in Migration: Theory and Research on International Population Movements*, xiii-xxxi. New York.
- Krugmann, P. (1993) 'On the number and location of cities', *European Economic Review*, 37, 293-298
- Krugmann P. (1994) 'Complex landscapes and economic geography', *American Economic Review*, 84, 412-416
- Landes, D.S. (1998) *The Wealth and Poverty of Nations*. New York: W.W. Norton & Company, Inc.
- Laroque, P. (1987). *Conclusions*. In *The Future of Migration*, 27-35. Organisation for Economic Co-Operation and Development, OECD. Paris.
- Lee, E. S. (1966) A Theory of Migration. *Demography* 3, 1. 47-57.
- Leibenstein, H. (1954.) *A Theory of Economic Demographic Developments*. Princeton University Press. Princeton.
- Leibenstein, H. (1957) *Economic Backwardness and Economic Growth*. Wiley and Sons. New York.
- Leibenstein, H. (1974) 'An Interpretation of the Economic Theory of Fertility: Promising Path or Blind Alley?'. *Journal of Economic Literature*, no 2.
- Leitner, H. (2003) 'The Political Economy of International Labour Migration' in Sheppard E. & Barnes T.J. (eds.) *A Companion to Economic Geography*. Oxford: Blackwell Publishing.

- Lewis, W.A. (1954) 'Economic Development with Unlimited Supply of Labour', *The Manchester School of Economics and Social Studies* 22.
- Lindh, T. (2002) *Befolkningen, familjen, livscykeln och ekonomisk tillväxt* [Population, Family, Life-cycle and Economic Growth]. ITPS, VINNOVA and NUTEK
- Lisiankova K. & Wright R.E. (2005) 'Demographic Change and the European Union Labour Market' *National Institute Economic Review* No. 194 October 2005
- Liu, B-C. (1975) 'Differential Net Migration Rates and the Quality of Life'. *Review of Economics and Statistics*, 57:329-337.
- Lundh, C. & Bevelander, P. (2004) 'Regionala variationer i sysselsättning för män', Ekberg (red.) *Egenförsörjning eller bidragsförsörjning? Invandrarna, arbetsmarknaden och välfärden*. Rapport från Integrationspolitiska maktutredningen, SOU 2004:21. Stockholm: Fritzes
- Lundh, C. & Ohlsson, R. (1994) 'Immigration and Economic Change', T. Bengtsson (ed.) *Population, Economy and Welfare in Sweden*. Germany: Springer Verlag
- Lundh, C. & Ohlsson, R. (1999) *Från arbetskraftsimport till flyktinginvandring*. Kristianstad: SNS
- Lundh, C., Bennich-Björkman, L., Ohlsson, R., Pedersen, P.J. & Rooth, D.O. (2002) *Arbete? Var god dröj! Invandrare i välfärdssambället*. Kristianstad: SNS
- Mahroum S. (2000) Highly skilled globetrotters: mapping the international migration of human capital. *R and D Management*, Vol. 30, Issue 1. 23-32,
- Malecki, E. J. (2005) *Jockeying for Position: What It Means and Why It Matters to Regional Development Policy When Places Compete*. Association of Regional Observatories, 25-29.
- Mankiw, N.G. and P. Swagel (2005), The economics and politics of offshore outsourcing, American Enterprise Institute for Public Policy Research, Working Paper No. 122
- Marshall, A. (1920) *Principles of Economics*, London: Macmillan
- Massey, D. S., J. Arango, G. Hugo, A. Kouaouci, A. Pellegrino and E. J. Taylor (1993) Theories of International Migration: A Review and Appraisal, in: *Population and Development Review* 19: 3, pp. 431-466.
- Mostertman, L. (1991). The Challenge of the Impending Scientific Brain Drain Inside Europe. *Report of the Working Party on „Brain Drain Issues in Europe'* (Angell, I. O. and Kouzminov, V. A., eds.), pp. 147–153 . UNESCO Regional Office for Science and Technology for Europe.
- Nordisk Ministerråd (2005) *Norden som global vinderregion. På sporet af den nordiske konkurrencemodell*. Nordisk Råd, ANP 2005:777
- OECD (1997) *Trends in International Migration*. SOPEMI
- OECD (2002) *International Mobility of the Highly Skilled*. Paris: OECD Publishing
- OECD (2003) *The Economic and Social Aspects of Migration*. Brussels
- OECD (2004) *Trends in International Migration*. SOPEMI
- OECD (2005a), *Building Competitive Regions. Strategies and Governance*. OECD Publishing, Paris.
- OECD (2005b), *Oslo Manual. Guidelines for collecting and interpreting innovation data*. OECD Publishing, Paris.
- OECD (2005c) *Migration, Remittances and Development*. Paris: OECD Publishing
- Overbeek, J. (1974) *History o population theories*. Rotterdam University Press.
- Persson, L.O. (2004) *Economic Renewal and Demographic Change*, with contributions from Ingi Runar Edvardsson, Elli Heikkilä, Mats Johansson, Sari Korkalainen, Torben Dall Schmidt and Lasse Sigbjørn Stambøl, Nordregio R2004:8
- Porter, M. (1990) *The Competitive Advantage of Nations*. New York: The Free Press.
- Porter, M.E. (1998) 'Clusters and the New Economics of Competition', *Harvard Business Review*. November-December 1998.
- Rambøll (2004) *Globaliseringens konsekvenser for beskæftigelse og erhvervsliv: En analyse af udflytning af videns- og servicejob til lavtlønsområder*, Rambøll Management
- Ranis, G. & Fei, J.C.H. (1961) 'A Theory of Economic Development', *American Economic Review* 51.
- Rauhut, D. (2002) *Arbetskraftsbrist och arbetskraftsinvandring: hot eller möjlighet för ekonomisk tillväxt?* Östersund: Swedish Institute for Growth Policy Studies

- Rauhut, D. (2003) Den omöjliga ekvationen. Om prognoser, finanser och behovet av arbetskraft i den kommunala sektorn. *ITPS rapport A2003:008*.
- Rauhut, D. (2004) *Replacement Migration to Sweden. An overview of possible sender countries*. Swedish Institute for Growth Policy Studies, report A2004:016
- Rauhut, D. & Blomberg, G. (2003) *Ekonomiska effekter av invandring och integration* [Economic Effects of Immigration and Integration]. Östersund: Swedish Institute for Growth Policy Studies
- Rauhut, D. & Johansson, M. (2006) 'Replacement Migration – Implications for the Sender Countries', *Ageing Horizons* Spring-Summer 2006
- Rider, C. (1995) *An Introduction to Economic History*. South-Western College Publishing
- Rodwin, L. (1989) 'Deindustrialization and regional economic transformation', in Rodwin, L., and H. Sazanami, (eds), *Deindustrialization and Regional Economic Transformation: The Experience of the United States*. Harper-Collins. Boston.
- Rosenberg, N. & Birdzell Jr., L.E. (1986) *How the West Grew Rich: The Economic Transformation of the Industrial World*. Basic Books
- Rostow, W.W. (1990) *The Stages of Economic Growth*. 3rd Edition. Cambridge: Cambridge University Press
- Rowthorn, R. E. & J. R. Wells (1987) *De-industrialization and Foreign Trade*. Cambridge University Press, Cambridge
- RTK (2006) *Befolkningsprognos 2006 för perioden 2006-2015. Bilaga E. Fruktsambet/Mortalitet*. Regionplane- och trafikkontoret, Stockholm.
- Ryding Zink, C. (2001). Where You Come From Decides Where You Are Heading – a qualitative study of well-educated immigrants entering the labour market in Sweden. *Uppsala Universitet, Sociologiska institutionen, Working Paper Series 7*.
- Salt, J. (1997) International Movements of the highly Skilled. Directorate for Education, Employment, Labour and Social Affairs - International Migration Unit -Occasional Papers N°3. Paris: OECD.
- Sánchez-Arnau, J. C. and Calvo, E. H. (1987). The Brain Drain Towards the Developed Countries. *Higher Education in Europe* 12, 3: 62–68.
- SCB (2002) *Trender och prognoser 2002*
- SCB (2003) *Befolkningsstatistik del 1-2*
- SCB (2004) *Efterkrigstidens invandring och utvandring*. Demografiska rapporter 2004:5
- Schoorl, J. (1995) 'Determinants of International Migration: Theoretical Approaches and Implications for Survey Research', *van der Erf & Heering (Eds.) Causes of International Migration*. NIDI.
- Schultz, T. W. (ed), (1974), *Economics of the Family*. Chicago
- Schön, L. (1994) *Omvandling och obalans*, Bilaga 3 till LU 94. Fritzes
- Schön, L. (2000) *En modern svensk ekonomisk historia*. SNS förlag
- Scott, K. (1999) *The Immigrant Experience: Changing Employment and Income Patterns in Sweden 1970-1993*. Lund: Lund University Press
- Shrestha, N. R. (1988) A Structural Perspective on Labour Migration in Underdeveloped Countries. *Progress in Human Geography*, 12.2, 179-207.
- Sjaastad, L. (1962) 'The Costs and Returns of Human Migration', *Journal of Political Economy* 70S:80–93.
- Stambøl, L.S. (2005): *Urban and regional labour market mobility in Norway*. Social and economic studies 110, Statistics Norway
- Stark, O. (1984) 'Migration Decision Making: A Review Article', *Journal of Development Economics* 14.
- Stark, O. (1991) *The Migration of Labor*. Blackwell.
- Stark, O. & Bloom, D. (1985) 'The New Economics of Labor Migration', *American Economic Review* 75.
- Stark, O. & Levhari, D. (1982) 'On Migration and Risk in LDCs', *Economic Development and Cultural Change* 31.

- Stark, O. & Taylor, J.E. (1989) 'Relative Deprivation and International Migration', *Demography* 26.
- Stark, O. & Taylor, J.E. (1991) 'Migration Incentives, migration Types: The Role of Relative Deprivation', *The Economic Journal* 101.
- Stark, O. & Yitzhaki, S. (1988) 'Labor Migration as a Response to Relative Deprivation', *Journal of Population Economics* 1.
- Stark, O., Taylor, J.E. & Yitzhaki, S. (1986) 'Remittances and Inequality', *The Economic Journal* 96.
- Statistical Yearbook of the City of Helsinki (2004).
- Stiglitz, J. and Dixit, A. (1977), Monopolistic Competition and Optimum Product Diversity, *American Economic Review*, 67, 297-308
- Straubhaar, T. & Vadean, F.P. (2005) 'Introduction: International Migrant Remittances and Their Role in Development', *Migration, Remittances and Development*. Paris: OECD Publishing
- Tanner, A. (2004) 'Työvoiman maahanmuutto on globaali kysymys. Paluusta ja rahalähetyksistä kehitysmajaan'. *Siirtolaisuus-Migration* 3/2004, 4-11.
- Todaro, M. (1969) 'A Model of Labor Migration and Urban Unemployment in Less Developed Countries', *American Economic Review* 59
- Todaro, M. (1976) *Internal Migration in Developing Countries*. ILO.
- Todaro, M. (1989) *Economic Development in the Third World*. Longman.
- Todaro, M. & Maruszko, L. (1987) 'Illegal Immigration and US Immigration Reform: A Conceptual Framework', *Population and Development Review* 13.
- Turok, I. (2005) *Cities, Regions and Competitiveness*. Association of Regional Observatories, 18-24.
- United Nations Development Programme (2005) *Human Development Report 2005, International cooperation at a crossroads, aid trade and security in an unequal world*. New York: United Nations Development Programme.
- Vandermotten, C., Van Hamme, G. & Medina Lockart, P. (2005) 'The Geography of Migration in Europe from the Sixties to the Present Day', *Belgeo* vol. 1-2. pp. 19-34
- Vandermotten, C., Van Hamme, G., Medina Lockart, P. & Wayens, B. (2004) *Migrations in Europe – The Four Last Decades*. Roma: Società Geografica Italiana
- Vogel, J. (2003) 'The Family', *Social Indicators Research* 64, pp. 393-435. Kluwer Academic Publishers.
- Vogel, J. & Hjerm, M. (2003) 'Integration till svensk välfärd? Om invandrades välfärd på 1990-talet.', *Välfärd och ofärd på 1990-talet*. Levnadsförhållanden rapport 100: SCB
- Vogel, J., Hjerm, M. & Johansson, S.E. (2002) *Integration till svensk välfärd? Om invandrades välfärd på 1990-talet*. Levnadsförhållanden rapport 96: SCB
- Vourc'h, F, V. De Rudder & M. Tripier (1999). Foreigners and Immigrants in the French Labour Market: Structural Inequality and Discrimination. In *Migrants, Ethnic Minorities and the Labour Market. Integration and Exclusion in Europe*, Wrench J, Rea A, Ouali N (eds.): University of Warwick, Centre for Research in Ethnic Relations. Macmillan Press Ltd: London: 72-92.
- Wadensjö, E. (1981) 'Arbetsmarknad, invandring och ekonomi', Hamberg & Hammar (red.) *Invandringen och framtiden*. Liber förlag
- Wanner, P. (2002) Migration trends in Europe. *Council of Europe, European Population Papers Series* 7. 26 p.
- van Welsum, D. and G. Vickery (2005) *Potential offshoring of ICT-intensive using occupations*, DSTI Information Economy Working Paper, OECD, Paris
- van Welsum D. and X. Reif (2006) *Potential impacts of international sourcing on different occupations*, DSTI Information Economy Working Paper, OECD, Paris
- Wonnacott, P. & Wonnacott, R. (1986) *Economics*. McGraw-Hill
- World Population Prospects Population Database* (2005) The 2004 Revision, <http://esa.un.org/unpp/index.asp>
- Wrench, J. (1999). Employers and anti-Discrimination Measures in Europe: Good Practice and Bad Faith. In *Migrants, Ethnic Minorities and the Labour Market. Integration and Exclusion in Europe*, Wrench J, Rea A, Ouali N (eds.): University of Warwick, Centre for Research in Ethnic Relations. Macmillan Press Ltd: London: 229-251.

WTO (2005) World Trade Report 2005: Exploring the links between trade, standards and the WTO, World Trade Organization