

The Potential Labour Supply in the Nordic Countries

Edited by

Daniel Rauhut and
Ingi Rúnar Eðvarðsson



NORDREGIO
Nordic Centre for Spatial Development

2009

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Nordregio Report 2009:3
ISSN 1403-2511
ISBN 978-91-89332-72-0

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Stockholm, Sweden
2009

Preface

The project “The Potential Labour Supply in the Nordic Countries” has been funded by the labour market committee of the Nordic Council, the Regional committee of the Nordic Council of Ministers and by Nordregio. The views expressed in this publication are the views of the authors and do not necessarily reflect the views or policies of the Labour Market Committee of the Nordic Council or its members.

This report is the result of the joint effort of a team of researchers from all five Nordic countries: Dr. Hild-Marte Bjørnsen (NIBR), Associate Professor Torben Dall Schmidt (University of Southern Denmark), Professor Ingi Rúnar Eðvarðsson (University of Akureyri), Associate Professor Petri Kahila (Nordregio), Professor Aki Kangasharju (VATT), and Dr. Daniel Rauhut (Nordregio).

A number of additional people should also be acknowledged for their most valuable help in the creation of this report. First of all we would like to express our gratitude for the time and effort Johanna Roto has spent collecting data for us and making the maps. We also express our gratitude to Chris Smith for the language check and for detecting a number of loose ends in the text.

It has been a stimulating and enriching experience working together, with many interesting and illuminating discussions. It is hoped that this volume will be useful for policy makers, stakeholders and scholars in the field.

Daniel Rauhut,
Project manager

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Executive summary

The aim of this study is to analyse the potential labour supply of the population of working age in the Nordic regions 1990-2007. Projections up to the early 2020s were made and four research questions answered:

(1) How big is the potential labour supply in the Nordic regions? The findings suggest that the Nordic countries will have only limited problems with a future potential labour supply at a national level, but peripheral regions will experience a significant reduction in the potential labour supply. In general, the potential labour supply is relatively larger in peripheral regions than in metropolitan regions. In absolute numbers the peripheral regions are worse off.

(2) Do differences exist in the potential labour supply between the Nordic countries? Why do such differences occur? The potential labour supply is dependent on the regional as well as national context. Some regions have a large share of non-active persons aged 50+ while other regions have a large share of e.g. non-active persons with an immigrant background. In general, peripheral regions have a larger share of non-active persons aged 50+ and the metropolitan regions have a relatively larger share of non-active persons of immigrant origin.

(3) How can the working age population be mobilised to maximise the number of persons in work? Improvements in activating marginal groups are needed. Unemployment is the most significant factor in marginalisation though long-term sickness and early retirement are also important. As unemployment, long-term sickness and early retirement each show a significant regional variation targeted policies are needed, the present governance structure may also need to be reviewed and institutional dynamics should be stimulated.

(4) What measures have been taken in the Nordic countries to improve the situation for marginal groups in the labour market? Most of the measures taken to increase the potential

labour supply and improve the situation for marginal groups aim at raising the retirement age, keeping ageing labour active and ensuring the employability of this labour. Ineffectual attempts are, in addition, often made to mobilise the potential labour supply among the long-term unemployed, persons with an immigrant background and persons below the age of 25. The more effective mobilisation of these groups is thus needed in the future.

The results show that ageing matters more for the potential labour supply than labour market policies, but, and this should be emphasised, the impact is small in most regions. The results also indicate that ageing matters more for the supply of labour than economic growth and demand side factors. At the same time lower growth rates will push labour out of the labour force. This constitutes a potentially vicious circle for some regions.

The findings suggest that seen in an international context the Nordic countries are likely to have minimal problems with a future labour supply. The potential labour supply will however be reduced by approximately 8 per cent up to 2021. This figure relates however to the national level; at a regional level the situation is, in places, rather more troublesome. The results indicate an increasing trend towards regional divergence and polarisation where two major developments can be foreseen. In peripheral regions such as e.g. Etälä-Savo, Jämtland, Bornholm and Hedmark the future labour supply will be most troublesome. The problem will probably escalate in the 2030s and 2040s. It remains however too early to say whether the labour supply problems in these regions can be mitigated or not.

Metropolitan and city regions, e.g. the capital areas, will have no or at most very limited problems with labour supply until, at least, the early 2020s. The size of the labour supply will then gradually decrease. The possibilities for adjustment and adaption are greater in these regions than in the peripheral regions.

The policy recommendations to ensure future labour supply and welfare are related to flexible solutions, regionally differentiated policies, targeted resources and the institutional capacity of the labour market.

(1) Labour market policy has to be capable of responding to different and rapidly changing situations. Therefore, various flexible solutions must be implemented in changing situations. We propose the following measures that could be implemented: a) The retirement age has to be indexed according to life-expectancy on a regional basis; b) Regions should have powers to implement flexible solutions, e.g. reinforce resources for special measures to reduce youth unemployment; c) Flexible solutions in the regional labour markets should underline integrated actions matching supply side and demand side measures.

(2) All Nordic countries have used and are using a wide range of different demand side measures, such as employment subsidises and short-term job creation schemes, in their labour market policies. These measures are however often strictly confined to the national level and will not leave much room to manoeuvre for local labour market administration. Demand side measures must in the future however include a regional dimension in order to better grasp the diversified nature of regional circumstances. It is important here to localise and regionally specify different demand side policies in order to create heterogeneous regional labour markets.

The regional aspects are very important in defining different policies and actions. We suggest here the next actions to be processed: a) All groups of the potential labour supply should be activated and ease their possibilities to (re)enter to labour market; b) Regional differentiation should be addressed in labour market policies and on national level alternative pathways for regions have to be investigated; c) Tailored measures and regional incentives relating to the needs of different labour market situations have to be made available.

(3) Targeted resources have to be well defined and optimistically also based on regional variations. The transition from educational system to labour market is crucial phase in developing an individual's employability.

Therefore, it is important to provide assistance and information, and also to assist in developing and fulfilling personal strategies. Young people in particular need help, in the first instance, to look for information and get to know the labour market as a whole.

In processing targeted resources it is expected that they will support long-term development, even if they are implemented only on a short-term basis. There is also no need to reinvent the wheel here, because there is an arsenal already available of different measures and policies. We propose however that the following actions be taken: a) Resources provided should build on the work already undertaken in order to improve not only the employability of the target group but also the implementation of measure; b) New short-term instruments should be targeted measures but they need to be connected with policies on the national and regional levels; c) Combinations of supply side and demand side inputs should be considered with the intention of facilitating a comprehensive approach to find flexible solutions.

(4) Labour market institutions must adjust to the post-industrial reality. While the production system in a post-industrial service economy is different it is often the case that the labour market institutions lag behind and often remain tied to the policies and dictums of the industrial economy. The industrial society, with its specific economic characteristics, will not return. The large potential labour supply has to be utilised to the fullest possible extent, i.e. the dysfunctions of the labour market must be addressed and dealt with and the industrial labour market institutions adjusted to the new post-industrial realities.

This call for flexible solutions, differentiated policies and targeted resources is related to the welfare and labour market institutions; the prerequisite for these measures are dynamic institutions and a renewed institutional capacity. We suggest that the following measures be taken: a) The introduction of the 'flexicurity' system in the other Nordic countries; b) Administrative reforms, as in Denmark, are needed to renew the institutional capacity stock; c) The state should delegate responsibilities to the regions, as they may be more adequately suited to dealing with the challenges related to ageing and labour supply.

1. The Potential Labour Supply in the Nordic Countries

Daniel Rauhut and Ingi Rúnar Eðvarðsson

Background

In the coming decades the population and thus the workforce also will become older in the Nordic countries. This process of ageing will be unevenly distributed across the Nordic regions. Young adults are moving out of the periphery, headed for the metropolitan areas, with the result that ageing in the periphery increases even more. The metropolitan areas will have a significantly more favourable age-structure due to this. Labour immigration however can only provide some of the labour required in the Nordic regions, partly because labour immigrants are generally reluctant to move to peripheral areas (Eðvarðsson et al. 2007, Rauhut and Kahila 2008). One way of solving the issue of labour demand is to analyse domestic labour supply and the potential labour supply in the Nordic regions. In so doing we discover that there are, in fact, a number of potential supplies of labour which, currently, are not fully utilised.

Generally, questions over the impact ageing will have on future labour supply can only be understood within the context of a long-term perspective. The current financial crisis and short term economic fluctuations with high unemployment and labour market exclusion address short-term problems and, consequently, will lead to a temporary shift towards a short-term perspective. This report, however, focuses on the long term impact of ageing on labour supply in the Nordic countries.

The potential labour supply relates to the size of the population. In the short run, and when we do not allow for migration, the number of people in the population and the age structure are fixed. The labour force is defined as the sum of people employed and unemployed, and can be measured as a share of total population. The labour force is restricted by age since children

and retired people are excluded. People who are long-term sick, disabled, or for some other reason either unable or unwilling to enter the labour market are not part of the labour force. Participation in the labour force is thus restricted to those who are able and willing. In addition it should be noted that labour force participation rates are high in the Nordic countries in part because of high female labour participation.

Young adults

In general young adults in Sweden have problems in establishing themselves in the labour market. Researchers usually mention structural problems here and the lack of preparation given by the educational system for the rigours of the labour market. Almost 25 per cent of persons aged 20-24 were unemployed or inactive in Sweden in 2001 (Näringsdepartementet 2002). Between 1996 and 2006 unemployment for persons below 24 decreased from 28 to less than 19 per cent in Finland (Eurostat 2008). In Denmark, Iceland and Norway the unemployment rate for young adults is much lower (see figure 4.1 below).

For young adults with an immigrant background the situation is even worse in Sweden (Näringsdepartementet 2002). The same development has taken place in Denmark regarding young adults with an immigrant background (Lundh et al. 2002). The situation in general regarding the integration of immigrants in Norway is similar to that in Denmark and Sweden (Djuvne and Cavli 2007). In Finland the main problem is a general level of inexperience with the demands of a multicultural society and a lack of capacity in respect of the positive integration of immigrants (Forsander 2002). Thus, immigrants represent an underused employment resource in Finland (Holm et al. 2008).

Unemployment schemes

The construction of the various unemployment insurance systems in the Nordic countries undoubtedly affects the potential labour supply for low-skilled labour (Bolvig et al. 2007). Significant regional differences in the Nordic countries exist regarding employment, unemployment and persons involved in labour market schemes (Neubauer et al. 2007). Unemployment and persons involved in labour market schemes constitutes a direct potential labour supply. Therefore, it can be assumed that there will also be regional heterogeneity in the potential labour supply across the Nordic countries.

Persons with immigrant background

Persons with immigrant backgrounds are over-represented among the unemployed and those involved in labour market schemes. A higher employment participation rate exists among natives and other Nordic and Western immigrants as compared to non-Western immigrants according to Eðvarðsson et al. (2007). Non-Western immigrants do, however, increase their labour market participation over time particularly after some years of living in the Nordic countries, but their employment rates are still far below that of 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.

Employment participation rates for immigrants in the Nordic countries are related to the changing demand for immigrant labour. Ongoing structural economic change has resulted in a significant decline in industrial jobs in rural and peripheral regions and in a significant increase in modern service sector jobs in the urban and metropolitan regions. This process has had significant consequences in respect of the demand for immigrant labour: the industrial sector, with standardised production, can use immigrant labour to supplement native labour, but this sector has declined since the 1960s. Using immigrant labour is only possible

to a limited extent in the service sector, where immigrant labour, in general, is used as a complement to native labour (Rauhut et al. 2007). In other words, the supply of labour with an immigrant background is higher than the actual demand.

Early exit

Especially in Finland the fear exists that too many people are exiting the labour market before reaching retirement age (Socialdepartementet 2000). This is also a real problem in Sweden. If the long-term sick and early retirees are included, every fourth person aged 55-64 was not working in 2001 (Näringsdepartementet 2002). In Denmark long-term sickness leave lasting more than 52 weeks has increased by 91 percent over the period 2002-2006. A counter-cyclical pattern has however been observed in Norway over the last couple of years in respect of the number of people on sick-leave and the business cycle. In Iceland the issue of sick-leave is only a minor problem (Nordisk Ministerråd 2007).

Sweden and Norway have experienced significantly higher levels of long-term sick leave and the propensity for early retirement than have Denmark and Finland. All countries however will experience significant regional differences (Nordisk Ministerråd 2007). A Nordic comparison confirms the existence of different acceptance levels in respect of sick-leave (Opinion 2007).

There are, however, good reasons for including persons on long-term sick leave and those who have been granted early retirement in our analyses – the correlation between long-term unemployment, on the one hand, and long-term sick leave and early retirement, on the other, is very strong indeed (e.g. Socialdepartementet 2000, Larsson et al 2005, Hetzler et al. 2005). The misuse of the available labour supply, leading to social exclusion and exit from the labour market is thus an issue that must be discussed when analysing the potential labour supply (Holm and Lingärde 2007).

Matching problems

The labour market is frequently troubled by matching problems and these problems are often related to structural changes in the economy at branch or sectors levels. The matching efficiency

in the Nordic labour market has decreased, i.e. the mismatch has increased, in recent decades (Johansson and Persson 2001). There are also large regional differences in labour market matching efficiency (Kangasharju et al. 2005, Hynninen et al. 2006). Examples of this include the fact that geographic mobility has decreased, that the labour force rejects low paid low status jobs and that people are rejected from the labour market. The segmentation of the labour market also affects the matching process.

When the mismatch between vacancies and job searchers increases, i.e. the matching efficiency decreases, this is often seen as representing a labour shortage. Matching problems can and do occur on occasion then when, in reality, there is no actual shortage of labour at all. When the job requirements do not match the competence profile of the unemployed, labour is located in the “wrong” geographic area or labour is, for some reason, rejected or locked in the inefficiency

in the matching process creates problems on the labour market (Rauhut et al. 2008).¹

Mobility

Rothstein and Boräng (2006) argue that the very low level of mobility in the Swedish labour market is the main reason behind the high long-term sick-leave and early retirement rates. The increased geographical mobility of the labour force could lower the number of persons on sick-leave and early retirement. Finnish studies emphasise this while also focusing on the importance of mobility. If labour demand suddenly decreases in a Finnish regional labour market relative to other regions, most of the laid-off workers will transit out of the labour force, some become unemployed, whereas only a few move out of region (Kangasharju and Pekkala 2002a, 2002b).

The aim of the study

The aim of this study is to analyse the potential labour supply of the population of working age in the Nordic regions 1990-2007. Projections up to the early 2020s will also be made. Four research questions are forwarded:

- How big is the potential labour supply in the Nordic regions?
- Do differences exist in the potential labour supply between the various Nordic countries? Why?
- How can the population of working age be mobilised to maximise the number of persons in work?
- What measures have been taken in the Nordic countries to improve the situation for marginal groups in the labour market? The marginal groups referred to here include persons aged 55+, young adults aged 18-24 and persons with an immigrant background.

Three hypotheses have been generated to deal with the potential labour supply in the regional contexts of the various countries. Based upon the theoretical aspects discussed in chapter 2 the following hypothesis will be tested:

Hypothesis 1: The impact of global shifts and prevailing labour market regimes in the various Nordic countries have different adaptabilities for labour supply in Nordic regional contexts due to behavioural and institutional differences.

Hypothesis 2: The future labour supply in the Nordic countries will depend, among other things, on regional variations in family structure, age structure, quality in the labour force, as these factors help to determine the extent of marginalized groups.

Hypothesis 3: The potential future labour supply will vary markedly because of continuing regional variations – most clearly related to the ageing society of the future thus influencing future migration choices.

A conceptual framework

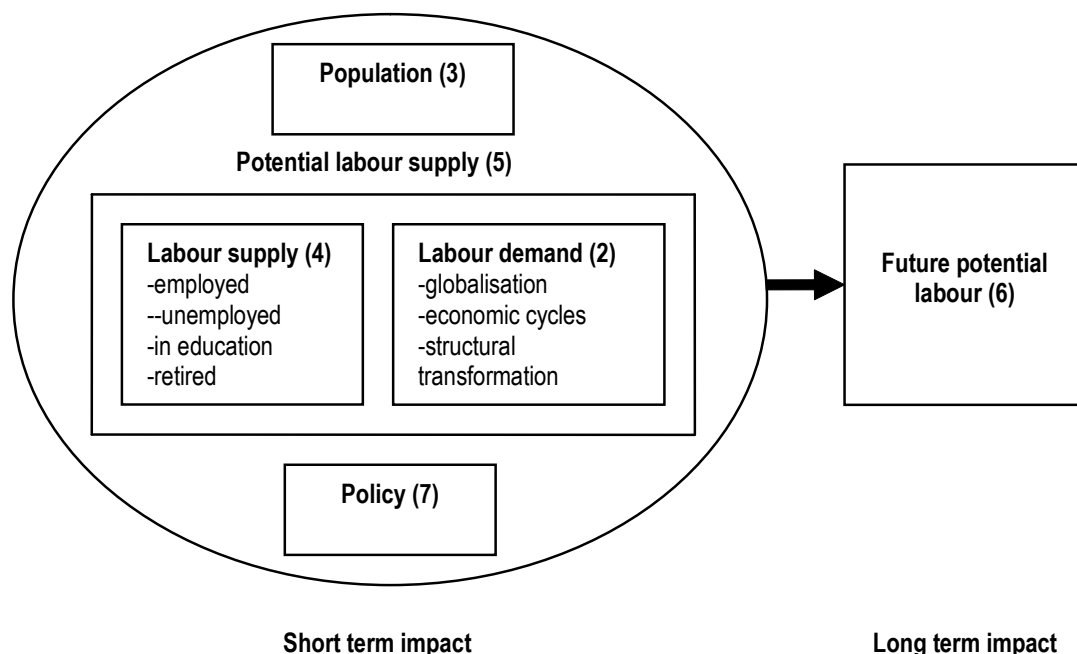
A conceptual framework in respect of the relationship between labour supply population and labour policy matters is presented in Figure 1.1. The numbers in the figure refers to the respective chapter in the book where these issues are addressed. The figure illustrates both the short- and long-term impacts of ageing.

Labour demand is a consequence of various structural factors and processes. Economic cycles are among the most important factors in respect of labour demand. Economic growth tends to increase demand in the economy and that creates new jobs in manufacturing and services, while economic recessions lead more often than not to layoffs in firms. The existence of both segmented and regional labour markets mean however that unemployment and labour shortages can coexist in different sectors within a single country.

Structural transformations of the economy refer to the change from agriculture to manufacturing and services. Such transformations have fundamentally altered the labour market in significant ways such that the greatest demand today is for educated labour in service industries. Globalisation has led to the outsourcing of products and services, deregulations and free trade. One consequence of that is that activities and jobs have moved between regions and countries on a larger scale than previously. Labour mobility is therefore more common, and regional variations in employment can be considerable.

The current regional framework is the base for the future long term projection of potential labour. Thus, present population development and policy, as well as labour supply and demand will decide the potential labour supply of future Nordic regions. This report indicates that the development will most likely be highly differentiated.

Figure 1.1: A conceptual framework on the relations between potential labour supply (labour supply and demand), population, policy and future potential labour.



The Structure of the book

The theories discussed in chapter two by Torben Dall Schmidt and Ingi Rúnar Eðvarðsson are all related to the issues of regional labour supply from a number of different dimensions. From this theoretical discussion three hypotheses were generated and these hypotheses will be tested when analysing the potential labour supply in the regional contexts of the various Nordic countries.

In chapter three demographic trends in the Nordic countries, since 1990, are outlined by Daniel Rauhut. Hild-Marte Bjørnsen and Daniel Rauhut identify some of the major groups of people constituting the current potential labour supply in chapter four. On the one hand, political debate and media reporting on the issue of labour shortages, both current and future, is fervent while, on the other, research has shown that at the same time we are currently experiencing the exclusion of e.g. persons with an immigrant background, young adults or persons aged 50+ from the labour market, mismatches, asymmetrical migration flows etc.

The analysis undertaken in chapter five by Torben Dall Schmidt, Aki Kangasharju and Daniel Rauhut sheds further light on the question of regional labour potentials and the long-term elasticities of this labour potential focussing on persons in unemployment, being active in the labour force or age groups that are not in the labour force.

Aki Kangasharju and Torben Dall Schmidt make a projection for the future potential labour supply at a regional level up to the early 2020s in chapter six. In this chapter three scenarios are laid out.

The policies implemented thus far at different policy levels – internationally, nationally and regionally – and their context is discussed in chapter seven by Petri Kahila and Daniel Rauhut. The authors also discuss the policy implications of the findings made in the previous chapters and formulate some policy recommendations.

The report ends with a discussion of the results and conclusions in chapter eight by Daniel Rauhut and Ingi Rúnar Eðvarðsson.

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2. Theoretical Considerations of Regional Labour Supply

Torben Dall Schmidt and
Ingi Rúnar Eðvarðsson

Introduction

Ensuring labour supply to avoid shortages and bottlenecks on the labour market has become a crucial issue in national policies for many European countries. This is an even more pressing issue for the Nordic welfare states, where incentive problems in respect of the labour supply issue have increasingly come under scrutiny. Labour supply is therefore a theme that deserves special attention from a Nordic perspective given the varying degrees of welfare state arrangements and associated incentive problems in respect of labour supply pertaining in the Nordic countries. Two further issues are particularly important in respect of the regional labour supply and associated policy needs. The financial crisis has spread to most developed economies.

This redefines the approach to policies designed to foster regional adjustments to such a crisis. It also challenges the ability to foster a flexible labour supply. The other aspect here is the increasing ageing of societies and the impact of this long-term demographic process on societies in general and regions in particular. Ageing may change the choices in respect of labour supply made by individuals in a number of ways over the lifecycle. Being in regions more or less dominated by ageing does, moreover, influence the need to adapt in terms of labour supply and the participation rates of different age groups. It may also lead to changing migration patterns through the emergence of a 'repulsion effect' on young people who do not want to become part of an "elderly paradise", something which, again, would have a significant impact on the labour supply.

Having established the importance of questions relating to the labour supply issue for

societal and economic development the regional aspects of this issue emerge as even more pivotal. Identikit policies designed as a 'one-size-fits-all' approach to stimulate labour supply will not have the same effect across varying regional contexts. Depending on the age composition and the unemployment rates in different regions, a given national policy in a given prevailing system of welfare benefits may render very different outcomes. A peripheral region with high unemployment rates and a high share of retiring population faces different problems in respect of labour supply than a metropolitan region. Imposing different national policies to spur on labour supply focusing on either the inactive or marginal labour force will deliver varying regional outcomes given these compositional aspects. It therefore becomes crucial to gain a precise impression of the labour supply, the potential to stimulate labour supply and the policies that may bring about such increases in labour supply in the different regions.

To gain insights into these aspects of regional labour supply, the question becomes one of the theoretical considerations to be taken into account. Three strands will be presented. The first strand relates to theories of labour supply. What determines labour supply and how does this depend on different institutional arrangements in different countries. Do these dependencies relate to regional outcomes and what can be expected in that regard? Another strand deals with the structural transformation taking place in various regions of Norden and how human capital resources embedded in the labour supply will be of importance to such restructuring. A final strand will deal with the international dimension of labour supply. A globalized world will define a new setting for regional labour

supply and thereby determine the strains on regional labour supply and related issues.

The structure of the chapter will follow these three strands. The first section will deal with theoretical approaches to the labour supply issue from within labour market theory and how national institutional settings create different sets of regional preconditions, the second section will deal with the issue of regional restructuring and required human and social capital structures

in labour supply while the third section will deal with globalization. To ascertain an understanding of the theoretical importance of cross-country studies in respect of regional labour supply, the following section will deal with the importance of considering different types of labour market and welfare regimes in evaluating regional labour supplies. A final section will set out some theoretical conclusions on regional labour supply supporting the hypothesis dealt with here.

Labour supply, institutions and the regions

Traditional labour market theory offers a number of models of labour supply. These range from the purely individualistic to joint-action models. A baseline approach is defined by neo-classical models of labour supply, while models of unionization approach labour supply from the perspective of joint action. Other models focus on the search behaviour during the process of supplying labour to the labour market, while models also exist which deal with the quality issues surrounding labour supply. These different kinds of models have been tracked in a number of articles (Blundell and MaCurdy 1999, Malcomson 1987, Oswald 1985).

Labour supply as an individual choice in the regions

Labour supply in the neo-classical models is determined by a choice between leisure and work (Fallon and Verry 1988). An individual determines the amount of time allocated to work by considering the optimal mix of leisure and consumption. Both leisure and consumption increase an individual's utility. Leisure is the residual amount of time within a 24 hours day not allocated to work. This is subject to a budget constraint that consumption will have to be financed through income from work or from other sources of income. How would labour supply turn out from this kind of model? The amount of time allocated to labour market activities by an individual depends on the wage. An increase in the time allocated to the labour market will render less leisure, which must be compensated for in terms of utility by allowing more consumption. A higher wage would render such compensation. This kind of effect is called the 'substitution' effect, as higher wages

encourage a given individual to substitute leisure for work leading to an increase in the labour supply from increasing wages. An 'income' effect may lead to the opposite conclusion on the effect of wage increases on the labour supply. A higher wage will increase income from work making it easier to finance consumption thereby making leisure time more attractive. Rising income due to wage increases makes leisure more attractive given leisure has a character as a normal good. The income effect therefore has an adverse effect on labour supply as wages increase.

How then does the labour supply depend on wage levels? This is a trade off between the substitution effect and income effect in neo-classical models. Assuming that consumption goods have a decreasing marginal value in terms of utility, the income effect is more likely to dominate at high combinations of labour supply and wages. Combinations of high wages and high labour supply for the individual produces a high wage income, which relaxes the financing problem on consumption. This will tend to lead to higher consumption and thus to a smaller marginal value being given to additional consumption. The relative value of leisure is, on the other hand, high. At high wage levels it may therefore occur that small increases in wages leads to a reduction in labour supply, as the person considering labour supply chooses to switch from working hours to leisure. For combinations of low wages and a low labour supply by the individual, there is a low wage income, which would tend to make the substitution effect dominate. The result of this is the options of observing a backward bending labour supply curve. As wages increase

the substitution effect initially dominates, but at some as yet undefined wage level the total income from work is so high that the income effect eventually comes to dominate. The individual will therefore initially supply more labour at low wages, but as wages increase the labour supply may actually fall short of the potential had there not been an income effect.

From a regional perspective such baseline models of labour supply have obvious consequences. Given that regions inherit or produce different wage levels and structures the dominance of substitution and income effects may differ substantially. This may be motivated from compensated variations in wages due to preferences for local amenities (Tiebout 1956, Hamilton 1976, Graves, Sexton and Arthur 1999, Knapp and Graves 1989, Epple and Romer 1991). The effects of employing different measures to increase labour supply will therefore also differ. Policies in respect of increasing net outcomes of a marginal hour of work through e.g. tax cuts at the margin may work for regions with low wage levels and structures, but may actually worsen the problem of the income effect in other regions. The flip side of this type of model is that any type of unemployment is, in essence, voluntary. Any policies expected to stimulate labour supply across all regions may end up by reducing the level of societal utility by forcing sub-optimal behaviour on individuals in some regions, where the optimal utility choice would prescribe a different type of behaviour.

Collective action approach to regional labour supply

Another set of models moves the labour supply decision from a purely individualistic optimal choice to a collective choice through the organization of workers into unions. From the model of a frictionless world in the neo-classical approach, the unionized models describe labour supply in a world thick with institutions and organizations. Unionized models with a monopsony see labour supply decisions taken in specific sectors by unions. Unions see the interests of their members as the prime objective of action. The labour supply thereby becomes a collective action issue. There are, in general, two traditional versions of labour supply in union models. The right-to-manage model (Nickell 1982) sees the wage set through bargaining between the union

and a firm, thereafter the firm sets employment. If there is some rent available – monopoly in the product market through entry costs or firm-specific human capital – the wage may be set higher than the competitive wage without unions. An alternative interpretation of union behaviour is forwarded in efficient bargaining models (Oswald 1985), where bargaining between the union and the firm is both over wages and unemployment. These models differ in their assumption of the bargaining scope and the emphasis on employment in union bargaining behaviour. The implication of this is that as a vehicle of joint action, unions will have to consider the desires of their members in the bargaining process. Should they negotiate high wages with the firm, resulting in a comparably low level of employment or the opposite? Given that union strategy is to attempt to maximize the collective outcome for all its members, the outcome will determine the distribution of members in employment with the firm at a higher wage and the employment of members in the competitive market at a lower wage. Alternatively the union may operate through the majority voting rule, so that the decisive person in the union will be the median voter – often median voter in terms of seniority. The implication of this joint action thinking in terms of bargaining processes is that regional variation emerges as vital in labour supply outcomes. Most negotiated unionized economies, such as those in the Nordic countries, have a combination of central and local bargaining in their union systems. Given the relative strength of these different bargaining levels, the members of a union in different regions may see their regional interests promoted to varying degrees and may, considering the importance of wages relative to employment, be subject to policy mixes which more or less fit their regional contexts. The centralization implicit in, for example, a median voter located in a core region, may not take into account the members' labour supply in a peripheral region. Unions may thus be seen as vehicles of inter-regional externalities in variation in preferences within the membership leading to labour supply. This would depend on the regional composition of membership and the degree of decentralization in the bargaining process.

Regional search and shrinking behaviour in labour supply

Behavioural aspects in respect of job search and 'shirking' on the job will likely also be important for the regional labour supply (Kiefer and Neumann 1989, Mortensen and Pissarides 1999). What determines the search intensity of people supplying labour and what are the probabilities of becoming employed? Such questions are perceived as vital for the evaluation of the quality and behavioural background of labour supply, or labour supply in a regional context. The implicit context in search models is that jobs and workers are heterogeneous. This is why information about jobs and workers becomes important for overall labour supply. Such a point of departure seems relevant in a regional setting, where heterogeneity in jobs and workers in different regional contexts is supported by e.g. different business structures and concentration patterns across regions. The baseline mechanism in search models is that labour is supplied when a match between available jobs and available workers occurs. Searches by an individual supplying labour will take place until the reservation wage of that individual matches the wage offered in a job. The reservation wage is the wage at which the expected gain from continuing to search for a job equals the expected cost. The wage offered to an individual at a given point in time is taken from a distribution of wage offers. Given that this behaviour is embedded in labour supply two aspects become important from a regional perspective. The first is that national policies will influence the behaviour of the regional labour supply, as changes in unemployment benefit levels in respect of national social policies will change the reservation wage of an individual through the balance of expected gains against the expected costs of continuing to search for work. Higher unemployment benefits will decrease the expected loss from staying unemployed and thus increasing the reservation wage level. Another source of regional variation is the wage distribution in the job offers. The distribution of wages may depend on different mixes and productivity levels in regional business structures and other regional differences. Search models therefore allow for a clear regional interpretation of labour supply behaviour. Furthermore reservation wages with respect to taking jobs in

other regions may depend on the preferences of amenities prevailing in these other regions.

The notion of the efficiency wage is another theoretical stand related to the labour supply question, which may also be interpreted from a regional perspective. Efficiency wage models prescribe that an efficiency wage minimizes wage costs per efficiency unit (Shapiro and Stiglitz 1984). The problem is that the efficiency of each person supplying labour is unknown to the employer. A given person supplying labour may therefore be of low productivity and high on 'shirking' or they may be of high productivity and low on 'shirking'. The unknown quality of labour supply becomes a problem in contracting with applicants for job openings and the level of efficiency wages must take this into account. These kinds of models also have a regional dimension in that the quality of labour through e.g. competence levels or previous long-term unemployment periods becomes important. The level of efficiency wages in regions will thus depend on regional variation in the quality of labour supply. Comparing search models with efficiency wage models it can be noted that unemployment in the pool of labour supply is voluntary in search models but involuntary in efficiency wage models. This has clear political implications, as regions with a high level of unemployment in the labour force may experience a different level of willingness from national levels to contribute to such regional deficiencies depending on the perception of unemployment being voluntary or involuntary.

Lifecycles and family structures in regional labour supply

Two kinds of aspects have not thus far been taken into account in the previous types of models discussed: family structures and lifecycle aspects. Labour supply will be influenced by institutions such as family structure, while labour supply at any given age will also depend on the income levels and expectations over the whole lifecycle. The first aspect points to the importance of considering inter-family ties in labour supply and the second indicates the importance of ageing and retirement patterns for labour supply.

Family structures are of obvious importance for labour supply. The decision to work cannot be seen as an individual choice within the family. There are several reasons for this. Two major factors here are the importance of tax and benefit policies at the family level and the importance of income-pooling within the family. The design of tax and benefits systems will often influence the labour supply by means of a given individual belonging to a family with specific characteristics. This may either be because of inter-family ties in the tax and benefits structures, e.g. transferable tax exemptions between spouses or because tax and benefits systems have specific gender characteristics, e.g. eligibility for parental leave. The importance of tax and benefits policies thus has a significant influence on the labour supply of a given family structure. Given the importance of family structure for labour supply decisions, the importance of family structures from a regional perspective is also an issue in need of attention. Variation in family structures across different regions will become important in labour supply decisions, due to the inter-family ties in the labour supply decisions. Furthermore, the effects of national policies on family matters will influence the labour supply differently in different regions depending on the variation in family structures in those regions.

The other aspect concerns the lifecycle decisions of individuals on labour supply. A decision to supply labour is not taken as a snapshot decision at each moment independent of what has happened previously and what is expected to happen in the future. Labour supply decisions must be seen from the perspective of an individual having the opportunity to supply labour over a whole lifespan. A person goes to school in early life with no or little labour supply potential, enters the labour force at a later stage in life and builds wealth through savings from labour income, while finally retiring to live off the accumulated wealth thus reducing the labour supply. From this perspective labour market earnings do have an income-smoothing purpose and also an insurance purpose. Wealth

through savings offers opportunities for income-smoothing, while wealth also represents insurance in respect of future consumption opportunities. In a world of uncertainty, any future shock to labour market earnings will be of importance, as it influences the need to accumulate wealth through savings for the purpose of income-smoothing and insurance in respect of future consumption possibilities. These issues also imply that a regional dimension is at work in the labour supply question. General interest rates defined at a national scale may require a higher return from education than can be achieved through labour market earnings in a given region making the education option in such a given region less attractive. This not only influences the level of labour supply in a given region but also the composition of labour supply in terms of formal competences. Similar arguments apply to capital market imperfections where the inability to predict the discounted value of education in a region may make private capital markets less inclined to offer borrowing facilities in certain regions. Such aspects may particularly apply in a situation characterised by expensive credit, as is currently the case. In addition, the future prospects of earnings shocks will also influence the labour supply. Living in a region subject to more aggravating shocks should signal the need to increase precautionary savings and thus the labour supply in times of ample opportunities to generate labour market income.¹

The use of these kinds of labour supply models offers up a wide range of regional considerations into the analysis. These depend on the various institutional arrangements applicable to the labour markets in question, which spills down to the regional level. It also depends on the family structures prevailing and how these vary across regional contexts, on the capital market structures and on the regional aspects of each of these. These theoretical questions dealing with the issues of labour supply, institutions and regions represent the baseline issues in the generation of the hypothesis for this report.

Regional restructuring, human and social capital

Having dealt with the specificities of labour supply in a given institutional setup and the implications of this in various regional contexts, the consequences of regional restructuring for labour supply becomes an issue. Theories of structural transformation in advanced capitalist societies stress the combined impact of major technological changes where information-communication technologies play the leading role, the formation of a global economy, and a process of cultural change whose main manifestation is the radical change of women's role in society and the rise of ecological consciousness (Castells 1999). In short, the development toward post-industrial society is characterized by a transition from goods-producing to service-handling activities, where services such as education, health and other professional services become central in and to society. The decreasing weight of manufacturing in employment and in its contribution to gross domestic product is cited as a critical indicator for the fading away of the industrial society. Lastly, theoretical knowledge becomes of ever increasing importance in society.

Labour shortages and regional restructuring

During periods of structural transformation there will be a scarcity in the supply of certain competences and skills. In addition, problems with mismatch and 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 impossibility of finding, in the working age population, a worker with the adequate skills without transferring him/her from a similar post (OECD 2003). Both kinds of shortages reflect the need to upgrade competence levels in the labour supply following regional restructuring and this is then an important aspect in respect of the labour supply issue. 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 for specific competences. 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. From 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. From a long-term perspective then, a shortage in labour supply is not about being short of labour per se, but rather about lacking the capacity to adjust to the structural changes in the economy (Begg et al. 1987, Wonnacott and Wonnacott 1986, Elliott 1991, Fallon and Verry 1988, Schön 1994, 2000).

Historically, situations of long-term labour shortage have led to labour being replaced through technological, institutional or 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). The issue of the regional labour supply of specific competences to support regional restructuring is accordingly tightly intertwined with regional welfare.

The importance of competence issues in relation to regional labour supply issues is furthermore reflected in dual labour market or segmented labour market theories. A central ingredient here is that there are more or less watertight bulkheads between the different segments – often termed the primary and secondary sectors or segments - with a low level of mobility between them but high mobility

within each segment, especially among the lower segments of each, and where both surpluses and shortages of labour exist simultaneously within companies, regions and nations. Some of the central ingredients concerning 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 the supply and demand of labour, but also status and prestige. Trying to attract domestic labour supply by increasing wages when there is a labour shortage is expensive and distorts the wage hierarchy. A possible solution to the question of labour supply for employers is thus 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 thus 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.

Social and human capital as a pre-requisite for regional restructuring

Human capital theory is an essential component when dealing with the regional labour supply of specific competences and education levels. According to human capital theory, a well-educated individual finds it easier to make use of inventions, learn novel working techniques and new methods of organization than a less educated person does. He finds it easier to become adept at new procedures and manufacturing methods. As a result, he has a higher lifetime income than an uneducated individual, which balances against the cost of acquiring the education. Thus, the theory assumes that education facilitates and hastens the adoption of new methods of manufacturing, resulting in improved productivity and, as

a consequence, increased economic growth. Research in the spirit of human capital theory has also shown that improved education reduces smoking, increases voter turn-out in elections, and encourages the reading of a better kind of literature, to suggest only a few examples (Becker 1992). The ability to attract or build such a stock of human capital in a regional context can therefore be seen as vital, and the regional importance is restated with an emphasis on regional mobility in a lifecycle perspective.

The concept of social capital offers useful tools with which to describe social reality and, to some extent at least, to explain certain structural mechanisms, and regional differences. There is an abundant literature on this topic and numerous pieces of research applying the theoretical background to concrete situations. From a business point of view, the concept refers to many resources, such as information, ideas, business opportunities, financial capital, emotional support, goodwill, trust and cooperation, available in and through personal and business networks (Akdere 2005). Putnam (1995), a political scientist, defines social capital as those features of social organizations, such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit. Trust seems to be an essential factor in the formation of social capital, and trust, too, builds or accumulates with each successful interaction (Timberlake 2005). Most of the research on social capital shares the visions that members of the social networks share norms and through these networks they may gain access to social capital. In this way the networks become a resource. The concept of social capital has therefore a rich potential for analyzing labour mobility and settlement patterns, which implicitly defines the regional labour supply.

Global shift and the regional labour supply

In a world where regions are under the influences of both internal and external change, the issues related to globalization must be dealt with when considering the regional labour supply. According to Peter Dicken (2003) globalization is a “syndrome” of processes and activities rather than a single phenomenon and the effects of it are highly dependent on the specific circumstances pertaining 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” (Dicken 2003:9).

The process of globalization has changed the world in such a 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 offshoring have become central concepts. Outsourcing displaces parts of the production chain of a firm to other firms, while offshoring displaces parts of the production chain to other low-wage locations in the world, while maintaining executive control in the firm. Such processes have consequences for the regional labour supply and the implicit changes in required competences to accommodate such changes – which clearly relates to the issues of human capital and regional restructuring dealt with previously.

The first global shift: de-industrialisation and the labour market

The developed countries have clearly been the “winners” in this economic transformation of our globe. Among the most radical changes of the economy is de-industrialization; the restructuring resulting primarily in the movement of jobs from manufacturing into services. This development has brought about and coincided with many other changes in the labour market most notably

the increasing job participation of women in the service-based sectors of the economy 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 or un-skilled which is, of course, a critical factor when it comes to the issue of individual competitiveness in the labour market. The third significant trend in the labour markets of the older industrialized countries is changes in individual income. This presents a twofold picture. On the one hand there is a general increase in wages but on the other there have been changes in how this increased income is spread across different segments of the labour market.

During the economic boom of the 1960s and 1970s an increasingly even wage level distribution was observed in the developed countries. This has changed and over the last 25 years or so the wage gap has been increasing. Countries, e.g. some countries in Western Europe that have had similar levels of wage distribution during 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 been occurring at a regional scale, primarily towards the southern regions of some western countries, the decline of older manufacturing centres and hollowing out of inner city areas in industrialized countries. Outsourcing and offshoring were first applied in manufacturing and termed global shift by Dicken (2003) and reflected a first wave of the international division of labour. The second global shift is related to services due to information and communications technology which enables programming, call centres, back-office-services and other service activities to be transferred between regions and countries.

The second global shift: education and language

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 offshoring as more information becomes automated and digitised (Millar 2002). Special challenges exist related 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 offshoring 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 elsewhere around the globe. Such aspects can be important in the sourcing activities of firms when, for instance, choosing between the new member states and countries in the Asian sphere.

From a regional context such global shifts make issues of regional attractiveness important. 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 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). Such regional contexts in the process of global shifts defined

the importance of maintaining a competitive regional labour supply. 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 pool of regional labour supply, which makes it easier to find specialist skills. Workers also benefit from a wider 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 to the regional labour supply, 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 to match 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).

Migration and segmentation: consequences for regional labour supply

These issues relating to regional attractiveness and global shifts also link in with international migration and the regional labour supplies embodied in such migration flows. Migration is caused by various kinds of demands for immigrant labour that are built into the economic structure of the immigration countries and regions. The migration pattern seems to have changed in recent decades. The existence of dual labour markets in combination with irregular migratory movements stimulate results in a situation where migrants fill the "3-D jobs" – jobs that are dirty, dangerous and degrading.

These are jobs that natives 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 these “3-D” labour segments (Taran 2005). There has though been a long-term rise in the share of unemployed foreigners compared to nationals in recent decades. Low-skilled, manual workers – often males – in declining sectors and branches seem to have little chance of re-employed (OECD SOPEMI 1997, 2004), which may be taken to reflect the importance of heterogeneity in regional labour supplies. This development is also in line with the theories of segmented labour markets in the way that structural changes accentuate the mismatch on the labour market.

Labelling theory is closely related to 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 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 however 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 (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 reflecting an implicit heterogeneity in the labour supply. The ranking seems connected with 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).

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 concerns 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). 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). When they have 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 Eastern 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 to immigration. The last factor will be particularly important during the coming decades given expected demographic developments.

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).

The global shifts and theories on migration outlined above therefore render a wide range of interpretations of the consequences of global shifts for regional labour supplies. The main point to be taken from this brief review of these theories seems to be that regional labour supplies operate in a global context with both internal and external forces rendering decisive influences on the structures and levels of regional labour supplies through migration.

Regional labour supply in different labour market regimes

Labour market regimes prevailing in different countries will be decisive when arriving at conclusions on the regional labour supply. Labour market regimes or welfare regimes are defined by the national regulations on labour market and welfare issues. This must be understood broadly as these regulations cover both legislative aspects, benefits systems and other policies influencing labour markets. The idea of introducing a typology of welfare regimes was introduced by Esping-Andersen and later contributions have extended the thinking of such national typologies into the specific contexts of labour markets (Esping-Andersen 1999, Berthoud & Iacovou 2004). The baseline idea of such typologies is to uncover institutional, legislative and other regulatory aspects of welfare or labour market policies so as to determine the general character of the policies and to enable categories of countries signified by such to be identified. As individual of different characteristics will respond differently to such types of welfare and labour market policies, these welfare or labour market regimes at the same time reveal important aspects of how individuals may be expected to respond to such differences in policies.

The regional importance of such types of welfare and labour market policy regimes will become clear when comparing them. Differences

in the institutions of, and the regulations behind, unemployment benefits will influence the way in which an individual in a given regional context searches for a job, the way labour supply of different quality enters employment contracts, the way that regional restructuring will be pursued or the way that migrants feel attracted to specific kinds of jobs. Furthermore in terms of regional labour supplies the types of welfare and labour market regimes may be important for difference between self-perceived and behavioural participation in labour supplies (Pedersen and Schmidt 2008).

The classification of countries into different types of welfare or labour market regimes may differ according to focus and criteria. Using a typology of welfare regimes (Esping-Andersen 1999), the following three types have been identified: (1) The ‘social-democratic’ regime type: generous levels of state support, individual and universal entitlements, support based on state and not on family and friends; (2) The ‘liberal’ regime type: moderate level of benefits, emphasis on the market to get support, means-tested benefits; and (3) The ‘conservative’ regime type: central role for the family supporting the individual, reduced role for the state and increased role for insurance-based benefits.

These different types of welfare regimes are clearly defined by the dependency on the state versus personal networks in the case of unemployment, the use of market instruments to insure against unemployment risks and the criteria for eligibility to receive benefits. These factors are all perceived as vital in labour market behaviour such as decisions in respect of the regional labour supply. This should be clear from the theories mentioned previously – traditional models of labour supply, search models, efficiency wages models, migration choices and the consequences of global shift. This typology is extended in later contributions to the literature to include two further types of regimes through the splitting of the ‘conservative’ regime type – a ‘corporatist’ regime and a ‘residual’ or ‘southern’ regime (Berthoud and Iacovou 2004). The different regimes are further segregated by geography and religion as displayed in table 2.1.

This suggests that geography matters, as neighbouring countries have more close links in terms of social networks and often face similar economic conditions, which may partly be caused by a closer interaction in more dense geographies. It furthermore suggests that a country’s religious

historical affiliation matters in respect of the broader context of social and economic life (Berthoud and Iacovou 2004). Even if these findings suggest that the Nordic countries are in general alike, it is still important to recall that the regional contexts vary considerably in these countries. Even if these structures are alike in different countries, it is not clear whether these similar structures trickle down to similarly impact very different regional contexts. This is e.g. seen in the prevailing wage systems of the various Nordic countries. An emphasis on decentralizing wage formation to the workplace for some types of jobs organized in some unions will render clear differences. A centralized wage setting approach will on the other hand allow for less regional variation according to regional structures and amenities, which would add to the equilibrium versus disequilibrium tension among regions within the wage system. Findings on aggregate behaviour at national levels in cross-country studies may not uncover the variety of regional contexts these emerge under and it may, from a social and economic perspective, be argued that such aspects would be important in identifying typologies.

Table 2.1: Typologies of the European Countries

Welfare regime	Geography	Religion
<i>Social democratic</i>	<i>Nordic</i>	<i>Protestant</i>
Finland	Finland	Finland
Sweden	Sweden	Sweden
Denmark	Denmark	Denmark
Iceland	Iceland	Iceland
Norway	Norway	Norway
Netherlands	<i>North-west Islands</i>	<i>Mainly protestant</i>
<i>Liberal</i>	U.K.	U.K.
U.K.	Ireland	Netherlands
Ireland	<i>Continent</i>	Germany
<i>Corporatist</i>	Netherlands	<i>Mainly catholic</i>
Belgium	Belgium	Belgium
Luxembourg	Luxembourg	Austria
France	France	<i>Catholic/orthodox</i>
Germany	Germany	
Austria	Austria	France
<i>Residual</i>	<i>Southern peninsulas</i>	Ireland
Portugal	Portugal	Luxembourg
Spain	Spain	Portugal
Italy	Italy	Spain
Greece	Greece	Italy
		Greece

Source: Adopted from Berthoud and Iacovou (2004)

Summary – theories and hypotheses on regional labour supply

The theories laid out in this chapter are all related to the issues of regional labour supply in a number of different dimensions. The research questions presented in the introduction are clearly related to the theories laid out previously. The size, heterogeneity and mobilization of potential labour supplies relates to the theoretical aspects of labour supply decisions in a given institutional set up and to their unfolding in a specific regional context.

Three hypotheses are relevant in respect of dealing with potential labour supplies in the regional contexts of different countries. The theoretical aspects point to the following important hypothesis:

Hypothesis 1: The impact of global shifts and prevailing labour market regimes in the various Nordic countries have different adaptabilities for labour supply in Nordic regional contexts due to behavioural and institutional differences.

Theoretical background of hypothesis 1: Changes from global shifts will render different outcomes depending on the welfare and labour market regime prevailing in a country. Both de-industrialization and an increased emphasis on education and language relate to the welfare and labour market regimes. One aspect concerns the ability to ensure job mobility in different labour market regimes in response to global shifts and another is the ability to ensure education or life-long learning as a part of labour market regimes to respond to global shifts. Different countries with different labour market institutions will therefore expectedly embody different abilities to address these global shifts and their implications for labour markets. The behaviour of individuals in the labour market with respect to search, 'shirking' and matching will depend on the regional contexts and on how the institutional framework unfolds in such contexts in terms of, for example, the decentralization or centralization of the collective decision making of unions. The global shifts and labour market regimes in the various countries will display different adaptabilities in terms of labour supply in the

Nordic regional contexts due to behavioural and institutional differences between them.

Hypothesis 2: The future labour supply in the Nordic countries will depend, among other things, on regional variations in family structure, age structure, quality in the labour force, as these factors help to determine the extent of marginalized groups.

Theoretical background of hypothesis 2: Different regions host different average family structures and therefore different patterns of inter-family ties in their labour supply decisions. Furthermore, regions vary in terms of ageing and thus also in terms of wealth structures due to the life-cycle aspects of labour supply decisions. In addition, the accumulation of human capital may develop quite differently in different regions resulting in varying income levels and thus in differing choices in terms of the substitution and income effects by witnessed in the regions. Wealth, family and human capital accumulation are distributed differently across regions rendering very different patterns of individuals being marginalized on the labour market. Prosperous families may have quite different labour supply choices across the life-cycle as compared to poorer families. Abilities to network and build social capital will also depend on such patterns and thus render different degrees of attachment to labour markets. The degree of marginalization at any given point of time from the labour market would thus be expected to vary across regions. The labour supply of Nordic countries will then depend on regional variation in family structure, age structure, in the quality of the labour force among others, as these co-determine the extent of marginalized groups.

Hypothesis 3: The potential future labour supply will vary markedly because of continuing regional variations – most clearly related to the ageing society of the future thus influencing future migration choices.

Theoretical background of hypothesis 3: Ageing is a common feature of numerous

European countries. The Nordic countries are by and large welfare states in the sense that they provide insurance against temporary lay-offs. While this provides the option to adjust to lacking demands on local labour markets through unemployment and the participation rate, this is in the long-run not a viable option. Ageing and temporary downturns in vulnerable regional structures will therefore render very different potential labour supplies in the future and will also lead to different migration choices due to the individual desire to choose labour supply locations which are, partly motivated by the relative importance of substitution effects versus income effects from the regions of origin as compared to the relative importance of substitution effects versus income effects in the region of arrival under migration flows from

income differences across regions. This again depends on the implicit structures of social and human capital versus networks that will prevail in the different regions contexts of the future.

These hypotheses will be dealt with in the following three sections and will in the final section lead to a set of policy recommendations that are accordingly all directly or indirectly embedded in the theories of labour supply presented here. Clearly though a caveat should be added at this stage. The number of different factors and theories that may relate to labour supply decisions is extensive not all of which have been covered here, while the focus has here been on theories that are particularly relevant for the evaluation of labour supply decisions in a regional context.

Notes

1. It may be argued that individuals living in a region subject to a sudden unexpected shock would be able to move to other regions with better labour market earnings possibilities. Given

that capital investments in e.g. housing is tied to a given regions, the capital losses from a shock may effectively reduce such a mobility through the inter-temporal budget constraint.

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3. Demographic Trends in the Nordic Countries 1990-2007

Daniel Rauhut

The general population development

Since the early 1990s the total population increase in the Nordic countries has been stable at an annual level of approximately 0.4%. This is above the European Union average of 0.3%. Regional differences are however significant. In this period a third of the Nordic regions grew faster than the Nordic average while a third of regions experienced a notable decline in population. All together some 85% of the Nordic population lives in regions experiencing population increase.

Generally, the capital and big city regions are the best performers, while sparsely populated and more peripheral regions lose population. The strongest population growth rates are recorded in the capital regions of Höfuðborgarsvæði (Reykjavík), Oslo together with Akershus and Uusimaa (Helsinki). Together with Suðurnes (IS) and Rogaland (NO) each of these regions saw annual average increases of 1.0% or more. Stockholm region is also among the best performing Nordic regions.

Population increases have also been rather high in the regions that surround the capital regions, as they form part of these capital-region's labour markets, areas such as Vest- and Østfold in Norway and Itä-Uusimaa in Finland fall into this category. In addition, the Øresund region is also counted among those areas with the highest population surpluses. Sjælland (excluding Copenhagen) and the Swedish regions of Halland and Skåne have grown due to considerable immigration both from other regions and from abroad. The latter group mainly comprises Danish citizens moving to Skåne mostly for economic reasons. There is a labour shortage in Copenhagen, and higher wages than in Sweden are paid, while housing prices are considerably lower in Skåne (Neubauer et al 2007).

The least well-performing Nordic regions are mostly located in sparsely populated areas in eastern Finland and northeast Iceland. Vestfirðir (IS) region has, during the period concerned, annually lost approximately 1.7% of its population, whereas Kainuu (FI) the second worst performing Nordic region annually lost "only" 0.8%. Population development has also been negative in many regions without a big centre (i.e. Satakunta, Gävleborg, and Bornholm) and in many of the northernmost regions of Finland, Norway and Sweden (i.e. Lappi and Norrbotten). However, in recent years the population increase has smoothed.

In the period 2002-2005 the Nordic capital regions (excluding Copenhagen) remain among the fastest growing Nordic and European regions, though all but the Oslo region are growing slower than in the 1990s. At the same time other big city regions and some which are (partly) located in proximity to capital labour markets are growing faster, such as Södermanlands, Itä-Uusimaa and Østfold. This is also the case in western and southern Sjælland. The most peripheral regions in Eastern and Northern Finland and Bornholm are however performing even worse, while e.g. Nordjylland (DK) and Sogn og Fjordane (NO) are now experiencing a negative population development.

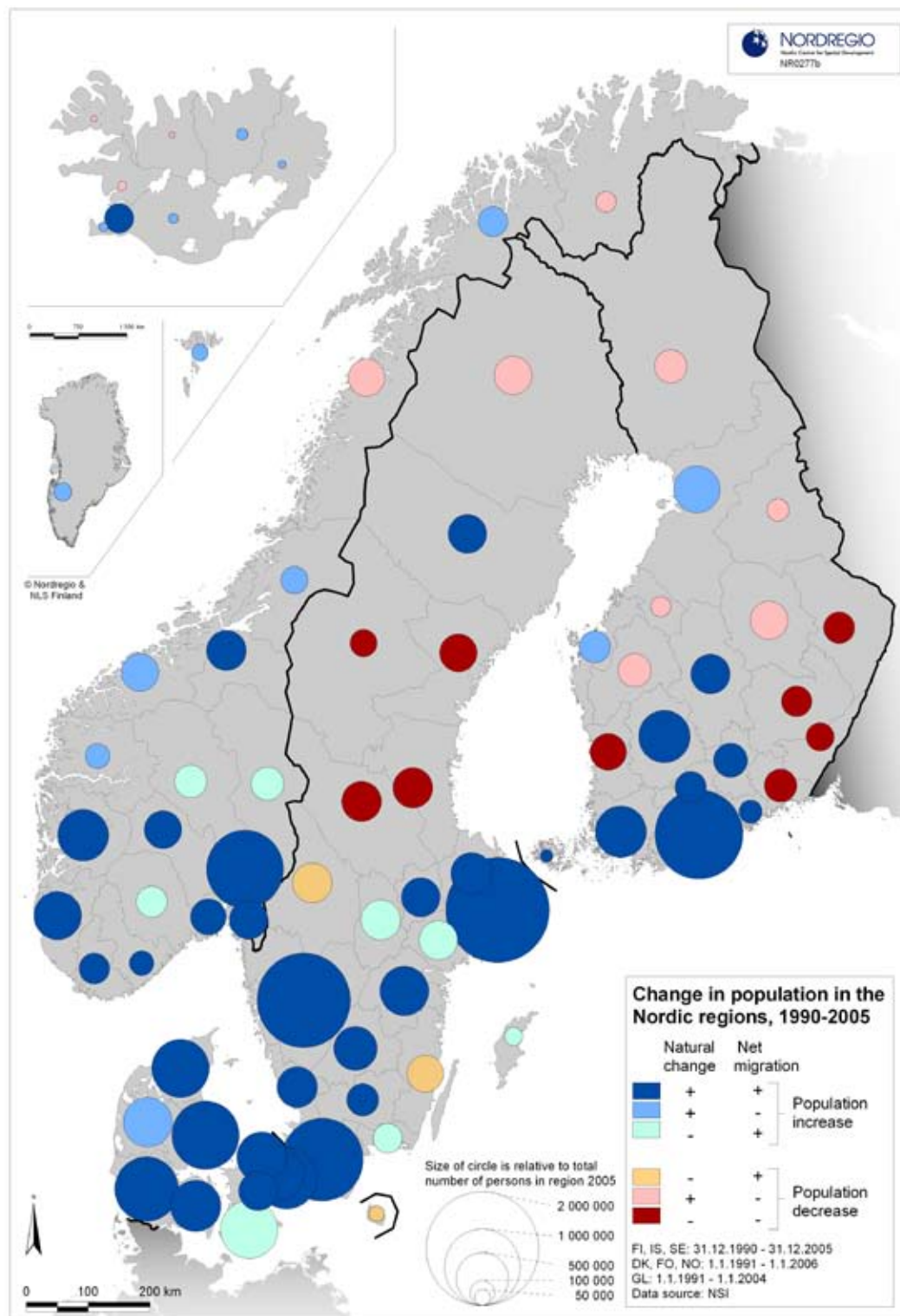
Regions with population increase outside the central capital and metropolitan regions are growing mostly because of one or two very fast growing municipalities. This municipality is in many cases also the only city in the whole region: Oulu in Pohjois-Pohjanmaa, Umeå in Västerbotten, and Tromsø in Troms.

On the intraregional level a very clear central – periphery polarization is visible. In general

almost all the university cities, and their labour markets, are among the fastest growing Nordic municipalities, whereas the most sparsely populated areas continue to lose population. In recent years (2001-2005) the capital regions have been the best performing regions, particularly

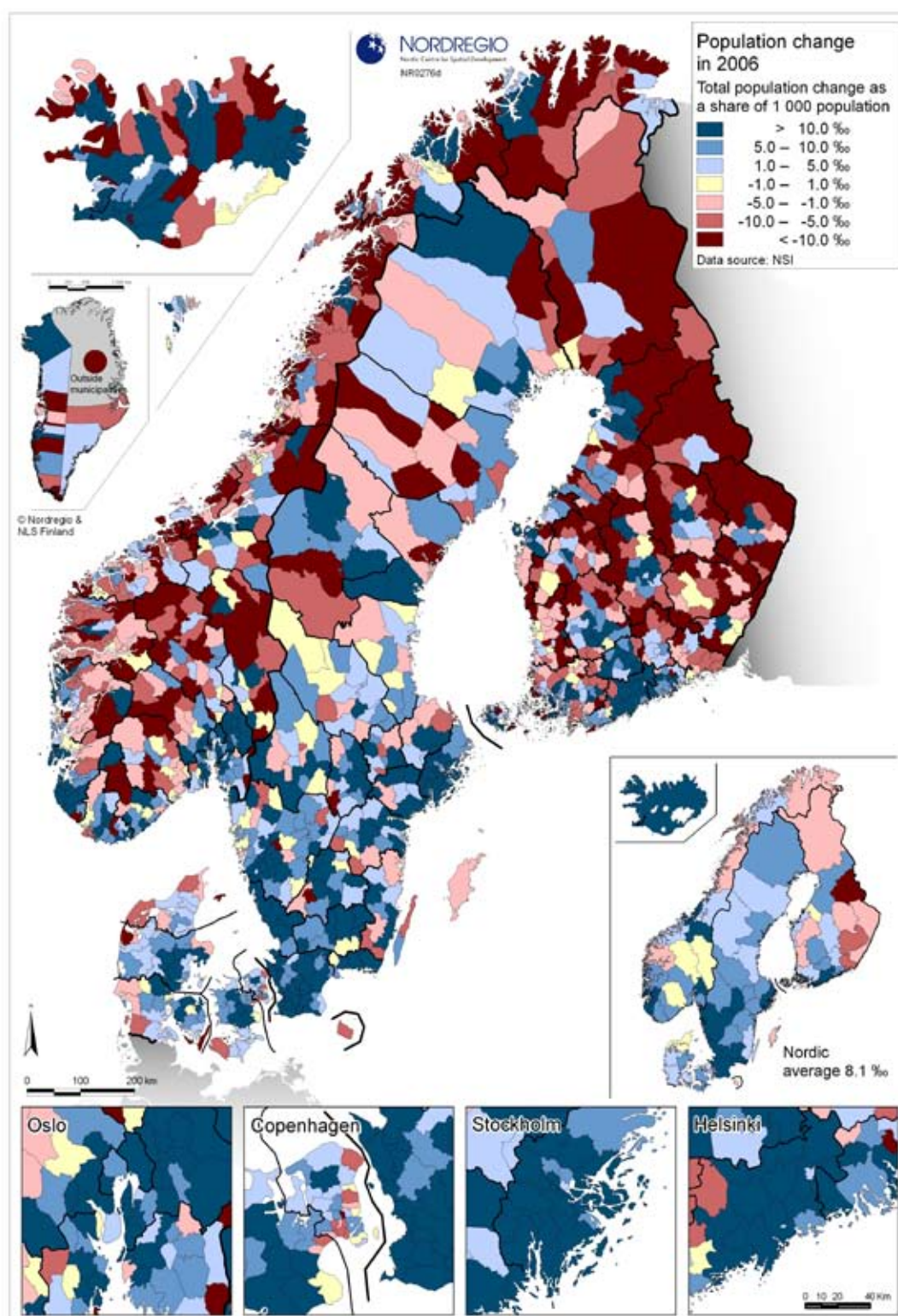
Stockholm. In terms of the other regions the net natural change has, in general, decreased. The best performing regions, especially in Norway, are no longer however growing so quickly in natural terms (Rauhut et al. 2008).

Map 3.1 Regional population change in the Nordic countries 1990-2005



Sources: Nordregio database.

Map 3.2 Nordic population change in 2006 (%)



Sources: Nordregio database.

The natural population change

High fertility is based on a number of socio-economic processes, and high birth rates can basically indicate three main factors: They are related to a relatively high proportion of the population in the most fertile age groups giving a general population characteristic similar to a cone shaped rather than to a reverse cone shaped distribution. This is the situation in many of the areas considered as 'the periphery'.

Secondly, an influx of population in the fertile age group is important, and therefore a close connection exists to migration. This situation characterises several of the growth centres in the Nordic countries, e.g. the Capital

regions and larger cities, but also those regions with educational and research centres (Umeå, Oulu and Tromsø). A third factor relates to specific regional characteristics connected to, for instance, cultural or religious traditions.

High mortality rates are primarily connected with stagnating municipalities. This is either due to low reproduction rates or to a situation where out-migration is biasing the population structure. The highest level of mortality rates are found in the central areas of Norway, Sweden and Finland, and in the case of Finland especially in the border regions with Russia (Rauhut et al. 2008, Neubauer et al. 2007).

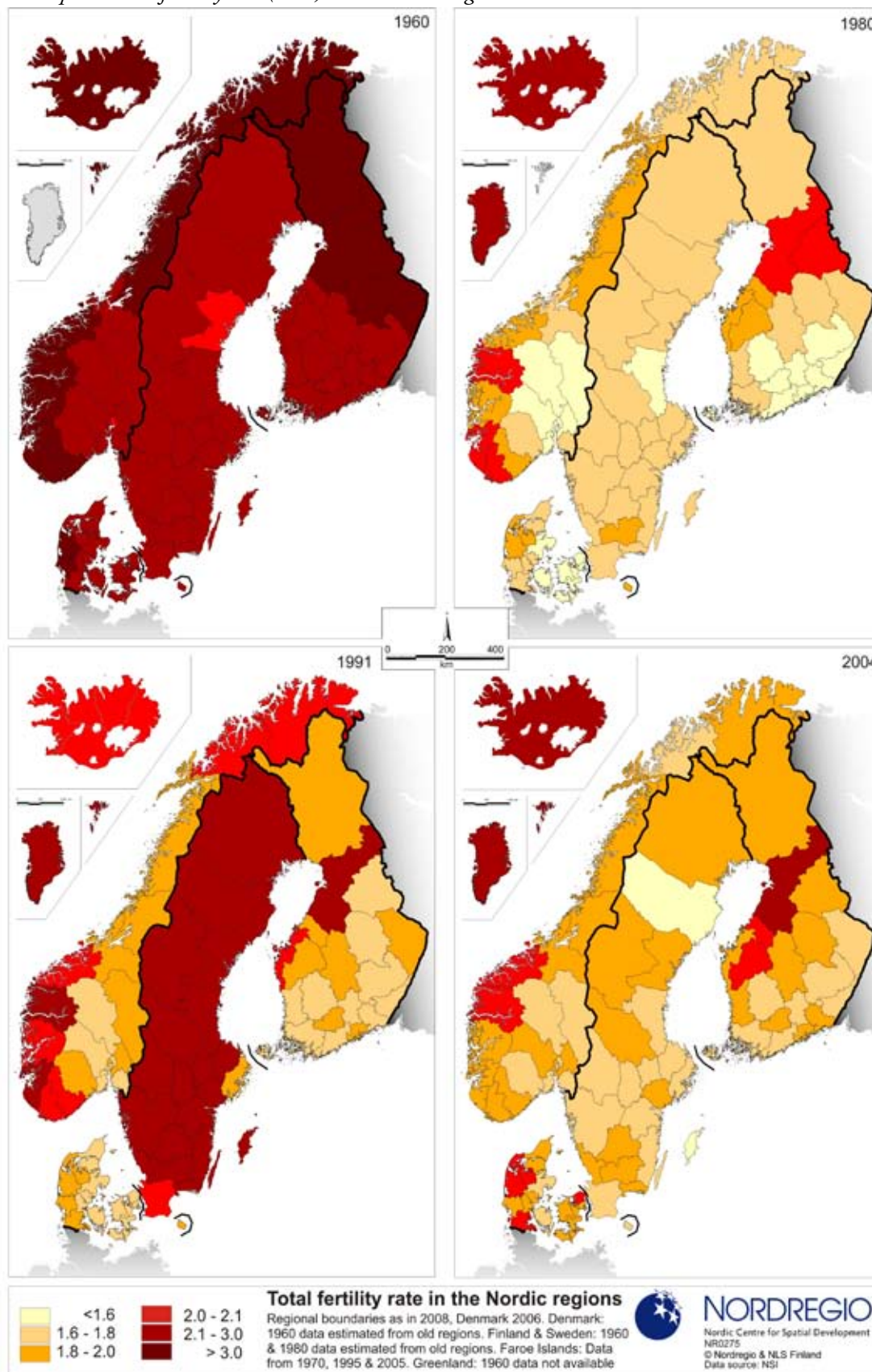
Migration

main direction of migration in the period 1990-2005 has been towards the capital labour market regions in and around Reykjavík (0.7%), Oslo and Helsinki, and in Øresund region excluding Copenhagen itself. Moreover, out-migration has been fastest in Kainuu and Lappi (FI), Finnmark (NO) and in West Norden excluding Reykjavík region, Vestfjörður (IS) being the worst performing Nordic region with a -2.6% annual change in net migration.

The different characteristics of the migration pattern between Norway and Finland on the one hand, and Sweden and Denmark, on the other should however be stressed. The difference is partly due to the existence of a larger urban

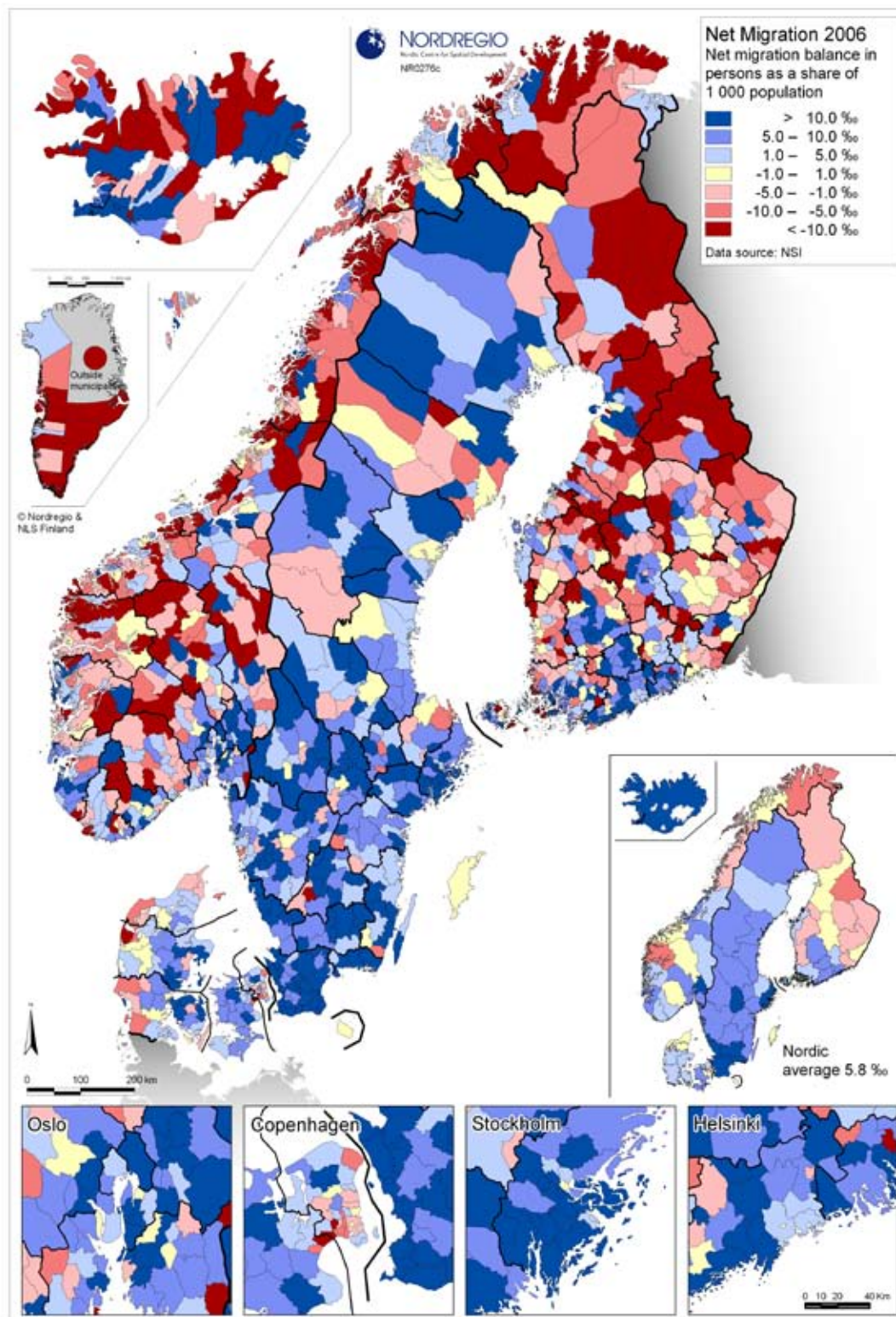
centre in or close to many of the municipalities in Denmark and Sweden, and this evens out - and thereby disguises - some of the marked differences between urban and rural areas. The more diverse structure of differences between urbanized and rural municipalities in Norway and Finland tends however to magnify these differences. A clear differential pattern of rural and urban municipalities emerge, the former characterized by out migration, and the latter by in-migration. The larger towns and cities in particular are decisive as regards this pattern, but larger communication lines seem also to influence the migration pattern (Rauhut et al. 2008).

Map 3.3 Total fertility rate (TFR) in the Nordic regions 1960-2004



Sources: Nordregio database.

Map 3.4 Net migration in the Nordic regions 2006



Sources: Nordregio database.

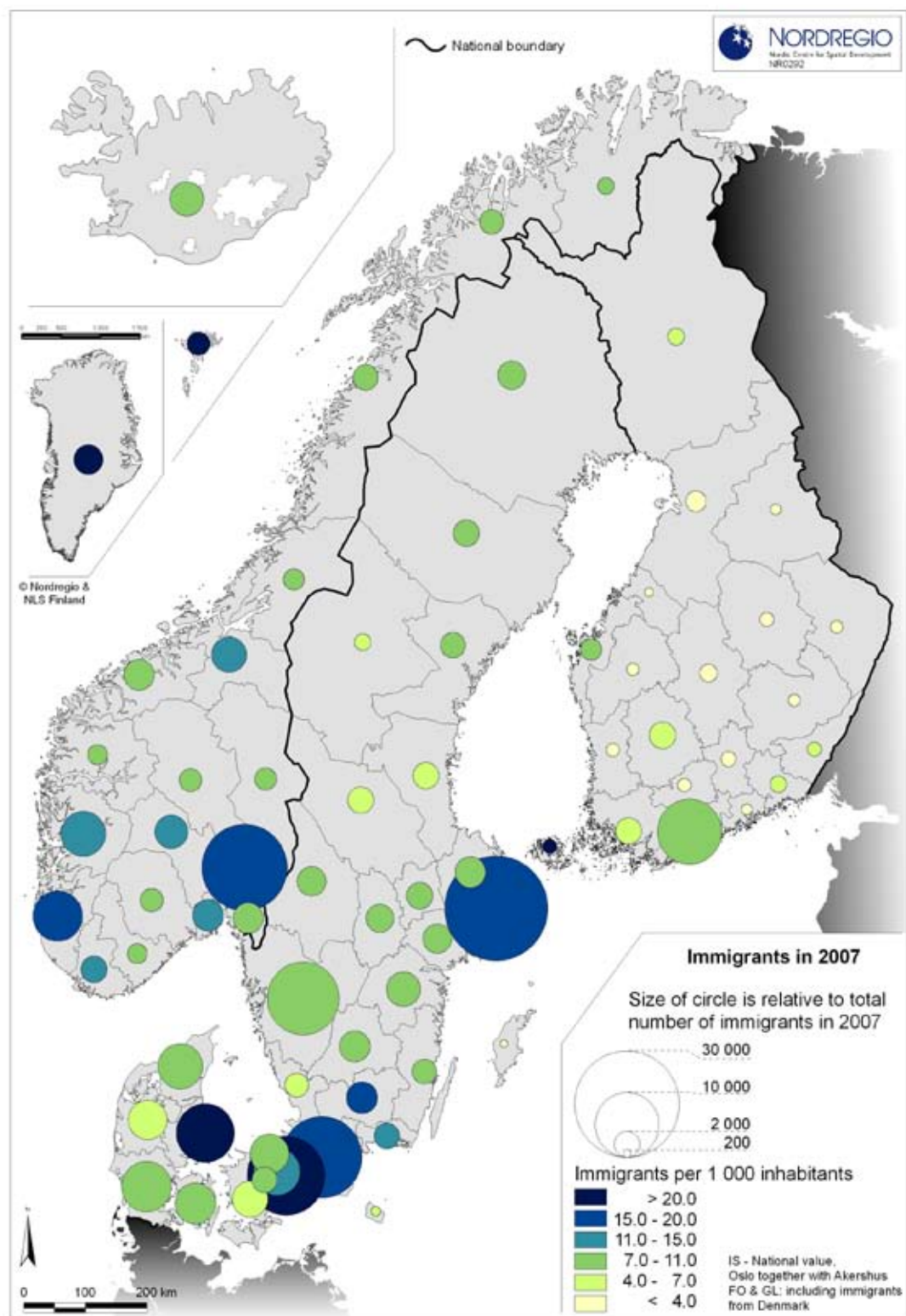
International migration

Historically, Sweden has been the prime Nordic country of destination for immigrants. Still today Sweden attracts almost half of all immigrants to the Nordic countries. In general, the typical immigrant to a Nordic country is a native citizen who is returning home, and, in second place, a Nordic citizen moving to another Nordic country. Immigrants from neighbouring countries to Norden (e.g. Germany, Poland, the U.K. and Russia) are placed in the third biggest group of immigrants. Furthermore, only a small part of the total immigration flow to the Nordic countries is related to labour immigration; e.g. 4.6 per cent in Denmark, 8.0 per cent in Sweden, and between 5 to 10 per cent in Finland. Norway, on the contrary, has a relatively large share of

labour immigrants – almost 27 per cent of all immigrants to Norway are labour immigrants (Rauhut et al. 2008).¹

The majority of immigration into the Nordic countries at the national level is directed towards the major Nordic metropolitan areas. The international migration flows are concentrated in capital city regions in each Nordic country, but there is also an increased concentration among immigrants within some of the Nordic cities (Eðvarðsson et al. 2007). Along with this development Nordic countries follow the European settlement pattern (Vandermotten et al. 2004, 2005, ESPON 2005).

Map 3.5 Immigrants/1000 inhabitants to the Nordic regions 2007



Sources: Nordregio database.

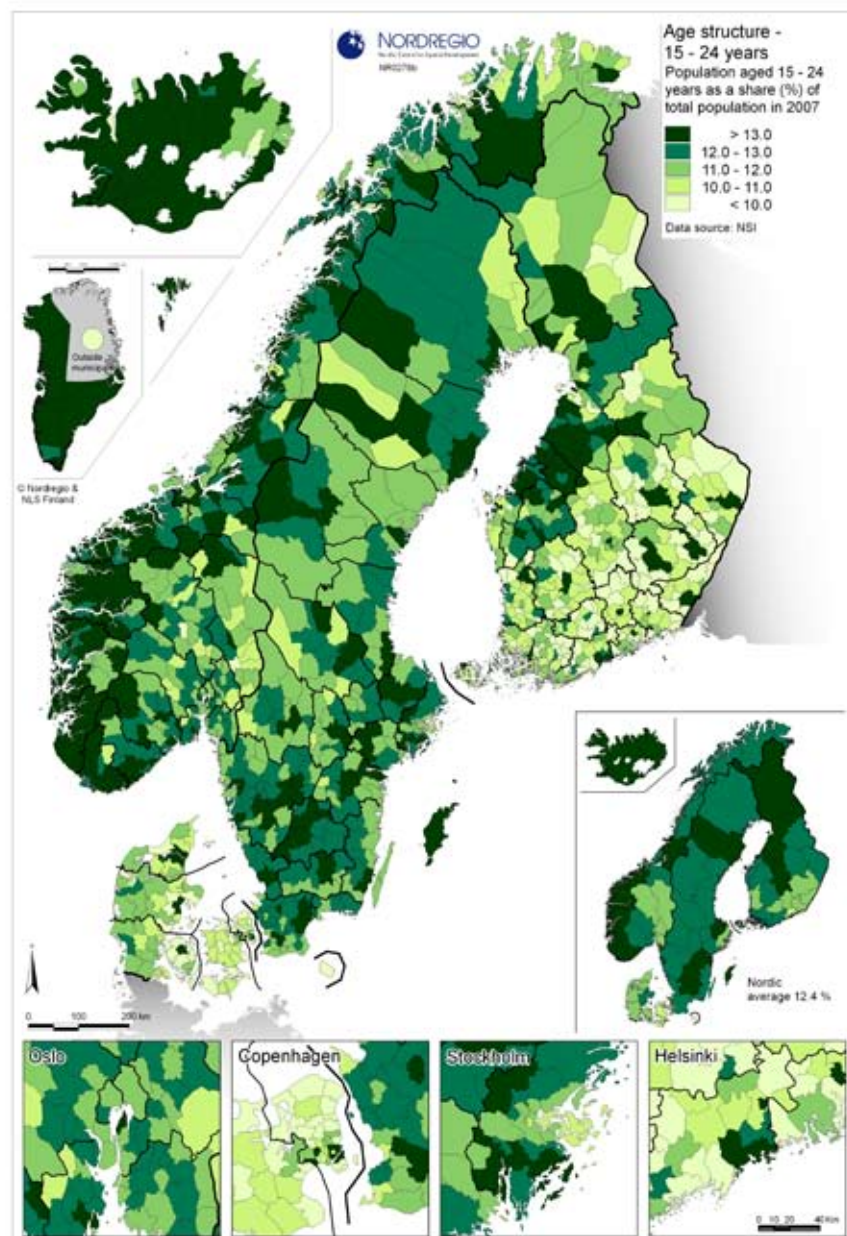
The age group 15-24

The younger part of this age group will generally still be living with their family. The distribution, however, is also very much influenced by the availability of education and training opportunities. So the highest concentrations are clearly in the capitals of the Nordic countries. Many smaller towns are however also able to offer specialised educational opportunities and, as such, are consequently attractive to this age group.

The distribution pattern then shows several rural municipalities with high concentrations of

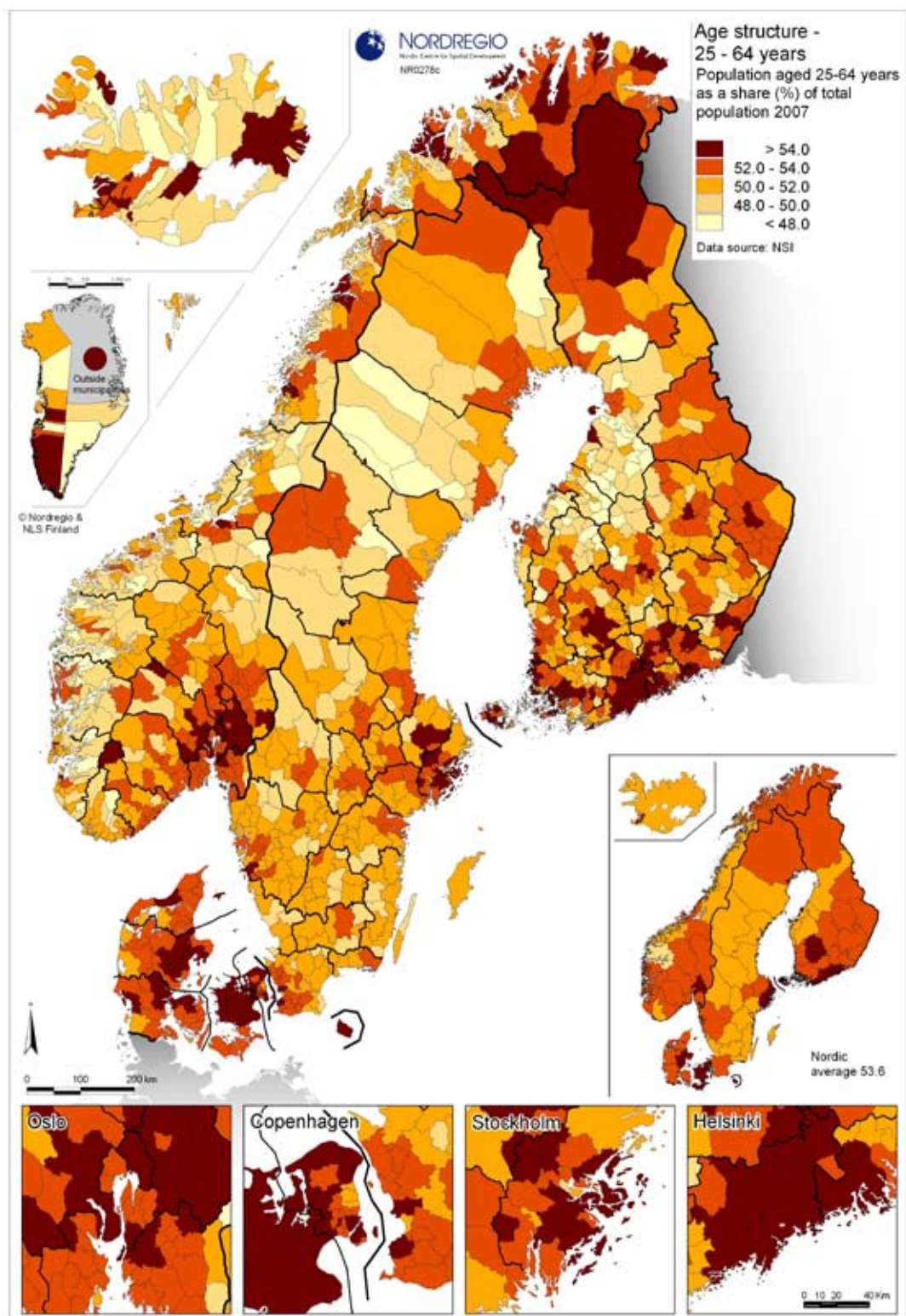
this age group. The question of decentralizing education facilities has a certain impact on the patterns, just as accessibility plays a role in this context. The situation in Denmark illustrates how commuting to the major educational cities from the adjacent municipalities – for instance around Copenhagen, Odense, Aarhus and Aalborg – is not considered an option for students, while distances to Western Jutland seems to be more acceptable, and consequently result in a more dispersed structure in these areas (Rauhut et al 2008).

Map 3.6 Share of persons aged 15-24 in the Nordic regions 1990-2004



Sources: Nordregio database.

Map 3.7 Share of persons aged 25-64 in the Nordic regions 2007



Sources: Nordregio database.

The age group 25-64

The advent of the concept of the “Information Age” has some implications for workforce characteristics. Usually adolescents and adults in the age group 15-24 will be in situations where the acquisition of skills and knowledge will require them to be in connection with institutions related to vocational training or to academic training in one way or another. At the same time the Nordic welfare model and its focus on support to education has given a basis for this age group switch from a dependency on family incomes to dependence on public support. Consequently, the available workforce in reality today has been reduced to persons in the age group 25 to 64.

Map 3.6 is primarily characterized by the high concentration of persons in this productive age group in urban and urbanized centres, where job opportunities provide a significant attraction,

and at the same time an opportunity for people, enabling them to stay. Not only urban centres alone, however, but also the suburban structures around these urban centres where the main communication lines tend to be visible due to higher concentrations of persons in the active age group.

Another concentrating element has been a number of more isolated economic activities, for instance larger mineral and energy extraction sites, as well as specific activities such as military installations of substantial size and single industries, producing products of national and even international importance, each enables some municipalities to maintain a high level of employment in the productive age group, even when surrounded by rural municipalities (Rauhut et al 2008).

The age group 65+

The pattern of old age persons (map 3.7) is to a certain degree a mirror-image of that shown in map 3.6. Urban areas are generally characterized by a relatively low percentage of persons in this age group while rural areas are generally characterized by a relatively high proportion of

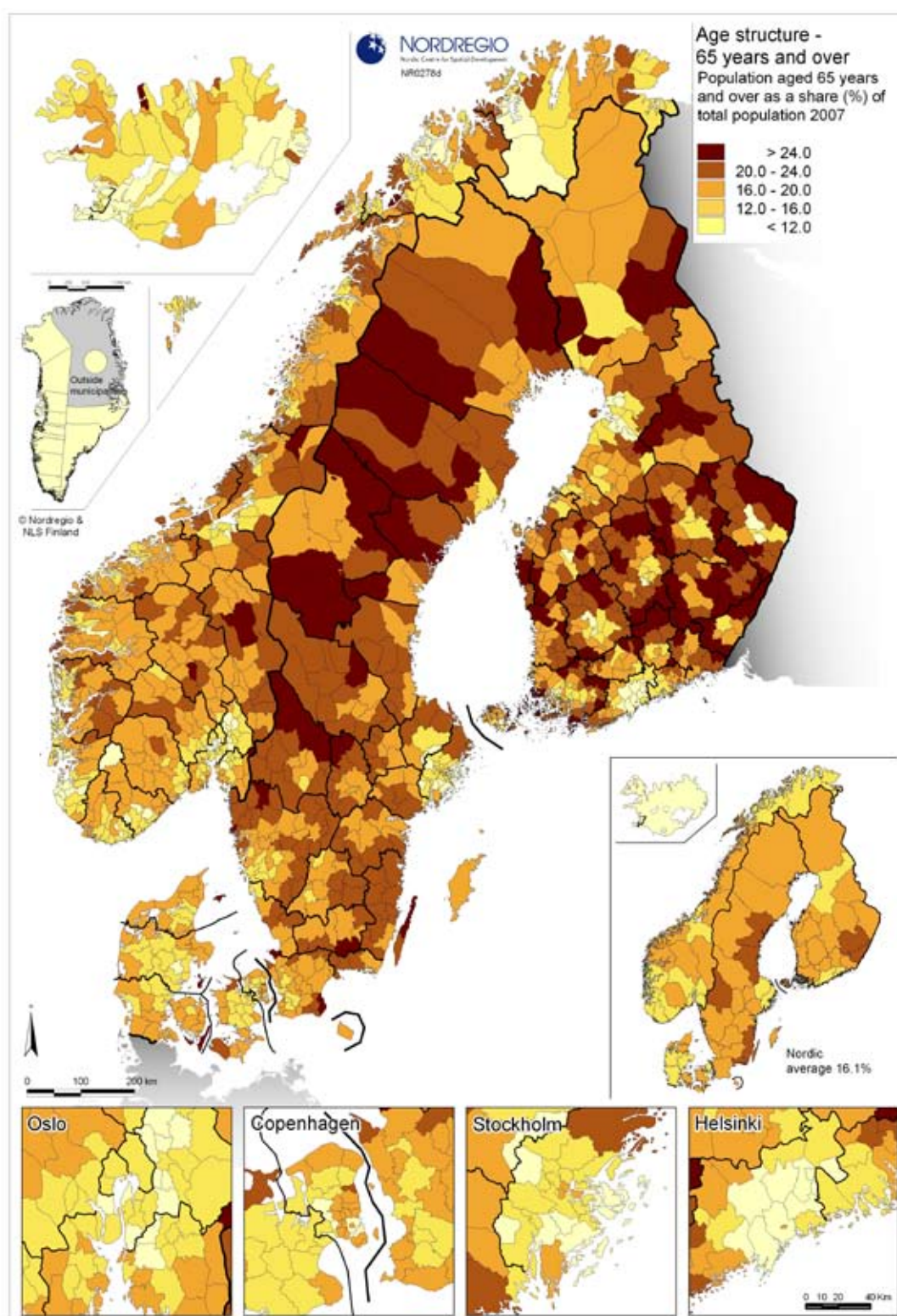
old aged persons. A few cases however see rather different patterns emerging. In many instances however this relates to the presence of educational institutions attracting a high proportion of younger persons (Rauhut et al 2008).

A population projection until 2020

The population projection made by Rauhut et al. (2008) shows that the total population of the Nordic countries will increase by 5.5 million inhabitants up to 2020, from 24.8 million to 30.3 million, with an annual growth rate of approximately 0.4%. In general, the fastest growing regions are located in the most densely populated areas in the capital and big city regions while the declining regions are found in the rural and peripheral areas.

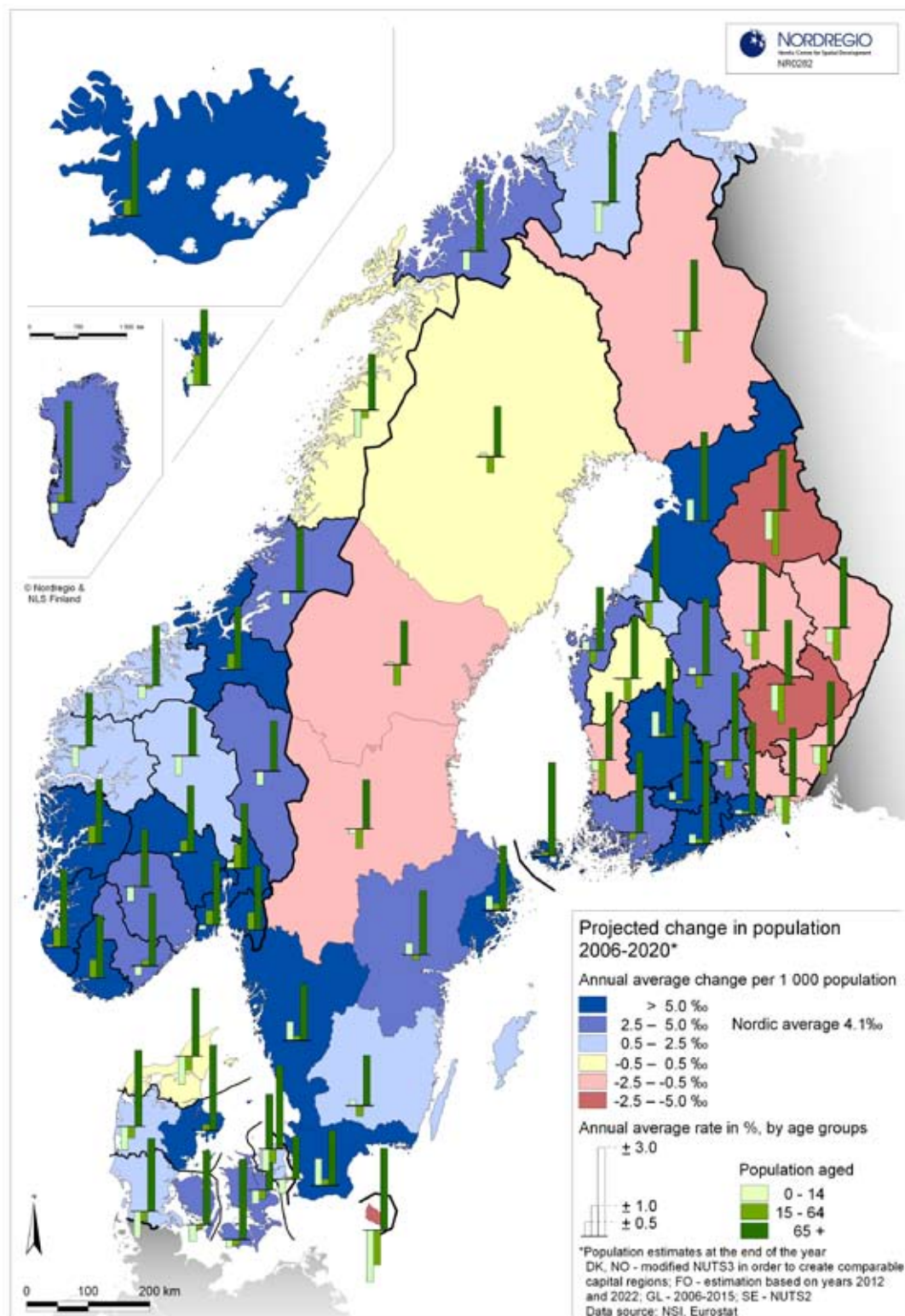
According to the estimations of the national statistical institutes in the Nordic countries the Nordic population will increase by 2.2 million inhabitants, to 27 millions, up to 2030. According to the Eurostat estimations in Europop2008 the Nordic population (Iceland excluded) will reach 27.2 million inhabitants, i.e. an increase of 2.4 million persons. In contrast, the calculations in United Nations (2000) indicate a population decline in the Nordic countries (Rauhut and Kahila 2008).

Map 3.8 Share of persons aged 65+ in the Nordic regions 2007



Sources: Nordregio database.

Map 3.9 Projected population change in the Nordic regions 2006-2020



Sources: Rauhut et al. (2008).

Notes

1. Migration statistics in the Nordic countries are based on definitions of the civil registration system in each country. The basic condition for being classified as an immigrant in the Nordic countries is that the immigrant intends to live in the country for a specific time, which varies from country to country. Registers differ between the countries. For Iceland, Finland and Sweden

12 months of stay or absence is needed before being registered as an immigrant or emigrant; in Denmark 6 months are needed and in Norway 3 months. These differences in the definition of migration will result in relatively higher numbers of migrations in Denmark and Norway (Rauhut et al. 2008).

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4. The Nordic Labour Market

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Introduction

When making policy, it is always useful to make a diagnosis of the problems at hand before deciding on the appropriate medicine. The same policy measures may have quite different effects depending on what the roots of the problem are, and in order to make efficient policy, both the instruments used and the dosage must be appropriate. When looking at the potentials for employability it is thus important to bear the structures of the labour market in mind. There may be several, often quite different, reasons

why the potential labour is not fully employed. In the following, we discuss a number of the most important structural issues relating to the employability of the potential labour supply and of mismatches between the demand and supply side of the labour market. We also look at what characterises the Nordic countries in an international context. We both raise questions as to what the challenges are and point to some explanations and potential solutions to the problems raised.

Preconditions of stimulations of labour supply

There are two fundamental preconditions which have to be satisfied for the labour market to clear. Firstly, an available labour supply with the right qualifications to satisfy the needs of those in the market for labour, i.e. employers, must exist. Secondly, job opportunities to match the skills of those who seek employment must also exist. In a perfect economy without rigidities, search costs and heterogeneity, it is sufficient that the number of jobs matches the number of job seekers for the labour market to balance. When the number of jobs exceeds the number of job seekers there is excess demand for labour, i.e. labour shortage, and vice versa, when the number of job seekers exceeds the number of jobs there is a situation of unemployment. In the perfect market economy, equilibrium can be achieved by adjusting labour costs. This is elementary, but the important point to note is that there are, crudely speaking, two sides to the labour market. One supply side which supplies labour and one demand side which demands labour as an input to production. Both sides of the market may suffer different kinds of structural, frictional or cyclical problems and the measures that need to be taken in order to solve the problems will

vary both with the kind of problem at hand and with the side that causes them. It is not, however, always obvious whether it is the demand or the supply side which causes imbalances in the labour market and the problems encountered in this respect are often complex. The answer will often be, in some respects, subjective and solutions thus belong to the political sphere.

Excess supply and demand for labour often exist side by side. If we divide the labour market into smaller segments, e.g. geographically or by professions excess demand for labour can exist in some regions or professions at the same time as excess supply in others. These are examples of mismatches in the labour market which occur when the geography and skills of the people who seek employment do not match the location and requirements of the job opportunities. Such mismatches are often referred to as partial unemployment or labour shortage (Rauhut and Kahila 2008) in contrast to general unemployment/labour shortage which describes a factual lack of jobs or job seekers in the economy. In the following, we discuss the preconditions for the stimulation of labour

supply along two lines, quantity and quality. The first section deals with how labour supply can be stimulated by increasing the size of the labour force. In the second section, we look at mismatches in the labour market caused by the quality and heterogeneity of the labour force. Finally, we try to sum this up in a discussion on labour market dynamics.

Potential labour supply

The potential labour supply is bounded by the size of the population. In the short run, and when we do not allow for migration, the number of people in the population and the age structure are fixed. The labour force is defined as the sum of people employed and unemployed, and can be measured as a share of the total population. The labour force is restricted by age since children and retired people are excluded. People who are long-term sick, disabled, or who, for some other reason, are unable or unwilling to enter the labour market are also not part of the labour force. Participation in the labour force is thus a decision of choice and opportunity. Labour force participation rates are high in the Nordic countries, partly because of high female labour participation. When we narrow the population down to the age span of 16-64 years, the labour force constitutes approximately 80 per cent of the population with higher rates for Iceland and lower for Finland (Persson 2004: Table 2, p. 24).

Labour force participation is increasing in the Nordic countries, both in total numbers and in terms of the overall percentage of the population. In recent decades, this has mainly been caused by increasing female labour participation. Women still however participate to a lesser degree than men, particularly in full-time employment, so the potential increase in female participation is probably not yet fully exploited. There are however other concerns. Recent decades have shown that the labour force is shrinking from both ends. More young people choose higher and longer education to meet the requirements of a more professionalised labour market thus delaying entry into the labour force. At the same time, the average retirement age shows a decreasing trend, much helped by the introduction of early retirement pension schemes in the 1980s and -90s. Other concerns include the gradual increase in the number of

people who, for some reason, fall outside the labour force. Most disquieting is the increase in young people who never seem to be able to enter the labour force. In Norway, between six and eight per cent of the population aged 20-24 receive social benefits although not necessarily as their main income source (Statistics Norway 2009a). Even more severe is the situation in Sweden where almost every fourth person in the age span of 20-24 was unemployed or inactive in 2001 (Näringsdepartementet 2002). The regional differences are however substantial.

The share of the population which represents the potential labour supply can, as a starting point, be said to be people in the age group considered capable of working. Broadly speaking, this includes all people between 15 and 74 years of age. For obvious reasons, this definition is too wide to function as a realistic indicator. Most young people continue their education for several years after completing upper secondary and most elderly people retire from the workforce well in advance of reaching the age of 74. In addition, some people are not eligible for labour participation due to illness, disability or because they for some reason fulfil the criteria for social benefit. Others are partially or temporarily out of labour because of unemployment, under-employment, part-time employment, post-qualifying education, sick leave, parental leave etc. There may then be a potential to increase labour supply by stimulating participation among these groups.

Another potential approach to increasing labour supply is by attracting workers from outside the native population. This can be achieved by commuting, migration and immigration. Although long distance commuting is not uncommon, commuting mostly occurs within labour market regions, typically because of excess demand for labour in the centre while people (choose to) live in a more scattered pattern across the region as a whole. This has the effect of producing a more centralised labour market than settlement pattern. Alternatively, people can migrate to regions with better labour market opportunities. Regions with excess demand for labour attract workers from regions with excess supply. For most people, migration, however, remains a more difficult decision than commuting because it involves so many more aspects of life, including the labour opportunities

of other family members. Finally, labour can be attracted from abroad. Net immigration to the Nordic countries has been positive for several decades and immigrants constitute an increasing share of the total working population. In 2007, this share was 8.5 per cent in Norway with the majority of employed immigrants coming from countries outside EU/Europe. The non-European immigrant population has a lower labour force participation rate than the national average both for men and women, but the participation rate increases with years of habitation as well as generally over time. In recent years, the Nordic countries have also benefited from increasing labour mobility within Europe. Labour-motivated immigration fluctuates with economic cycles to the benefit of growth regions while immigrants remain however more exposed to redundancy during economic downturns.

To summarise the above we argue that a necessary condition for stimulating labour supply is that there is a potential for recruiting from either the existing labour force, from the population outside the labour force, and/or from outside the labour market region as listed below.

Labour force:

- the unemployed
- the underemployed
- people who work part time
- people on compassionate leave

Outside the labour force:

- people on long-term sick leave
- disability pensioners
- retired people
- people in education
- people who for other reasons are outside the labour force (housekeeping, discrimination, etc.)

Outside the region:

- commuting
- migration
- immigration
- (out-migration of production and jobs)

There is also a fourth possibility for increasing labour supply which thus far has been given little attention. An alternative to importing labour into the region in demand is to export production and jobs to outside the region where either the labour supply is higher or there is a better

match in terms of skills. The globalisation of the division of labour is a process that has spread from primary production to manufacturing and finally also to the service sectors of the economy. This leads to more specialised and uniform labour markets. There is now an ever more marked distinction between countries/regions with high and increasing productivity of both labour and capital and countries/regions with low and more constant productivity. It is argued that globalisation policies and the liberalisation of trade reinforce these differences by trapping developing countries in a cycle of low-productivity production (Reinert 2008). The polarisation between highly productive metropolitan regions and lagging periphery regions is also evident in a national context and will be discussed in the subsection to follow.

The quality of labour supply

Labour is not a homogeneous input in production. People have different skills, educational backgrounds and qualifications, training and work experience, as well as interests and ambitions. This means that individuals cannot fully replace one another in the labour market as each individual's qualities are more or less unique. The importance of human capital has increased in the post-industrial era. In recent decades, most job creation has been within the service sectors such as business services, financial services, personal services, and public and administrative services. Common to most modern service sectors is the need for skilled labour and the necessity that employees acquire specialised competence which is seen as valuable in the workplace. The labour stock is usually the principal capital in production. Also within manufacturing industries has labour become more heterogeneous and expensive to train and replace than was the case in the traditional industrial economy era. Industrial development is a combination of gradual changes and technological leaps resulting in structural changes to which the labour market adjusts. These adjustments are seldom immediate because it takes time to change the qualities of the workforce. Rapid changes in the structural economy will thus lead to mismatches between the skills held by those constituting the existing labour supply and the skills demanded by employers. As discussed above, the level of education in the population is increasing as

people seek to meet the requirements of the current labour market. It is impossible to avoid some level of structural labour shortage due to imbalances between supply and demand for labour. Intuitively, one would assume that mismatches increase with the rapidness of structural change but evidence is ambiguous regarding the matching efficiency of the labour market. Johansson and Persson (2001) conclude that mismatches in the Nordic labour market have increased, while a study by Manacorda and Petrongolo (1999) finds no support for this hypothesis, at least not for Sweden and Norway where the imbalances between the demand and supply of skills seem stable over time. The national averages may however hide substantial differences in matching efficiency at the regional level (Kangasharju et al. 2005, Hynninen et al. 2006).

The imbalances between the pattern of labour demand and supply are structural problems of which there are basically two possible solutions. Demand can be shifted towards sectors and regions with high unemployment rates or supply can be shifted away from them. Regional mobility has increased in recent years, due in the main to increased commuting. Regional migration fluctuates with business cycles. In times of high economic activity and low unemployment, migration decreases because more people find employment where they live. The Nordic countries have to some extent faced the problems of low regional labour market mobility by recruiting labour from abroad. A prerequisite for being able to attract labour is that the labour supply is elastic, i.e. responsive to changes in wage rates. It is mainly the urban and metropolitan regions which gain from increased labour immigration (Eðvarðsson et al. 2007) so immigration does not help in levelling regional imbalances. One, although not the main, reason for this may be the egalitarian wage structure of the Nordic countries based on a tradition of centralised wage bargaining and small regional differences in wages. The wage structure is probably more important however in explaining low national labour mobility in recent years. Rothstein and Boräng (2006) argue that this low mobility in the Swedish labour market is the main reason behind the high long-term sickness-leave and early retirement rates. This reasoning suggests that sickness-leaves and early retirement, at least in part, are responses to the

lack of demand for labour in the regional market and that, consequently, potential labour supply can be increased if people can be encouraged to migrate into regions with labour shortages. Among the Nordic countries, the countries with the highest job security (Sweden and Norway) also have high levels of long-term sickness-leave and early retirement. These countries do however also have higher employment rates, lower unemployment rates, less short-term sickness-leave and higher average retirement ages than Denmark and Finland where job security is lower (Rauhut and Kahila 2008).

An alternative to higher labour mobility can be achieved by encouraging a more regionally balanced demand for labour. The growth of the modern service sectors has contributed to a more centralised labour market. In urban and metropolitan areas, businesses can benefit from being part of larger clusters of similar businesses, being close to markets, and from having access to larger labour markets. These factors are relevant for most services from the high technology and academic sectors to retail and personal services. The centralisation of the labour market is a self-reinforcing process where people with a higher education are pulled towards the cities for lack of relevant employment in less urbanized regions. Nordic governments have attempted to attenuate this trend by strengthening the regional universities and associated companies, but the milieus created remain small and often quite vulnerable. Measured in terms of the number of workplaces they also make a poor replacement for the lost manufacturing jobs from the industrial era. In most municipalities it is the public service sector which now constitutes the most stable foundation in regional labour markets. The Norwegian government has given continuous priority to regional industrial development and job creation since the 1960s with the regionally differentiated tax on labour as its most efficient instrument for employment in periphery regions.

It turns out that the presence or absence of regional labour mobility, to a large extent, is a matter of income, qualifications and attractiveness. It is people with high income and high education who are the most active migrants (Fodnesbergene 2008, SOU 2007:35). The people who move have, on average, higher income than the average income level in both the

in- and out-migrating region. For people who do not possess the skills in demand, migration is less attractive, at least during periods of economic boom. When unemployment rates are high, people are generally more willing to migrate to regions with better labour opportunities, but when the economy is buoyant, factors other than the labour market dominate migration decisions. For low income groups particularly, transaction

and housing costs are important factors in the decision process. The long-term effect of current migration patterns may have unwanted effects in the form of segregation in the labour market as well as in the population pattern. Already we see that the age structure of the population is much more favourable in the urban and metropolitan areas than in the periphery.

The structure of the Nordic labour market

Unemployment is a source of misery at the individual level and of waste for society as a whole. When society accepts the presence of unemployment we simultaneously accept that production and income is below the aggregate potential of the economy. Unemployment also has the habit of being sticky in the sense that it is much harder for the unemployed to find new employment than it is for people already employed. The difficulty in acquiring a job also increases with the length of the unemployment spell. The popular phrasing is that you need to hold a job in order to acquire a job.

Unemployment differs greatly between occupations and between regions, as well as across age, race and gender. These differences are strikingly stable over time and between countries (Layard et al. 1991). Unskilled people have much higher unemployment rates than skilled workers, and youth unemployment rates are (much) higher than those of older workers. Employment rates among the immigrant population are considerably lower than for the national

population but there are substantial differences between immigrants depending on place of origin. The employment rates of immigrants from other Nordic countries are generally higher than the national average while only about 60 per cent of immigrants from Africa and Asia are in employment (Statistics Norway 2009b).

Total unemployment rates are comparatively low in the Nordic countries but show a marked increase in the wake of the global financial crisis. The employment rates in the Nordic countries for 2007 are compared with European averages in table 4.1. Both men and women have higher labour participation than the EU averages, but there are also marked differences between the Nordic countries with Iceland being the country with the absolutely highest (pre-crisis) employment rate (85 per cent.) and Finland with the lowest employment rate of 70 per cent. Employment rates in Denmark, Norway and Sweden lie at around the 80 per cent mark for males and somewhat lower for females.

Table 4.1 Employment rate by gender 2007 (aged 15-64)

	Total	Men	Women
Denmark	77.1	81.0	73.2
Finland	70.3	71.2	68.5
Iceland	85.1	89.1	80.8
Norway	76.8	79.5	74.0
Sweden	74.2	76.5	71.8
EU27	65.4	72.5	58.3
EU15	67.0	74.2	59.7

Source: Eurostat

Table 4.2 Monthly unemployment rate in percentage of total work force

	2008m04	2008m08	2008m12	2009m01	2009m02	2009m03
Denmark	3.0	3.3	4.3	4.7	5.1	5.7
Finland	6.2	6.4	6.7	6.9	7.1	7.4
Sweden	5.8	6.1	7.0	7.3	7.6	8.0
Iceland	1.0	1.2	4.8	6.6	8.2	8.9
Norway	2.4	2.4	2.8	3.0	3.1	--
EU27	6.8	7.0	7.6	7.8	8.1	8.3
EU15	6.8	7.2	7.8	8.1	8.3	8.5

Source: Eurostat (Icelandic data is registered unemployed from Statistics Iceland)

The national averages hide substantial regional differences in unemployment. Municipalities in the northern and eastern parts of Finland experience higher unemployment rates than the EU 27 average, but also several Swedish regions, in Norr- and Västerbotten showed unemployment rates above 10 per cent in 2005. In Denmark, Iceland and Norway the regional differences are much smaller with only a few municipalities at the EU average level. As already mentioned, it is the marginalised groups who are most exposed to become unemployed and, in the current crisis, young (male and immigrant) workers are the most commonly affected. It is vital that these labour resources are quickly returned into productive activity. The Nordic countries have a strong tradition of labour market schemes and job training programmes. Even so, at least a quarter of those unemployed remain trapped in long-term unemployment. The unemployed and also the underemployed are the most obvious sources of potential labour because they are already there, willing to offer their labour to the market.

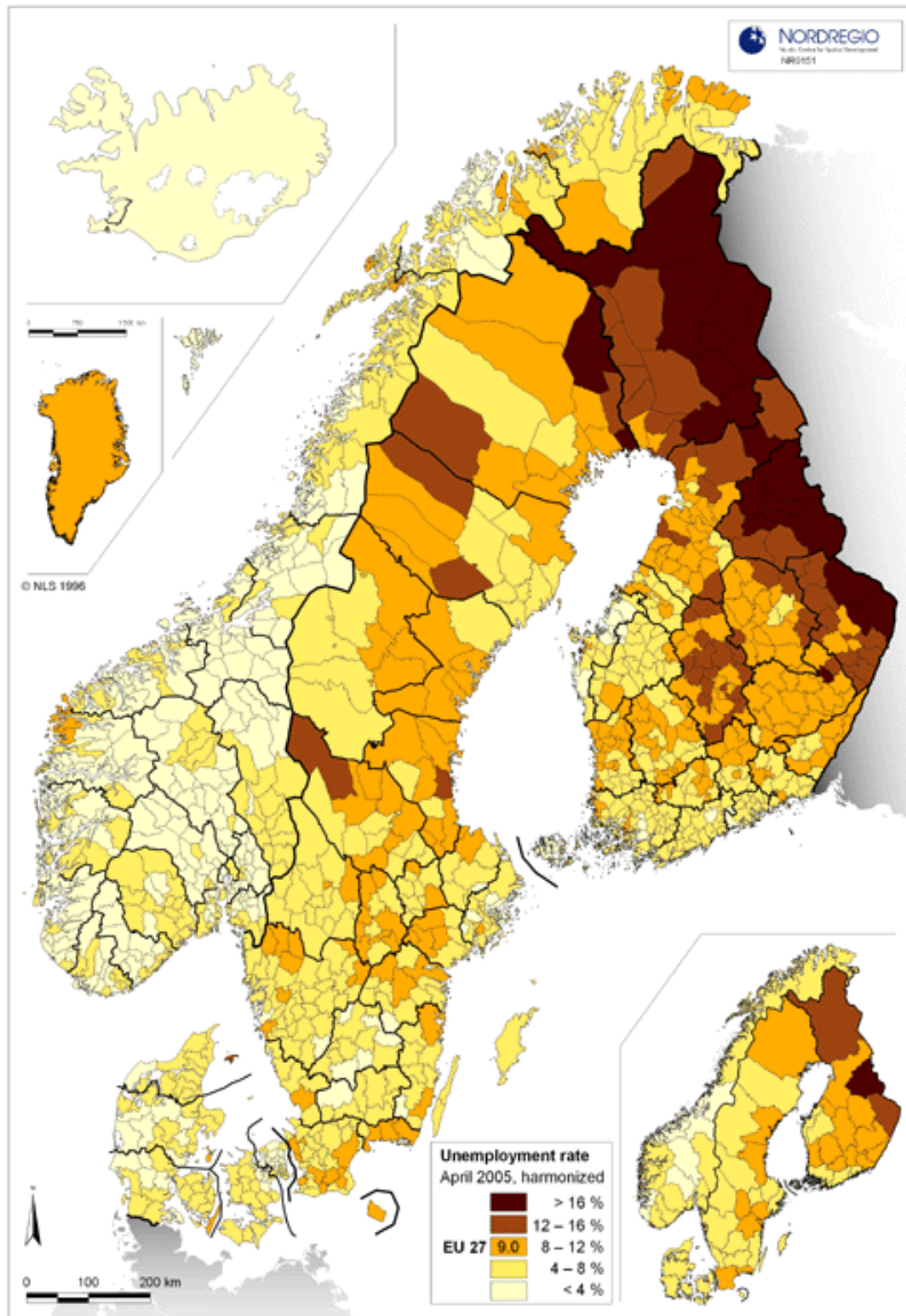
After a long period of below average unemployment rates, unemployment is now increasing again in all Nordic countries. There is also a noticeable increase in the number of persons reporting as underemployed. The underemployed remain only a small share of the total population. In Norway, both the unemployed and the underemployed together make up a potential labour supply of 90 000 full-time equivalents approximately 3.5 per cent of the workforce (Statistics Norway 2009c). A certain amount of frictional unemployment will always be present and is even considered necessary but there is no clear guideline as to how large in number this should be.

Table 4.2 illustrates the recent increase in unemployment rates in the Nordic countries and in the EU 15 and EU 27. All countries have experienced a gradual increase in unemployment over the last year. Both Sweden and Iceland were on a part with the EU average by the end of the observed period. While the unemployment rate in Sweden and Finland has been relatively high over the last year, unemployment increased by a factor of nine in Iceland from 1600 to almost 15 000 persons between March 2008 and 2009. In Denmark, the unemployment rate has almost doubled, though it remains well below the EU average, while Norway has only shown a moderate increase in unemployment.

The geography of the unemployment rate and the labour market measures illustrates the situation of potential labour shortage in the metropolitan and major city regions and of the excess supply of labour in the less central regions. The imbalances are particularly large in Sweden and Finland. It may seem natural to question to what extent higher labour mobility can correct these imbalances. The regions in which there is potential labour coincide, to a large extent, with regions with a less prosperous development. These regions tend to be characterised by an old-fashioned industrial structure based on manufacturing and natural resources-based industries. The excess labour supply in these regions may not possess the qualities demanded by modern industries in central regions. The Nordic countries face a common challenge in having low population densities and large travel to work distances in rural areas which make them unattractive as locations for modern service industries. The stimulation of labour mobility may thus speed up the processes of depopulation in large areas of the Nordic peripheries, with the

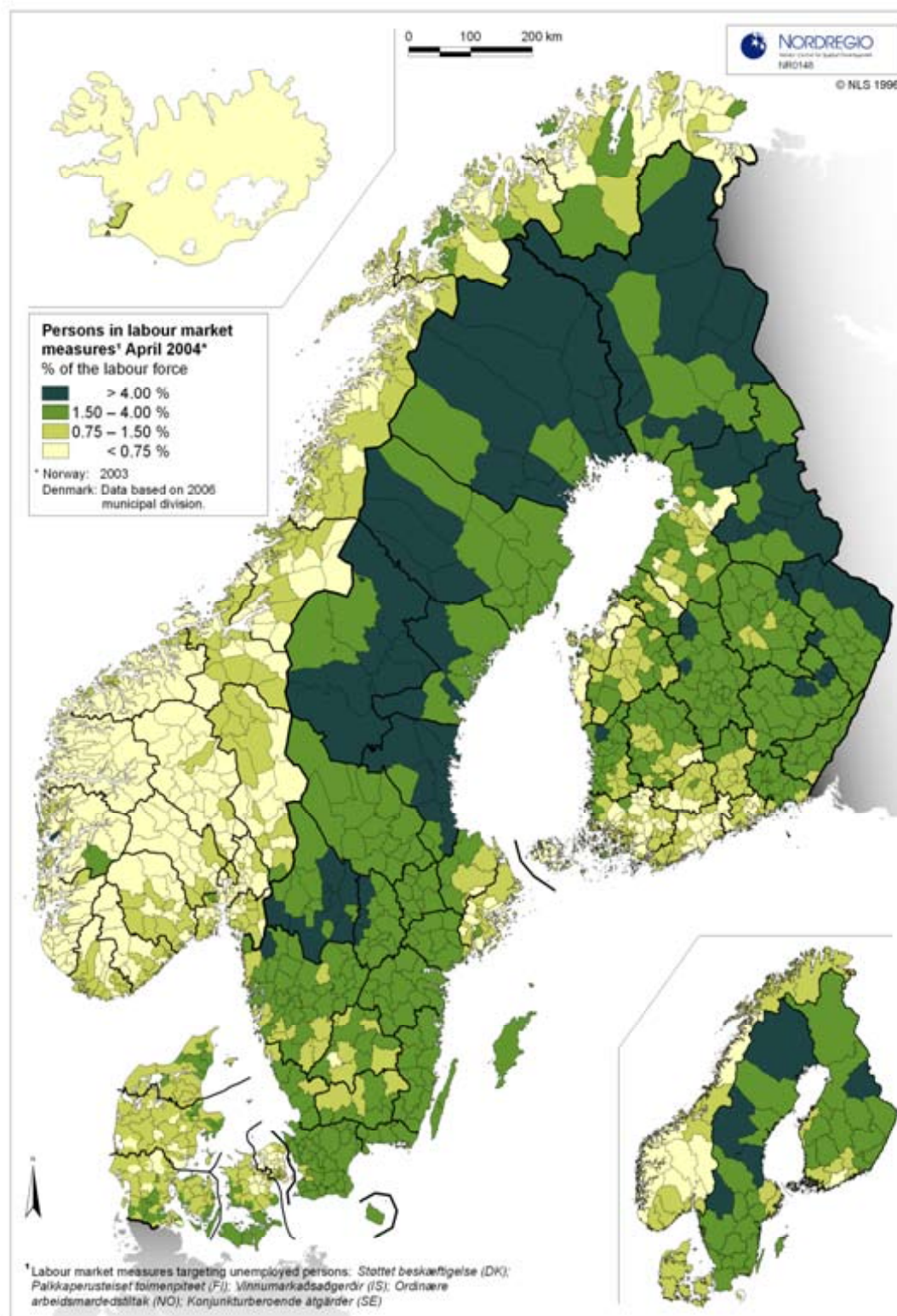
most devastating consequences to be found in the Swedish and Finnish peripheries. An alternative policy may then be to stimulate labour demand in these regions.

Map 4.1 Unemployment rate in Nordic regions (municipalities). 2005



Source: Nordregio database

Map 4.2 Persons in labour market measures in percentage of the labour force. 2004

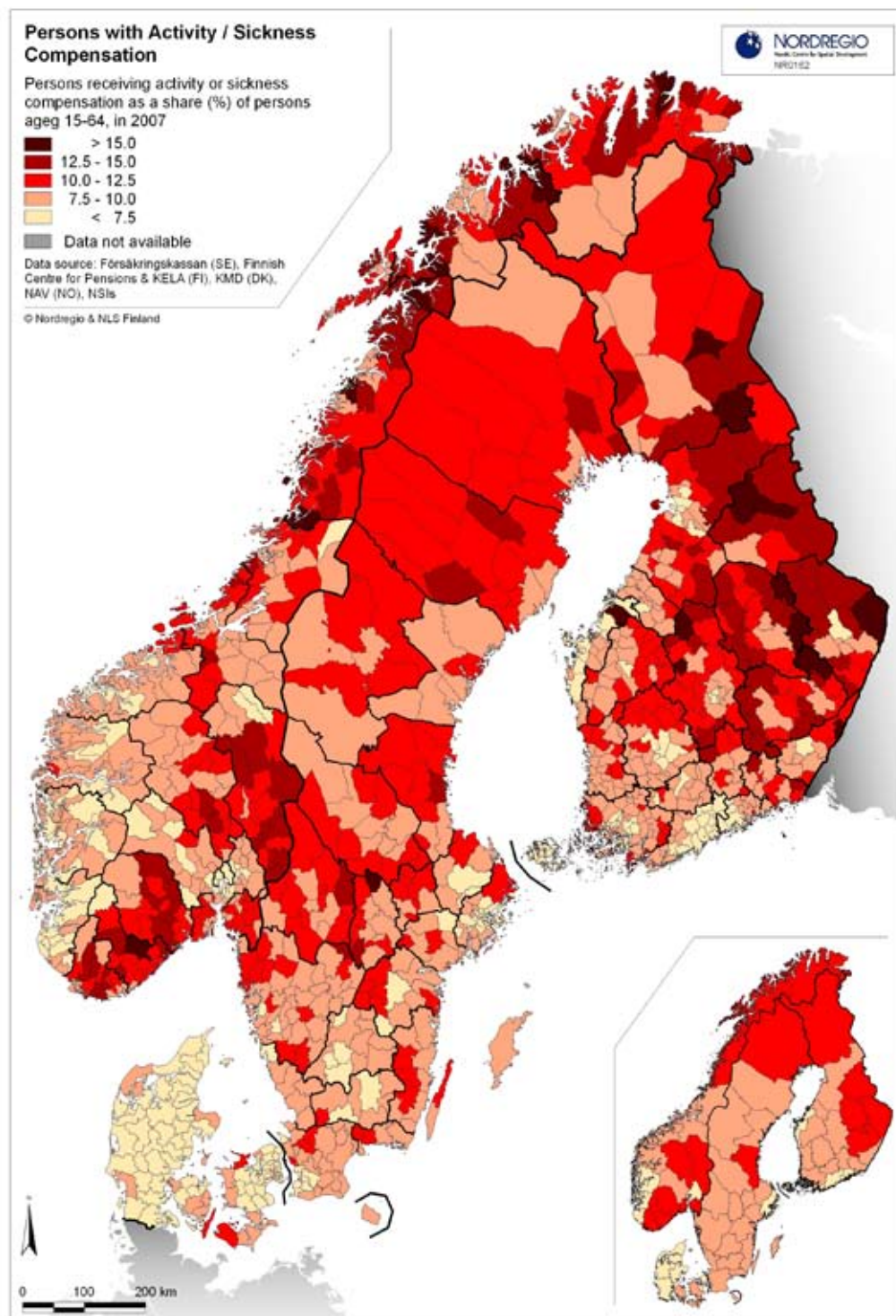


Source: Nordregio database

Map 4.2 shows regional differences in terms of the persons in labour market measures. Not surprisingly, we find much the same pattern as for the unemployment rate. In parts of north and mid Sweden and Finland, more than 5 per cent of the labour force is engaged in labour market measures and the rate is comparatively high in all

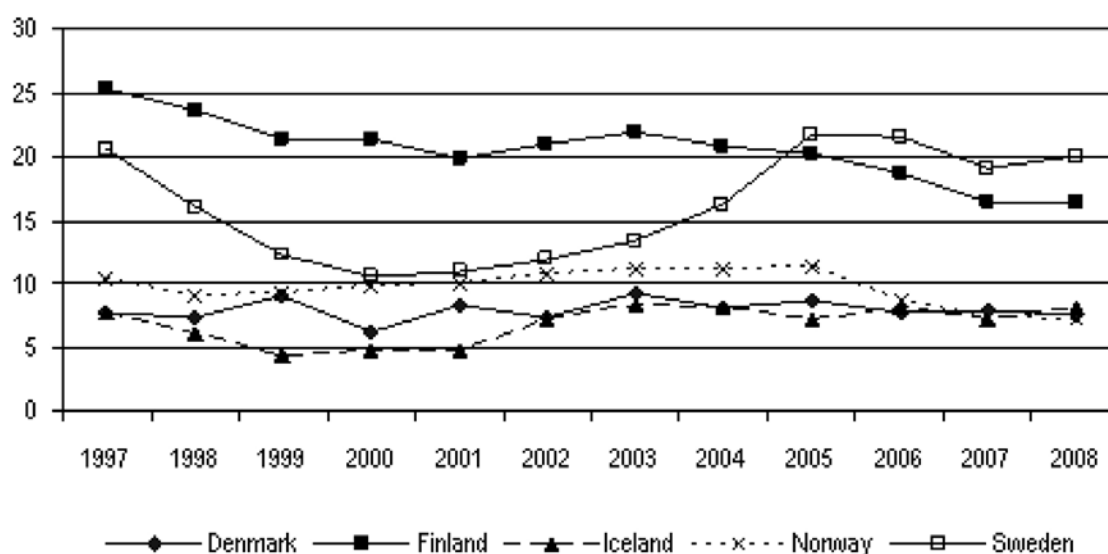
but the most central city regions. Compared with the low unemployment rate in Denmark, labour market measures are, in relative terms, applied much more frequently in the Danish regions. Labour market measures are less widespread in Norway and only of marginal importance in Iceland.

Map 4.3 Persons with activity/sickness compensation



Source: Nordregio database

Figure 4.1 Unemployment rates (%) for people younger than 25 years of age



Source: Eurostat (Icelandic data from Statistics Iceland)

Rothstein & Boräng (2006) argue that low labour mobility is the main reason behind the high long-term sickness-leave and early retirement rates in Sweden. The high rates of persons on activity or sickness compensation, as illustrated in map 4.3 can, however, also be seen as a factor explaining the high level of labour productivity in the Nordic countries. Exclusion of the least productive workers from the labour force is in part a political choice, and may not be problematic as long as exclusion is voluntary. We see that Norway is more in line with Sweden and Finland in the regional distribution of compensations and that the share of persons receiving activity or sickness compensation is high even in regions with low numbers of registered unemployment. The striking feature is that traditional manufacturing regions are strongly represented in the statistics. This is an indication of the push out effects caused by structural change. At the regional level laid off workers constitute a large potential labour supply which the Nordic countries have, historically, not been particularly successful in exploiting.

In all Nordic countries it is the local administrative level which is responsible for following up the unemployed and marginalised groups in the labour market given the policy framework designed at the national level. Historically, labour market policies are a national concern and the rights earned by employees are a built up over a long period through

negotiations between the national government, the employers' organisations and the labour unions. Central bargaining and egalitarian wage settlements have secured equal rights in all parts of the countries. In recent years, the centralised structure is loosened up and the regional level is given more autonomy in policy making in order to stimulate regional development and job creation. The regional level is, however, not well equipped with tools and responsibilities in terms of labour market policies in any of the Nordic countries.

Figure 4.1 shows unemployment rates for persons younger than 25. The unemployment rates for this group are much higher than the average national rates in all countries. Again, we see that the situation is less dramatic in Iceland, Denmark and Norway however than in Sweden and Finland who are closer to the EU-average in terms of youth unemployment rates. Iceland is at level with Denmark and Norway with an unemployment rate of 7.2 per cent in 2007, which is high relative to the total unemployment rate.

There is a trade off between exploiting young persons' potential for labour and the benefit of their attaining higher education to meet the requirements of a modern labour market. Skilled workers are more productive, less likely to experience unemployment, retire at a higher age and are often more satisfied with their

professional lives. The regional distribution of youth unemployment is similar to the pattern of the general unemployment rate as illustrated in map 4.1. The potential labour supply among young persons particularly in the north and in less urban regions indicates a disquieting waste of resources both at the individual and societal levels and it is important that these persons are stimulated into employment or education. The inactivity rate of young persons thus presents a major challenge for policy makers.

In Norway only 43 per cent of the population in the age group 62-66 participates in the labour market and the number of early retirement

pensioners has more than doubled during the last ten years. The male labour force participation rate of persons aged 55-74 has decreased gradually over the years but the rate has increased for women as the large and labour active post-war generations reach this age span. The Nordic countries (with the exception of Finland) have a higher share of elderly persons employed than any other European countries. Participation rates for persons aged 55-64 range from more than 80 per cent in Iceland, between 60 and 70 per cent in Scandinavia down to 53 per cent in Finland, while the average for Europe is merely 40 per cent (Lohne and Næsheim 2006).

Table 4.3 Average exit age from the labour market

	2001	2002	2003	2004	2005	2006	2007
Denmark	61.6	60.9	62.2	62.1	61.0	61.9	60.6
Finland	61.4	60.5	60.4	60.5	61.7	62.4	61.6
Sweden	62.1	63.3	63.1	62.8	63.6	63.9	63.9
Iceland	62.5	64.4	n.a.	64.0	66.3	n.a.	n.a.
Norway	63.3	62.5	62.8	62.0	63.1	63.8	64.4

Source: Eurostat

Despite declining participation rates, the number of older persons in employment increases in line with the ageing of the population. Table 4.3 gives an illustration of the average age at which active persons actually withdraw from the labour market. This data does not however provide any evidence of reduced actual retirement ages in the Nordic countries. Quite the contrary, with the exception of Denmark, all countries have higher average exit ages in 2007 than in 2001.

Even so, after several years of improving conditions for early retirement, policy is now being redesigned to motivate people to remain

longer in employment. This shift in policy is based on population projections showing strong growth in the share of old aged persons compared to the working population towards 2050. It is assumed that the ageing society will result in dramatically increased welfare burden being placed on the active population in the future. The high participation rate of elderly workers and high exit age from the labour market questions the need for this change in policy. Together with increasing female full-time labour participation rates and an increasing share of population with higher education, there is a solid basis for high employment rates of elderly workers.

The Nordic labour markets in an international context

The Nordic labour markets are quite good at activating the labour force in an international context. The labour markets in Iceland and Norway are particularly good at activating all age groups, while all the Nordic countries, except Finland, are doing well in activating individuals in the age groups 25-64, compared to EU15 and OECD countries on average (see Table 4.4). Finland and Sweden, and even Norway are however performing poorly in terms of activating young people. Iceland, Norway and Sweden are however performing well in activating people older than 65 years of age compared to the EU and the other Nordic countries.

Table 4.4 Participation rates in the Nordic countries, EU15 and OECD countries by age in 2007. Per cent

	15-24	25-54	55-64	65-
Denmark	72.6	88.5	61.3	5.3
Finland	55.0	88.0	58.8	7.1
Iceland	80.1	90.6	95.7	13.3
Norway	59.4	84.0	64.6	12.1
Sweden	57.1	90.0	73.0	11.3
EU15	48.6*	84.7	49.2	4.2
OECD countries	49.4*	81.1	55.9	11.8

* 20-24 years

Sources: OECD Labour Force Statistics 1987-2007; OECD.StatExtracts.

As with the activity rates, the unemployment rates for most age groups are in most cases lower in the Nordic countries than in EU and OECD countries on average. The main exception here

is Finland, and unemployment rates of young people in Finland and Sweden (see Table 4.5). The lowest unemployment rates are in Iceland (pre-economic crisis) and Norway.

Average effective retirement ages have declined in many OECD countries in recent decades, and differences between countries are wide (see Figure 4.2). The effective retirement age among male workers is above 60 years in all the Nordic countries, except Finland. Iceland has the highest retirement age, 67 years. This means that potential labour supply from older workers in Iceland is rather limited, but is substantial in Finland, and even in Denmark. The retirement patterns of females in the Nordic countries are as follows: 59.5 years in Denmark, 65 in Finland and Sweden, 67 in Iceland and Norway (OECD Economists Department, 2004:5).

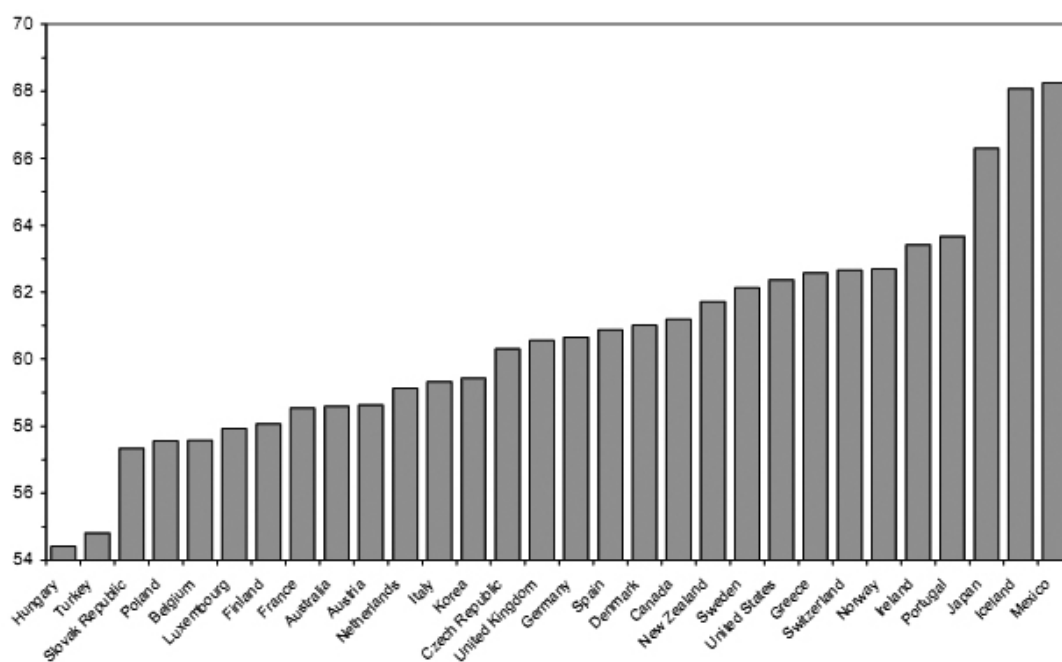
Table 4.5 Unemployment rates in the Nordic countries, EU15 and OECD countries by age in 2007. Per cent

	15-24	25-54	55-64	65-
Denmark	7.2	2.7	4.2	1.5
Finland	15.7	5.3	6.5	0.0
Iceland	7.2	1.3	0.9	1.9
Norway	7.3	1.9	1.0	1.0
Sweden	18.9	4.4	3.9	1.8
EU15	14.8*	6.1	5.7	1.2
OECD countries	11.9*	4.9	4.0	2.0

*20-24 years

Sources: OECD Labour Force Statistics 1987-2007; OECD.StatExtracts.

Figure 4.2 Estimated effective retirement age of older male workers in 2000



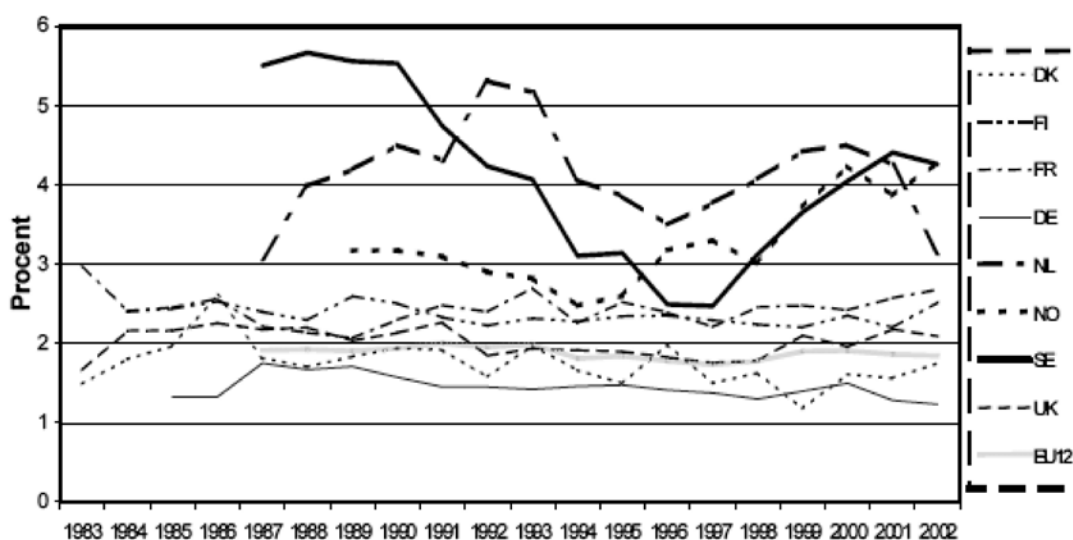
Source: OECD Economists Department (2004, p. 2).

A comparison of eight countries (Sweden, Denmark, Finland, France, Germany, the Netherlands, Norway, and the U.K.) in respect of long-term sickness showed that the differences between Sweden and the others could not be explained by factors such as sex, age, economic structure, employment regulation or part-time work (figure 4.3). Nor could the differences between Sweden and the other countries be explained by ownership of the sickness insurance. One of the major explanations appeared to be the need for being on sick-leave for different diseases and sicknesses were different in different countries (Socialdepartementet 2003).

With the exception of Iceland immigration flows to the Nordic regions head for a few

metropolitan regions; rural and peripheral areas are generally avoided by immigrants (Eðvarðsson et al. 2007, Rauhut 2007). That immigrants avoid rural and peripheral areas and cluster in a few metropolitan areas is normal in Europe (Vandermotten et al. 2004, 2005). Immigrants also prefer a few areas in the U.S.A. (Bartel 1989). It is not only in the Nordic countries where persons with immigrant backgrounds are over-represented among both the unemployed and those involved in labour market schemes. Natives have a higher employment participation rate as compared to the non-Western immigrants in France, Germany, the U.K. and the U.S. according to Kalter and Granato (2007, 2009). This indicates that a lack of integration is a widespread problem.¹

Figure 4.3 Absentees amongst employed persons 1983-2002 in eight countries



Source: Socialdepartementet 2003

In ESPON (2005) it is shown that the share of population aged 15-64 will be reduced in the EU countries plus Norway and Switzerland until 2050.² In this study Denmark will have, in relative terms, few problems as will Norway (with the exception of two particular regions). In Finland three regions will experience few problems while the rest of the country suffers from a significantly declining share of population aged 15-64; in Sweden only one region will experience relatively few problems while the rest of the country suffers from a decline in the population aged 15-64.

Seen in a European context Denmark, three Finnish regions and most of Norway will experience a good to relatively good situation regarding the future labour supply. Sweden may however experience the opposite: Nine regions indicate a development similar to that in Eastern Germany, Northern Italy and large areas of the Iberian peninsula; 11 Swedish regions indicate a development similar to Southern Germany most of France and the central parts of the Iberian peninsula, as do the majority of the Finnish regions. It must however be noted that the analysis produced in ESPON (2005) was made at the NUTS2 level, which means that large intra-regional differences exists.³ Furthermore, from a European perspective the Nordic countries have a higher regional economic activity rate in the population than the EU countries on average have (ESPON 2006). This may have an impact on the ability to deal with a, in relative terms,

declining labour force.

Even if the share of population of working age decreases up to 2050, the impact of the relative labour supply may not be so severe after all. Gaspar et al. (2005) find that an average annual increase of 1 per cent in the productivity rate in the European Union, Norway and Switzerland⁴ will reduce the annual demand for labour to compensate for the missing labour by approximately 100 000 persons. An average annual productivity increase of 1 per cent is actually a quite modest productivity increase. Denmark and Iceland have a labour productivity rate, at the national level, just above the EU27 average, while Finland and Sweden have a labour productivity rate, at a national level, about 10 per cent higher than the EU27 average; in Norway the labour productivity rate at the national level is, depending on the economic sector, 30 to 60 per cent better than the EU27 average (Eurostat 2007). If an increased productivity rate can compensate for a reduced labour supply, then the Nordic countries, at the national level at least, are relatively well off from a European perspective. Some regions can however be expected to experience difficulties with the supply of labour.

Concluding remarks

The potential to stimulate the labour supply in the Nordic regions seems highest in terms of regional mismatches in labour shortage and unemployment. Excess supply and demand for labour may, however, exist side by side because the skills of the unemployed do not match the skills in demand. The regional imbalances in Nordic labour markets are a result of structural change where peripheral regions lag behind for lack of resilient regional markets. The low population densities and long distances in the Nordic peripheries make them unattractive to modern service industries in need of functioning local markets. High unemployment rates and high rates of long-term sick leaves and disability pensions in the peripheries are as such a matter of regional policy. Better matching in the labour markets can be achieved either by increasing labour mobility or by stimulating labour demand in declining regions.

The general conclusion from previous research on the ageing society seems to be that the consequences as popularly presented in newspapers and by politicians are highly exaggerated. At least on the national level, the projected decrease in the share of population

aged 15-64 is relatively small in the Nordic countries when we compare them with other European countries. The picture however changes when we look at the regional level. Several (NUTS2) regions will have declining working age populations in the years to come, and the situation is worse, but also more diversified, at lower regional levels. The tendency is towards fewer regional labour markets and commerce centres, and declining peripheries. In light of this, it may be appropriate to question whether there really is such a great need for policies to stimulate labour supply. Labour productivity has, thus far, increased continuously together with technological advances in production and industrial development. Gaspar et al. (2005) find that it only takes an average of 1 per cent annual increase in the productivity rate to compensate for the missing labour of approximately 100 000 persons. It is then relevant to ask whether it may be acceptable to have a higher share of the population outside the labour force. The high labour productivity rate in the Nordic countries is partially a consequence of generous welfare policies providing an alternative to labour market participation.

Notes

1. Integration relates to cohesion in society and to the participation of minorities in the economy, production, the distribution of resources and the politics and government of the majority's societal structure (Westin 1999). Integration does not refer to one single thing only, but rather too many. Spatial integration may be the opposite of segregation, whereas social integration is about civic rights and participation/involvement in community life; economic integration is about equal access to the labour market regardless of ethnic grouping, while cultural integration is about the mutual

respect for each others cultures and traditions by different groups in society (Popoola 2002). We also consider integration as an ongoing process rather than a one-time-event.

2. Iceland is not covered in ESPON (2005).

3. One example is the NUTS2 region Övre Norrland in Sweden. At this scale the development is clearly negative, but e.g. the municipality of Umeå will experience an extremely positive development. So, the scale is of importance when analysing the future potential labour supply.

4. Iceland is not analysed by Gaspar et al. (2005).

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5. Regional Structures of Potential Labour Supply

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Background

Despite the cooling in global economic conditions since the emergence of the banking crisis in 2008-2009, the need to retain a sufficient supply of competent labour resources remains a continuing political concern. This is particularly so on a regional scale in periods of economic slowdown, where some regions may be more prone to short term firing patterns encouraging migratory concentration of labour resources in stronger economic locations. The question thus emerges whether these labour market resources can be ensured in the long-term following a regionally balanced approach to their distribution. This issue has been addressed in policy documents at

the global, European, Nordic and the national level across the Nordic countries (Rauhut and Kahila 2008).

The focus in this chapter is on the regional structures of a potential labour supply including the unemployed, early retirees, the long-term sick, latent job-seekers and groups discriminated against. The central questions are (a) will the labour supply dry up in weaker regions or will there still be enough to ensure a satisfactory level of economic development, and (b) how do marginalized groups in regional labour markets contribute to such a balance?

Marginalised groups and potential labour supply in the Nordic countries

Marginal groups may be expected to vary considerably in different regions. Some regions have business structures that rely more on manual and labour intensive work, while other regions have business structures that rely on work at the higher end of the production chain. The marginalization of different groups in a regional context will depend on such differences across regions. The generally understood definition of marginal groups can be drawn to include such sub-groups as persons on sickness leave or early retirement, persons with immigrant status, persons on their way to the job market from the education system and persons that are close to retirement. There are clearly a number of additional groups such as the long-term unemployed that may be considered marginal in terms of labour market participation and thus potentials in terms of labour supply, but due to

the lack of information on such groups, they are not included in the current analysis. While some of these marginal groups are usually considered part of the labour force different institutional and policy arrangements may render the withdrawal of such resources from the labour market. This can be seen in the form of early retirement schemes, education and training programmes for specific groups of people, training and integration programmes for immigrants and sickness leave for those that are long-term sick.¹ While entitlement may prevail for specific marginal groups to participate in such institutional and policy arrangements, the actual level of individual participation may vary depending on individual attitudes and experiences of the local labour market. Such processes depend on aspects that may to a significant degree be regionally defined. Discouragements occur from

repeated failure to attain a job, which will occur with different probabilities for individuals of given competences in different regional contexts in terms of business structure, economic development etc. Taking a theoretical point of departure past experience in terms of the arrival of job offers for an individual may eventually lead to marginalization and reduce the job search intensity. Discouragement will ultimately lead to withdrawal from the labour force. Similarly, the regional presence of jobs requiring limited job training from previous labour market experience in the regional labour market may define the extent of the marginalization of immigrant groups.

A further important issue in this respect is that of education and training in specific regions. Different prevailing structures of competence and education in regions may be decisive for the marginalization of various groups in the population. Higher competence and education levels in a region may indicate the presence of regional labour markets for labour with higher education. On the other hand this may also have complementary effects in the sense of generating more service jobs in personal services, which may depend on the income distribution and preferences for such services for higher educated individuals. Income distribution becomes important due to substitution effects at the household level, where a higher dispersion and lower redistribution in the welfare system may produce a more clearly defined market for personal services. Such effects must on the other hand also consider the extent of regional segregation in terms of education and competence levels. Either way the regional variation in competence and education levels is of importance for the potential labour supply from marginalized groups.

While implicit in these arguments, the importance of labour demand structures should not be forgotten. Labour demand clearly influences the potential labour supply, as e.g. the arrival of job offers reflects labour demand. The lack of demand for certain kinds of labour will contribute to the marginalization in the labour force. This is also related to the education aspect, as demand for certain qualities of labour and lacking demand for others may contribute to the marginalization of some groups on the labour market. The endogenous structure of potential labour supply reflecting the outcomes of labour

market equilibria should not be ignored.

Dealing with potential labour supplies the following identities will be important to consider from a population perspective. The focus here will not therefore be on estimating traditional labour supply functions², but rather will deal with the population backgrounds of potential labour supplies. What are the prevailing regional population resources that may be considered a potential labour supply and what are the regional differences in such prevailing potential labour resources. From a population perspective the potential labour supply emerges from different possible decompositions of the population base. A general decomposition consists of three relations. The first defines the working age population, while the second focuses on the labour force and the third deals with the group of inactive persons in a given region.

$$WP = LI + II + FB \quad (5.1)$$

$$L = E + U \quad (5.2)$$

$$I = R + S + O \quad (5.3)$$

WP is the working age population (15-65 years) in a region, L (LI) is the labour force (incumbent) in a region, I (II) is the group of inactive (incumbent) in a region, FB is the number of foreign born people in a region, E is the group of employed in a region, U is the group of unemployed in a region, R is the group of retired in a region, S is the group of persons on sickness leave in a region and O is the group of persons inactive for other reasons in a region. The potential to improve labour market performances in a region is based on the reactivation of several sources of the working population, the labour force and the number of inactive people in a region. Attracting more immigrants to a region will allow for the potential import of labour supply, increasing the labour force participation through a reduction in the number of inactive persons will improve the labour supply and reduce the number of unemployed which will at high unemployment levels create greater efficiency but may at very low levels lead to bottlenecks in regional labour markets. Reducing the number of inactive people will then again depend on the extent of sickness leaves and the ability to compensate retirement patterns through moderate ageing problems in the working age population. Clearly the three

identities are therefore crucial in understanding the potential of labour supply in a regional context and the importance of marginal groups

for the potential labour supply in a given regional context.

Regional variation of sickness leaves, early retirement and immigration

This section will focus on two sources of potential labour supply from groups that often have problems in terms of integration or reactivation in specific regional labour markets. If there is a high propensity to absorb foreign labour into the working population, the potential to solve future problems of scarcity due to ageing may be expected to rise. Given there is a high propensity to observe sickness leaves and early retirement, such potential problems with the future labour force and labour supply will be further aggravated. Attracting foreign labour sources contributes to the potential labour force, while reactivating persons at some stage of sickness leave and thus potentially later in early retirement does not contribute in the same way. An initial indication of the regional differences in terms of the importance of sickness leaves and early retirement is provided in map 4.3. The map illustrates the regional variation in the share of persons on sickness leave or early retirement out of the total working population 15-65 years.

Patterns of sickness leave and early retirement clearly vary across the various countries addressed here. Denmark sees a comparatively low share of sickness leaves and early retirement across all regions, while the shares are higher on average across all regions in the other countries. Only in a few local labour markets does one see a higher propensity of sickness leaves and early retirement in Denmark and these do not reveal any discernable regional divide across Denmark. This is not the case in Norway, Sweden and Finland. Sweden sees a north-south divide, while it may be argued that Norway and Finland share a basic pattern based on an east-west divide. This is not only related to the presence of capital regions, as the vicinities of e.g. Stockholm and Oslo includes local labour markets with a high propensity for sickness leaves or early retirement. Even so, there is a tendency to see larger contiguous areas of high sickness leaves and early retirement in relatively peripheral areas in the northern parts of Norway, Sweden

and eastern parts of Finland. Peripheral regions see higher propensities towards sickness leave or early retirement, but this also occurs in the surroundings of capital regions. Urban structures, in the form of constituting economic and labour market centres, do not therefore ensure against problems of sickness leaves or early retirement. It is then not clear-cut that large densely populated labour markets automatically counter problems of sickness leaves or early retirement in a larger surrounding geographic area.

The potential for labour supplies from policies countering health problems and dealing with universal or means-tested early retirement schemes does therefore exhibit extensive differences in some Nordic countries though the potential is less clear in Denmark. High average levels of sickness leaves and early retirement in Norway, Finland and Sweden are also captured by the north-south and east-west divides in Sweden and Norway/Finland respectively. To gain an overall impression, table 5.1 (see also map 4.3) presents a variation measure for both the share of persons on sickness leave or early retirement out of the working population and the share of foreign born persons out of the working population. The table also presents simple averages across regions and weighted national averages

The regional variation in the share of persons of the working population aged 15-65 years, either on sickness leave or early retirement, is remarkably low in Sweden and to some extent also in Denmark. It is at about the same level in Norway and Finland, which is slightly below the overall Nordic variation. The mean is at the lowest level in Denmark and Iceland and about 2-3 percent lower than in Finland, Sweden and Norway. It should be noted however that the simple un-weighted regional mean is above the national weighted mean in all the Nordic countries. This shows that the concentration of sickness leaves and early retirements is relatively more common in regions with a smaller working

population. Such a difference may by itself be taken to be a problem, as it shows that regions with an already smaller working age population are more exposed to sickness leaves and early retirement. This may add to the problems of scarcity of labour in the sense that a smaller working populations itself represents a moderate potential labour supply, while relatively common sickness leaves and early retirements add to the problem of ensuring sufficient labour resources. The problems embedded in the differences of the regional mean and national mean are not evenly distributed across the Nordic countries. The difference is moderate in Denmark and relatively large in Norway. This by itself indicates differences in respect of a potential regional labour force in the Nordic countries.

Table 5.1: Sickness leave or early retirement shares and foreign born shares, 2007

Source: Nordregio data and Statistics Iceland.

	DK	FI	SE	NO	IS	Nordic
Number of regions	11	20	21	18	1	71
Standard deviation, share of sickness leave and early retirement	1,39	1,98	1,09	1,94	-	2,01
Standard deviation, share of foreign born	4,90	3,50	5,81	3,43	-	6,21
Regional mean, share of sickness leave and early retirement	6,87	9,63	9,63	10,45	6,59	9,37
Regional mean, share of foreign born	11,76	4,99	16,00	8,76	16,6	10,42
National mean, share of sickness leave and early retirement	6,71	8,88	9,05	9,44	6,59	8,54
National mean, share of foreign born	12,44	5,77	20,52	11,06	16,6	13,76

Comparisons with Iceland may contain problems of harmonization of data.

The other factor of a potential regional labour supply was captured by the ability to be attractive to individuals with a foreign background. The

regional variation around the mean for the share of foreign born people out of the working age population is much more pronounced than is the case for the share of persons on sickness leave and early retirement. The potential labour resource from foreign labour is therefore much more subject to regional variation. Given that the mean of the share is 2-5 percent above the share of sickness leaves and early retirements, the importance of this potential becomes clear. Labour with a foreign background embodies a higher potential, but this potential varies more across regions. Comparing the simple un-weighted regional mean with the weighted national mean, the pattern of foreign born people being more common in regions with a high working age population is revealed. The regional mean is consistently below the national mean. This is contrary to the case for the share of sickness leaves and early retirements. Again the regional importance of the two potential sources of labour is revealed to be different. Persons on sickness leave and early retirement represent to a greater extent a potential for regions with a prevailing comparatively small working age population, while foreign labour is to a greater extent a potential for regions with a comparatively large working age population.

The overall picture then is that focussing on different groups often perceived as being marginal in the labour market to unveil the potential labour supply will produce very different results. Foreign labour may be of greater importance in regions with an already extensive working age population, while persons on sickness leave and early retirement constitute, to a greater extent, a potential in regions with a relatively smaller working age population. Furthermore the regional variation in these potentials is more pronounced for foreign labour as compared to persons on sickness leaves and early retirement. Taking these aspects into consideration combined with the overall higher potential from foreign labour, results in two conclusions: 1) Focussing on different marginal groups in the labour market leads to very different conclusions on the regional potential labour supplies; 2) National policies that focus on specific marginal groups in the labour market to increase the labour supply will have very different consequences for different regions.

Determinants of regional sickness leaves, early retirement and immigration

Using the equations (5.1)-(5.3) as a point of departure lays out the differences in potentials from the perspective that these equations are identities in the sense that they define the working age population, labour force and inactive persons. These identities do not however reveal the behavioural aspects of potential labour supply for different marginal groups. The probabilities of belonging to a marginalized group may depend on the different regional contexts in which labour supply takes place. These contexts will partly depend on different aspects of regional labour demand and on the behaviour of individuals in response to such contexts, e.g. in search models. To gain a more detailed impression of such regional variation in respect of behavioural aspects, table 5.2 presents the Tobit estimation results for the share of foreign born people in the population and the share of those on sickness leave and in early retirement in the population.

The Tobit estimation specification is used, as the dependent variable is censored³ and the relevant models are therefore censored regression models (Wooldridge 2002: chapter 16). The covariates include different aspects of labour market conditions, population dynamics and spatial clustering. A number of estimation results are furthermore obtained using previously defined typologies of sector composition and sector change in the respective regional contexts. All estimation results are obtained using pooled

cross-country data for 2007, as there is no consistent regional information available on foreign backgrounds and sickness leaves and early retirement across the Nordic countries for previous years.⁴ The definitions of regions follow the approach used by Nordregio with the modification that Iceland is considered as one region. The number of regions in Denmark, Finland, Norway, Sweden and Iceland are 11, 20, 18, 21 and 1 respectively. Table 5.2 presents the estimation results for the pooled cross-country Nordic data.

The results in respect of the share of the population on sickness leave and early retirement is clear, while any relationship to regional sector structures or regional restructuring is by and large absent. Only a weak indication exists that some types of regions with obsolete branch structures, fast branch growth but being losers are worse off than regions with an obsolete branch structure, slow branch growth but being losers. This may be an indication that in regions with a low regional restructuring, the ability to integrate marginalization through sickness and early retirement will improve if growth is higher. This effect does not appear for the other types of regions, which reflects the fact that the integration of those on sickness leave and early retirement requires jobs in branches that are subject to less change while still growing to absorb marginalized labour.

Table 5.2: Cross-country Tobit estimations for sickness leave or early retirement shares and foreign born shares, 2007

	(1) Sickness and retirement, baseline	(2) Sickness and retirement, sector structure	(3) Sickness and retirement, structural change	(4) Foreign born, baseline	(5) Foreign born, sector structure	(6) Foreign born, structural change
Rate of unemployment	29.651 (4.39)**	30.039 (4.56)**	26.438 (3.66)**	-22.679 (0.98)	-22.193 (0.96)	-12.152 (0.50)
Share of over 59 relative to share of under 20 years	-1.356 (1.10)	-1.758 (1.43)	-1.949 (1.55)	4.255 (1.07)	4.388 (1.08)	2.282 (0.56)
Population density	-0.001 (2.76)**	-0.001 (2.71)**	-0.001 (1.86)	0.004 (4.00)**	0.004 (3.58)**	0.003 (2.15)*
Average annual population growth rate 2002-2007	-1.638 (4.84)**	-1.807 (5.31)**	-1.729 (4.40)**	4.613 (4.19)**	4.742 (4.19)**	5.931 (4.64)**
Labour force participation rate				0.360 (0.77)	0.342 (0.73)	0.305 (0.65)
Iceland	0.682 (0.52)	0.555 (0.41)	0.326 (0.24)	3.762 (0.87)	3.252 (0.72)	0.708 (0.16)
Finland	-0.224 (0.35)	-0.662 (0.97)	-0.344 (0.51)	-1.667 (0.78)	-1.386 (0.58)	-1.475 (0.66)
Sweden	2.228 (5.02)**	1.575 (2.78)**	1.934 (3.99)**	6.621 (4.51)**	7.113 (3.70)**	7.676 (4.83)**
Norway	3.522 (6.20)**	3.195 (5.19)**	2.997 (4.90)**	-0.842 (0.46)	-0.811 (0.40)	-0.297 (0.15)
Manufacturing		0.722 (1.90)			-0.620 (0.49)	
Services		0.135 (0.34)			0.474 (0.36)	
OGWIN			-0.399 (1.19)			-1.450 (1.32)
MSWIN			-0.681 (0.69)			4.508 (1.40)
MSLOS			-0.345 (0.83)			1.398 (1.03)
OGLOS			-0.883 (2.11)*			-0.008 (0.01)
Constant	8.192 (5.66)**	8.656 (6.04)**	9.465 (6.24)**	4.145 (0.88)	3.922 (0.82)	4.806 (0.97)
Observations	71	71	71	71	71	71

Note: Absolute value of t statistics in parentheses, * significant at 5%; ** significant at 1%. The covariates agriculture, manufacturing and services are typologies of sector structures in regions found in Rauhut and Kahila (2008). The covariates OGWIN, MSWIN, MSLOS, OGLOS and OSLOS are typologies of structural change in regions found in Eðvarðsson et al. (2007). Left out categories are dummies for Denmark, the covariate for the agricultural sector and the covariate OSLOS for the structural change.

Source: Nordregio data and own calculations.

For the regional labour market the population changes that result are more profound. The unemployment rate has a significant and positive effect on the probability of seeing a higher share on sickness leave and early retirement in the population of a region. This reflects the fact that unemployment reflects one stage in the process of marginalization on the regional labour markets. Becoming unemployed can eventually lead to marginalization, as e.g. search models would prescribe. Continual search without a job match will lead to discouragement and increase the probability of marginalization in terms of either sickness or early retirement. In this sense, the results are as expected. Higher unemployment

rates should reduce the probability of shirking thus decreasing the propensity to observe sickness leave or early retirement. The later may reflect the fact that the active labour market policies across different regional contexts prevent the effects of shirking. Policies and institutions in the Nordic countries are in that respect consistent with the results.

Two covariates influence the probability of seeing increasing shares of those on sickness leave and early retirement in the regional population. Higher population densities and high average annual growth rates in the five preceding years reduce the propensity. Regions with a high

spatial clustering of the population and a high growth rate in the population will therefore have a lower propensity to see high shares of those on sickness leave and early retirement in the population. This is a strong indicator that problems of marginalization are not neutral in terms of spatial contexts. Dense areas see lower propensities towards sickness leave and early retirement, which can reflect a higher diversity in jobs offered in dense areas such as to better cater to the re-activation of persons on sickness leave and early retirement. It may also reflect the fact that jobs in less dense areas may have a different nature with more manual work potentially leading to health problems. It may be argued that the covariates measuring regional sector structure should capture the later explanation, but such indicators may be too rough to measure the exact job mixes in terms of labour intensiveness. Higher growth rates in the population also reduce the propensity to see sickness leave and early retirement. Regions that have seen a rapid growth in the preceding years tend to have relatively fewer persons on sickness leave and early retirement, which may reflect the fact that such regions have better resources available to handle the problems of marginalization. This may be in respect of the ability to finance better quality in regional labour market programmes directed towards preventing marginalization or in respect of creating jobs suitable for those who are marginalised.

In terms of country differences, it is remarkable that two countries see significant point estimates for the country dummies comparing the left-out country dummy for Denmark. Sweden and Norway both see a higher propensity to see sickness leaves and early retirement in the regional population than is the case in Denmark. This once again stresses the importance of policies and institutions in handling marginalization through sickness and early retirement in different regional contexts within a country. It may be argued that this reflects the relatively moderate geographic size of Denmark, but it must also be noted that the effect does not occur for Finland, where the same geographic cross-country differences in terms of magnitude is observed. Some institutional preconditions may vary in spite of the welfare and labour market regimes in place in the Nordic countries which are often perceived as being of a single homogenous type. Denmark is the benchmark of the estimations in

table 5.2 and is often associated with the concept of 'flexicurity'. Benchmarking against a system of low 'fire and hire' costs would be important to better understand the results. Following OECD (2004), both Sweden and Norway have higher levels of employment protection legislation as compared to both Finland and Denmark in particular. These institutional differences and their regional consequences are reflected in the point estimates of the country dummies. Such institutional differences may render very different labour market behaviours over national borders (Dall Schmidt 2008).

Table 5.1 also presents results for the share of those who are foreign born in the Nordic regions. Two point estimates are significant. These relate to population density and average annual population growth in the proceeding five years. Both increase the propensity to see higher regional shares of foreign born persons in the population. This reveals the differing regional importance of foreign labour. Higher population densities and faster population growth attract more foreign labour. This is in line with mobility taking the direction towards regions with high growth. It is also consistent with the fact that some groups of people with foreign backgrounds tend to cluster around larger urban structures – which have a high population density. It does on the other hand seem surprising that labour market conditions do not appear to be of importance. Regional unemployment rates do not significantly influence the propensity to see higher shares of foreign born persons in the population, which may have been expected. Furthermore the replacement rate of over 59 years olds relative to the under 20 years olds does not influence the propensity to see higher or lower shares of foreign born persons in the population. This may reflect the fact that the substitution of retiring persons from the regional labour market through foreign born persons does not provide a solution to regional labour supplies.

Finally, only one country – Sweden – has a significantly higher point estimate for the propensity to have a higher share of foreign born persons in the regional population than Denmark. This can be explained by two factors: (a) much of the labour immigration in the 1950s and 1960s was attracted to small scale industries in industrial towns outside the three metropolitan areas. The immigrants who have not re-migrated

have stayed in these regions (Johansson and Rauhut 2008), and (b) the strategy of placing refugees in refugee centres located in peripheral areas has had an impact on distributing refugees over the whole of Sweden – even though the policy had been loosened by the mid-1990s (Rauhut and Johansson 2008).

The results can thus be summarized in two statements: 1) Regional contexts in terms of unemployment rates, population densities and

population growth do influence the propensity of different types of marginalized groups in the regional population – the marginalization of labour supply is then not innocuous from a regional perspective, 2) Policies and institutions are vital for a better understanding of the marginalization of labour supplies in regional contexts and thus for a better understanding of the potential labour supplies out of the total population.

The labour potential in the Nordic regions

Usually, the term labour refers to people active in the labour market. The majority of it is usually employed and the minority unemployed, the rest being inactive. In such a classification the term ‘Labour Potential’ refers to the part of inactive population that can be activated. They are of working age and must be employable. Employability means that they are both willing to and capable of working and their productivity is high enough that employers are willing to pay them according to the prevailing wage standards.

The challenge of financing the ageing society calls for a highest possible ratio of active over inactive population. This is not enough however. It also calls for a highest possible ratio between employed relative to employable population. Employment finances expenses originating from unemployment, inactive working age population and population out of working age. Population out of working age are not employable and hence do not belong to the Potential Labour supply. Therefore, we measure Labour Potential utilising a ratio of employment relative to the working age population and this employment rate is defined as:

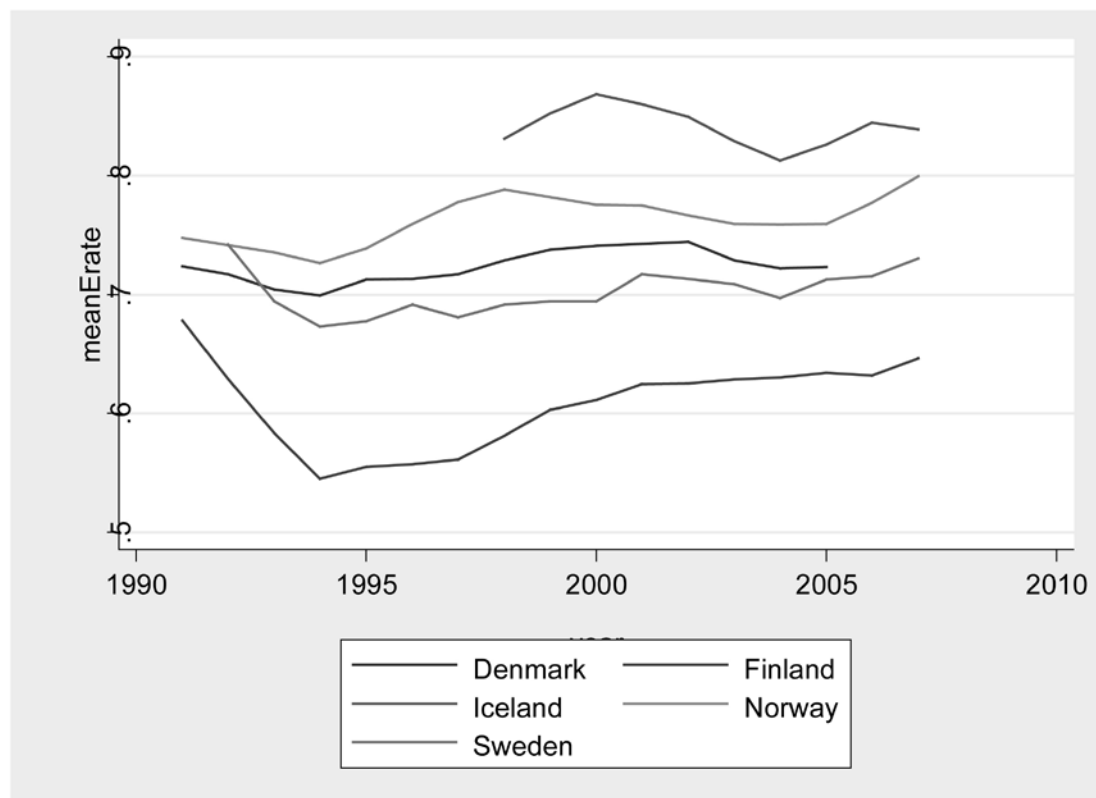


Figure 5.2. Mean of employment rate (Erate) by country, 1991-2006

Source: Own calculations from Nordregio data

$$\text{Erate} = E / \text{WP} \quad (5.4)$$

WP is again the working age population in a region and E is the number of employed. This rate includes all kinds of potential labour supply, as the working age population would include all kinds of unemployment, states of being inactive and possible labour market states that are in between unemployed and inactive (discouraged, long-term sick etc.).

The following will describe the Labour Potential and depicts its evolution over time and differences between countries and regions. Then the section will analyse the determinants of the Labour Potential. This analysis lends itself to a forward looking approximation of the potential in the future. The forward looking exercise is conducted in Chapter 6.

The employment rate was lowest in Finland and highest in Iceland (Figure 5.2). The severe economic crisis of the 1990s left long lasting marks on the Finnish labour market. Part of the low employment rate may also be explained by differences in the occurrence of non-standard working hours, such as part-time jobs.

The ultimate target of employment policy in every country is that the employment rate would be as high as possible. If all working age people were employed, the employment rate would equal 1. Therefore, the simplest way to approximate the potential labour supply is to subtract the employment rate from one (1-Erate). This is of course a mirror image of Figure 5.2.

A one hundred percent employment rate is neither a plausible policy objective nor a realistic approximation of the real labour potential, due to the reasons mentioned in the sections above. A first step to improve the approximation is to take the highest regional employment rate in the Nordic countries and compare it with that of every other region. This gives us an idea of how far each region currently is from the highest level reached in Nordic countries during the period of investigation. One objection to this approach is that the institutional settings vary between the various Nordic countries to the extent that regions within them are often simply not comparable. An alternative would be to consider the maximum attained level within each country as a benchmark. One obvious weakness of this approach is that the population structure also varies within countries to the extent that regions

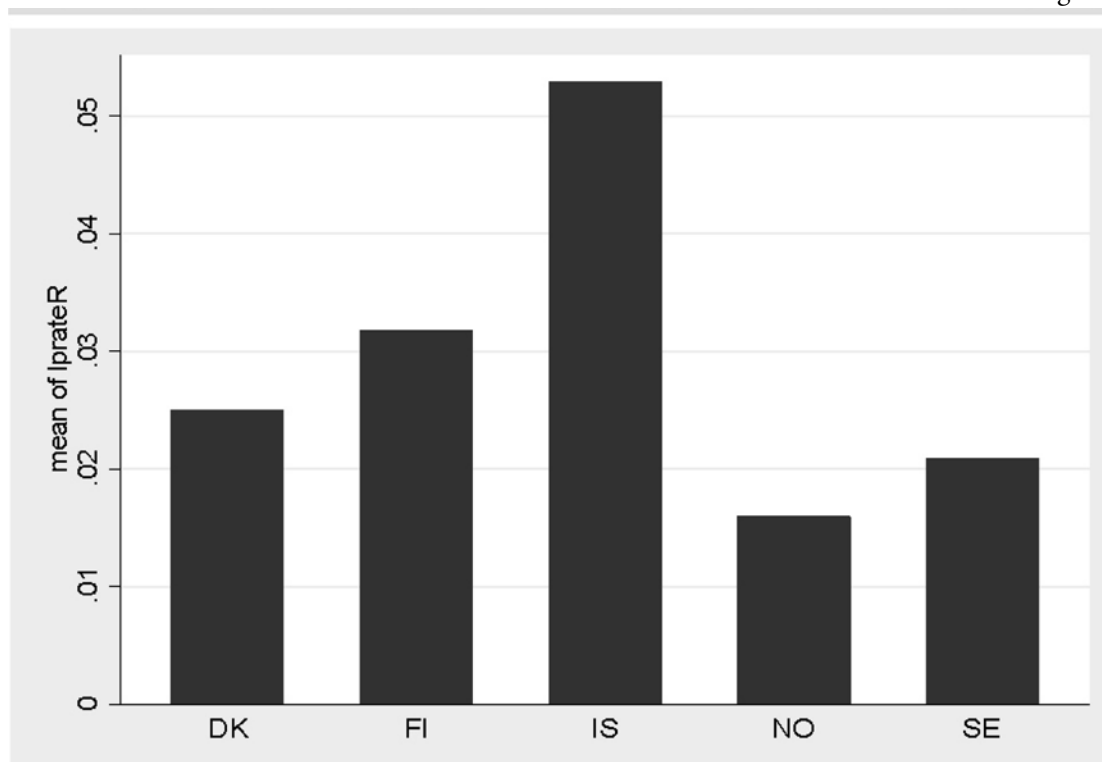


Figure 5.3. Potential Labour per working age population (LPR) by country, 2007 or the latest ($t=2007$ or most recent year)

Source: Own calculations from Nordregio data

are not comparable. E.g. the level of education and the age structure of population in the capital region of Finland, Uusimaa, differ distinctively from those in Lapland. Furthermore, the differences in structure tend to be persistent (Pekkala and Kangasharju 2002).

Consequently, the approach applied below takes the year of maximum employment rate (Erate) in each region as the benchmark and compares the employment rate of any year to the maximum. The most recent year for instance, gives us an idea of how far, at present, each region is from the level which it once reached. Let us call this as the 'Labour Potential Rate' (LPR), which is accordingly defined as:

$$\text{LPR}_t = \text{Erate}_t / \text{MAX}(\text{Erate}_s) \quad (5.5)$$

$s = 1991, 1992, \dots, t, \dots, 2007$

The simple mean of LPR over the regions within each country varies between 1.5 % in Norway to 6 % in Iceland (Figure 5.3).⁶ An interesting difference between this and the simplest approach above is that the potential is highest in Iceland where the employment rate has been the highest as well. This signals a deterioration of the labour market conditions over time.

Labour Potential can also be evaluated by calculating LPR for every year instead of just the most recent year (2007). The average over regions within a country and years of data available shows the highest potential in Finland (7 % of the working age population) and the lowest in Denmark (2 %) (See Table 5.3). The standard deviation between the regions and years has also been the highest in Finland (4 percentage points), whereas it has been the lowest in Denmark (less than 2 percentage points). The maximum over all regions occurred in Päijät-Häme, Finland in the gloomiest year of the last recession, 1994.

Table 5.3. Descriptive statistics of LPR

	Obs	Mean	Std.Dev.	Min	Max
Denmark	165	.024536	.0178472	0	.078
Finland	340	.0707606	.0395849	0	.164
Iceland	10	.0555402	.0337721	0	.106
Norway	267	.0436616	.0273332	0	.140
Sweden	326	.0428213	.0213592	0	.090

Source: Own calculations from Nordregio Database data

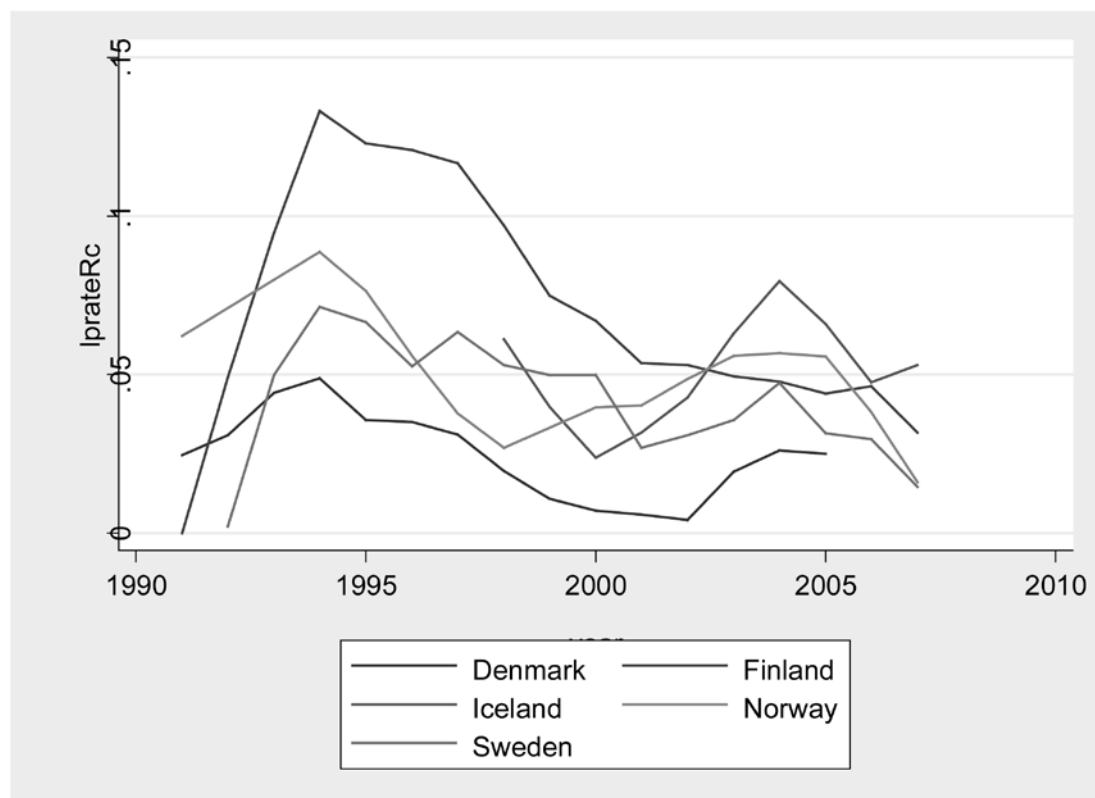


Figure 5.4. The rate of potential labour force over time by country

Source: Own calculations from Nordregio data

Apart from Finland, the rate of LPR has evolved rather similarly in each country. The potential was high in Finland in the early 1990s due to a severe economic crisis (Figure 5.4). This suggests that labour demand is a crucial determinant of Labour Potential. Since then the rates have been converging towards each other and the most recent figures are between 2 and 5 percent across countries. LPR has been the lowest in Denmark for the majority of the research period. The rate was particularly low in 2002.

The Labour Potential presented here is aggregate in nature, including marginal groups discussed above, such as immigrants and those on sickness leave. The evidence of country differences in LPR and the regional variation for each country in LPR clearly indicates that

considering potential labour supply across the Nordic regions is of importance. The maximum employability over the time period 1991-2006 reveals a potential that will not be exhausted at any given point in time for the different Nordic regions. This reveals that the differences among marginalized groups presented previously in this chapter unfolds in the Labour Potential of the different regions in different ways over time. In addition considerable differences exist between the various Nordic countries with respect to the Labour Potential. Being in a regional context among different but relatively alike countries such as the Nordic countries does nevertheless see very different Labour Potentials emerge. Even small differences in the policy regimes of countries can therefore produce different Labour Potentials in different regional contexts.

Determinants of the regional labour potential in the Nordic countries

The level of Labour Potential is hard to state exactly. First, it is difficult to evaluate the employability of the marginal groups discussed above. Second, as labour demand strongly determines potential, it is difficult to evaluate whether or not a certain group of people belongs to the potential due to lack of demand or due to their low productivity at any level of demand. Instead of level, it is somewhat more straightforward to evaluate a change in Labour Potential.

We assume that a given decline (increase) in employment rate equals a corresponding incline (decrease) in Labour Potential at any level of potential. For the analysis below, this means that the size of marginal groups discussed above relative to the whole working age population does not change over time. Thus, we decompose the employment rate (Erate) to analyse the determinants of Labour Potential. A decomposition exercise to analyse the Labour

Potential can be pursued in several ways. In equations (5.1), (5.2) and (5.3), the working age population, labour force and inactive labour was decomposed. As the present focus is on the employment rate, a decomposition of the employment rate will be pursued here to analyse the background of the employment rate.⁷ The employment rate (Erate) can be expressed as:

$$\frac{E}{WP} = \frac{E}{L} * \frac{L}{POP} * \frac{POP}{WP} \quad (5.6)$$

E is the number of employed in a region, WP is the working age population, L is the labour force and POP is the population including all ages. Equation (5.6) states that the employment rate consists of employment per labour force (E/L), activity rate (L/POP) and age structure (POP/WP). After taking a time derivative of each component, a change in the employment rate equals a change in employment per labour force + that in activity rate + that in age structure (=Divisia Index).

Note that an increase in employment per labour force equals a corresponding decrease in the unemployment rate (U/L). A priori we would expect that an increase in the unemployment rate would also increase the Labour Potential by decreasing the employment rate. An increase in the activity rate (L/POP) in turn should decrease the potential (and increase the employment rate) as long as most of the people entering the labour market find employment. Finally, more people outside the working age (POP/WP) should also decrease the potential, since school-age children and retired people do not belong to the potential.

How is population ageing likely to affect Labour Potential? It depends on the employment rate of the retiring cohort. If the employment rate of the cohort is very low (as it usually is) relative to the employment rate of all cohorts combined, a larger retiring age cohort will increase the overall employment rate (and decrease the LP), since the employment rate of the remaining cohorts is higher. This shift in age structure should create a downward trend in the LP.

To sum up, we can decompose the change in Labour Potential ($\Delta LP = -\Delta E/WP$) into three subcomponents:

$$\Delta LP = \frac{\Delta U}{L} - \frac{\Delta L}{POP} - \frac{\Delta POP}{WP} \quad (5.7)$$

Δ refers to the time derivative. The last term on the right can change if either population under or over the working age grows differently from the population in working age. Thus the last term on the right hand side can be further decomposed into:

$$\frac{\Delta POP}{WP} = \left(\frac{\Delta WP}{WP} + \frac{\Delta Y}{WP} + \frac{\Delta OLD}{WP} \right) \quad (5.7a)$$

Y is the number of young persons in the population of age less than 15 years, OLD is the number of elderly people in the population of age more than 65 years, Y/WP is the young age ratio and OLD/WP is the old age ratio. Hence, the equation (5.6) can be expressed as

$$\Delta LP = \frac{\Delta U}{L} - \frac{\Delta L}{POP} - \left(1 + \frac{\Delta Y}{WP} + \frac{\Delta OLD}{WP} \right) \quad (5.7b)$$

Simple pair-wise contemporaneous correlations between the variables show that changes in the unemployment rate and in the Labour Potential are most strongly correlated with each other. Also, the activity rate (L/POP)

and the LP are strongly correlated (Table 5.4). The age structure (Age Ratio or Population / WP) has the lowest association with the other variables. Interestingly a worsening Age Ratio (POP/WP) is associated with a decline in the Labour Potential, indicating that the employment rate of the retiring age cohort is lower than that of younger cohorts. Changes in the Old Age Ratio (OLD/WP) has a similar negative association with the LP as the (total) Age Ratio (POP/WP), whereas that of Young Age Ratio (Y/WP) has a positive correlation with the LP.

Contemporaneous effects are not necessarily important, however. A Granger-causality analysis reveals whether the age structure and other subcomponents can forecast any future change in Labour Potential, after the LPs own lags and other relevant factors are controlled. Providing that there is forecasting power, we can estimate how much the Labour Potential will change in an ageing society in Nordic regions.

Table 5.4. Correlations

ΔLP	$\Delta U/L$	$\Delta L/POP$	$\Delta POP/WP$	$\Delta Y/WP$	$\Delta OLD/WP$	
ΔLP	1.000					
$\Delta U/L$	0.7563	1.000				
$\Delta L/POP$	-0.6890	-0.3858	1.000			
$\Delta POP/WP$	-0.1501	0.0105	-0.1496	1.000		
$\Delta Y/WP$	0.1893	0.1058	-0.3491	0.2511	1.000	
$\Delta OLD/WP$	-0.1816	-0.0090	-0.0599	0.8961	-0.0894	1.000

Note: Y refers to population less than 15 years old and OLS refers to that more than 65 years old.

Source: Own calculations from Nordregio data

To do this, we build a system of three equations where a regression model for the change in LP indicates the direct effect of ageing on LP. Two other equations capture the indirect effects via unemployment and activity rates. The unemployment regression shows how much ageing affects the LP due to influence on unemployment. Similarly the activity rate equation shows how much ageing affects the LO by influencing the activity rate.

$$dLP = L.LP + L.YAR + L.OAR + L.UN + L.AR \quad (5.8a)$$

$$dUN = L.LP + L.YAR + L.OAR + L.UN + L.AR \quad (5.8b)$$

$$dAR = L.LP + L.YAR + L.OAR + L.UN + L.AR \quad (5.8c)$$

where LP is the labour potential, YAR= young age ratio, OAR= old age ratio, UN=unemployment rate, and AR the activity rate all defined above. Each equation in the system can be estimated separately, since the explanatory variables are the same in each equation. Change in Labour Potential is regressed on its own lags, lags of its determinants mentioned above and some controls. First differences remove fixed regional differences from levels (and avoid the difficulties of evaluating the level of LP) and the annual dummies control for trends and business cycles that are common to all regions ('Year5' refers to 1995, 'Year17 to 2007').

Table 5.5. Results of a Granger causality analysis, Model 5.8a

	(1)	(2)	(3)	(4)
L.dLP	0.274**	-0.021	0.189*	-0.087
L2.dLP	0.046	0.143*	0.005	0.137*
L3.dLP	0.204***	0.119**	0.184**	0.139**
L4.dLP	-0.033		-0.006	
L.dpopwp	-0.114	-0.469*		
L2.dpopwp	-0.078	0.287		
L3.dpopwp	0.566*	0.140		
L4.dpopwp	0.082			
L.durate	-0.036***	-0.019**	-0.032***	-0.015*
L2.durate	0.006	0.003	0.006	0.003
L3.durate	-0.024***	-0.012	-0.023***	-0.011***
L4.durate	-0.004		-0.005	
L.darate	0.197*	-0.154*	0.121	-0.220**
L2.darate	-0.073	-0.001	-0.129	-0.000
L3.darate	0.128	0.073	0.113	0.132*
L4.darate	-0.132*		-0.043	
years5	0.000	-0.003	0.000	-0.003
years6	-0.002	-0.000	-0.001	-0.004
years7	-0.004	0.015***	-0.006	0.013***
years8	-0.021***	-0.000	-0.023***	-0.002
years9	-0.022***	-0.004	-0.025***	-0.006*
years10	-0.006*	-0.016***	-0.009***	0.015***
years11	-0.022***	0.000	-0.022***	0.000
years12	0.000	0.022***	0.000	0.021***
years13	0.007	0.028***	0.006*	0.027***
years14	0.009**	0.028***	0.008*	0.027***
years15	-0.010***	0.010***	-0.011***	0.009***
years16	-0.005	0.014***	-0.004	0.015***
years17	-0.024***	-0.005	-0.023***	-0.003
L.dys			-0.189	-0.097
L2.dys			-0.003	0.074
L3.dys			0.0237	0.195*
L4.dys			0.161	
L.dos			-0.003	-0.110**
L2.dos			-0.034	0.002
L3.dos			0.025	0.033
L4.dos			0.030	
_cons	-1.026***	-0.626**	-0.860***	-0.814***
N	686	776	686	776
r2_a	0.455	0.438	0.466	0.452

Note: A "d" in front of a variable indicates a time derivate of the variable, while a "L", "L2", "L3" or "L4" indicates a time lags over 1, 2, 3 or 4 time periods. "LP" is the Labour Potential,

"popwp" is POP/WP, "urate" is U/L, "arate" is L/POP, "ys" is Y/WP and "os" is OLD/WP.

Since population structure evolves slowly over time, we start with as many as four lags. It appears however that the fourth lags are redundant both when Age Ratio is measured with one variable and when it is measured with two distinct variables (Table 5.4 and 5.5). An applied F-test shows that they can be left out with 55 per cent confidence. The third lags are important both when the Age Ratio is measured with one variable and when it is measured with two distinct variables (Table 5.5 and 5.6).

The model is rather aggregated, lacking variables for the level of education, share of immigrants, and those in sickness leave. The role of those groups is partly analysed in previous sections and partly absent due to the lack of information at the regional level in the Nordic regions. The absence of groups in the population with foreign backgrounds and persons on sickness leave or early retirement in the present analysis is caused by the lack of consistent observations of these groups in the Nordic regions over a certain time period. The observations for 2007 were analysed previously but do not satisfy the need for repeated observations over time to be enter here.

Source: Own calculations from Nordregio Database data

Table 5.6 F-tests

Test for the fourth lags

$$L4.dLP + L4.dpopwp + L4.durate + L4.darate = 0$$

$$F(1,658) = 0.35; \text{Prob} > F = 0.5550$$

$$L4.dLP + L4.dys + L4.dos + L4.durate + L4.darate > 0$$

$$F(1,654) = 0.83; \text{Prob} > F = 0.3612$$

Test for the third lags

$$L3.dLP + L3.dpopwp + L3.durate + L3.darate = 0$$

$$F(1,751) = 4.73; \text{Prob} > F = 0.030$$

$$L3.dLP + L3.dys + L3.dos + L3.durate + L3.darate = 0$$

$$F(1,748) = 11.12; \text{Prob} > F = 0.0009$$

Source: Own calculations from Nordregio Database data

Long term elasticities are as follows. In equation (5.7) the long term effect of the most important variable for our purposes, "popwp" is negative as expected. Doubling the ratio of

total population over people in working age decreases the Labour Potential (increases the employment rate) by 6 per cent (Table 5.7). The joint significance of all the lags does not however differ from zero.

Table 5.7. The long run elasticities in the LP equation

	A change in LP	A change in LP	YAR= OAR
With respect to a change in			
Total Age Ratio, TAR	-0.056		
Young Age Ratio, YAR		0.211***	
Old Age Ratio, OAR		-0.093**	no***
Unemployment rate, UN	-0.036***	-0.029***	
Activity Ratio, AR	-0.108	-0.011	

Note: The last column tests the hypothesis that the old age ratio elasticity equals the young age ratio elasticity.

Source: Own calculations from Nordregio Database

The effect of the unemployment rate has rather similar magnitude (-4 per cent) with a surprising sign, however. A rise in unemployment can forecast a decline in Labour Potential in the long run. In the short run the effect is of course the opposite, but in the long run a higher unemployment rate may indicate low labour demand, which triggers labour outmigration. If unemployed labour moves out of a region it is more likely than employed, higher unemployment yields lower potential.

The point estimate of the activity rate (AR) is the highest, indicating that the doubling of employment relative to the inactive part of the total population decreases the Labour Potential by 10 per cent. This effect is also statistically insignificant. A weak Granger-causality from the activity rate to LP is somewhat surprising. This may be explained by two opposing forces. The activity rate and LP differ from each other due to two groups: the population outside working age and the inactive part of those of working age. As is well-known, this part of the population has a lower migration propensity than those of working age (and especially those in the younger part of the working age group). However, this cannot affect LP, since the age structure is already controlled. On the other hand, the

rising activity rate reflects a higher participation of the previously inactive population in the labour market. This decreases future labour potential (since it increases employment rate). The magnitude of the effect is fairly high, but surprisingly inaccurate (standard error of the estimate is high).

Table 5.8. The Granger causality, the model 8b and 8c

	Unemployment, Three lags	Unemployment, Two lags	Activity rate, Three lags
L.dLP	- 1.557**	- 1.091*	0.183***
L2.dLP	1.315**	0.635	- 0.037
L3.dLP	0.245		0.005
L.dys	- 2.834***	- 3.008***	- 0.034
L2.dys	2.053*	2.328***	0.078
L3.dys	- 0.220		- 0.246***
L.dos	- 0.202	- 0.185	0.034
L2.dos	0.114	- 0.104	- 0.106**
L3.dos	- 0.152		- 0.017
L.durate	0.252***	0.214***	0.003
L2.durate	- 0.139**	0.015	- 0.016***
L3.durate	- 0.013		0.006*
L.darate	- 2.622***	- 2.428***	0.376***
L2.darate	0.400	- 0.459	0.073
L3.darate	0.107		- 0.036
years5	- 0.017	- 0.226***	- 0.016***
years6	0.010	- 0.191***	- 0.000
years7	0.056*	- 0.145***	- 0.011***
years8	- 0.084***	- 0.290***	- 0.008***
years9	0.024	- 0.181***	0.007***
years10	0.072***	- 0.119***	- 0.011***
years11	0.000	- 0.188***	0.000
years12	0.098***	- 0.069*	- 0.014***
years13	0.0258***	0.061*	- 0.013***
years14	0.137***	- 0.070*	- 0.012***
years15	0.059**	- 0.168***	- 0.001
years16	0.007	- 0.202***	- 0.008***
years17	- 0.073***	- 0.272***	- 0.000
_cons	4.142***	4.263***	1.047***
N	776	866	776
r2_a	0.550	0.560	0.358

Legend: * p<0.05; ** p<0.01; *** p<0.001

Note: see table 5.5 for description of variables

Source: Own calculations from Nordregio Database

The model (5.8a) works much better, when the Total Age Ratio is split into two parts, one depicting the share of less-than-working age population relative to the working age population and the other capturing the retired part of population. This model indicates the potential of the young generation. If the size of the young generation decreases by one half, the Labour Potential decreases by 10 per cent. In contrast, when the retired part of the population increases by one half, the potential decreases by 5 per cent. Since an increase in OAR is going to dominate the future development Nordic regions, the ageing population will decrease LP in the future. The effect of the other variables stays the same as in the previous specifications.

The models (5.8b & 5.8c) estimate the indirect effect of ageing on the labour potential, LP (Table 5.8). In the unemployment equation, we end up estimating the model with two lags (the third lags were not statistically significant), whereas the activity rate equation needs three lags.

The long run elasticities show that the age structure affects more clearly the activity rates than the unemployment rates (coefficients have higher t-values). However, the point estimates for the changes in unemployment with respect to changes in the age structure are higher than those in activity rates.

To sum up the results of the Granger causality analysis, the ageing – measured by increases in the Old Age Ratio, OAR – affects the Labour Potential, LP, both directly and indirectly (Figure 5.5). The direct effect indicates that doubling the OAR decreases LP by 9 per cent. This is counterbalanced with indirect effects, since the rising OAR will contribute to an increase in the LP. Doubling the OAR will decrease the unemployment rate, UN, by 38 per cent, but the decrease in the UN will increase the LP by 1.1 per cent ($-0.375 \cdot -0.029 = 0.0108$). Similarly, the OAR will decrease the activity rate, AR, by 15 per cent, but this decrease will increase the LP, since the elasticity of the LP with respect to a change in the AR is -0.011 . Thus, the combined

Figure 5.5. Estimating the effect of aging on the Labour Potential

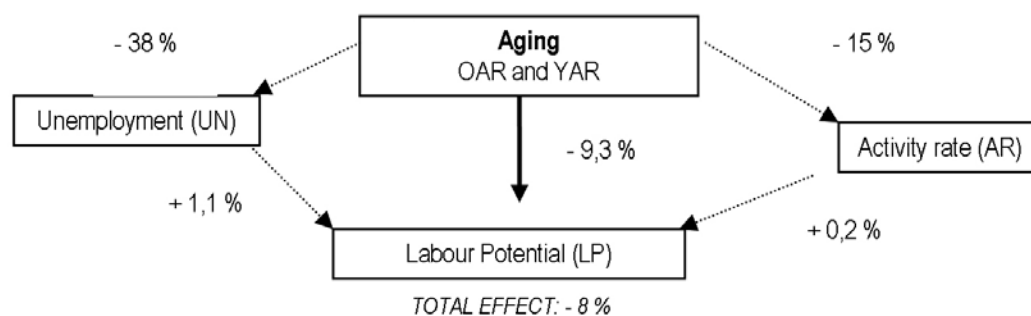


Table 5.9. The long run elasticities in the unemployment and activity rate equations

	A change in UN	A change in AR
With respect to a change in		
Labour Potential, LP	-0.591	0.256**
Young Age Ratio, YAR	-0.883*	-0.344***
Old Age Ratio, OAR	-0.375	-0.153***
Unemployment rate, UN		-0.013
Activity Ratio, AR	-3.744***	

effect through the AR is 0,002 ($-0,153 \cdot -0,011 = 0,0017$). The total effect is obtained by combining the direct effect with the two indirect effects. This yields a 8 per cent decrease ($-0,093 + 0,0108 + 0,0017 = -0,0805$) in the LP as a response to the 100 per cent increase in the old age ratio.

Source: Own calculations from Nordregio Database

Marginalisation and the rate of potential labour supply

The potential labour supply in the Nordic regions may take many forms and shapes. The present analysis has focussed on the expected potentials from two groups in the working age population that are often considered marginal on the labour markets – persons on sickness leave or early retirement and persons with a foreign background. The analysis has moreover sought to shed light on the regional Labour Potentials and the long-term elasticities of this labour potential focussing on persons in unemployment, being active in the labour force or age groups that are not in the labour force.

The results of this section can be summarized in the following points:

- Regional contexts in terms of unemployment rates, population densities and population growth do influence the propensity of different types of marginalized groups in the regional working age population – the marginalization of labour supply is not innocuous from a regional perspective.

- The results for the share of the population on sickness leave or early retirement are clear. Dependencies on regional sector structures or regional restructuring are by and large absent. The unemployment rate has a significant and positive effect on the probability of seeing a higher share of people on sickness leave and early retirement in the population of a region. This reflects the fact that unemployment reflects one stage in the process of marginalization on the regional labour market. Higher population densities and high average annual growth rates in the five preceding years decrease the propensity. Regions with a high spatial clustering of the population and a high growth rate in the population will therefore have a lower propensity to see high shares of sickness leaves and early retirement in the population.

- The results for the share of foreign born persons in the Nordic regions render two point estimates that are significant. These relate to population density and average annual population growth in the proceeding five years. Both increase the propensity to see higher regional shares of foreign born persons in the population.

- Policies and institutions are vital in understanding the marginalization of labour supplies in regional contexts and thus also the potential labour supplies out of the total population.

- Doubling the ratio of total population over people in working age decreases slightly the Labour Potential (increases the employment rate). The effect of the unemployment rate has a similar magnitude. A doubling of the employment relative to the inactive part of the total population decreases the Labour Potential by 10 per cent.

- The Granger-causality model however works much better, when the Age Ratio is split into two parts. If the size of the young generation decreases by one half, the Labour Potential decreases by 10 per cent. If the retired part of the population decreases by 50 %, the potential decreases by 5 per cent.

The results in this section therefore produce a number of crucial results when dealing with potential labour supplies in the Nordic regions. Activating marginalized groups in the working age population is not insensitive to regional contexts and policies directed towards these must be designed accordingly. Long-term elasticities in the potential labour supply in the Nordic regions also show important differences. Fighting unemployment and being inactive in the labour market is essential, as this reduces the long-term potential labour supply by 27-28 per cent, while ensuring a higher young age ratio improves the long-term labour supply by 20 per cent. This also illustrates the importance of ensuring a proper age structure in the population for the potential labour supply and the problems associated with different migration patterns of different age groups for the various Nordic regions. Policies to handle such differences and asymmetries in the Nordic context will be decisive for the distribution of future labour supplies across different types of regions and thus for the growth potentials embedded therein in an ageing society of long-term changes in the age distributions.

Notes

1. Some of these differences have been analysed in previous chapters.

2. Estimating a labour supply function with implied elasticities of labour supply relative to a number of policy and household characteristics, see e.g. Euwals and Soest (1999). While such a population perspective will consider the population compositions and balances across different Nordic geographies, some behavioural aspects must be considered. This is especially so for marginalized groups, where different policies and policy compositions are important, see discussion associated with table 4.2.

3. The dependent variable is the share of the population having either a foreign background or being on sickness leave or early retirement. It can therefore only take values between 0 and 1.

4. All the data is harmonized data from Nordregio, Stockholm, except the sickness leave and early retirement data for Iceland, which is obtained from Statistics Iceland.

5. Although the term labour normally refers to either employed or unemployed, the concept

of Labour Potential also includes groups that are marginalized or inactive, as they are perceived as a potential labour supply in the regional labour markets.

6. The result for Iceland should, however, be interpreted with some caution. The data for Iceland is based on survey data, while the data for Denmark, Finland, Norway and Sweden is register data. The data heterogeneity could explain the high LPR for Iceland.

7. Notice that the decomposition exercise pursued in equation (5.1), (5.2) and (5.3) implicitly looks at age groups typically in considered to be in the labour force and in the working age population. The following decomposition of Erate will extend the analysis to include age groups that are not considered in the labour force or working age population at any given point in time. This is to allow for dynamics effects of persons entering or leaving the working age population, which was not considered in the previous analysis of potential labour supply.

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6. Labour Supply in an Ageing Society

Aki Kangasharju and Torben Dall Schmidt

Background

A crucial issue for the Nordic regions is their sustainability in terms of population resources and potential labour supply from regional population bases. While this may be illustrated through traditional population projections and the share of such projections of the population being in the working ages, the approach taken here is analytically more elaborate. Here the concept of 'Labour Potential' for each region will be considered. Rather than focusing on working ages in population projections, 'Labour Potential' here refers to that part of the inactive population that can be activated. They are of working age and must be employable. It therefore extends the traditional analysis in stressing that not only should regional labour resources be able to work, but they should also be willing and able to work to be included in a 'Labour Potential'. It is important to stress that the projections reflect medium to long-term developments. The current slump in economic conditions will likely be relevant in the short-term. Problems of labour supply due to ageing may be amplified into the medium to long-term from this expectedly short-term downturn, as it may lead to an increase in the propensity of the elderly to retire, thereby adding to the ageing problem in the medium to long-term. Remaining observant of future

trends in relation to the question of regional labour supply thus remains vitally important.

The implicit argument which makes the Labour Potential measure particularly relevant here is that even though two regions may have the same number of persons of working age available numerous regionally specific impact on their ability and willingness to take these jobs, e.g. regional differences in search behaviour or regional differences in 'shirking' patterns. Such regional specificities may depend on differences in the enforcement of labour market practices in regional labour market institutions or on differences in the types of firms operating on the labour market. Such differences were shown in chapter 4 to be of importance for persons on sickness-leave, early retirement or for immigrants. Given such regional differences using the concept of 'Labour Potential' as outlined previously would help to capture potential labour supplies in regions more precisely.

This chapter accordingly presents projections up to 2021 on Labour Potential and focuses on the regional variation across the Nordic countries reflecting path dependence from the institutional differences of dealing with labour supply in the various countries.

Projecting the potential regional labour supply

As indicated previously, the approach to forecasting the future patterns of regional labour supply in the Nordic regions will here elaborate the baseline projections for working age populations obtainable from the official population projections. The official population projections take into account regional differences in fertility rates, mortality rates, migration

propensities within and between countries etc. Given the institutional and behavioural influences on choices of labour supply, a more precise procedure must be pursued to produce adequate projections for Labour Potential. While population projections may produce an age composition of the population, they do not provide us with information on the propensity

to be active in the labour market exercised by the various age groups. Such propensities may be influenced by the underlying institutional enforcement of labour market regulations, industry structures and educational levels, as described previously. To gain a more adequate forecast of the potential labour supply of the Nordic regions, such aspects will then have to be taken into account.

A baseline problem in attaining such an adequate forecast of the regional patterns of potential labour supplies is the lack of data availability with a sufficient level of detail on factors of regional labour demand and supply behaviours, e.g. retirement patterns, the integration of immigrants in regional contexts etc. The approach taken here will be based on the elasticities of specific age groups from the Granger causality analysis in combination with the official population projections by age groups. Using information on how elastic the labour supply has been in the medium and long-term for a given age group in a region and the changes in the same age group according to the population projections will give us a more precise impression of the regional patterns of potential labour supply. To forecast the Labour Potential for a given region, we accordingly utilise population projections by age group to gain a better idea of how much the Total Age

Ratio, TAR1, and its subcomponents, YAR and OAR, are likely to change up to the 2020s. Multiplying these changes with the elasticities obtained from the Granger causality analysis, we will attain a forecast for the Labour Potential by region taking into account the different patterns of ageing and labour market participation in the Nordic regions. The projections are defined in equation 6.1

$$LPR_t = ea * POPat = 2007, 2008, \dots, 2021 \quad (6.1)$$

The LPR_t is the projection of the Labour Potential, ea is the elasticity of age group a , from the Granger causality analysis, and $POPat$ is the size of age group a at time t according to the official population projections of the regions in the Nordic countries.

Unemployment and Activity rates cannot be used in the context of this analysis, since we do not have any idea how they will evolve over time. Forecasting unemployment rates and activity rates in the medium and long-term would, moreover, introduce large uncertainties. We do however have some idea of the likely development of the Age Structure Ratio, thanks to the various population projections produced, which must be considered more solid in the sense that populations evolve relatively stably over time.

The age structure in 2007 and 2021

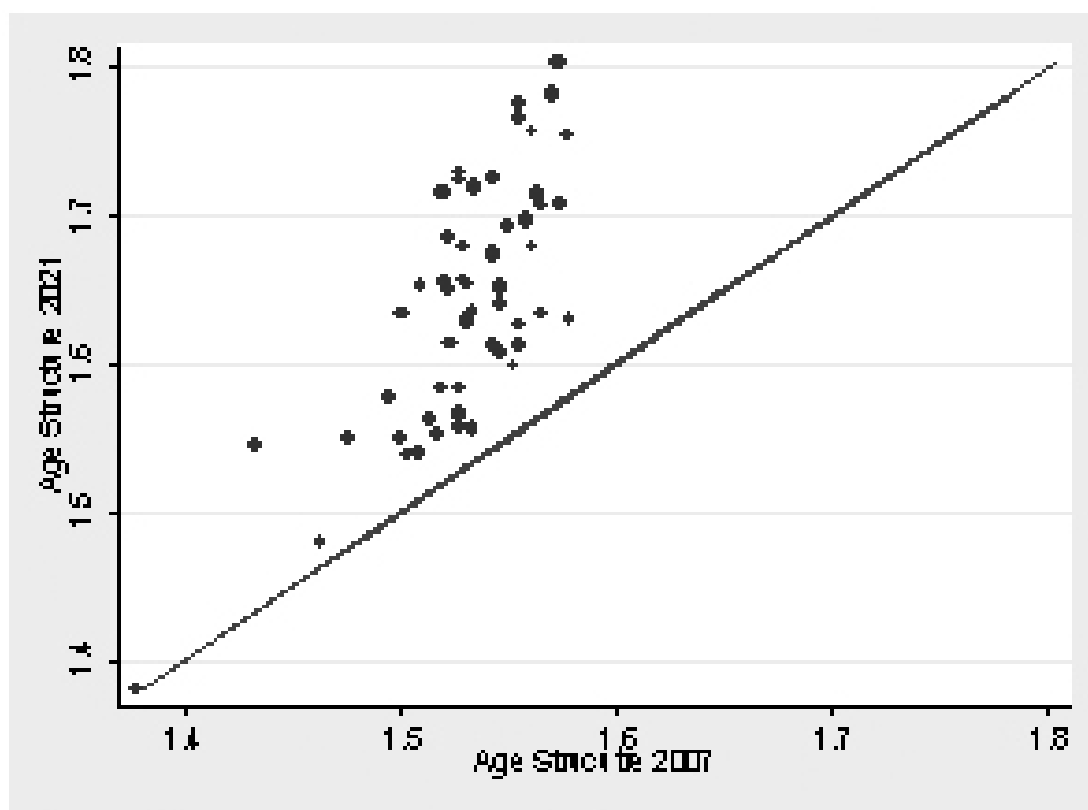
The most disadvantaged regions the total population in 2007 was about 1.6 times greater than the working age part of the population (Figure 6.1). This means that for every 10 people of working age there are 16 people either younger than 15 years of age or more than 64 years of age. In the most favourable region, Copenhagen, the ratio of total population over those of working age was less than 1.4 in 2007. In all other regions the total population was more than 1.4 times the working age population. The findings from figure 1 therefore point to potential issues: 1) regional differences in the young population and 2) regional differences in ageing.

The population is heavily ageing all over the Nordic regions up to 2021, which is the latest year we have consistent population projections for each Nordic region. According to these

projections, Copenhagen keeps the same ratio between the total population and those of working age up to 2021. All other regions will grow older, as can be seen from the right-hand panel of figure 6.2 showing OAR in 2007 and 2021. The share of the young (YAR) in the population is furthermore very differently distributed, as every other dot in the left-hand panel of figure 6.2 lies above the diagonal.

For some regions the ratio will grow dramatically. For example, the ratio in Etelä-Savo, Finland, will grow from 1.57 in 2007 to 1.80 in 2021 (the dot at the top of the scatter). Ageing is, to varying degrees, a common feature of all Nordic regions, while the potential from younger groups in the population will for some regions improve while for others it will definitely deteriorate. Focussing on the Labour Potential of

Figure 6.1 Number of total population per working age people by region



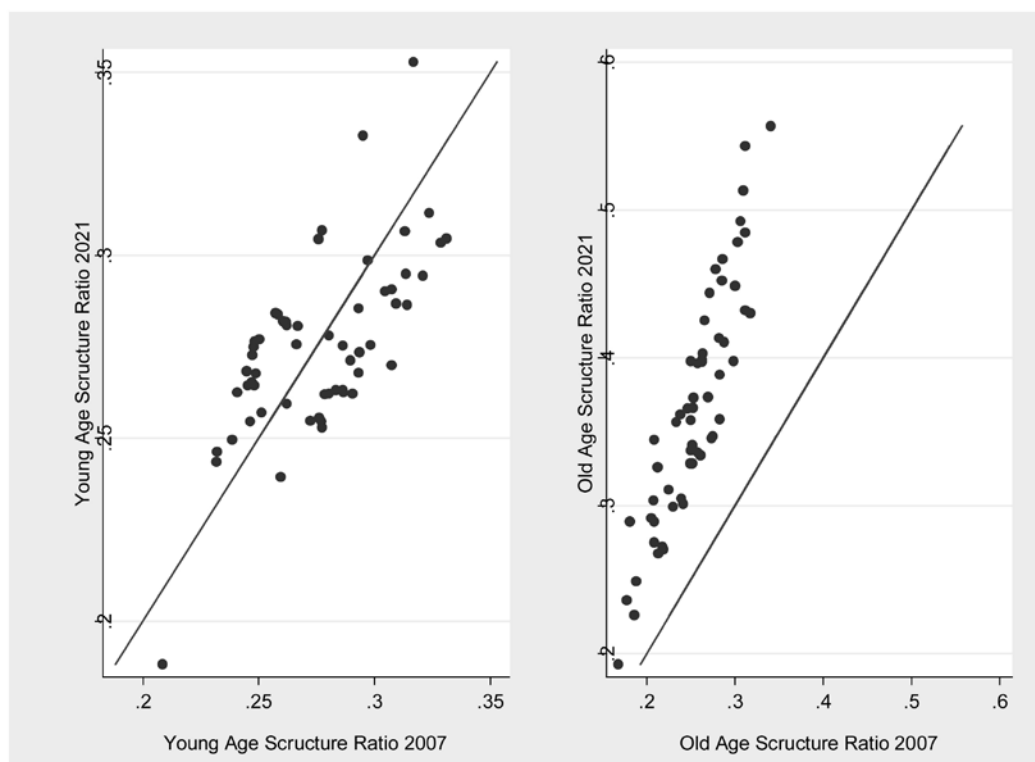
Sources: Nordregio database and own calculations

different groups will thus become an increasingly important exercise in a Nordic regional context in future years.

It should, in addition, be understood from figure 6.2 that the changes in regional dispersion among Nordic regions are quite different for OAR and YAR. The dispersion in the young age ratio remains rather wide ranging from just over 0.2 to just under 0.35 in 2007 and from just under 0.2 to just over 0.35 in 2021. The corresponding dispersion in the old age ratio is

from just under 0.2 to just over 0.3 in 2007 to just under 0.2 to just under 0.6 in 2021. The dispersion increases moderately in the YAR, while it increases dramatically for the OAR. The challenges related to ensuring a sufficient labour supply will therefore unfold significantly differently in the various Nordic regions, with some regions having to focus on both young and older persons in their labour market policies and other regions being highly dependent on the elderly to ensure regional labour supplies.

Figure 6.2. Young- and Old-Age ratio



Sources: Nordregio database and own calculations

Long-run effects of population ageing on labour potential

Nordic regions face the challenges of an ageing population at different rates (Figure 6.3). The Age Ratio rises only marginally in three regions (the bar on the far left), about 8 per cent in 18 regions (the tallest bar in the middle), and almost 14 percent in five regions (the bar to the far right). The uneven nature of the future changes in respect of ageing is thus confirmed from these observations. At the same time this also emphasizes the importance of dealing with regional differences in ageing in respect of the labour supply.

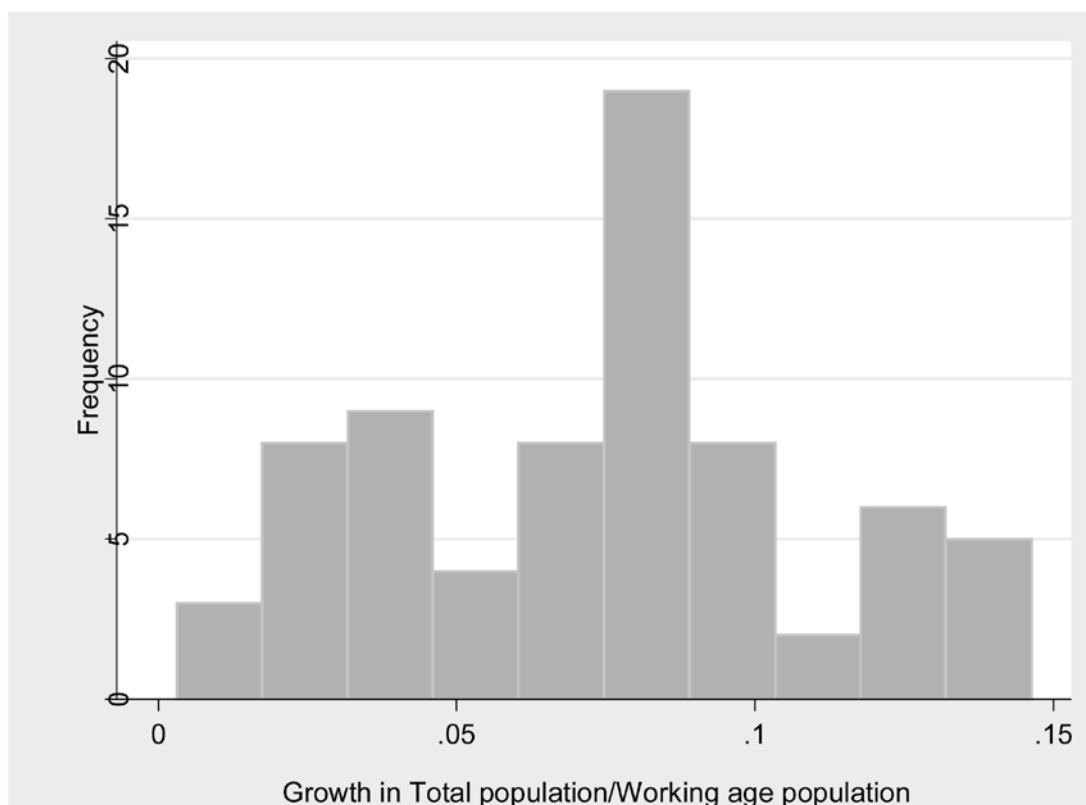
While figure 6.3 provides an impression of the regional distributions of the ageing process in the Nordic regions, it does not provide information on the spatial distribution of the intensity of ageing among the regions. To gain a more detailed impression of the spatial patterns, figure 6.4 presents the ageing process in terms of a typology with three categories. These categories are defined by regions with a growth rate in the ageing ratio of less than 5 per cent between 2007 and 2021, a growth rate in the ageing ratio between 5 and 10 per cent and a growth rate

in the ageing ratio of more than 10 per cent. The spatial structure of this typology of ageing is shown in map 6.1.

There are clear country differences in the ageing process among the Nordic countries. Norway and Iceland see limited problems in terms of increasing ageing problems, while Denmark and Sweden can expect their ageing problem to deepen. The clearest problems in this respect can be expected to arise in those regions located in the north and east of Finland. Regional differences in growth rates are much more visible for the OAR than for the YAR (Figure 6.4). Even in the regions with the highest YAR growth rate the growth rate is still lower than the lowest growth rate in OAR.

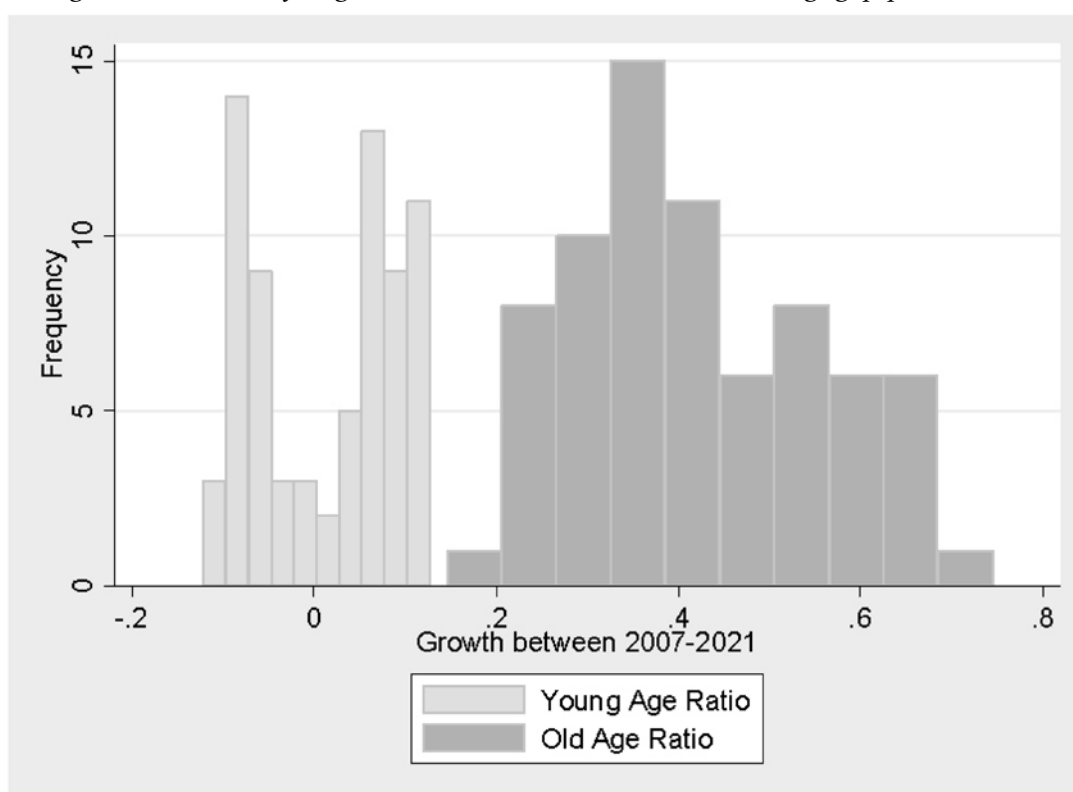
Relative growth in the part of population outside working age will affect Labour Potential, since people under 15 are still in schooling and people older than 65 are retired and therefore inactive on the regional labour market. The Granger-causality analysis above indicated how much a change in age structure will affect Labour

Figure 6.3. Relative growth in the Age Structure Ratio between 2007 and 2021



Sources: Nordregio database and own calculations.

Figure 6.4 Growth in young and old cohorts relative to the total working age population



Sources: Nordregio database and own calculations

Potential through the estimated elasticities of specific age groups.

The population projections reveal that the average change in the Total Age Ratio, TAR, over the years and regions is 7.3 per cent between 2007 and 2021 (Table 6.1). Using these population projections, the estimated elasticities indicate that this will decline the Labour Potential, *ceteris paribus*, by a minimal 4 tenths of a per cent on average (Table 6.1). The effect has to be interpreted as a deviation from the baseline, from the level that would have occurred without aging. For example, if the level of Labour Potential in 2021 were the same as the average over the historical data at hand 1991-2007, i.e. 4.90 per cent on average, the change in the Total Age Ratio until 2021 would decrease the LP to 4.50 per cent.²

Table 6.1 Summary statistics for projected changes in Age structure and LP between 2007 and 2021

Variable	Mean	Std.Dev.	Min.	Max.
Projection				
TAR	.073	.036	.003	.146
YAR	.015	.080	-.122	.127
OAR	.417	.133	.146	.745
Estimated effects				
LP	-.004	.002	-.008	-.000
grYLP	.003	.016	-.026	.027
grOLP	-.039	.012	-.069	-.014
direct	-.036	.017	-.086	-.003
indirect	.006	.003	-.001	.011
Total	-.030	.018	-.078	.004

Sources: Nordregio database and own calculations

As discovered in the previous chapter, the model works much better when the age structure is split into the young and old segments. The Young Age Ratio will have a small effect here. On average it will grow by 1.5 per cent (YAR in the Table 6.1) and on average it increases the Labour Potential by one third of a per cent (grYLP in Table 6.1).

In contrast, the OAR will grow by 42 per cent and its effect on LP will be -4 per cent on average. This implies that in regions experiencing an average population ageing, the LP is 0.90 per cent compared to 4.90 in regions facing no population ageing and having the average LP as in the period 1991-2007. The effect is large, and

implies that the Labour Potential will vanish, if there is no other adjustment in the economy with respect to the labour market participation rates of the elderly in particular.

Regions will experience changes in YAR and OAR simultaneously. When combining the two effects, the direct effect on the LP decreases to -3.6 per cent. This is a comparably large decrease relative to the average level of the LP in our historical data 1991-2007 of 4.9 percent.

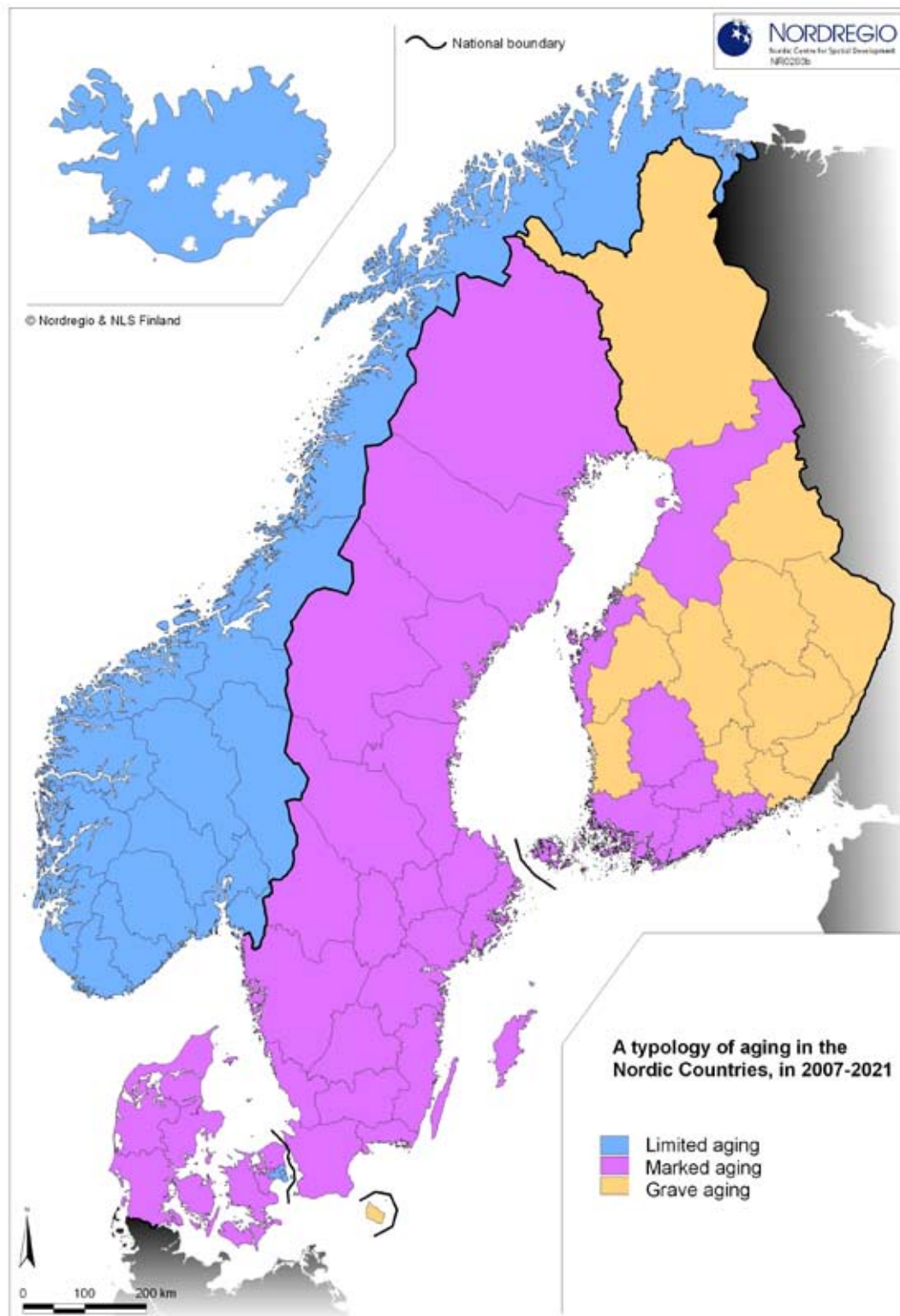
The indirect effect, coming through reactions in the unemployment and activity rates, slightly counterbalances the direct effect. The indirect effect is positive on average, equating to a -3.0 per cent total effect (combining the direct and indirect effects). This will accordingly decrease the average of 4.9 per cent LP to 1.9 per cent in the long run.

These effects are large using the average values of TAR, YAR and OAR, and they are even larger in the extreme cases of regions at the minimum and maximum values of these variables of the population projections (Table 6.1). The Labour Potential will decrease by 7.8 per cent in regions facing the largest change in the age structure (the minimum of "Total" in Table 6.1). At the other extreme, the Age Ratio of Copenhagen will change only very slightly in the next 15 years. This will hardly have any effect on the Labour Potential (the maximum of grLP in Table 6.1). Therefore, the future of Copenhagen in terms of potential labour supply seems fairly promising.

The forecasted change in LP (based on the total of the direct and indirect effects) is vaguely but positively related to the current age structure. The upcoming decrease in LP due to the ageing population tends to be milder in regions that currently have a larger total population per working age population (Figure 6.5). The correlation between the forecasted change in LP and the current Age Ratio is 0.14. A regression of the forecast on the current age ratio gives a coefficient of 0.08 with t-value 1.8. Current YAR and OAR seem to have counterbalancing effects on the forecasted LP, as the estimated coefficient of the age ratio is moderately positive.

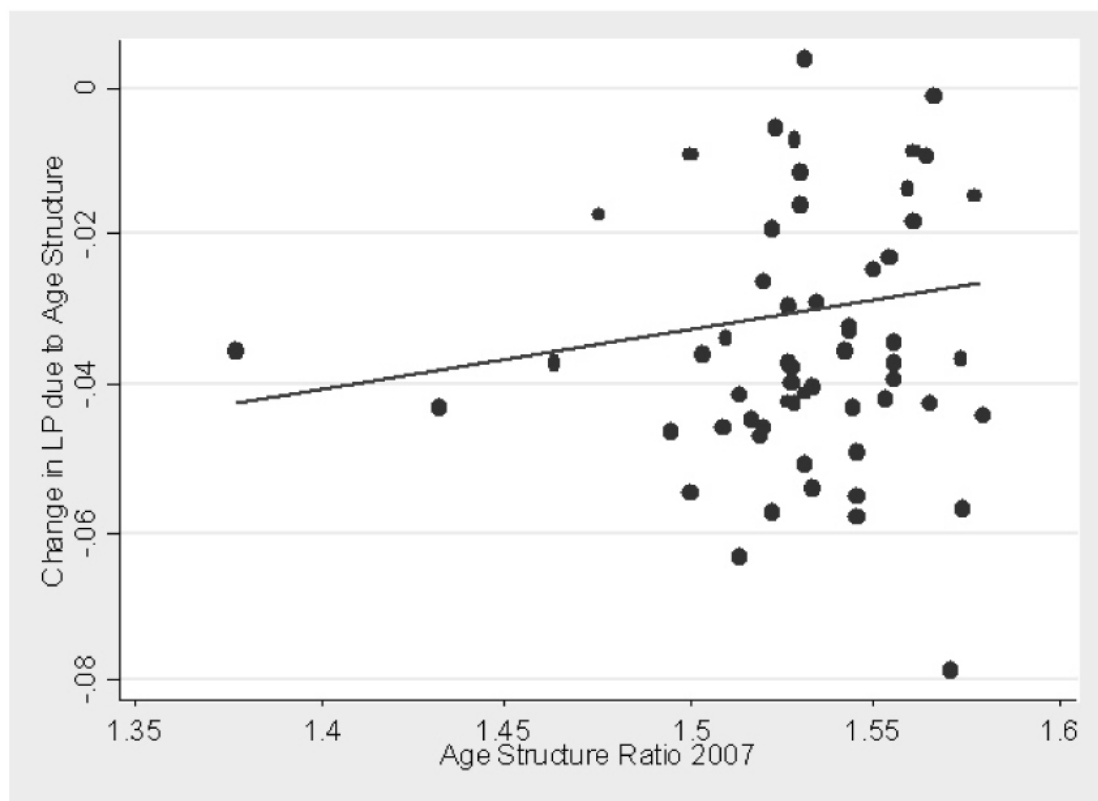
Although the combined effect is slightly positive both YAR and OAR have a negative association with the LP when scrutinized

Map 6.1 Map of relative growth in the Age Structure Ratio between 2007 and 2021



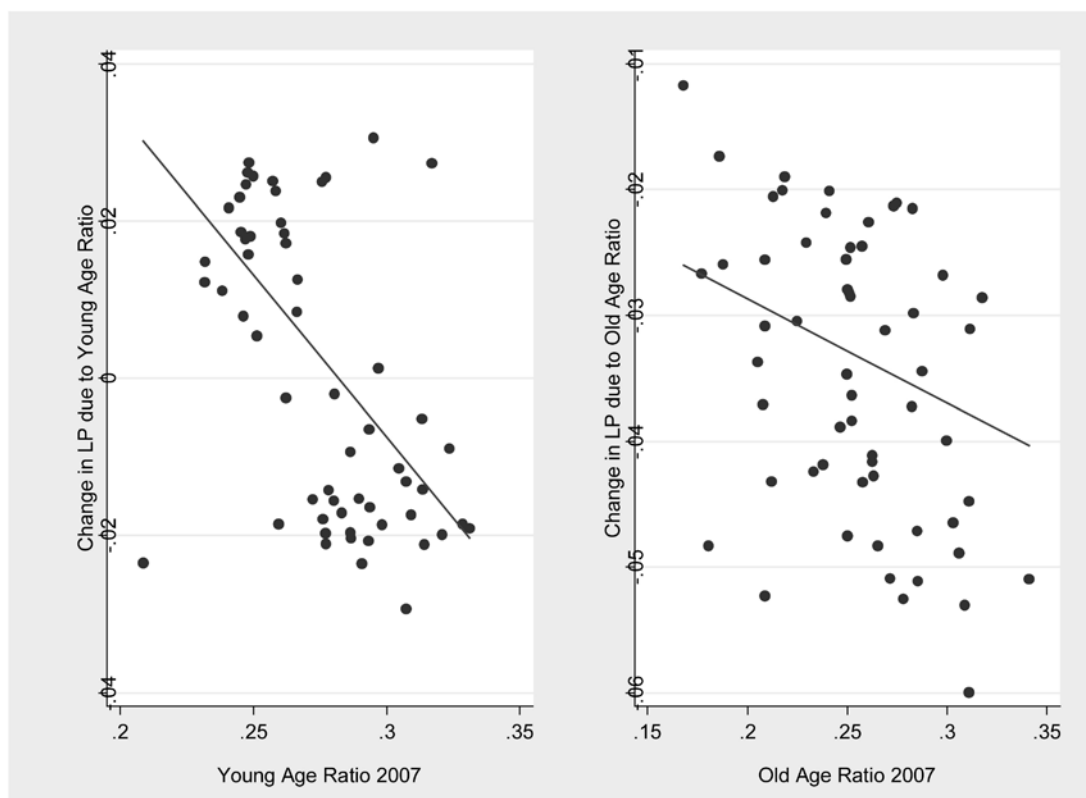
Sources: Nordregio datatbase and own calculations

Figure 6.5 The relationship between forecasted change in LP and the total Age Ratio of 2007



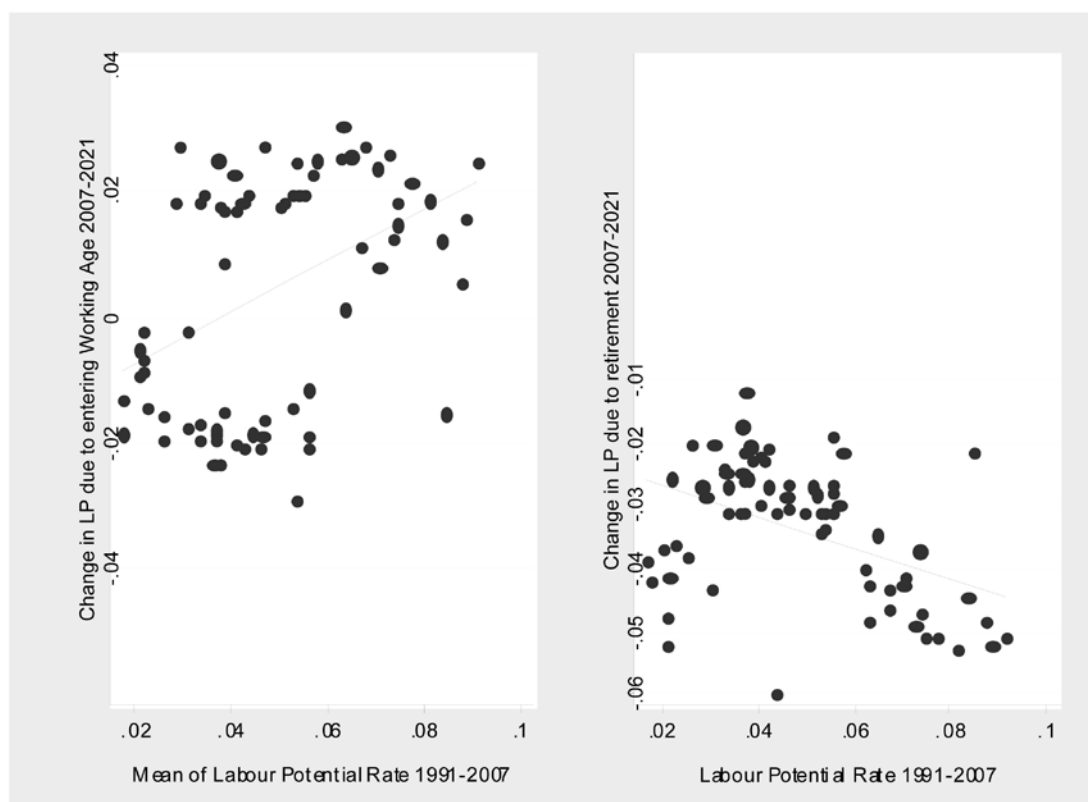
Sources: Nordregio database and own calculations

Figure 6.6 The relationship between forecasted change in LP and Age Ratios of 2007



Sources: Nordregio database and own calculations

Figure 6.7 The mean of the current LP and the change in LP due to YAR and OAR



Source: Nordregio database and own calculations

separately. The relationship between the forecasted change in LP and the Young Age Ratio in the left-hand panel of figure 6.6 is even more negative than that between LP and the OAR in the right-hand panel of figure 6.6. The correlation between the forecasted change in LP and the current Young Age Ratio is as high as -0.60. A regression of the forecast on the current YAR gives a coefficient of -0.41 with t-value -6.3.

The relationship between the forecasted change LP and the OAR is also negative, as indicated in the right-hand panel of figure 6.6. The correlation between the forecasted change in LP and the current Young Age Ratio is as high as -0.31. A regression of the forecast on the current YAR gives a coefficient of -0.083 with t-value -2.7.

The expected long run change in Labour Potential can be evaluated against the level of current Labour Potential. The country averages of the current LPs are shown in figure 5.4, and summary statistics for the regional level over all

the years under investigation (1991-2007) are given in table 5.3.

It appears that the YAR (the population entering the labour market) is positively associated with the LP (the left hand side scatter plot in Figure 6.7). The higher the current LP level, the higher will be the increase in LP in the future. A simple regression of the change on the level (the regressions line in left-hand side panel of figure 6.7) indicates that the LP will be 4 per cent higher when the current level is 10 per cent higher (coefficient 0.406, t-value 3.8, and R-squared 0.16).

The OAR will work in the opposite direction by declining the potential more in regions where it is currently higher. A simple regression of the change on the level (the regressions line in the right-hand side panel of figure 6.7) indicates that a one percentage point increase in the current LP level is associated with a 0.23 per cent decline in the future potential due to the old age ratio (coefficient -0.234, t-value -3.9, and R-squared 0.17).

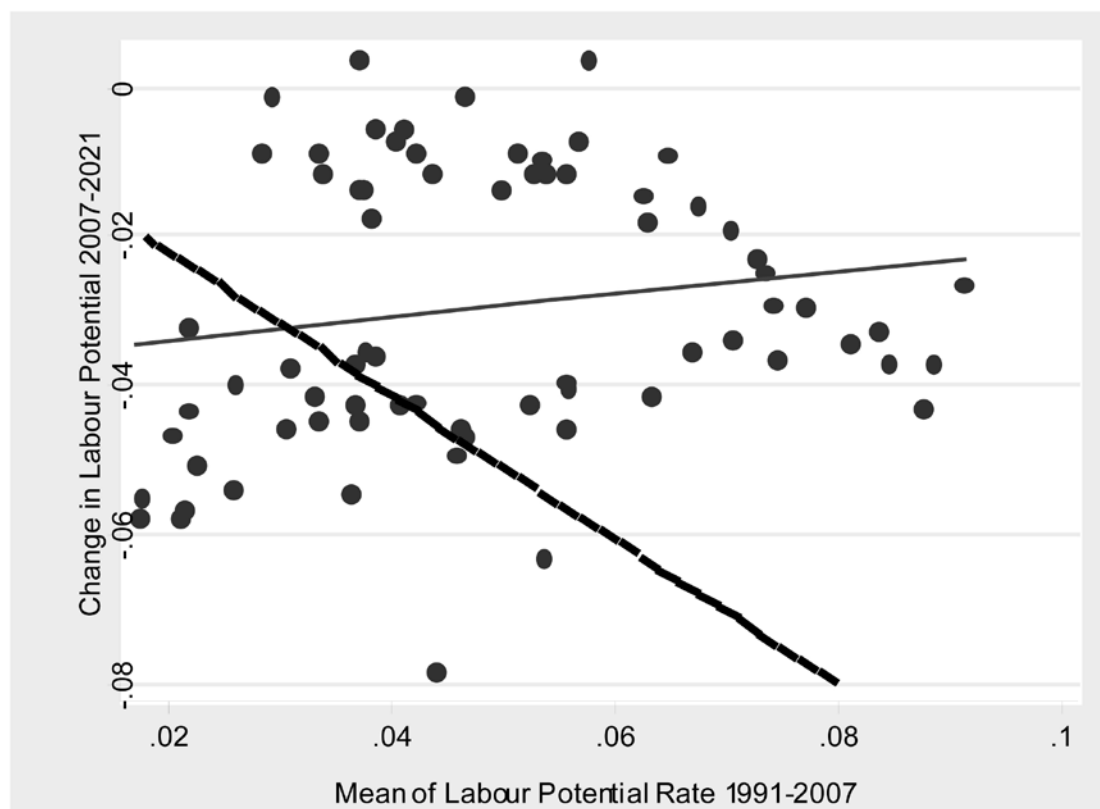
The LP will only be weakly correlated with the current level of LP, since the young and old segments of age structure move in counterbalancing directions in the future. Figure 6.8 shows the current mean potential for the period 1991-2007 on the horizontal axis and plots it against the forecasted relative changes in LP in the period 2007-2021 due to changing shares of young and old aged people. It appears that the potential will decline less in regions where current potential is higher. This implies that an ageing population will over time increase the variation in regional Labour Potential. A simple regression of the change on the level (the solid and thin regression line in Figure 6.8) indicates that a one percentage point increase in the current level of the labour potential rate is associated with a 0.17 percentage point milder decline in the future potential (coefficient -0.172, t-value -1.5).

The dashed and fat line shows how strong the effect is by assuming that the historical average of 1991-2007 shows an equilibrium level of the

Labour Potential. Any ageing in a region will reveal a deviation from such an equilibrium point. There are quite a few regions where ageing will decrease the LP more than the current (equilibrium) level. If the future decline in the labour potential rate is larger than the current level, the region is located below the dashed and fat line, and vice versa. It appears that 32 per cent (or 23 regions out of the total of 72 regions) are below the line. Ten of them are in Denmark, one in Finland and 12 in Norway. There are no such regions in Sweden or Iceland.

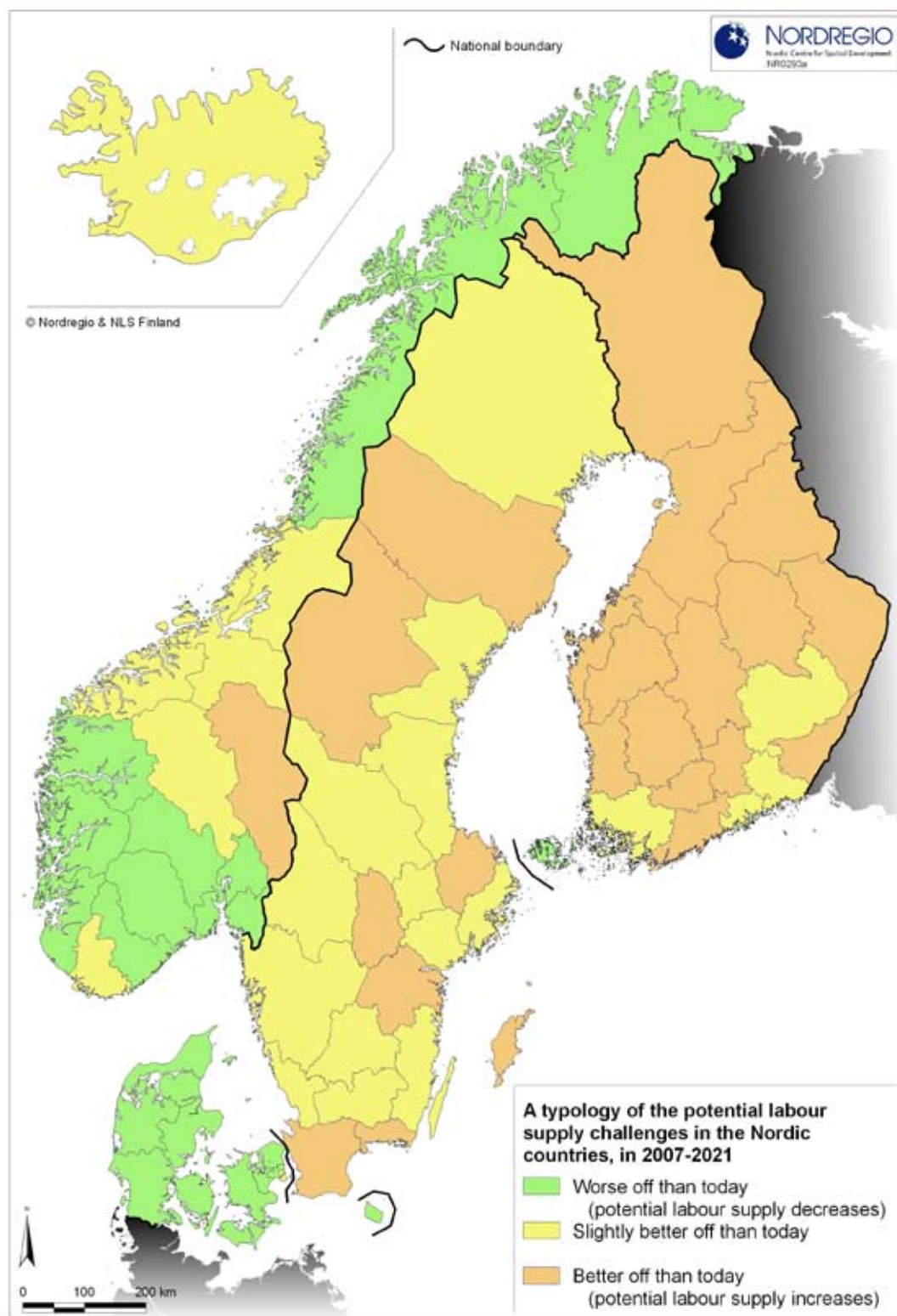
In order to provide a more detailed impression of the spatial structure of the change in the Labour Potential between 2007 and 2021 map 6.2 presents the change in Labour Potential in three categories. One category indicates that the regions have a decreasing Labour Potential; another category indicates that the regions have an increasing Labour Potential between 0 and 4 per cent; and the final category indicates that the regions have an increasing Labour Potential of over 4 percent.

Figure 6.8 Forecasted LP and the average of the current



Source: Nordregio database and own calculations

Map 6.2 Map of relative growth in the Labour Potential between 2007 and 2021



Source: Nordregio database and own calculations.

Including labour market behaviour by age groups differentiates the spatial structure of map 6.1 considerably. Even if the ageing problem in Norway is moderate, some regions will still see a Labour Potential that is worse than in the current situation. The picture also changes considerably in Sweden and Finland. These countries faced moderate to severe ageing processes, but the Labour Potential increases considerably in spite of this and this is also the case for the northern and eastern regions of Finland. Only Denmark sees that ageing problems are not compensated

by labour market behaviour. Denmark thus faces both increasing ageing and a diminishing Labour Potential.

The LP cannot of course go down to the negative values, because other reactions in the economy will offset the adjustment process before the LP goes below zero. Figure 6.8 highlights those regions where the future decrease in the LP will be higher than the current level, and thus identifies those regions facing the most severe challenge in respect of ageing.

Conclusion

Nordic regions will experience an ageing population at different rates; some regions will experience a rapid process of ageing while other regions will experience a very slow ageing process. Copenhagen can be expected to maintain the same ratio between the total population and those in working age up to 2021, but all other Nordic regions will grow older. According to the estimations undertaken in this study, Etälä-Savo will have the highest growth with respect to the ageing of the population up to 2021.

The expected long run change in Labour Potential can be evaluated against the level of current Labour Potential. The present analysis indicates that a decline of the labour potential will be more accentuated in regions where it is currently higher. This implies that the current regional variation of population ageing will also reduce the current variations in regional Labour Potentials over time. While ageing is not an innocuous phenomenon from a regional perspective for the labour potential, the net effect of the sum of these direct and indirect effects seems to indicate convergence in the labour potential.

The results also indicate that the estimated future decrease in Labour Potentials due to population ageing tends to be higher in regions that currently have a larger total population per

working age population. This is an expected result. Regions with a relatively larger Labour Potential will have a larger buffer as they have lower total population per working age population. The top-three regions with respect to ageing and therefore with the strongest ageing process from 2007 to 2021 are Etälä-Savo – Södra Savolax (14.6 percent), Kainuu – Kajanaland (14.3 percent) and Satakunta (13.7 percent). The corresponding three regions with the weakest ageing process are Copenhagen (0.3 percent), Oslo og Akerhus (1.2 percent) and Vest-Agder (1.5 percent). The regions facing the most severe ageing process are therefore all located in Finland, while the regions with the least severe ageing process are located in Denmark and Norway. This changes when turning to the Labour Potential. The top-three regions with the strongest growth in the Labour potential from 2007 to 2021 are Lappi – Lappland (6.5 percent), Skåne län (6.1 percent) and Pirkanmaa – Birkaland (5.6 percent), while the three regions with the largest decline in the Labour Potential are Sydjylland (-4.0 percent), Vestjylland (-3.7 percent) and Østsjælland (-3.6 percent). The main result is therefore that ageing and Labour Potentials render quite different regional patterns across the Nordic countries, which must be addressed when designing labour market policies. Ageing then is only one measure of changing regional structures.

Notes

1. Total population relative to the number of people in working age.
2. The decrease of 4.5 percent arrives from subtracting 0.4 percent from 4.9 percent.

7. Policies for Maintained Employment and Welfare

Petri Kahila and Daniel Rauhut

Introduction

Setting the focus on employability is an attempt to describe the supply side of the labour market. During the last twenty years, most of the countries in the western world have relied on various incentives to improve the supply side to reorganise or create positive conditions for growth. Employability can be improved through training programmes, employment services and through subsidises that favour the maintenance of employment for marginal groups.¹ Seen from the perspective of an ageing labour force the supply side and the question of employability of the labour force is vital.

The centrality of 'employability' can be found in policy papers at all administrative levels. In the Nordic welfare model the public sector is responsible for employment through the objective of achieving full employment (Garsten

and Jacobsson 2004). This has meant that the role of the individual has been superseded by that of the (welfare) state which has actively pursued this role since World War II. Recently, the emphasis has shifted, and more emphasis is now placed on individual responsibility and individual rights. In this perspective, employability can then be seen as a shared risk between state, enterprises and individuals.

This chapter begins with a discussion on the current policy framework to enhance employment and welfare at different policy levels. This is then followed by a discussion on the institutional obstacles to success. The policy implications of the current situation are then presented. The chapter ends with some policy recommendations for maintained employment and welfare in an ageing society.

Present policies

Labour market and employment practices and measures vary between countries. Policies on employability represent a changing agenda rather than a fixed set of permanent and precise measures, which can be recorded and assessed between countries. Employability as such can be approached from individual and institutional points of view (e.g. Garsten and Jacobsson 2004). Employability from an individual perspective includes the notion that it is an individual responsibility to ensure that one is employable in the labour market. Institutional employability can be related to a set of wider issues, in which the notion of employability is seen as a way to make people employable (or ready) for labour market, i.e. different measures and practices like training courses and targeted services are ways of improving employability.

The European level

At the European level, the Lisbon strategy aims at full employment, and the strengthening of social cohesion by 2010, (European Commission 2004a, 2004b). The European Union decided at the beginning of 1990s to design an employment policy which focused on the problem of unemployment in most of the member states. The economic crisis of the early 1990s had a significant impact on most national economies in the EU. The European Commission thus introduced a new emphasis on employment issues and policies in its white paper on growth, competitiveness and employment (European Commission 1993). Since then, employment has received greater attention and has exerted a broader influence at least at the EU level. Specific

targets have been defined on overall employment rates (70 %), employment rates of women (60%) and employment rates of older workers (50%) (European Commission 2005). The targets to be applied in the member states include the promotion of active ageing, discouraging early retirement and improving the possibility to link work and private life. Many member states have already applied most of these measures more or less successfully.

The European Employment Strategy is one of the most important employment strategies, and was designed as common framework for the EU-level (European Commission 2003). The content of the strategy is transformed into national action plans in the member states. The Employment Strategy's main target is to increase the integration of those people, currently unrepresented on the labour market. Among the targeted groups are women, low-skilled workers, young persons, immigrants and older workers.

The European Union organised an Employment Summit on 7th of May 2009 to undertake special actions as a response to the current economic crisis (European Commission 2009). The summit's aim was to fight unemployment and create new jobs. The main outcome of the summit was a broad consensus among participants over directing future employment policy in the member states to increase access to employment particularly to the young while also focusing on upgrading skills, matching labour market needs and promoting mobility. The Summit defined the actions planned to be realized through the Structural Funds including co-financing and legislative measures on the national level. It can thus be expected that these actions will also have an effect on adapted employment policies on the national level.

The Nordic countries

The Nordic policy agenda is based on a balance between individual obligations and rights and the responsibility of the public employment service to assist unemployed people. This interaction refers to the individual's right to employment and to their obligation to remain employable, while the public employment service is obliged to look for and register vacant jobs. The Nordic countries have implemented different policies and approaches in respect of the total individual

working life. In Denmark and Iceland, there have not been specific reasons to restructure the pension systems, because people have longer working histories in comparison to other Nordic countries.

The Nordic countries have put into operation several measures to increase female and older people's employment rates in order to reduce the outflow from labour markets. Active policies between the Nordic countries share similar approaches because of the common state structures and similar population and societal characteristics. They have also applied similar policy approaches at the Nordic level, but it appears that the Co-operation Programme Labour Market and Working Environment 2005-2006 (Nordisk Ministerråd 2005) has not been successful in influencing individual policy choices in the Nordic countries.

The programme stipulates that the Nordic countries should, in the context of their employment policies, pay more attention to population ageing in the labour market and develop an active and inclusive working life. Despite this common programme, the Nordic countries have not included matching instruments or approaches in respect of current and forthcoming challenges in the labour market (Rauhut and Kahila 2008). The welfare state model is similar across the Nordic countries though the major challenges currently faced in respect of labour market issues are not commonly addressed. Additionally, the high current rate of public expenditure in the Nordic countries may put additional financial pressure on the welfare policies of the future.

The similarities between the Nordic countries is also discernable in the cooperation between employers, employees and government, the active labour market policy and the guarantee of a healthy and safe working environment. The purpose of the Co-operation Programme Labour Market and Working Environment 2005-2006 is to influence working procedures with the public sector in particular beginning to react actively to manage age related questions in employment (e.g. Piekkola 2006).

Various aspects of marginalisation have evolved rather differently across the Nordic countries both as a result of changes in the

labour market and in society more generally. Formerly, members of particular social groups, such as women, young people and immigrants were, more or less directly integrated into the labour market. Most European societies are now facing structural labour market problems and the integration of different social groups into the labour market is no longer a simple process. For instance, immigrants without a legal status are excluded from the labour market. Moreover, the forms of labour market integration for older people have radically changed during the past thirty years, as instruments in respect of early retirement have, for instance, been applied in order to reduce the number of workers (Maltby et al. 2004).

The new Programme for Nordic Co-operation on Working Life 2009-2012 concentrates on advancing employment and labour market policy, the working environment and labour law. The content of the programme is, in relation to previous programmes, somewhat more focused on the structural sustainability of Nordic labour markets. Programme initiatives include the employability of potential labour market groups, but they are now also targeted to sharpening the requirement of individuals to accept work when offered. A red line running through the programme is however the intention to protect and develop the 'Nordic model' by maintaining the goal of full employment.

The general impression of the

the Nordic welfare state model outside Nordic countries frequently stresses the close relationship between labour market incentives and social welfare policy which permits people to live by means other than labour. This safety net was however principally designed to give people a chance to change employment and recover from unemployment in order to enter the labour force again – not to simply avoid labour. Currently, the economic crisis and the shortfall in public financing are endangering this system of 'safe return' to the labour force.

The national level

Current policy in each Nordic country includes some sort of reform of the national pension system. Finland has undergone the most profound change in its pension system while pushing through important policy changes. At the other end of the scale Norway has

reacted more slowly to the challenges posed by population ageing. National differences thus remain clear explanatory factors behind these policy choices. Finland has recovered from a severe economic restructuring process and has conditioned its policies on the basis of an ageing population, whereas population is ageing more slowly in Norway while the strength of the public financing system has meant that policy reform or redirection in this regard is not so pressing. Sweden also lacks a comprehensive strategy to advance the labour market situation of ageing people, and the policies have thus far developed almost solely in relation to the different incentives related to welfare services. Targeted policies to improve the attitudes of employees towards ageing people in the workplace have not been tried. Iceland and Denmark have as yet not seen any need to reform their pension systems because older people clearly work longer in relation to other Nordic countries. The statutory retirement age was reduced in 2004 from 67 to 65 in Denmark, and in Iceland it is still 67. Both countries have in recent years however introduced new policy approaches to develop the position of older people in the labour market.

The co-ordination of labour market policies and social policies is a necessity in order to mainstream social inclusion problems into various sectoral policies. In Finland less attention has been paid to the integration of labour market policies, income support schemes, and public services all of which have been developed separately within their individual legislative frameworks (Begg et al. 2006). The only area where Finland has been a frontrunner in Europe is the application of an integrated approach to population ageing.

One other possible solution would be the incorporation of provisions to compensate for the risk of career interruption into pension benefits, or the transformation of pension or unemployment benefits into gradual retirement schemes (Schmid and Schömann 2004). Finland has used a combination of several measures to increase the employment rate of older workers by over 15% in the past 10 years, including pension system reforms, specialised training, measures to improve the welfare of older people in the workplace, and targeted subsidies for low-paid jobs (European Commission 2006).

During the past two decades Danish labour

market policy has developed in the favourable wind of international economic trends and succeeded in producing remarkable results. Danish employment policy has targeted economic feasibility, in which a traditional rather liberal and unregulated labour market is combined with normal unemployment protection. The structural dynamics of the Danish labour market have been described by the term “flexicurity”, which is a system that combines a high degree of flexibility with social security (Bredgaard et al. 2009). The flexicurity model combines labour market flexibility and welfare state security and at the individual level blends a short spell of unemployment between two jobs. Persons who are in danger of falling out of the labour market see that the active labour market policy provides a possibility to improve their qualifications and thereby advance their potential for labour market reintegration.

The Danish action plan ‘More people in work’ from 2002 expects that active labour market policy has to be made simpler and more effective, and the focus in terms of labour market policy has to be on the activation of directly qualified persons. This expectation level directly relates to the implementation of the ‘flexicurity’ model (OECD 2003a). Simultaneously, initiatives in respect of young people will be developed and the integration of refugees and immigrants will be implemented (OECD 2006). The plan also stressed the need to focus on the employment of older unemployed persons who have left their work early or who had faced difficulties in re-entering the labour market.

The Norwegian efforts to eliminate obstacles and to better manage the various processes of exclusion in the labour market have been rather modest. For instance, Christensen (2003) argues that the concept of active ageing has not attracted much attention in terms of policy formulation, and the basis for policy reformulation has been grounded on a negative definition of ageing as such. The OECD report on Norwegian ageing and employment policies (2004) stresses that the older workers need to be better supported in their desire to participate longer in the labour market, and that this policy requires a comprehensive reform strategy in order to enhance the work incentives set out in the welfare system. However, several strategic adjustments are in progress as for instance the new institution NAV was established

in 2006, which combined the State PES and the National Insurance Administration (Duell 2009 et al. 2009). The new labour market services which are provided by NAV offer systemic services for job seekers and for social assistance clients.

The overall aim of the Norwegian government is to maintain high employment rates. In recent years, Norway has experienced a better employment situation and lower unemployment rates than other European countries because of the strong GDP and productivity growth (Duell et al. 2009). There remains however a large group of people who are not unemployed but are nevertheless outside the labour force on long-term sick leave or vocational rehabilitation. As in many other countries, Norway will in the future face a problem in terms of a shrinking labour force and thus a labour shortage. In addition to the question of ageing there is also a need to enhance the labour force participation of other potentially excluded groups such as immigrants and young people. In its 2004 report, the commission to reorganise the employment and welfare administration stated that the main goals for labour market policy had generally been met, but there were still some improvements to be made in activating marginalised groups like immigrants and older people (Christensen 2006).

Sweden has a long tradition in terms of active labour market policies which have been implemented side by side with the development of the welfare state (Junestav 2007). The policies have targeted the general development of the labour market and upgrading skills across the labour force in order to achieve full employment in the country. A number of important steps have also been taken in relation to improving the labour market participation of older workers, but these incentives should also be reinforced and targeted on the demand side in the labour market (OECD 2003b). The inflexible standpoint of some employers is however, in part, said to be inhibiting the possibilities of employing older workers (Cf. Finansdepartementet 2007).

Labour market activation is not unambiguously defined in the labour market terminology in Sweden. Several reforms have taken place over the last ten years in the Swedish labour market. Reforms have included intentions to activate labour market policies so that unemployed people

will have more personal responsibility in terms of finding a new job with them now having to face a number of new 'activation requirements' in return for receiving income support from the state (Köhler et al. 2008). This has meant that the focus of labour market policy has shifted from training and subsidised programmes to long-term activation measures in order to improve the matching process in the labour market.

In relation to the other Nordic countries, ageing is not a significant challenge in Iceland, because the age distribution is rather positive and the number of retirees will remain low. Iceland does not currently apply any specific programmes or incentives to reduce or prolong labour market participation of its older workers. Labour immigration flows have been rather strong in Iceland which has faced a sharp increase in demand for migrants while continuing to show high participation rates among immigrants (Rauhut & Kahila 2008). The economic collapse in Iceland at the end of 2008 has, however, changed the whole setting in the Icelandic labour market. The labour market situation has taken a full turn and worsened rapidly. The creation of new jobs has stagnated and in some cases Icelandic people have started to look for new employment opportunities in other Nordic countries, and in Canada.

The regional level

It is necessary for regional strategies and policies to understand the impact of population ageing and the necessity to develop a strategic response. Regional demographics are often unique and regions thus require detailed assessment and responses. The regional level needs to retain a strong emphasis, mainstreaming the regional dimension into national policies and structures. There is, moreover, a need to apply greater functional coordination between the national and regional levels but also between the regions themselves. Possible future actions should include supporting effective coordination at the regional level and facilitating information exchange.

The regional level and regional organisations are gaining in importance in respect of the governance of all European Member States, and the strategies and policies they develop and deliver will thus have an important impact on the economic and social development of their

regions. These regional strategies and policies are being developed at a time of profound change both within Europe and internationally (Rauhut and Kahila 2008).

European Union policies emphasise the importance of a greater devolution of responsibilities and tasks as well as the integrated delivery of labour market and social services (European Commission 2002). The labour market policy integration of services will bring clear advantages as services for disadvantaged people can be organised separately with sufficient resources and qualified personnel. Welfare and work are now ever more connected in terms of different measures of activation and rehabilitation.

Labour market competences are set rather uniformly across the Nordic countries though differences remain in the upward and downward modification of powers and tasks. The Nordic countries have an additional common feature in that they use integrated activation arrangements between social and labour market services at different regional tiers.

The governance mechanism in the integration of services comprises the creation of combined and simplified implementation elements such as jobcentres and one-stop-shops. This has also required new modes of policy implementation, organisation, and delivery of services. Functional policy reform has been evident in all Nordic countries extending its influence far beyond employment and social policies. Reforms and new modes of policies, i.e. flexible solutions in labour market services, reshape relations between societal organisations, between private and public actors and between the state and citizens.

The national level in the Nordic countries retains a significant degree of power over regional labour market services. The regional level will however undoubtedly receive more power to influence its own actions but real power in defining labour market schemes will, ultimately, remain at the national level.

Several studies on the division of responsibilities between state and region as well as on which administrative level the major regional challenges should be addressed have concluded that the challenges are regional. To

meet these challenges the lines of responsibility between state and region need to be clarified. By tradition the regional level has been weak in the Nordic countries (Aalbu et al. 2008, Karlsson et al 2009, Moxnes Steinecke 2009). It must be questioned however why no policies addressing the regional level have been implemented. This is surprising, especially as the challenges ahead are regional rather than national.

Concluding remarks

Although the Nordic countries show marked similarities in terms of socioeconomic and social conditions, there are also marked differences. When the conditions for young adults to establish themselves in the labour market are examined significant variations emerge – even if the general ambitions of welfare policy are similar. Recent studies show that young adults experience considerably less favourable labour market conditions in Finland and Sweden than in the other Nordic countries (Olofsson and Wadensjö 2007).

Significant differences can also be found between the Nordic countries regarding labour market performance for persons with an immigrant background. Large differences between the Nordic countries as well as significant intra-regional differences within the Nordic countries exist in respect of long-term sickness leaves and early retirement. This was illustrated further in chapter four.

Most of the implemented policies deal with the issue of how to keep ageing labour in the workforce and postpone labour market exit for this group of workers. Ineffectual attempts have, in addition, been made to improve the situation for e.g. young adults and persons with an immigrant background.

To a large extent ageing, welfare provision and labour supply are regional challenges. Alas, the policies implemented thus far address only the national level.

Policy designs in the Nordic countries and regions

In some peripheral regions with a “labour shortage” only two in three persons of working age are actually working (Rauhut and Kahila 2008). This indicates that the supply of potential persons to the labour force is not the main problem in respect of the labour supply, but rather that the institutions in the labour market continually fail to allocate labour efficiently and thereby fail to fill the vacancies. This potential labour reserve can, however, only be utilised if there is a real demand for the kind of labour which this group contains. If employers continue to reject e.g. persons of 50+ years, immigrants, single mothers, young adults and those from the ranks of the former long-term sick no changes will take place.

The inclusion of marginal groups at the labour market has been on the policy agenda for quite a long time. Many reforms and programmes have been launched to address these issues, but no major changes can be observed. The main issue to be discussed here is why these efforts to include

marginal groups in the labour market, groups which constitute a potential labour supply, have not been as successful as desired.

Institutional inertia and vested interests

Andersen et al. (2007) argue that the institutions governing the labour market and the educational systems need to be reassessed and remodelled. The authors also emphasise the need for the Nordic population to work more and longer and the easiest way to reach this goal is to improve the employment rates for marginal groups (e.g. young adults, persons with an immigrant background and persons aged 50+).

It is also important to define the core activities of the welfare state, set the limits for what the government is responsible for and enhance the efficiency of public services. By reforming the public services, the labour market and educational institutions the foundation of the ‘Nordic model’ can be defended even if ageing and globalisation

put it under pressure. "What has worked well in the past is unlikely to be good enough in the future" (Andersen et al. 2007:158).

Rauhut and Kahila (2008) argue that there is a mismatch between the labour market institutions and the functioning of the production system. While the production system in a post-industrial service economy is different, it is often the case that the labour market institutions lag behind and often remain tied to the policies and dictums of the industrial economy. Labour shortages, a mismatch between job-seekers and employers, low mobility, labour market segmentation etc., are all outcomes of the inertia in the labour market institutions and their inability to quickly adjust to the post-industrial economy.

Many of the institutions and interest organisations of the industrial economy are still strong and continually attempt to maintain the structure of the industrial society. A structural change in the direction of a post-industrial or service economy would benefit society in general and promote economic growth. The remnants of industrial society's vested interests groups would however be the losers.

The conclusion by Rauhut and Kahila (2008) is that the development we see today is a predictable outcome of an unfinished or incomplete structural change in the economy. The vested interests of the industrial economy are unwilling to enter the post-industrial economy. Institutional dynamism is therefore vital for progress, both economic and social. If the dynamism of its institutions disappears so will the prosperity of the country.

There is already an extensive theoretical literature on this topic. Institutions can contribute to both change and stability in political, social and economic life. Instead of being mere echoes of social forces, institutions, by transcending moral individualism and self-interest, buffer or transform social currents and define the norms, interests and beliefs in society (March and Olsen 1989). Institutions play an important role in a society reducing uncertainty by establishing a stable, though not necessarily efficient, structure to human interaction. Resource inputs in production terms from land, labour and capital are involved in the transformation of physical attributes into goods and in transactions for those

goods. Together they constitute the total costs of production. In consequence, the institutional framework can stimulate or obstruct economic change with regard to production inputs (North 1999).

This institutional dynamism is vital for progress, economic or social. The more dynamic are our institutions the more prosperous is our society. A prosperous society however leads to vested interests with the aim of rent-seeking, which, in turn, will reduce institutional dynamism. If the dynamism in institutions disappears, so will the prosperity of a country (Olsson 1982, Rosenberg and Birdzell 1986, North 1999, Schön 2000).²

Policy norms

Many short-term policies have been launched, e.g., the raising of the retirement age, enabling older people to work longer, changes in labour market legislation to favour older workers and the promotion of labour immigration. Rauhut and Kahila (2008) show that few, if any, medium to long-term policies have been launched and implemented to deal with the upcoming challenges of the welfare burden, e.g. related to the ageing of the population. At first glance this may seem odd, but not when a fuller picture is understood.

The introduction of 'flexicurity' and the liberalisation of the labour market could e.g. improve matching between jobseekers and employers thus increasing geographical mobility. These suggestions are not only highly ideological in nature but also challenge the interests of many vested interest groups. The same can be said of providing tax incentives to make labour move in the desired direction or even to make it (re)enter the labour market.

The same problem emerges perhaps even more clearly when discussing long-term policies and one such policy is to promote the necessary structural change in the economy which would enable the post-industrial economy to create its own labour market institutions. This would not only produce new institutions, but also a different type of demand for labour. Again, this is something which seems not to be welcomed by the vested interests of the industrial economy.

Rauhut and Kahila (2008) conclude that the short-term policies adopted thus far are simply designed to prop up the basic structures of the industrial economy, which suits some vested interests just fine. Medium to long term policies to address the dysfunctional nature of the labour market and the challenges related to ageing actually 'rock the boat' and challenge the current institutional order. A structural change means that old structures and static institutional arrangement collapse to make way for expansive structures and dynamic institutional arrangements. The most successful regions of today may not necessarily then be the winners of tomorrow.

Policy norms in respect of employability potential are built upon the notion that the current order should be preserved. Therefore, to change the organisational setup the policy norms must change, which has been pointed out by e.g. Andersen et al. (2007) and Rauhut and Kahila (2008).

Organisational setup

The employability of the labour force and labour market institutions have changed, primarily, in response to ongoing technological change, a new international division of labour (globalisation), new consumption patterns and the triumphal procession of the market economy. In the scientific literature this is called the 'third industrial revolution'. In this process labour market institutions and the conditions of production however no longer match, something which creates labour shortage, mismatch and unemployment (Magnusson 2006). The successful post-war labour market policy was designed to deal with the problems of an industrial society and had its roots in the late 19th century industrialisation. The prerequisites for social policy and labour market policy traditionally connected with the Nordic welfare model have simply changed (Olofsson 2007).

Contrary to common belief the macroeconomic, demographic and political pressure on the Nordic welfare states in the 1990s has not been manifested in any fundamental changes in the benefits or service provision systems (Heikkilä et al. 2002). The aim of the restructuring of the welfare system that did occur in the 1990s was not to change or adjust it to new

conditions, but rather, simply, to maintain it. The earnings-related social insurance programmes, the universal character of benefits and services as well as the labour market regime are not subjects of reform (Kangas and Palme 2005).

While Finland, Norway and Sweden have gradually relaxed some of the labour market regulations regarding employment security Denmark has, since the late 1990s, undertaken a more thorough reformation. This is related to the introduction of the 'flexicurity' system (Bergh 2007). It is worth noting that the Danish labour force does not perceive this as something negative (Rothstein and Boräng 2006).

With the exception of Denmark, the Nordic countries have tried to maintain the organisational setup on the labour market although the prerequisites for success have changed. The organisational setup does however reflect the policy norms on labour market issues.

Can reforms increase employability?

Some of the problems regarding the employability of the labour force can be solved by institutional reforms in the labour market while other problems will remain. One challenge to improving employability concerns the desire to create an institutional structure which allows regional diversity; there are however significant regional differences remain in employments and unemployment rates, long-term sickness leaves, early retirement rates, the educational level of the labour force etc. 'One-size-fits-all' solutions worked well in the industrial economy but are unlikely to do so today (Cf. Rauhut et al. 2008).

Magnusson (2006) argue that the 'third industrial revolution' or the transition to a post-industrial economy is not only about technology but also about the geography of production. The ICT-revolution and service production does not show the same geography of production as the industrial production. Furthermore, many permanent positions in the labour market have been replaced by fixed contracts for a certain period of time. This transition from an industrial economy to a post-industrial one requires dynamic and efficient institutions in the labour market. The problems with unemployment, mismatch, labour shortage, early retirement

and long-term sickness leaves indicate that these institutions have not been as efficient as they could have been.

Employability will not however be increased simply by lowering the level of welfare benefits in the case of e.g. unemployment and long-term sickness, nor would a raised threshold in the e.g. unemployment and sickness insurance necessarily work either. Using the 'stick' to force people to change behaviour will be costly, especially as many of the unemployed and sick will be completely marginalised. Some of the traditional social security programmes do lock people into non-working (the so-called 'benefits'

trap), and these have to be reformed. To obtain a higher geographical mobility and, perhaps, increase the incentives to accept fixed contracts other means are however necessary (Magnusson 2006). One such 'carrot' could be tax reductions – a long-term sick or unemployed person who re-enters the labour market and reallocates may need that kind of incentive to do so (Rauhut and Kahila 2008).³ It is however important that we also acknowledge that there is a limit to what can be achieved by education and increased mobility alone – some problems, but not all, can be solved and the employability level can be improved to some extent (Magnusson 2006).

Policy implications

The historic aim of the Nordic welfare systems has been full employment. Labour markets in the Nordic countries have been better at activating the labour force as compared to other European countries. Current high employment rates in the Nordic countries may in the future be difficult to match. The existing challenges in the Nordic labour market are relatively limited compared to the emerging challenges in other European countries like in Italy or Germany. The general problems in the labour market are adequately addressed; undoubtedly however disadvantaged groups nevertheless remain and require more attention.

Demographic trends

Population ageing is usually viewed as a challenge at the national level. Regional differences regarding population development and age-structure will put pressure on the labour market. The labour market is however already in some regions not operating efficiently. Regional disparities related to population ageing are not adequately addressed, but in many cases the major hurdle to an active regional approach lies in national level decision-making and regulation. What is needed then is more room for regional policy approaches.

Currently the general approach to the question of ageing focuses, in the main, on the negative aspects associated with increased spending on pensions, direct labour shortages and naturally

on challenges in the field of welfare services. The focus should instead however be directed towards finding flexible solutions to helping older people stay in the labour market while supporting active ageing. Similarly, the national level should not only be in the spotlight, regional solutions have also to be considered in shaping new responses to population ageing. Policies should be pursued at an appropriate level.

Questions over the retirement age are often place on the back burner although discussion over the issue continues. The retirement age is however only a short-term measure in the labour market, because the main concern is to better utilise the potential labour force in as efficient a manner as possible. Flexibility in the labour market should also underscore the provision of incentives to individuals to help them change their behaviour in respect of working longer after retirement age is reached. Attitude changes towards older people in the labour market have to be advanced, while support for "active ageing" should also be advanced thus helping to sustain people in the labour market for longer. It is valuable in the changing labour market to thus consider the advantages of hiring older workers where their valuable experience and willingness to work different schedules and serve as mentors can be seen as positive benefits, rather than simply viewing the older age population as an additional cost that needs to be compensated for.

Regional differences in population ageing

and potential labour supply exist. In the Nordic countries, a considerable number of people leave the workforce before the official retirement age. This will further increase regional disparities and accumulate problems in regions which already today are in difficulty. If regions are ageing in different steps, flexibility is required not only in the labour market but also in view of the retirement age. This would increase the need for regionally differentiated pension plans.

Immigration is thought by many to be the solution to the problem of labour shortage in peripheral regions. Some employers have used immigrants to fill vacancies for which there have been no local applicants. Immigrants have also played an important role in the economic development of many peripheral regions, but it is unlikely that they will do so in the future. First, the volume of needed immigrants is so high that it is unrealistic that this method would offer a sustainable solution. Secondly, immigrants offer no long-term solution to labour shortage – only a short-term solution. Finally, immigrants tend to cluster in metropolitan regions. The political question that emerges then is to what extent a settlement policy for immigrants should be implemented: the immigrants must reside where they are needed and not where they want to live. The problem is that EU-citizens must be allowed to settle down wherever they chose to do so.

Disadvantaged groups and social exclusion

There are several groups in the labour market who require special attention because of the severe employment situation. Youth employment is a challenge especially in Sweden and Finland where high unemployment and considerably lower employment levels pertain among young people. Thus it is clear that the situations and experiences of the various Nordic countries are not the same. The fundamental policy implication is however that these dissimilarities reflect the diversification evident at the regional level. The variations at the national level are important to reveal and discuss, but the real policy challenge is to eliminate variations in regional growth and remove the various labour market obstacles generated by differences in social background, ethnicity etc.

Social exclusion is in the first place a consequence of the fact that people, for one reason or another, do not have a connection to the labour market. People who are socially excluded do have difficulty in re-entering the labour market again, especially during an economic recession. Therefore, preventive actions and policies are critically important to counteract tendencies towards social exclusion and to reduce obstacles to entering the labour market.

It has also to be noted that social exclusion has more than just a macro-level dimension. Better individual preparation improves the ability of an individual to deal with crisis and to take more responsibility for their own personal development. Furthermore, people might not just be excluded, they can also exclude themselves from the labour market, e.g. by choosing to 'drop out' of training or rejecting a job opportunity. Dealing with exclusion from the labour market, it is necessary to be aware of the interplay between the public and individual spheres and also of the social environments shaping individuals life. Labour market exclusion is often linked to an inadequate level of human capital and to geographical immobility.

Regional attractiveness

In disadvantaged regions, the attempts to restructure economic structures have failed and they have thus become even less appealing for businesses and labour. Such regional labour markets are characterised by labour intensive and low productive employment. From this point of view, such regions are experiencing a structural economic decline and face persistent structural economic challenges. This has important policy consequences because regional differences are obvious across the Nordic countries, even though regional policy has traditionally been based on ensuring an even distribution of the provision of welfare services.

The policy approach has been to improve the employment opportunities and incomes of people in their municipality or region as a response to the failure of markets. The question, however, remains as to whether this is a policy designed to actually develop or simply to sustain such regions. The employment and development

policies implemented thus far have not proven capable of removing regional disparities in regional attractiveness. The negative level of development seen in many regions has not been addressed by the creation of policies to improve their regional attractiveness thereby attracting labour and business (Cf. Eðvarðsson et al 2007).

Structural changes causes new challenges

Structural change in the Nordic countries has resulted in clear changes emerging in the regional labour market. There is a continuing need for a well-educated labour force, a fundamental requirement for the support of the growth of services in all types of regions. Labour market mismatch is evident between the traditional and new branches of the economy which in many cases is shifting between the different regions. The emergence of regional changes in labour force participation is also closely associated with globalisation and the offshoring of economic activities.

Employers in peripheral regions face the challenge of a declining labour force due to population ageing, out-migration and low fertility rates. Not until recently have employers however begun to realise the implications of this and started to take action to mitigate these population trends. Thus far the short-term problems of labour shortage have been the main focus of attention. The labour market policy actions have also concentrated on the short-term measures. The demographic trend thus calls for more attention to be paid to long-term measures. The policies should demonstrate a diversified approach to develop potential labour supply, because short-term adaptations do not always match long-term perspectives.

Economic performance and competitiveness

Regions with larger populations have a more diversified economy and a better economic potential than sparsely populated or small regions. Economic development, however, also reflects strong endogenous underpinnings, in which differences between regions may or may not emerge.

If competition is a key driver for positive economic performance in the peripheral regions,

the key to development then is the growth in productivity and innovation. A growth in productivity and innovativeness tends to favour concentrations of population and economic activities that, in turn, do not really promote economic development and employment in peripheral regions. Some peripheral regions previously improved, initially at least, their economic situation due to the diffusion of manufacturing activities but were often subsequently unable to effectively compete against more developed regions.

Enhanced economic performance does not necessarily lead to the reduction of a potential labour supply, because increased productivity in the enterprises replaces the need to employ more labour. Improving the employability of marginalised groups necessitates more effective policies that will adapt targeted measures like incentives for occupational and geographical mobility.

Regional diversity has been approached through a compensation mechanism from successful regions to less-successful regions, i.e. the policy regime is designed to keep all regions 'alive'. The question however is whether such policies can be justified. The danger is that the gap between these regions will become so large that at some stage the compensation levels needed will begin to impinge upon the development possibilities of the successful regions.

Do we need one-size-fits-all solutions?

Regional variations will be even more marked in the future. Strong reasons emerge favouring a region-specific policy setting: economic structures and labour markets are connected to regional specificities. The organization of production has changed in ways which give space for greater incentives and flexibility on the labour market. Functional labour market policy facilitates a mobilisation of labour from weakening economic sectors to strengthening economic sectors.

Important efficiency gains could be obtained from pursuing regionally differentiated labour market policies. Different policies must address regions according to their characteristics and state of development. Policies however do also have to

address the needs and concerns of regions which have few problems, in their effort to develop competitive strengths.

Even if regionally differentiated policies can be encouraged to embrace more efficient labour market policy, the crucial issue is not on which level policies should be implemented. Instead, solving existing labour market rigidities is urgent. The post-industrial reality needs flexible labour market solutions and, accordingly, policies should not only be launched and implemented at a national level but also at a regional level.

The implication for labour market policy-making, therefore, is that uniform policy for all regions, i.e. a policy based upon a national average, is neither desirable nor effective. It cannot be assumed that policies can be 'borrowed' from other regions and prove equally effective. To the extent that policy borrowing is ever appropriate, it is most likely to be effective among regions with similar types of labour market challenges.

Policy recommendations

The Nordic labour market is heading towards new kind of situation in respect of the employability of different population groups. There are also a number of societal developments here which will have a significant influence on the labour market. One of the most remarkable is the current financial crisis. In response to the report's findings and policy implications outlined in the previous section, we have identified the following key areas and measures to further enhance the adaptability of the Nordic labour markets.

Flexible solutions

Young people have been the most regionally mobile group on the labour market in the Nordic countries. Therefore, young people should be made the main target group in efforts to ensure a regional potential labour supply. On the other hand, all job seekers will find it difficult to find a job quickly, when they enter the labour market for the first time. The situation will be especially difficult for people with only low educational qualifications. Policies should reinforce resources for special youth measures in the framework of labour market policy.

Ageing causes most of the challenges in respect of the development of the potential labour supply in all regions. Therefore, retirement patterns could be based more on regional prerequisites, and not on individual rights. Ageing has relatively little effect on potential labour supply that refers to that retirement from the labour market should be postponed, or alternatively there should be more flexible individual arrangements to withdraw

from working life. As such, measures to prevent a rise in losses from the labour force through early retirement schemes are as important as measures to increase the flow of people into the labour force.

Regionally differentiated retirement ages would provide some measure of flexibility in relation to labour market circumstances and the connected issue dealing with health problems. These solutions provide the possibility to steer labour market policies in a regionally differentiated way.

Generally, flexible labour market policy solutions are needed as individuals become unfit for work or are excluded from the labour force for economic reasons. Flexible solutions comprise in most cases supply side measures designed to address the entry and exit barriers to the labour market. Efficient and flexible labour market solutions are able to produce feasible linkages between the microeconomic sphere and macroeconomic stability. Therefore, it is important to try to integrate the supply side and demand side dimensions in respect of defining flexible solutions. This integration process has to take place on a regional level because flexible solutions are based on diversified regional circumstances and intensified operations between different actors in the labour market.

Flexible solutions are often implemented in a rather straightforward manner comprising only one target group and one type of measure. On

the other hand, the labour market regulations are rather rigid and will not necessarily leave a space for independent policy making at the regional level.

The reality is that the Nordic labour market regime is fragmented and multifaceted. The post-industrial economy embraces changing and intersecting patterns of new and old mode of regulation, where, however, flexibility and adaptability prevail. The dominant issue is how various regimes are able to adjust to changing external and internal circumstances in the labour market.

A complicated set of factors points towards the disintegration of traditional Nordic the labour market policy which can only be solved either by formulating individual rules for various groups in the labour market or delegating greater powers to the regional level. Labour market policies have to adapt to current and prospective realities and national level policies have, in one way or another, to allow room to find regional solutions and implement separate policies on a regional basis.

Labour market policy has to be capable of responding to different and rapidly changing situations. Therefore, various flexible solutions must be implemented in changing situations. We propose the following measures that could be implemented:

- The retirement age has to be indexed according to life-expectancy on a regional basis.
- Regions should have powers to implement flexible solutions, e.g. reinforce resources for special measures to reduce youth unemployment.
- Flexible solutions in the regional labour markets should underline integrated actions matching supply side and demand side measures.

Considering the measures, we have to notice that this vehicle of pension reforms is directed to facilitate an automatic indexation of pension ages to the expected number of years on pension. The effect on mobility would to a very high degree depend on the groups considered in the population. It may be imagined that persons approaching the retirement age, would choose to move towards regions with a lower retirement age. This would require a high mobility among the

elderly in terms of residence. There will therefore most likely be an “indifference threshold”, which is an effect arguably observable over many national and international borders that reduce mobility for certain groups (see e.g. van der Velde and van Houtum 2004a, 2004b or Buch, Dall Schmidt and Niebuhr (forthcoming).

Regionally differentiated policies

The Nordic systems are rather inflexible when it comes to looking for a job thus negatively influencing the potential labour supply. On the other hand, workfare policies⁴ ensure that people who receive benefits have to be active in searching for new employment and be effectively in the labour supply. The core assumption is that one has to be active, or a lack of activity will lead to the cutting of benefits.

In advancing the workfare approach, it is important to pay attention to regional differences in the labour market situation. People in weaker regions are often faced with a more difficult situation than those in centrally placed regions because they do not have the same possibilities to activate themselves. Thus the regional perspective remains an important dimension when discussing economic and sector structures.

The aged are a much maligned group of the population who are often, on the one hand, seen as a hindrance in economic terms to the rest of society and on the other, as its potential economic saviours. The challenge then is to consider such people as a potential asset in terms of economic development.

Policies should promote lifelong learning by better translating it into concrete action. Thus, the focus should be on enhancing the productivity of the ageing population through education and training. Adapting the approach of lifelong learning in the regions to the needs of predominantly old aged populations will improve the potential to maintain regions’ attractiveness in terms of production and employment.

Regional sensitivities vary to a large extent in relation to specific marginalised groups, like sickness leaves, early retirement and immigrants. Our attention in policy making terms should therefore be directed to the activation of these

groups, because they represent a reserve that can be flexibly handled on a regional level. For instance, in the case of education the territorial perspective has to be emphasised and coordinated with national level supervision and regional level execution.

All Nordic countries have used and are using a wide range of different demand side measures, such as employment subsidises and short-term job creation schemes, in their labour market policies. These measures are however often strictly confined to the national level and will not leave much room to manoeuvre for local labour market administration. Demand side measures must in the future however include a regional dimension in order to better grasp the diversified nature of regional circumstances. It is important here to localise and regionally specify different demand side policies in order to create heterogeneous regional labour markets.

The regional aspects are very important in defining different policies and actions. We suggest here the next actions to be processed:

- All groups of the potential labour supply should be activated and ease their possibilities to (re)enter to labour market.
- Regional differentiation should be addressed in labour market policies and on national level alternative pathways for regions have to be investigated.
- Tailored measures and regional incentives relating to the needs of different labour market situations have to be made available.

Targeted resources

The impact of the financial crisis is now being increasingly felt in the Nordic labour market, and unemployment is expected to increase considerably in all Nordic countries. While working out responses to the radically changed labour market situation, policy makers might introduce some short-term policies to help people adjust to rapidly increasing unemployment rates. If such policies are introduced as a new instrument this may have the perverse effect of countering the existing long-term intent to address the needs of the ageing society and increase the labour potential. New instruments may be intended only as a short-term fix designed to overcome the consequences of the crisis, but they might be perceived as permanent, because the labour market does not normally recover

as rapidly as the economy (in economic theory unemployment is the classic 'lagging' indicator).

Regionally, such an intervention may have rather different effects and impacts than those foreseen at the national level, because new instruments are usually tested and/or rolled out in the regions which are worst hit by the crisis. Such regions are, in general, already structurally and economically weak, and new short-term instruments are welcomed not only as a relief to the current crisis but also as reinforcement in their ongoing struggle against their generally weak economic situation. Short-term instruments should, therefore, be targeted measures to mitigate the impact of the crisis on companies and jobs.

Different activation policies are a crucial part of labour market policies in the Nordic countries. Generally, activation in the labour market is currently targeted at young people, older workers, immigrants and the long-term unemployment. Targeted activation policies are necessary with the aim of stimulating particular groups to enter the labour market, but it should also be taken into account that a number of so-called 'passive' groups will remain in the social security system.

Activation policies mostly emphasise the supply side of the labour market, and the individuals are at the centre of different incentives and measures. Activation policies try to mould individuals to help them adapt to the changed labour market conditions with those who are not willing to adapt experiencing a cut in their allowances. In activation policies, it is important to consider combinations of supply side and demand side measures to facilitate a comprehensive approach in the search for flexible solutions to re-enter labour market.

Targeted resources have to be well defined and optimistically also based on regional variations. The transition from educational system to labour market is crucial phase in developing an individual's employability. Therefore, it is important to provide assistance and information, and also to assist in developing and fulfilling personal strategies. Young people in particular need help, in the first instance, to look for information and get to know the labour market as a whole.

In processing targeted resources it is expected that they will support long-term development, even if they are implemented only on a short-term basis. There is also no need to reinvent the wheel here, because there is an arsenal already available of different measures and policies. We propose however that the following actions be taken:

- Resources provided should build on the work already undertaken in order to improve not only the employability of the target group but also the implementation of measure.
- New short-term instruments should be targeted measures but they need to be connected with policies on the national and regional levels.
- Combinations of supply side and demand side inputs should be considered with the intention of facilitating a comprehensive approach to find flexible solutions.

Institutional capacity

The prerequisite for flexible solutions, differentiated policies and targeted resources relates to the welfare and labour market institutions. These institutions must be dynamic, they must be able to adapt to and address new challenges and they must be able to do so at new policy levels.

In the industrial economy the labour market institutions, and welfare institutions in a wider sense, predominantly operate at a national level. They addressed and solved the problems of the industrial society well; the robustness of the successful Nordic, or social democratic 'model' in the terminology of Esping-Andersen (1990), was recognised across the world.

From the 1970s onwards the institutions of the 'Nordic model' began to experience difficulty in problem solving. One reason for this was that the problems were new; another reason was that some of the new problems were regional rather than national. The dynamics of the previously so successful institutions were lost. Although the new problems were related to the transition to a post-industrial service economy, the proposed solutions were in line with the traditional policies of the industrial economy.

The Finnish and Swedish labour markets and welfare systems were under significant pressure in the 1990s.⁵ Reforms were needed to deal

with the economic crisis in the 1990s. The aim of these reforms was not, however, to change or adjust the welfare and labour market institutions to new conditions, but rather it was simply to preserve them.

Denmark has made several attempts to renew its institutional capacity. Not only has the introduction of the 'flexicurity' system been made; the latest wave of administrative reform has changed Denmark – not only on the map! These two novelties have helped to force through a more thorough renewal of the institutional capacity stock in Denmark and increased the country's ability to address the labour market challenges of the post-industrial economy. The other Nordic countries appear to be more reluctant however to renew their institutional capacity. The countries that are able to renew their institutional capacity at an early stage of a given economic era will probably have an advantage over those who do not.

How the renewal of the institutional capacity stock in Iceland and in Norway is, currently, to take place remains unclear. Ageing is not a significant problem for either Iceland or Norway. Furthermore, neither of these countries was ever dominated by an industrial-type economy. The economic crisis in Iceland will, one way or another however, lead to some sort of institutional renewal.

Labour market institutions must adjust to the post-industrial reality. While the production system in a post-industrial service economy is different it is often the case that the labour market institutions lag behind and often remain tied to the policies and dictums of the industrial economy. The industrial society, with its specific economic characteristics, will not return. The large potential labour supply has to be utilised to the fullest possible extent, i.e. the dysfunctions of the labour market must be addressed and dealt with and the industrial labour market institutions adjusted to the new post-industrial realities (Rauhut and Kahila 2008).

This call for flexible solutions, differentiated policies and targeted resources is related to the welfare and labour market institutions; the prerequisite for these measures are dynamic institutions and a renewed institutional capacity. We suggest that the following measures be

taken:

- The introduction of the 'flexicurity' system in the other Nordic countries,
- Administrative reforms, as in Denmark, are needed to renew the institutional capacity stock.

The state should delegate responsibilities to the regions, as they may be more adequately suited to dealing with the challenges related to ageing and labour supply.

Notes

1. The European Union has adapted the concept of employability in its policy formation and education and training are strongly emphasised as a way of improving employability. For instance employability has been adapted to the needs of the European Employment Strategy as it addresses the employability of people through training and the recognition of competences (European Commission 2004).

2. Olson (1982) argues that institutions, in the form of organisations and vested interests, can actually create social and economic rigidities due to their rent-seeking activities. According to him (p. 41), "stable societies with unchanged boundaries tend to accumulate more collusions and organisations for collective action over time". As a consequence an organisation can retain its power and influence after its original purpose is long gone (Weber 1947). Organisations for collective action take a long time to establish themselves, but when they are established social collapses etc., is often needed to make them disappear. The longer the period of time they manage to function the deeper they are able to penetrate society.

3. Tax-reductions for private persons and companies could be introduced. Furthermore, studying loans could be written off after a certain number of years for persons moving there.

4. Workfare is an alternative model to conventional social welfare systems. Traditional welfare benefits are available with little required of the recipient, save their continued search for employment, if that. Under workfare, recipients have to meet certain participation requirements

to continue to receive their welfare benefits. These requirements are often a combination of activities that are intended to improve the recipient's job prospects (such as training, rehabilitation and work experience) and those designated as contributing to society (such as unpaid or low-paid work). There are two main types of workfare: those that encourage direct employment to get individuals off the welfare roll directly into the workforce, and those that are intended to increase human capital by providing training and education to those currently in the welfare system (Peck 1998).

5. The economic crisis which hit Sweden and Finland in the early 1990s is, to a large extent, related to the changing international demand for manufactured goods. In theoretical terms this can be expressed as a change in the relative factor prices for capital and labour which then became unfavourable for Sweden and Finland in particular. The changes in relative factor prices triggered a structural change, which affected some regions more than others. The result was a significantly reduced number of full time equivalents employed in the production and construction sector, but also in services related to the production and construction sector. Most regions that were heavily dependent on the primary sector and on the processing of primary goods were also hit severely. In other words, the structural change resulted in a reduced demand for a certain type of labour with a certain competence. In a way this increased the potential labour supply.

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8. The Nordic countries and the Potential Labour Supply: Summary and Conclusions

Daniel Rauhut and Ingi Rúnar Eðvarðsson

The aim of the study reviewed

The aim of this study is to analyse the potential labour supply of the working age population in the Nordic regions 1990-2007. Projections up to the early 2020s will be made. Four research questions are proposed to be answered:

- How big is the potential labour supply in the Nordic regions?
- Are there any differences in the potential labour supply between the Nordic countries? Why?
- How can the working age population be mobilised to maximise the number of persons in work?
- What measures have been taken in the Nordic countries to improve the situation for marginal groups in the labour market? The marginal groups referred to here include persons aged 55+; young adults aged 18-24 and persons with an immigrant background.

Three hypotheses have been generated to

deal with the potential labour supplies in regional contexts of different countries. Based upon the theoretical aspects the following hypothesis will be tested:

Hypothesis 1: The impact of global shifts and prevailing labour market regimes in the various Nordic countries have different adaptabilities for labour supply in Nordic regional contexts due to behavioural and institutional differences.

Hypothesis 2: The future labour supply in the Nordic countries will depend, among other things, on regional variations in family structure, age structure, quality in the labour force, as these factors help to determine the extent of marginalized groups.

Hypothesis 3: The potential future labour supply will vary markedly because of continuing regional variations – most clearly related to the ageing society of the future thus influencing future migration choices.

The findings

The background and context

Demographic trends in the Nordic countries 1990-2007 are presented in chapter three by Daniel Rauhut. The general trend is that the regional polarisation, in terms of population, has been segmented. While the metropolitan areas with a favourable population structure have improved their situation, the peripheral regions with an unfavourable population structure have experienced the opposite development. Furthermore, immigrants tend to cluster around

the metropolitan areas; young adults leave the periphery with impacts on age structure, reproductive potential and on the labour force.

Hild-Marte Bjørnsen and Daniel Rauhut discuss the Nordic labour market in chapter four. A relevant question to ask here is whether it may be acceptable to have a higher share of the population outside the labour force or not. The political debate and media discussion surrounding labour shortages, current and future,

while research has shown that we at the same time experience the exclusion of e.g. persons with an immigrant background, young adults or persons aged 50+ from the labour market, mismatches, asymmetrical migration flows etc.

Seen from an international perspective the Nordic labour markets are quite good at activating the labour force. The labour markets in Iceland and Norway are particularly good at activating all age groups, while all the Nordic countries, except Finland, are doing well in activating individuals in the age groups 25-64, compared to EU15 and OECD countries on average. Finland and Sweden, and even Norway are performing poorly at activating young people. Iceland, Norway and Sweden are performing well in activating people older than 65 years of age as compared to the EU and the other OECD countries.

The current potential labour supply

The analysis undertaken in chapter four by Torben Dall Schmidt, Aki Kangasharju and Daniel Rauhut sheds light on the regional potential labour supply and the long-term elasticities of this labour potential focussing on persons in unemployment, being active in the labour force or age groups that are not in the labour force. The results can be summarized as follows:

- Regional contexts in terms of unemployment rates, population densities and population growth do influence the propensity of different types of marginalized groups in the regional working age population. The conclusion is that a continued marginalisation of the labour supply is a threat to regional development.
- The results for the share of the population on sickness leave or early retirement are clear while any relationship to regional sector structures or regional restructuring are by and large absent. The unemployment rate has a significant and positive effect on the probability of seeing a higher share on sickness leave and early retirement in the population of a region. This indicates that unemployment reflects one stage in the process of marginalisation on the regional labour market. Higher population densities and high average annual growth rates in the five preceding years decrease the propensity. Regions with a high spatial clustering of

the population and a high growth rate in the population will therefore have a lower propensity to see high shares of sickness leaves and early retirement in the population.

- The results for the share of foreign born people in the Nordic regions render two point estimates that are significant: (1) population density and (2) average annual population growth in the preceding five years. Both increase the propensity to see higher regional shares of foreign born persons in the population.
- Doubling the ratio of total population over people in working age decreases the Labour Potential (increases the employment rate) by 28 per cent. The effect of the unemployment rate has the same magnitude (-27 per cent). A doubling of employment relative to the inactive part of the total population decreases the Labour Potential by 10 per cent.
- If the size of the young generation decreases by 50 per cent, the Labour Potential will decrease by 20 per cent. A doubling of the retired part of population decreases the potential by 9 per cent.
- Policies and institutions are vital for the understanding of marginalization of labour supplies in regional contexts and thereby the potential labour supplies out of the total population.

Activating marginalized groups in the working age population is not insensitive to regional contexts and policies directed towards such must be designed accordingly. Fighting unemployment and being inactive in the labour market is essential, as such decreases the long-term potential labour supply by 27-28 percent, while ensuring a higher young age ratio improves the long-term labour supply by 20 percent. This also emphasises the importance of ensuring a proper age structure in the population for the potential labour supply and the problems associated with different migration patterns of different age groups for the various Nordic regions. Policies to handle such differences and asymmetries in the Nordic context will be decisive for the distribution of future labour supplies across different types of regions and thus for the growth potentials embedded therein in an ageing society of long-term changes in the age distributions.

Labour supply in an ageing society

Aki Kangasharju and Torben Dall Schmidt analyse the labour supply in an ageing society in chapter six. The findings indicate that the Nordic regions will experience an ageing population at different rates; some regions will experience a rapid ageing while others will experience a very slow ageing. While Copenhagen can be expected to maintain the same ratio between the total population and those in working age up to the year 2021 all other regions will get older. According to the estimations made in this study Etälä-Savo will have the fastest growth in population ageing up to 2021.

The expected long run change in the potential labour supply can be evaluated against the level of current potential labour supply. It appears that the decline of the labour potential will be more accentuated in regions where it is currently higher. This implies that the current regional variation of population ageing will also reduce the current variations in regional potential labour supply over time. This indicates that the estimated future decrease in potential labour supply due to population ageing tends to be higher in those regions that currently have a larger total population per working age population. This is an expected result. Regions with a relatively larger potential labour supply will have a larger buffer as they have lower total population per working age population.

The findings suggest that, seen in an international context, the Nordic countries have relatively limited problems with a future labour supply. This however applies at the national level; at the regional level the situation is, in some cases, troublesome. The results indicate an increasing regional divergence and polarisation where two major developments can be foreseen. In peripheral regions such as e.g. Etälä-Savo, Jämtland, Bornholm and Hedmark the future labour supply will be troublesome. The problem will probably escalate in the 2030s and 2040s. It is however too early to say whether the labour supply problems in these regions can be mitigated.

Metropolitan and city regions, e.g. the capital areas, will have no or very limited problems with labour supply until, at least, the early 2020s. The size of the labour supply will then gradually

decrease. The possibilities for adjustment and adaption are greater in these regions than in the peripheral regions.

Policy implications and recommendations

Petri Kahila and Daniel Rauhut discuss the policy implications and policy recommendations in chapter seven. To a large extent ageing, welfare provision and labour supply are regional challenges. Alas, the policies implemented thus far address the national level. Most of the implemented policies deal with the issue on how to keep ageing labour in the workforce and postpone labour market exit for this group of labour. Ineffectual attempts have been made to improve the situation for e.g. young adults and persons with an immigrant background to improve their ability to establish themselves in the labour market. The general problems in the labour market are adequately addressed, but there are also problems requiring more attention.

This development is a predictable outcome of an unfinished or incomplete structural change in the economy. The labour market institutions must adjust to the post-industrial reality. If this can be made, the Nordic regions can manoeuvre themselves into a favourable position compared to other regions and countries in the world experiencing an ageing population.

Generally, the Nordic labour markets face new problems and challenges for which institutional renewal is of utmost importance. Flexible labour market solutions, regionally differentiated policies and targeted resources are recommended.

The results

Given the findings of this study, the four research questions posed at the outset can be answered the following manner:

(1) How big is the potential labour supply in the Nordic regions? The findings suggest that the Nordic countries will have small or limited problems with a future potential labour supply at a national level, but peripheral regions will experience a significant reduction in the potential labour supply. In general, the potential labour supply is relatively larger in peripheral regions than in metropolitan regions. In absolute numbers the peripheral regions are worse off.

(2) Are there any differences in the potential labour supply between the Nordic countries? Why? The potential labour supply is dependent on the regional as well as national context. Some regions have a large share of non-active persons aged 50+ while other regions have a large share of e.g. non-active persons with an immigrant background. In general, peripheral regions have a larger share of non-active persons aged 50+ and the metropolitan regions have a relatively larger share of non-active persons of immigrant origin.

(3) How can the working age population be mobilised to maximise the number of persons in work? Improvements in activating marginal groups are needed. Unemployment is the most important process for marginalisation, though long-term sickness and early retirement also play a role here. As unemployment, long-term sickness and early retirement show a significant regional variation targeted policies are needed, the current governance structure may need to be reviewed and institutional dynamics stimulated.

(4) What measures have been taken in the Nordic countries to improve the situation for marginal groups in the labour market? A majority of these measures have been taken to increase the potential labour supply and improve the situation for marginal groups with a view to raising the retirement age, keeping ageing labour active and ensuring the employability of this labour segment. Half-hearted and ineffectual attempts have been made to mobilise the potential labour supply among the long-term unemployed, persons with an immigrant background and persons below the age of 25. A further mobilisation of these groups is needed in the future.

Conclusions

The consequences of population ageing as presented in the political debate and in the media are highly exaggerated. It may also be appropriate to question the need for short-term policies to stimulate short-term labour supply in the Nordic countries. Labour productivity has, thus far, increased continuously together with technological advances in production and industrial development. This does not, however, mean that we have no reason to be concerned about the labour market situation, the labour supply and the potential labour supply.

The results show that ageing matters more for the potential labour supply than labour market policies, but, and this must be emphasised, the elasticities are small. The results also indicate that ageing matters more for the supply of labour than economic growth and demand side factors. At the same time lower growth rates will push labour out of the labour force. This constitutes

a potentially vicious circle for some regions. The policy implications of this as they are highlighted in this study are however both complex and multifaceted:

(a) Regional disparities related to population ageing are not adequately addressed, but in many cases national level decision-making and regulation remains a hindrance to an active regional approach. What is needed then is more room for regional policy approaches.

(b) There are several groups in the labour market who require special attention because of the troublesome employment situation, e.g. young adults, persons aged 50+ and persons with an immigrant background.

(c) In disadvantaged regions, attempts to restructure economic structures have failed and they have become less appealing for businesses and

labour. These regions are experiencing a structural economic decline and face persistent structural economic challenges. The negative development in many regions has not been addressed with policies to improve regional attractiveness thus attracting labour and business

(d) Structural change in the Nordic countries has resulted in clear changes in the regional labour market. Labour market mismatch is evident between traditional and new branches of the economy which in many cases is shifting between the different regions. The emergence of regional changes in labour force participation is also closely associated with globalisation and the off-shoring of economic activities.

(e) Regions with larger populations have a more diversified economy and a better economic potential than sparsely populated or small regions. Some peripheral regions have previously attempted to improve their economic situation through the diffusion of manufacturing activities but have subsequently been unable to effectively compete with more developed regions. Regional diversity has been approached through the means of a compensation mechanism which sees a diverting of resources from successful regions to less-successful regions, i.e. policies are designed to keep all regions 'alive'. The question is whether such policies can be justified.

(f) Regional variations will be even more marked in the future than today. There are

strong reasons for a region-specific policy setting: economic structures and labour markets are connected to regional specificities. The implication for labour market policy-making, therefore, is that 'one-size-fits-all' policies are neither desirable nor effective.

The policy recommendations are built around four key aspects. Labour market policies have to adapt and adjust to the new challenges. National policies have to, in one way or another, allow for regional solutions. Flexible solutions are necessary to ensure an optimal labour supply.

The regional aspects are very important in defining different policies and actions, i.e. regionally differentiated policies. Targeted resources have to be well defined and based on regional variations. The transition from educational system to labour market is a crucial phase in developing an individual's employability. Young adults and immigrants in particular need support to enter the labour market. In processing targeted resources it is expected that they will support long-term development even if they are implemented only on a short-term basis.

This call for flexible solutions, differentiated policies and targeted resources is related to the welfare and labour market institutions; the prerequisite for these measures are dynamic institutions and a renewed institutional capacity.

Further research

This study analysed the potential labour supply and its findings have raised many questions. While time and space restrictions necessarily restrict the scope of our enquiries the research group present below five research ideas which deserve further investigation.

Demographic changes and economic performance

Several comparative studies have been made on the impact of different age groups and immigration on GDP at the national level. The reliability of some of the data used in those studies is, however, at best questionable. The data situation in the Nordic countries is very

good indeed; indeed it is so good that it allows studies at a regional level. Yet, such a study has not yet been undertaken.

The aim of such a proposed study would thus be to analyse how much of the change in regional GDP in the Nordic countries can be explained by an increasing share of persons aged 65+, changes in immigration, domestic migration and natural population development.

The probable conclusion of such a study would be that an increasing share of elderly people will have a negative impact on regional economic growth and so will a population

increase; immigration can be expected to have a positive impact on economic growth. The key question, however, is what percentage of these regional GDP changes can be explained by demography – if changes in the demographic variables only explain 10 per cent of the regional GDP changes the impact of demography on economic performance must be seen as marginal.

An ex-ante evaluation of policies

Many policies have been launched to deal with ageing and demographic challenges. As we have seen however 'demographic' challenges are not in the main about demography, but instead concern the dysfunctional nature of the labour market. Furthermore, the demographic aspects of the challenges are regional not national. It is of utmost importance then that the solutions (1) address the right problem. Thus seeking to correct a dysfunctional labour market with e.g. policies on demographic aspects will fail. (2) That the policies are implemented at an appropriate policy level. If the problems are at a regional level, a nationwide policy will not solve them, and (3) that the time perspective of the policy is correct. The challenges ahead, demographic or otherwise, are long-term in nature and will not be solved by short-term 'fixes'.

An ex-ante evaluation of potential policies to address the challenges of ageing and the welfare burden will provide national and regional planners, administrators and decision makers with valuable knowledge on what outcomes certain policies will have. This knowledge will simplify their planning, decisions and implementation in respect of ageing and the welfare burden.

The aim of this suggested study is to evaluate short, medium and long term policies addressed to deal with future ageing, the welfare burden and labour shortages. This evaluation should include e.g. necessary pre-conditions for the policies, the level of policy implementation, and the expected effects in a short, medium and long term perspective.

Best practices

In many respects the Nordic regions face similar challenges so there is potential to learn from each other. It would then be useful to make a simple inventory of the existing policies in these

areas employed in the Nordic countries and their regions. An analysis of the successful and less successful policies to deal with these issues could lead to a useful guide in terms of best practices.

Many municipalities and regions in the Nordic countries run projects today on ageing, the welfare burden and labour shortage. The practical experiences of this work should be analysed in order to elucidate the 'state of the art' in respect of public (and private) policy responses to these future challenges.

Segmented labour markets in the Nordic countries

Several studies have been undertaken on segmented labour markets, but few comparative studies have been produced thus far. The data situation in the Nordic countries is very good indeed; indeed it is so good that it allows for studies at a regional level. Research on segmented labour markets in the Nordic countries will therefore generate new knowledge.

The aim of such a study would be to analyse the activation of marginalized groups (young people, immigrants, single mothers, people on sickness benefits and persons aged 50+) in the Nordic labour markets. Four relevant questions would need to be addressed: 1) Do national differences exist in the activation of marginalized groups in the Nordic countries? 2) Do regional variations exist within the Nordic countries? 3) How has the structural transformation of the economy affected the activation of marginalized groups? 4) How has the current economic crisis affected the activation of marginalized groups? The timeframe of the research would be the period 1990-2009.

Post-industrial labour markets in the Nordic regions

In the present study on potential labour supply various labour market changes have been highlighted. Among these are the structural transformation of the economy from agriculture and industry to services; globalization, regional attractiveness, segmented labour markets, and regional variations in labour market activities.

Very few comparative studies are available on post-industrial labour markets. The aim of a future study on post-industrial markets

in the Nordic countries would be to analyze labour markets with the following research questions in mind: 1) How has the structural transformation of the economy progressed in the Nordic countries? Do national variations exist? 2) Has the issue of regional attractiveness been prevalent in the Nordic countries? 3) How

has structural transformation affected various groups of individuals on the labour market? 4) Has segmentation on the labour market changed due to structural transformation and increased globalisation? 5) How has structural transformation and increased globalization affected regional labour markets?