

**Sustainable Social and Health Development
in the Nordic Countries**

Seminar 6th April 2006, Oslo

Sustainable Social and Health Development in the Nordic Countries

Seminar 6th April 2006, Oslo

Sustainable Development in the Nordic Countries

© Issued by the Nordic Social-Statistical Committee (NOSOSCO)
and the Nordic Medico-Statistical Committee (NOMESCO)

Islands Brygge 67, DK-2300 Copenhagen S

Tel. +45 72 22 76 25 • Fax +45 32 95 54 70

E-mail: nom-nos@inet.uni2.dk

Website: www.nom-nos.dk

Editor: Johannes Nielsen, NOMESCO & NOSOSCO

Cover by: Sisterbrandt Grafisk Tegnestue, Copenhagen

Layout and graphics: Liv Mølgaard Mathiasen

Printed by: NOTEX – Tryk & Design a-s, Copenhagen 2006

ISBN 87-89702-58-1

ISBN 87-90248-31-7

Preface

On April 6 2006, NOMESCO & NOSOSCO held a seminar as part of the project 'sustainable development'.

The seminar was a follow-up on a number of alternative population projections up until 2055 that have been made by the Secretariat.

In order to obtain qualitative bids for the most vital issues when it comes to sustainable social – and health which are fertility, life expectancy and participation in working life, experts had been asked to submit their bid for these vital issues.

The main message from the seminar was that we live longer, but not long enough; that the chances of higher fertility in the Nordic countries than at present are slim, but that a number of active measures may be taken so that more people will contribute to working life and thus reduce the dependency load.

The following participated in the planning of the seminar:

DENMARK:

Niels Rasmussen
Torben Fridberg

National Institute of Public Health
National Institute of Social Research

FINLAND:

Mika Gissler
Tiina Palotie-Heino

STAKES
Ministry of Social Affairs and Health

ICELAND:

-

NORWAY:

Asbjørn Haugsbø

National Board of Health and Social Affairs

SWEDEN:

Bengt Eklind

Ministry of Health and Social Affairs

NOMESCO/NOSOSCO Secretariat:

Johannes Nielsen
Jesper Thøgersen
Liv Mølgaard Mathiasen



Contents

Johannes Nielsen, NOMESCO & NOSOSCO, Denmark; Summary.....	8
Eystein Haram, Ministry of Labour and Social Inclusion, Norway; Opening of the Seminar	13
Jesper Thøgersen, NOMESCO & NOSOSCO, Denmark; Alternative Population Projections	21
Knud Juel, SIF, Denmark; Factors related to life expectancy.....	29
Jesper Thøgersen, NOMESCO & NOSOSCO, Denmark; The Significance of Fertility to the Number of 0-6-Year-Olds	46
Mika Gissler, Elina Hemminki & Mikko Kautto, STAKES, Finland; Trends in the Fertility in the Nordic Countries	50
Bengt Eklind, Tom Nilstierna & Christer Löfgren, Ministry of Health and Social Affairs, Sweden; Swedish family policy	67
Jesper Thøgersen, NOMESCO & NOSOSCO, Labour Force and Dependency Load	81
Nabanitta Datta Gupta, SFI, Denmark; The Determinants of Non- Employment among Working-Age Individuals in Denmark	86
Einar Øverbye, Oslo University College, Norway, Activation policy in the Nordic Countries	107
Mika Gissler, STAKES, Finland; Conclusion.....	123
Appendix 1. Programme	125
Appendix 2. List of participants	128
List of publications by NOMESCO and NOSOSCO.....	131

Johannes Nielsen

Summary

Øystein Haram, Ministry of Labour and Social Inclusion, bid, in his capacity of NOSOSCO's chairman, welcome to the seminar and outlined the historical background for NOMESCO and NOSOSCO's work with sustainable development.

The starting point was the "Brundtland Report" together with the subsequent UN Agenda 21, which established that the utilization of the world resources should be protected so that a sustainable development can also be created for future generations.

In continuation thereof, the Nordic Council of Ministers adopted the strategy "Sustainable Development – New Bearings for the Nordic Countries", which entered into force in 2001 with objectives for 2001-2004.

This strategy was revised and a new strategy and new objectives were adopted for the period 2005-2008.

In connection with the first strategy for 2001-2004, NOMESCO and NOSOSCO were in 2002 asked to prepare indicators for the social and health development, which was done immediately, and in 2003 a conference was held to evaluate and discuss the indicators for a sustainable social and health development.

The present conference is a follow-up on NOMESCO & NOSOSCO's work in three key areas, which are:

- Anticipated future average life
- Trends in fertility patterns and
- Participation in working life.

This conference has as its starting point a number of alternative population projections based on the individual countries' official projections with the aim of qualifying the present debate in all the Nordic countries about anticipated average life, fertility and participation in working life or lack of it.

Jesper Thøgersen, NOMESCO & NOSOSCO's Secretariat then outlined the model that had been used to make the alternative population projections.

The basis was the official projection from the statistical agencies, where a projection up until 2055 had, however, been stipulated in the model, which was not the case in the projections of the various countries.

On the basis thereof, alternative projections had been made with a fertility of +0.3 and -0.3, respectively, as well as an anticipated average life of +/- one year. The migration was unchanged in relation to what the countries anticipated, except in one example where the net migration had been set at 0, which had a drastic effect on the population compositions in several of the countries. This was also the case in relation to models that illustrated a higher fertility rate and longer anticipated average life, respectively, and naturally also a combination of both.

Knud Juel, National Institute of Public Health, Denmark, then looked at the factors that are significant to the average life. First, he presented a historical account of the development of the average life since the 1900s during which it had increased drastically in all the Nordic countries. Subsequently, the differences in Danish men and women's average life were outlined, and the factors that influence it were suggested.

In the first half of the 1900s, the largest influence on the anticipated average life was infant mortality and infectious diseases, which have decreased drastically in all the Nordic countries. In the second half of the 1900s, other factors were more significant, and a number of examples based on Danish material were presented.

Mr Juel demonstrated that in particular the life-style related diseases are very significant to the anticipated average life, and he could therefore subsequently conclude that we live longer, but not long enough, implying that a change in life style will have drastic effects on the average anticipated average life.

Examples were also provided of the differences in treatment results between the Nordic countries, exemplified by myocardial infarction and various forms of cancer.

Jesper Thøgersen, NOMESCO & NOSOSCO's Secretariat, then outlined the effects alternative fertility patterns would have on the share of 0-6-year-olds in the Nordic countries and thus also alternative needs for child-minding facilities and day-care institutions. As it is, the relative share of the 0-6-year-olds of the total population is considerably dissimilar in the Nordic countries.

Mika Gissler, STAKES, Finland, first provided an overview of the development in fertility patterns in Europe since 1960, where there was a decrease in the total fertility rate (TFR) from the beginning of the 1990s with

the largest decrease in Southern and Eastern Europe. Despite a decrease, TFR is, however, still relatively high in the Nordic countries.

Part of the explanation for the decreasing fertility is that women in general postpone having their first child. Studies have shown that most women want at least one child. But an increasing number of women are either voluntarily or involuntarily childless, but it is a general trend that fewer unwanted children than before are born due to a more efficient use of contraceptives as well as more liberal abortion legislation.

In return, there are more and more Nordic women who have children by way of medical intervention, such as IVF, but there are relatively large differences between the Nordic countries.

The decreasing fertility gives rise to increasing political worry, however, due to its significance to the population's demographic composition and its consequences for the financing of the social welfare services, including not least old age, in the future. One of the political options here would be to pursue a family-friendly policy with child-minding, flexibility, etc.

One factor that goes against an increasing fertility is the sexually transmitted diseases, especially Chlamydia, among young women and men, which may lead to infertility. In return, the abortion rates seem not to have any impact on the fertility pattern.

There are, however, many indications that a policy stimulating women's possibilities of participating in working life is what works, this being the case in the Nordic countries but not in Southern Europe.

Bengt Eklind and Tom Nilstierna, Ministry of Health and Social Affairs, Sweden, presented examples of how the Swedish family policy was directed towards supporting families with children and outlined the decrease in the total fertility from 1900, where the fertility in Sweden has dropped to about half. They then presented an example of the cohort fertility back to 1860, where a more even pattern is found than in the TFR.

Then examples of changes in the Swedish households as from the 1930s were presented, where a rationalisation of the house work took place, and the households' significance as production units was reduced. Schooling was also prolonged, so that children remained children for longer, and a wish emerged for both men and women to participate in working life, which made new demands on families with children and thus also created a need for a family policy proper.

Already in the 1930s, subsidies were payable to those families with children who were worst off, just as the right to voluntary parenthood emerged, i.a. by informing about contraception and the possibility of legal abortion.

Contraceptives only became completely available in 1970 and the Law on Interruption of Pregnancy only entered into force in 1974.

At the same time, parental insurance was introduced as well as the principle that families with children must not be worse off than other families.

Education reforms and equal opportunities for men and women have also been significant to the Swedish family policy.

Today, the Swedish family policy endeavours to smooth out the differences between different types of households, either by way of cash subsidies or a collective service.

The collective service first and foremost consists of offers of minding of children and adolescents, and examples were given of how this service has developed and gained more and more coverage.

Also in Sweden, it applies that parents must pay part of the expenses, but they have, however, always been relatively small in relation to the overall expenses. In 2002, a law was adopted stating how much parents must pay as a maximum for the minding of children of pre-school age and school age.

Then calculated examples were given of how the family-policy reality might change when changes occurred in the family-policy subsidy systems.

Finally, it was discussed whether or not fertility would be stimulated if men to a higher degree than at present participated in the minding of their children, although Nordic men occupy a very high position compared with men in the rest of the world.

By way of introduction to the large part of the seminar about participation in working life, *Jesper Thøgersen* outlined the expected work force up until 2055, partly in the official projections and partly in the alternative projections, where calculated examples of the development in the dependency load in the Nordic countries were furthermore presented.

Participation in working life or a wish for more participants in working life is a very current political debate in all the Nordic countries, and *Nabanita Datta Gupta* subsequently presented an analysis of the determinants for unemployment among people of working age in Denmark.

Ms Gupta first mentioned that also in Denmark a larger dependency load may be expected as the population aged 65 years and more is increasing at the same time as the total population is decreasing, which will lead to a decrease in the labour force, unless those who are in work stay longer in the labour market and the marginalized groups become involved in working life.

Of the 16-64-year-olds, one out of five people in Denmark reported that they either suffer from a disability or a chronic disease. As to one third of these, it is

SUMMARY

insignificant to their participation in working life, but certain diseases result in larger impediments to work than others, which was illustrated by several examples. The education level of the disabled is, however, also significant.

One special group that is outside the labour market in Denmark is the ethnic minorities, of whom 47 per cent were outside the labour force in 2001. This was due to the fact that many of them have no education, and examples were provided of how countries like Denmark that have a high degree of social welfare are especially attractive to emigrants with a low level of education, but there was, however, considerable differences in employment, depending on which country one comes from.

Ms Gupta then went on to illustrate the retirement pattern. In Denmark, many people retire early from the labour market because of the voluntary early retirement scheme. Other factors influencing the retirement pattern were also outlined.

Finally, examples were given of the differences and similarities in the participation in working life seen in relation to the rest of Europe.

As the last presentation of the seminar, *Einar Øverbye*, Norway, presented an overview of the activating measures in the Nordic countries, with the aim of having more people integrated into working life.

Originally, activation – active labour-market policy – aimed at solving structural problems in the labour market, but today it is a clear aim both for the labour-market and the social policies that social cash benefits should be linked to an active work aim.

Mr Øverbye then presented an outline of types of active measures and their development over time.

Social cash benefits have been granted to counter the risk of losing one's income in connection with certain social events, where they are called passive benefits. Today, there are in most cases attached both rights and obligations to the reception of a benefit, and a large part of the measures are aimed at the persons in question re-entering the labour market. Part of the measures is financial motivation, so that it may be better to work than to be outside the labour force.

Employers play an important part in this as social partners, who participate in the rehabilitation measures enabling people to re-enter the labour market.

The way in which the Nordic countries have organized their policies between benefits and between authorities varies somewhat between the Nordic countries.

To sum up, the seminar lectures provided a broad picture of the factors that decide whether or not the Nordic countries will be sustainable when it comes to fertility, participation in working life and anticipated average life.

Øystein Haram

Opening the seminar

Opening Speech at the Seminar on Sustainable Development, with a Focus on Population Trends, including Life Expectancy, Fertility and Participation in Employment

Thursday 6 April 2006 – Øystein Haram

The Ministry of Labour and Social Inclusion

- Since Norway presently has the chairmanship in the Nordic Social-Statistical Committee (NOSOSCO), as leader of the Norwegian Delegation, I have the pleasure of welcoming you all to this seminar on sustainable development.
- I would also like to say that it gives me great pleasure that the issue of creating sustainable development has now become widespread, and that it affects and is integrated into most areas in society as something quite natural. During the 1960s, as an adolescent, I was active within the environmental movement, and was concerned about fresh air, pure water and ensuring that the earth should be a good place to be for the coming generation. At that time there were few people who understood anything about what we youngsters were taking about, and it took about 20 years before Gro Harlem Brundtland with her Commission, the World Commission on Environment and Development, in 1987 gave the defi-

inition that later should be the most used definition of sustainable development: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

- Thus, according to the Commission, the concept "sustainable" is based on human needs, and stresses solidarity both between generations and in a global perspective.
- Twenty years have now passed, and we have moved quite a long way forward. There is now increased awareness and integration, and indicators have been developed that make it easier for us relate developments to statistical goals. This is a big step forward, because there is a long way to go from understanding that we have a problem to knowing which direction to take in order to solve it. In order to be able to say something about whether we are actually going in the right direction, we need concrete goals and indicators. Without a statistical basis, it is easy for many people to hide behind fine words, and forget that we must work in order to follow the right path that is often difficult and uncomfortable, instead of dancing off in the wrong direction. It is important to remember this in the work we do.

Some History and Background

- The Nordic prime ministers and the political leaders of the self-governed areas of the Faeroe Islands, Greenland and Åland, made a declaration on sustainable development in 1998, and the strategy "*Sustainable development – New course for the Nordic countries*" came into force at the beginning of 2001. The strategy contained goals and initiatives for the period 2001-2004, and long-term goals up to the year 2020. A working group was established to develop indicators. The health and social sectors were not involved in this work. The Nordic Social-Statistical Committee (NOSOSCO) and the Nordic Medico-Statistical Committee (NOMESCO) were asked to develop indicators for sustainable development for the health and social sectors.
- In 2002 a joint working group for NOMESCO and NOSOSCO was established. The working group produced the report "*Sustainable Social and Health Development in the Nordic Countries. Proposal for indicators*" in

the autumn of 2002. In the report, 7 general indicators, 9 social indicators and 10 health indicators were proposed.

- In 2003, the proposals of the working group were followed up with a publication of statistics based on the proposed indicators: “Sustainable Social and Health Development in the Nordic Countries, Statistics on the proposed indicators”.
- On 27 May 2003, a seminar was held in Stockholm, with the theme: “Sustainable Social and Health Development in the Nordic Countries”. The presentations at the seminar were published as a book: “Sustainable Social and Health Development in the Nordic Countries, Seminar 27 May 2003, Stockholm”.
- In 2003, the Nordic Council of Ministers published: “Will We Achieve our Objectives?”. In this publication, indicators in 11 areas are listed. There are few indicators in the areas of health and social affairs (age structure, life expectancy and cases of lung cancer). Most of the focus is on the environment and natural resources.
- In 2004, NOMESCO/NOSOSCO held a follow-up seminar in Copenhagen to discuss further work.
- The strategy from 2001: “Sustainable Development – New Course for the Nordic Countries” has been revised: “Sustainable Development, New Course for the Nordic Countries. Revised edition with goals and initiatives for 2005-2008”, and presented to the prime ministers and the political leaders for the self-governed areas in 2004. The new strategy applies from 1 January 2005.
- On 1 March 2005, the ministers approved the appointment of an ad hoc working group consisting of “indicator experts”, selected by the relevant committees of government officials in the Nordic Council of Ministers. According to the mandate of this group, these experts have responsibility for assessing the need to revise the set of indicators with data and text, and to provide assistance with the new indicators that have been developed in the different areas since the last updating of the Nordic set of indicators.
- My ministry, the Ministry of Labour and Social Inclusion, has recently received the draft report: “The Report of Indicators for the Nordic Strategy for Sustainable Development”, dated 10 March 2006, for comments.

About the Revised Strategy for Sustainable Development

- In the mandate for revising the strategy, it was emphasized that the revised strategy should contribute to strengthening and influencing relevant international processes, for example in the EU, OECD and the UN, and that social and economic dimensions should be given more emphasis. The revised strategy contains new goals and initiatives for the period 2005-2008, while the long-term goals are unchanged. In addition, the revised strategy contains a new chapter: “About Production and Consumption”.
- In the chapter about the social dimension, the long-term goal for the Nordic countries in the social area is related to further development of the Nordic welfare model. Further, it is stated: “Decisive conditions for future funding of public welfare are a well-functioning labour market, increased labour supply and tax and benefits systems that stimulate employment”. Important aims are to give support to those who have the greatest problems in the labour market, and to increase access to the labour market for disabled people. In addition, it is stated that demographic developments place high demands on the Nordic countries to protect funded and socially sustainable pensions and welfare services of high quality.
- Goals and initiatives in the period 2005-2008 related to the social dimension are as follows:
Goals and initiatives 2005–2008
The Nordic countries:
 - will strengthen Nordic influence in EU/EEA cooperation/the Lisbon process
 - will ensure that the results from the Nordic Welfare Research Programme will be circulated, discussed and implemented within and outside the Nordic countries.
 - will specify initiatives in the strategy in more detail to achieve stronger cooperation for designing a common model for the Nordic countries.
 - in cooperation with the Nordic Council of Ministers, will follow up the conference declaration from WHO's Conference of Ministers: “Children's Environment and Health Action Plan for Europe”, Budapest (June 2004).

- will develop work with the EUs “Northern Dimension Partnership in Public Health and Social Wellbeing”.
- will promote education for continuing development by integrating this perspective into the Nordic education systems under lifelong learning.

More about the Social Dimension

(Reference: “Continuing Development – a New Direction for the Nordic Countries. Revised Edition with Goals and Initiatives 2005-2008”).

- A central aspect of revising the strategy was that the economic and social dimensions of sustainable development should be given more emphasis.
- In the revised edition, three key areas were highlighted as being particularly significant for future sustainable development of the Nordic welfare model. These are
 - Demographic developments
 - Community health
 - Education

Demographic Developments

- From a historical perspective, the welfare policy of the Nordic countries is based on an economic policy for full employment, and an active distribution policy with the aim of distributing resources and income.
- Demographic developments in the Nordic countries will lead to increased demands on public finances. About one quarter of current public expenditure is age related, that is to say, funding of child care and school services, and pensions and welfare services for elderly people. Expenditure on pensions as a proportion of GDP is expected to increase in all the Nordic countries during the next 40 years, though at different rates. In addition, an ageing population will make great demands on available health and care services.

Community Health and Sustainable Development

- Initiatives to promote and improve community health are of great importance for healthy developments in society, and are a natural part of work related to sustainable development. So far, work with community health has been more directed towards reducing risk factors rather than preventive work. Negative developments in health have many consequences for society, such as sick leave, early retirement and rehabilitation. The socio-economic costs of ill health are great, and include both high costs for public budgets, and high costs for individuals and business enterprises.
- Under activities that have been carried out in the individual countries, the Action Plan Against Poverty is mentioned (page 35).
- In Chapter 3.4, the long-term goals are listed:

“The overall long-term goal is to develop the welfare model of the Nordic countries by:

- working for an increased level of employment and an adequate labour force for all types of employment
- promoting equality and participation in the labour market
- preventing poverty and social isolation
- working to increase the possibilities for combining employment and family life
- striving to develop lasting employment
- promoting access to employment and society for disabled people, through well-developed tax and benefits systems that stimulate people to work.
- ensuring that pensions and high quality welfare services are financially and socially robust
- improving social conditions to achieve equality in relation to good health
- increased participation.

Education and Research

The Action Plan from the Summit Meeting in Johannesburg in 2002 stressed a high level of education as an important factor for sustainable de-

velopment. Education is important, both for individuals and for society. For individuals, education provides the conditions for increased quality of life and for good working conditions. For society, education improves conditions for economic growth and development. The ability of the Nordic countries to adapt and to be innovative is decisive in order to be able to turn developments in a more sustainable direction. Education and research are of great importance for sustainable development, and are important priority areas in the Nordic countries.

Draft Report on Indicators for the Nordic Strategy for Sustainable Development, dated 10 March 2006, from the Working Group of Indicator Experts

In the draft report, the working group recommends the following indicators for the social dimension:

- Fertility
- Life expectancy at birth
- GDP per inhabitant
- Employment productivity
- Expenditure on health and social services
- The proportion of the population that is unemployed
- Employment rate for people 50-60 years old
- Relative poverty for families with children

Country Reports on Follow-up of the Strategy

In 2003 a Norwegian report was published: “National Plan of Action for Sustainable Development”. In this report, the social dimension is not included.

**Official Norwegian Report: NOU 2005:5
Simple Signals in a Complicated World**

In 2005, the Official Norwegian Report, NOU 2005:5 *Simple Signals in a Complicated World* was published (the report can be found on the website WWW.odin.no. Chapter 5.8.1 Social Indicators). In the mandate for the com-

mittee, the social dimension is included as one of six themes that the Norwegian Government regards as particularly important for sustainable development. The committee proposes the following social indicators for the nation:

Life expectancy at birth (indicator of health and welfare)

Number of receivers of disability pension and long-term unemployed as a proportion of the labour force (indicator of exclusion from the labour market). (Note: Under each indicator is a definition, an explanation of the indicator's relevance for the theme, its status, its international comparability and a short presentation of the indicator).

We in NOMESCO and NOSOSCO did not contribute to the health and welfare areas from the beginning. The main point is that we are now contributing, and indicators in our areas have now been included.

At today's seminar, we will address the challenges related to indicators for health and welfare, by looking at different possible trends in population, people's relationship to and withdrawal from the labour market, and policy in these areas.

We have a long day in front of us with many exciting presentations. This is an important area of work for sustainable development: good information, research and development, an area that has been launched as one of the three cornerstones of the work.

Thank you, and good luck with the conference!

Jesper Thøgersen

Alternative Population Projections

Introduction

In the following, a short review of the model that has been used to generate the alternative population projections will be presented. Then the premises from the individual countries' own projections will be compared. These national premises will be used as input for the calculation of the basic projections and as a point of reference for the alternative scenarios lined up. Finally, the results of both the basic projection and the alternative projections will be reviewed.

The Model

The model used is an Excel-based projection model drawn up by Statistics Denmark.

The following data were used as input for the model:

- Initial population
- Fertility quotients in 1 year age groups
- Average life broken down by gender and 1 year age groups
- Nett immigration in number broken down by gender and 1 year age groups.

From the input data mentioned, the following output can be read from the model for each projection year:

- Number of newborns
- Number of deaths in 1 year age groups
- Number of men and women in 1 year age groups.

Basic Projection

First, a basic population projection will be generated for all five countries. This basic population projection will be placed as closely as possible to the latest official projections published by the individual countries. It thus applies to all the countries that our basic projection each year has the same total fertility, average life and net immigration as the projections composed nationally.

It applies to Denmark and Norway especially that we have received the national statistical agencies' own input files. That means that the fertility, the average life and the net immigration in 1 year age groups are the same in our projection as in the national ones.

As the data received from the other countries were not very detailed, it may result in differences between the input in our projection in 1 year age groups and the projections drawn up nationally, but as mentioned above, there is an overall consistency in the input.

National Premises

The point of reference for the entire projection is the national populations as per 1 January 2005.

Table 1 Population as per 1 January 2005

	Denmark	Finland	Iceland	Norway	Sweden
Population	5 411 405	5 236 611	293 577	4 606 363	9 011 392

Fertility

In the national projections for three of the countries (Finland, Iceland and Norway), it has been decided to keep fertility constant during the entire projection period, while a minor increase during the first year is anticipated

in Denmark and Sweden. In Denmark, fertility is expected to increase from 1.78 in 2005 to 1.86 in 2026, after which it is kept constant. The Swedish projection is based on the assumption that fertility will increase from 1.76 in 2005 to 1.84 in 2011 and then remain constant for the rest of the period.

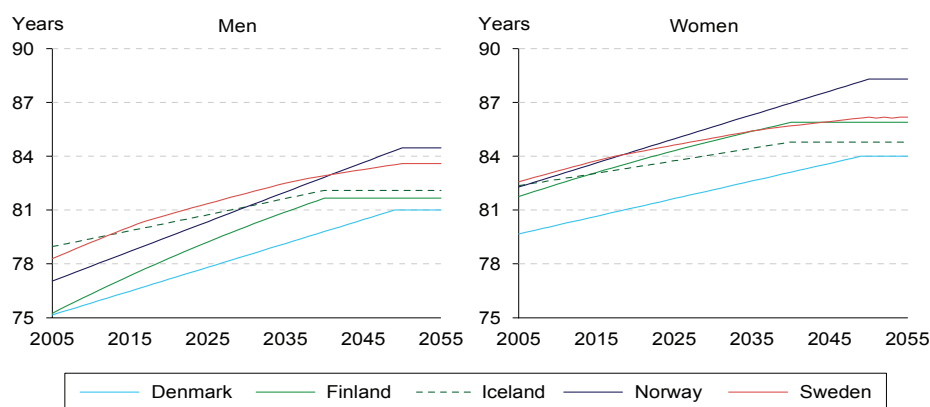
Table 2 Fertility assumptions

	Denmark	Finland	Iceland	Norway	Sweden
2005	1.78	1.80	1.99	1.80	1.76
2055	1.86	1.80	1.99	1.80	1.84

Life Expectancy

For the preparation of the projection, a time frame was chosen which is longer than the one used at the time in some of the national statistics agencies own projections. It was therefore decided to keep the theory of average life constant from the expiration of the national projections and until 2055.

Figure 1 Anticipated average life, men



As can be seen, Danish and Finnish men have the lowest life expectancy of the initial year 2005, 75.15 and 75.25 years, respectively, while Icelandic men live the longest, 78.97 years.

The picture of women's average life is different. Danish women have the lowest reference point, 79.68 years, while the other four countries have an average life of about 82 years in 2005. Sweden peaks with 82.58 years.

Table 3 Anticipated average life

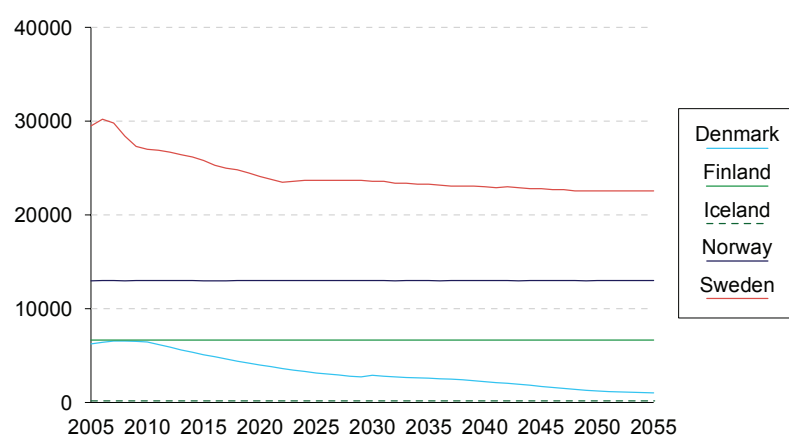
	Men			Women		
	2005	2055	Modification	2005	2055	Modification
Denmark	75.15	81.00	5.85	79.68	84.00	4.32
Finland	75.25	81.66	6.41	81.76	85.89	4.13
Iceland	78.97	82.10	3.14	82.37	84.80	2.43
Norway	77.04	84.47	7.43	82.29	88.30	6.01
Sweden	78.29	83.60	5.31	82.58	86.18	3.60

It is common to all the countries that the average life of men increases more than that of women, i.e. that the average life of men in time will equal that of women more.

It applies to both men and women that Norway is most optimistic as regards the future development of the average life, while the Icelandic estimate of the future development is somewhat lower than that of the other countries.

Net Immigration

Figure 2 Net immigration



Assumptions concerning net immigration vary considerably between the countries. In the Finnish, Icelandic and Norwegian projection, net immigration was assumed to be constant during the entire period, while both Sweden and Denmark expect a decrease.

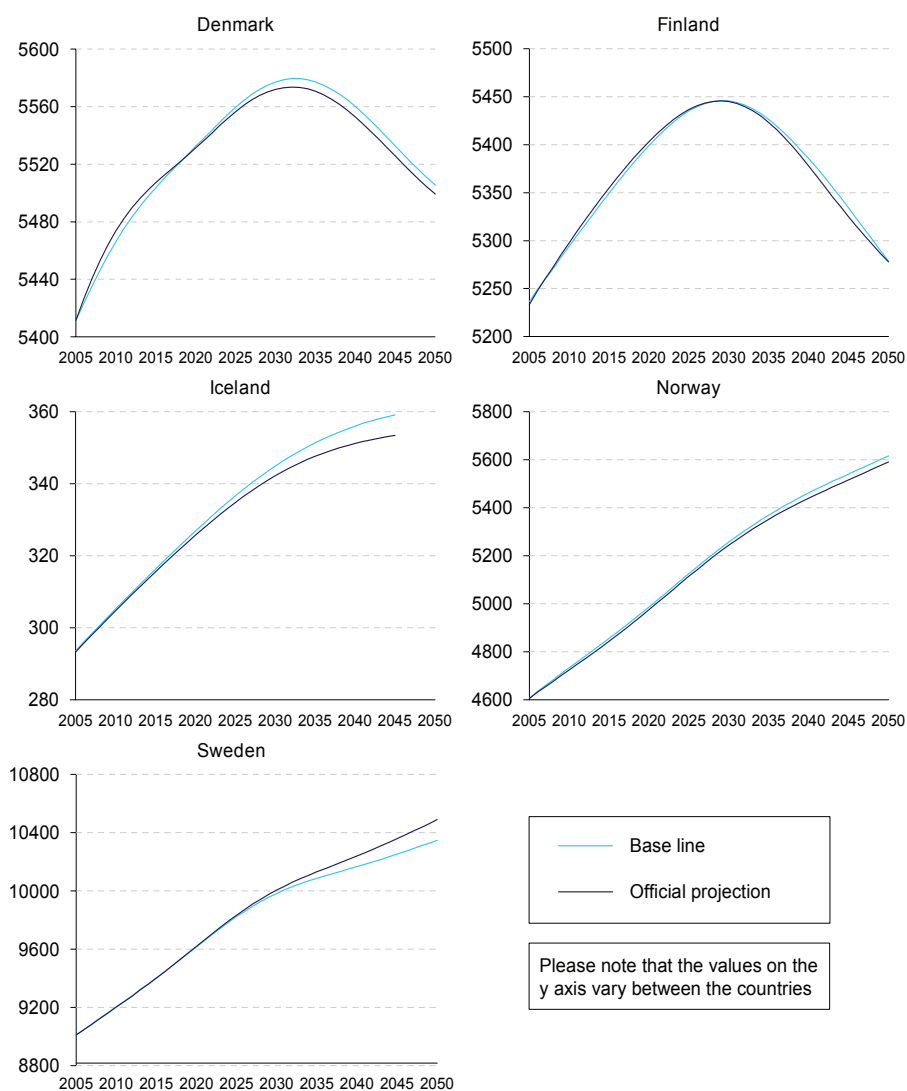
In the Danish projection, there is a net immigration in 2005 of 6 625 individuals, and a minor increase is expected during the first year of the projection, after which the number will decrease for the rest of the period. In 2055, an annual net immigration of 1 034 individuals is expected.

The Finnish projection is a net immigration of 6 677 individuals annually, Iceland expects 178 individuals and in Norway, the expected net immigration varies very little during all the years around 13 000 individuals.

Similar to the Danish projection, the Swedes first expect an increase from 29 498 individuals in 2005 to 30 204 individuals in 2006, after which a decrease in the anticipated net immigration is expected for almost all of the following years.

Basic Projection and Official Projections

With the basic premises in place for the five countries, the projection will be calculated until 2055. In the following figures, the projection is seen based on the basic premises and the official projection for the country in question. The differences between the two 2 projections for each country are due primarily to differences in models.

Figure 3 Basic projection and official projection (1 000)

As can be seen from the figures, the result of the projections for Iceland, Norway and Sweden shows an increase in the population during the entire period from 2005 to 2055. In Denmark and Finland, however, a negative population growth may be expected towards the end of the projection period.

Alternative Projections

In order to examine the impact of changes in the projection premises, alternatives will be calculated with both positive and negative changes of average life and fertility. Moreover, we will look at an alternative where the net immigration is set at zero. It should be stressed that the alternatives are not an expression of frames that are deemed realistic, but only an attempt to illustrate which consequences changes in the premises will have for the ultimate results.

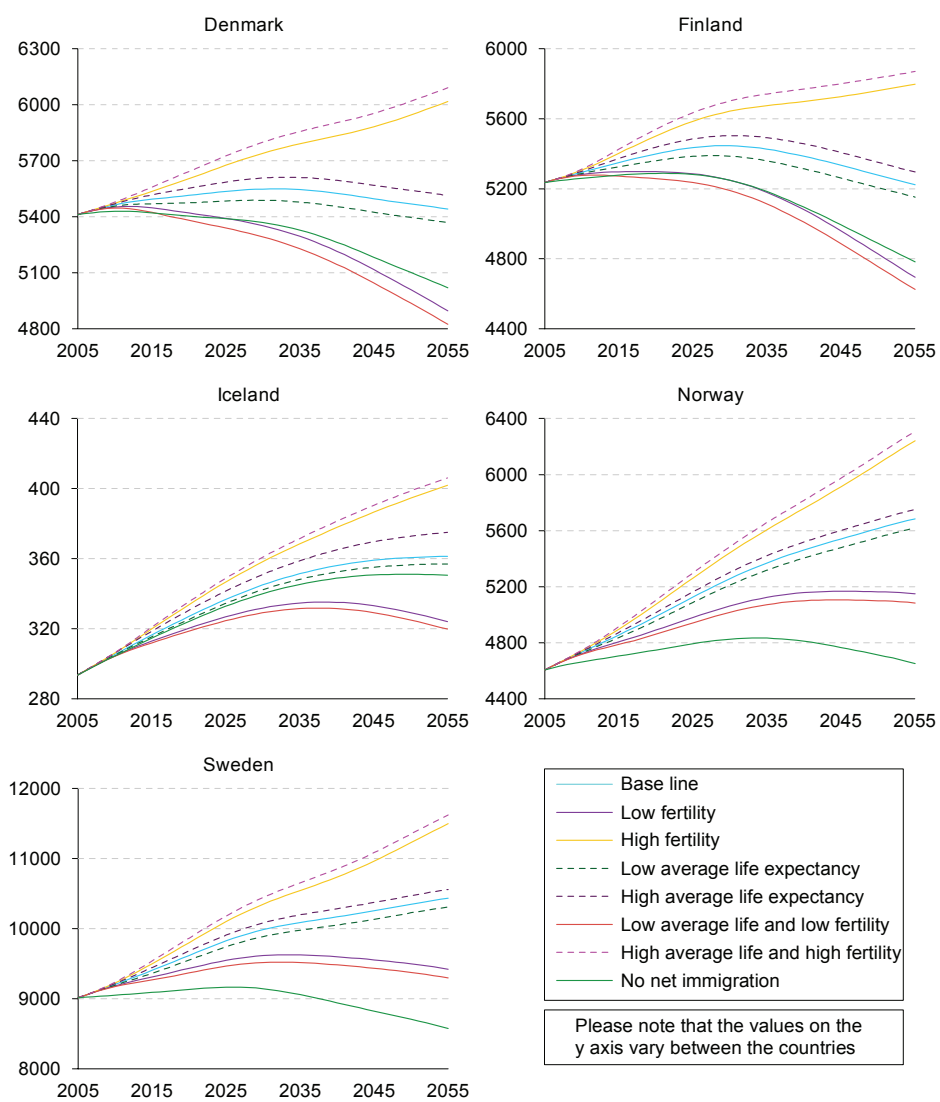
Projections with the following alternatives were made:

- Net immigration is zero for the entire period
- Average life is 1 year longer than in the basic projection
- Average life is 1 year shorter than in the basic projection
- Fertility quotient is 0.3 higher than in the basic projection
- Fertility quotient is 0.3 lower than in the basic projection
- Low average life and low fertility (LL)
- High average life and high fertility (HH).

Not surprisingly, it appears from the results from the two variables we manipulated that it is the impact of the altered fertility that has the largest singular impact.

Common to all five countries is that the largest positive impact is reached by a combination of higher fertility and higher average life. Especially in respect of Norway and Sweden, it applies that it will result in the lowest population figure of all the alternatives, were the net immigration to be removed. In the other three countries, the lowest population figure is achieved by combining lower average life with lower fertility.

Figure 4 Alternative projections (1 000)



Knud Juel

Factors related to life expectancy

In the following, the life expectancy in Denmark, Finland, Norway and Sweden will be examined. Subsequently, examples will be provided of the significance of mortality in different age groups and from different diseases to the life expectancy. In a subsequent section, a model of factors related to mortality and life expectancy will be shown, and examples will be provided of the contribution of different risk factors in Denmark. Finally, a couple of examples will be provided of differences in treatment between the countries.

Life Expectancy

Mortality and life expectancy have been registered in many countries for more than 100 years. Such data are simple, and it is possible to compare them backwards in time and with many countries.

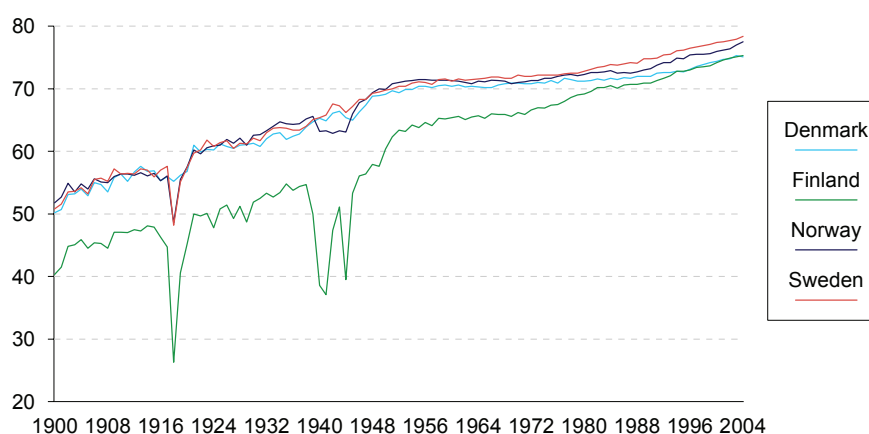
The life expectancy for a country in a certain year may be explained as the number of years a newborn can be expected to live, if it in future is exposed to the death rates of the year in question from that particular country.

The life expectancy is an apt and simple measure for the mortality of a population. The life expectancy is calculated solely by means of the age-specific death rates and is independent of the current age composition of the population. It is thus not necessary to presuppose a certain standard population. Death at a young age results in a greater loss in the life expectancy than does the death of an elderly.

First, the life expectancies in Denmark, Finland, Norway and Sweden will be compared, partly for a long period from 1900, partly for a short period from 1970 to 2004. Finally, a comparison of gender differences in the life expectancy will be made.

The life expectancy for men in Denmark, Norway, Sweden and Finland appears from Figure 1. In all the countries, there has been a marked increase in life expectancy since 1900, which was especially apparent in the first half of the 20th century. At the beginning of the 1900s, Danish, Norwegian and Swedish men had a life expectancy of just over 50 years, while Finnish men had a life expectancy of just under 45 years. Up until 1950, the life expectancy increased almost parallelly in the four countries. During the last half of the period from 1950 and on, life expectancy increased the most in Finland that had the lowest rate. During recent years, the difference between the four countries has been reduced to about three years.

Figure 1 Life expectancy of men in Denmark, Finland, Norway and Sweden, 1900-2004

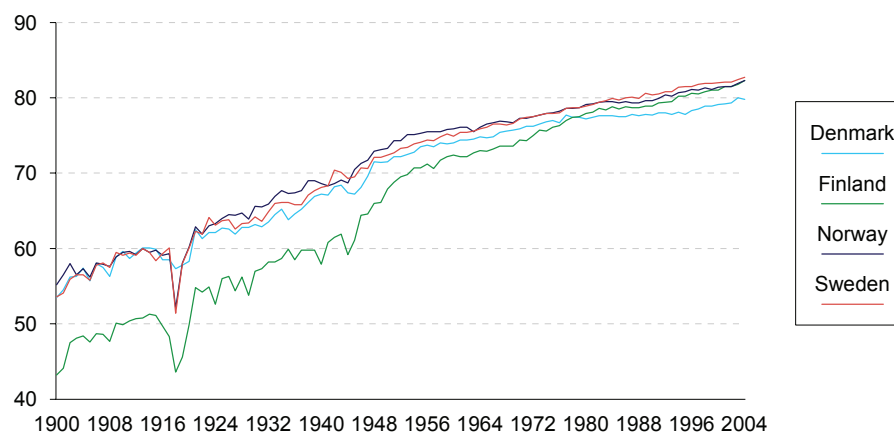


During the first half of the 20th century, the life expectancy of Danish men was the highest, but during the last half of the period, life expectancy in Denmark did not increase as quickly as in the other countries, and for the past 10 years, Denmark had the lowest life expectancy together with Finland.

Apart from a large number of deaths in connection with the two World Wars, many people lost their lives during the years 1918-1919 in the large worldwide influenza pandemic, which was named The Spanish Flu. The impact of this pandemic can be seen very clearly in some of the countries.

The comparison of women's life expectancy in the four countries shows – as was the case for men – that there has been a marked increase for 100 years, cf. Figure 2.

Figure 2 Life expectancy of women in Denmark, Finland, Norway and Sweden, 1900-2004

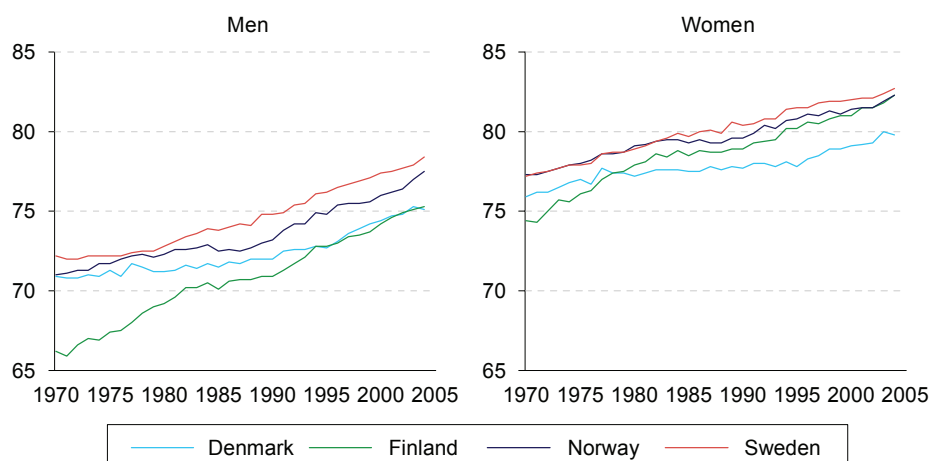


Circa 1900, the women in Denmark, Norway and Sweden had the longest life expectancy of about 55 years, while women in Finland had a life expectancy that was almost 10 years shorter – about 45 years. Up until 1950, the life expectancy increased almost parallelly in the four countries. During the last half of the period from 1950 and on, the life expectancy increased in all four countries, but in particular for Finnish women. Since 1950, the life expectancy increased the least for Danish women, and Danish women have for the past 25 years had the lowest life expectancy of the four countries.

From Figures 1 and 2 it clearly appears that the life expectancy in Denmark in relation to the other countries has developed less favourably during recent decades. In Figure 3, focus is on the life expectancy development since 1970.

Compared with Finland, Norway and Sweden, both men and women in Denmark held a position in the middle at the beginning of the 1970s, a little lower than that of Norway and Sweden, but higher than that of Finland, cf. Figure 3.

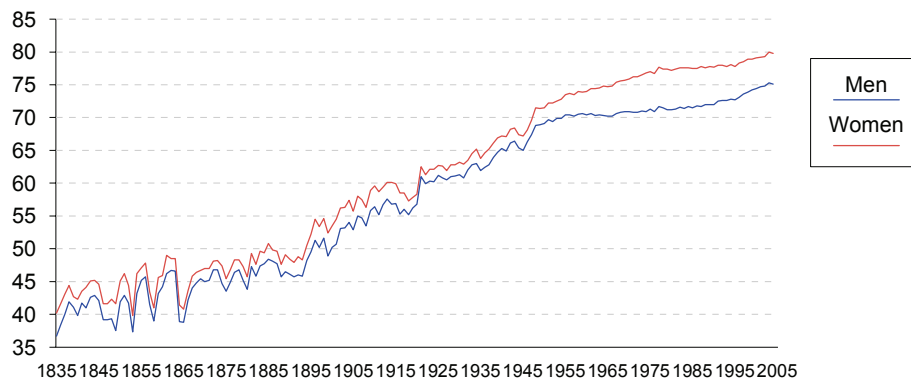
Figure 3 Life expectancy of men and women in Denmark, Finland, Norway and Sweden, 1970-2004



Sweden has seen a steady increase since the beginning of the 1970s, but also Norway has experienced fair increases for both men and women. The most marked increase is, however, seen in Finland, where women's life expectancy in a period of 30 years has increased from less than 75 to almost 82 years and men's life expectancy increased even more from 66 to 75 years.

Danish women clearly have the shortest life expectancy at present, and it has been shorter than in the other three Nordic countries for the past 25 years. It clearly appears from the Figure that the life expectancy of Danish women has been almost stable for a period of 20 years from the mid-1970s to the mid-1990s. Since the mid-1990s, the life expectancy of Danish and Finnish men has been almost identical and 2-3 years lower than that of Norwegian and Swedish men.

Since 1835, Danish women have lived longer than have Danish men, cf. Figure 4. Relatively little has happened from 1835 to 1870. In respect of men, the life expectancy increased from about 43 years between 1840 and 1860 to just under 49 years in the 1890s. As to women, the life expectancy increased from 45 years in the 1840s to about 51 years in the 1890s.

Figure 4 Life expectancy of men and women in Denmark, 1835-2004

Danish women's life expectancy from 1840 to 1890 was only about two years longer than that of Danish men, and only after 1950 the difference grew to three years, especially because the increase declined for men.

Since the beginning of the 1900s, the gender difference in life expectancy has increased in all Western countries from about 2-3 years of longer life spans for women to a difference of 5-8 years. The gender differences during the periods 1910-19 and 1940-49 are of course marked by the World Wars. After 1950, the gender difference increased considerably in most countries.

The largest difference between men and women took place in the 1980s in most of the European countries. In France, it was 8.2 years in the 1980s, whereas it in Finland was 8.7 years in the 1970s. For all the countries, the difference was smaller in the 1990s than it was in the 1980s, and before 1950 it was considerably smaller.

It has been argued that 2-3 years may perhaps be a natural lower limit to the difference between men's and women's life expectancy, and that the change that has taken place since 1950 as to a large part was due to individual behaviour and life style.

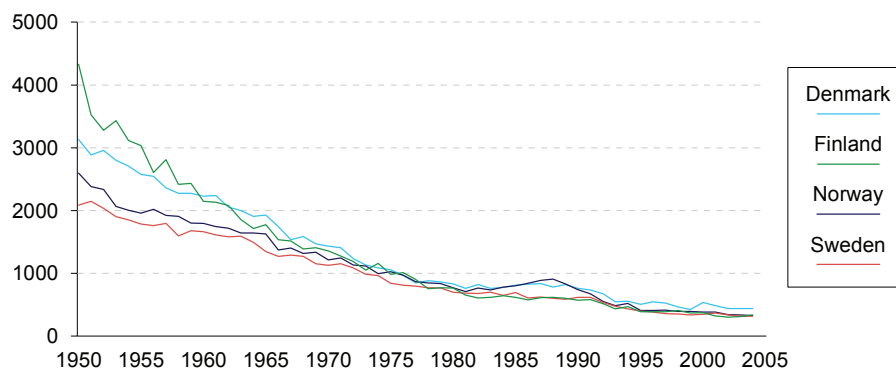
Age and Causes of Death

A nation's life expectancy will be changed if the mortality in different age groups changes, or if the mortality for various diseases changes. In the following, a couple of selected examples of this will be provided.

The mortality among infants or in the first year of life has for many years been used as a relevant measure for a nation's state of health. It is a measure along the same lines as the life expectancy - a simple indicator, which is easy to calculate, and which has been used worldwide. Mortality during the first year is often presented as a joint measure for boys and girls.

In Figure 5, mortality during the first year of life is shown.

Figure 5 Mortality of boys and girls during the first year of life in Denmark, Finland, Norway and Sweden, 1950-2004, rates per 100 000

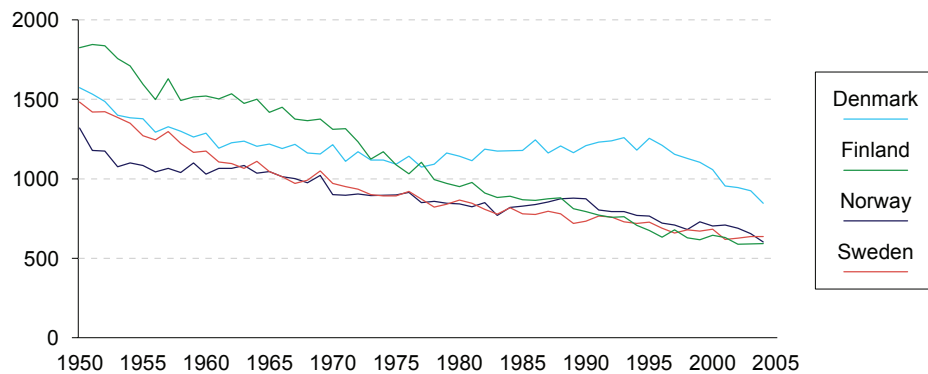


The mortality during the first year of life has in almost the entire period been slightly higher in Denmark than in the other three Nordic countries. Finnish children had, however, the highest mortality rate in the 1950s.

During the past 50 years, there has been a steep decrease in the mortality during the first year of life, from 2-5 per cent to less than 0.5 per cent. In the 1980s, mortality in both Norway and Denmark was somewhat higher than in Sweden and Finland.

Figure 6 shows the mortality rate for women of the age group 60-64 years.

Figure 6 Mortality of women in the age group 60-64 years in Denmark, Finland, Norway and Sweden, 1950-2004, rates per 100 000

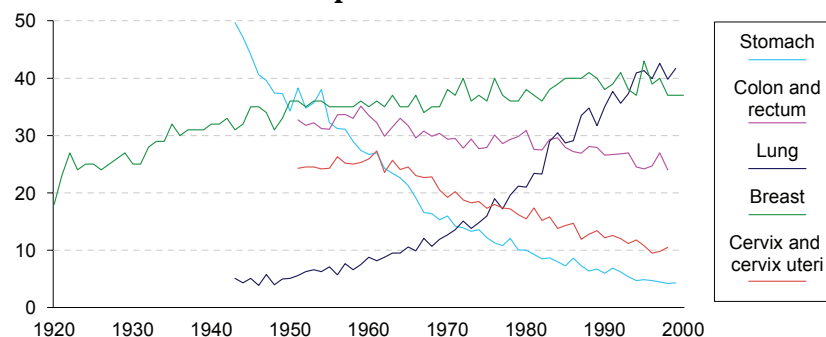


In the 1950s, Danish women held a position in the middle, but later mortality decreased in the other three countries and since 1980, Finland, Norway and Sweden have had almost identical mortality rates. As from the mid-1970s, the development for Danish women has been worrying, and up until the 1980s, the mortality even increased. During the past 10 years, there has again, however, been a decrease in mortality.

In the following, two examples of different developments for specific diseases are shown.

As to cancer mortality in total in Denmark, there have been no great changes since 1920. This constancy covers large variations between different types of cancer. In Figure 7, the mortality for different types of cancer in Danish women is shown.

Figure 7 Cancer deaths in Denmark, 1920-2000, women, age-standardized rates per 100 000

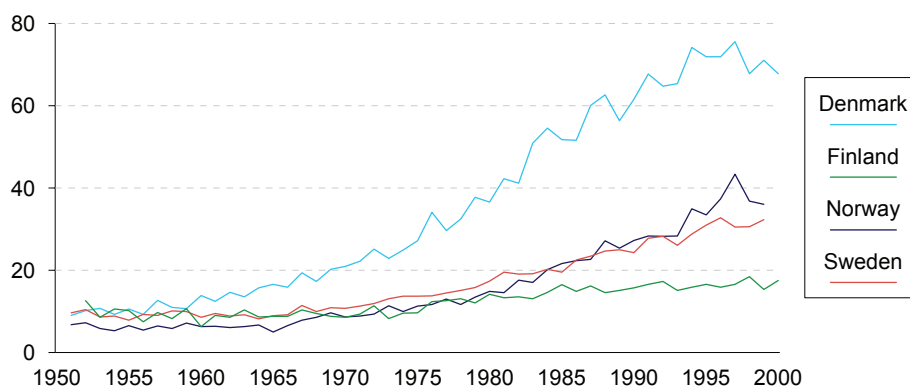


Mortality due to cancer in the stomach has decreased dramatically. As to colon and rectum cancer, which has been watched since 1943, there has been a very moderate decrease. Lung cancer in women began in 1943 at less than 10 per 100 000 and has now increased to over 40 in the 1990s with no evident indication that the increase has stopped. Mortality from breast cancer increased from 1920 and up until 1950, after which there was only a slight increase, but during the past 15 years mortality has been more or less unaltered. Mortality from cervix and cervix uteri cancer has been constant up until 1960, after which there has been a considerable decrease. For women, breast cancer had the highest rate from 1960 and up until the mid-1990s, after which lung cancer had the highest rate.

One single behaviour – smoking – is responsible for 85 percent of all cases of lung cancer. To avoid or reduce smoking is therefore the key to reducing mortality from lung cancer. In respect of lung cancer there are large differences between the countries and between men and women. In respect of men, there has been an increase in mortality from lung cancer since 1950. This increase has at various times been replaced by a decrease. Since the mid-1980s, Danish men have had the highest mortality rate among the four Nordic countries.

The level for women is lower, but there has by and large been an increase in mortality during the entire period, cf. Figure 8. The mortality rate among Danish women is far above the levels of the other three Nordic countries. There may have been a slight decline for Danish women during recent years.

Figure 8 Lung cancer deaths among women in Denmark, Finland, Norway and Sweden of the age group 35-74 years, 1951-2000, age-standardized rates per 100 000



Risk Factors

The development in life expectancy and mortality should be explained on the basis of a relative, complex model, in which genetic and biological conditions, population life style, health habits and conditions of life as well as the preventive, treatment and rehabilitating efforts of the health services form part.

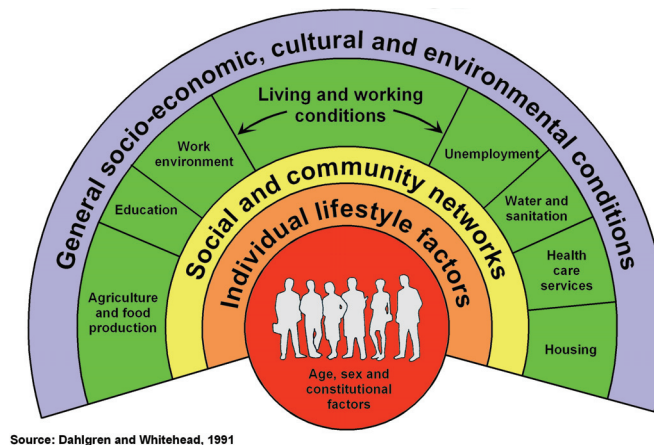
In this section, a model for factors influencing the probability for illness and deaths in a population is presented, as well as two examples of the contribution of selected risk factors.

We will take a broad public health model as our starting point, where health and disease are seen as the results of a number of interdependent causes. As illustrated in Figure 9, the causes of the population's health may be regarded as factors that are more or less close to the individual.

The factors closest to the individual include hereditary disposition, biological risk factors and personal experiences. The next level is made up of life style and factors, which have to do with the social relations and communities, of which the individual form part. Further away from the individual, factors are seen that relate to conditions of life and other societal, cultural and environmental settings for the individual's life.

The levels cannot be looked at in isolation but should be seen as interdependent. Thus, biological factors such as blood pressure and cholesterol levels depend on diet and exercise levels. Similarly, a person's life style depends on both factors close to the individual and of factors that are related to conditions of life, such as education and working life, which are again influenced by the way in which society is organized. Concrete examples could be exercise habits that are influenced by the individual having sufficient spare time (free from commitments to family and work); by the availability of desirable exercise offers; eating habits that depend on both factors such as the individual's knowledge of healthy diets, culturally determined eating habits; by which goods are produced and at which prices they are offered; as well as tobacco and alcohol habits, which are both influenced by the extent to which other people in one's closest circles smoke and drink and by price policy and legislative restrictions.

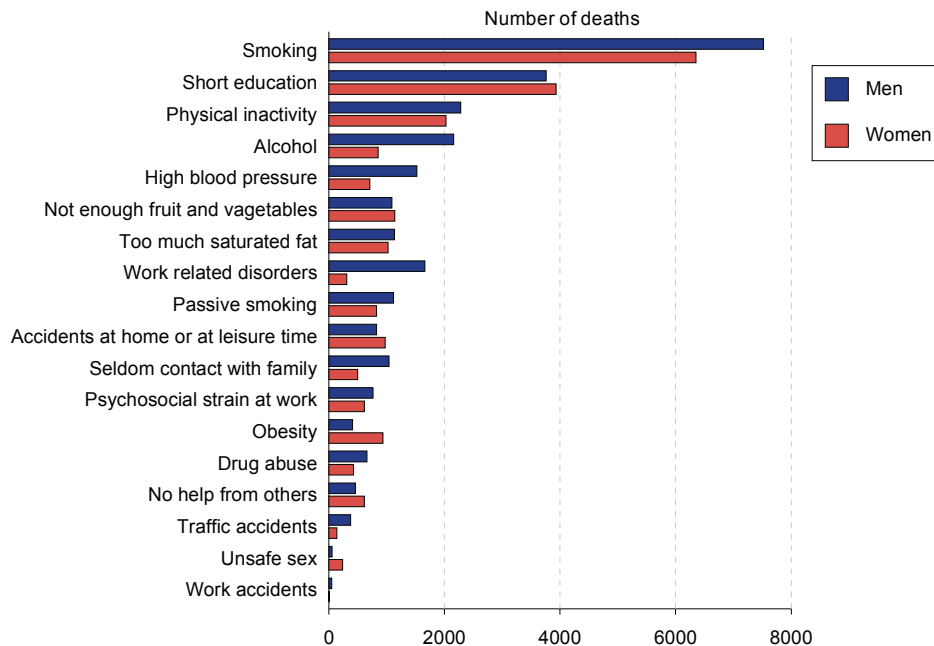
Figure 9 Determinants for disease



Below, two examples are shown of what selected risk factors imply to the number of deaths and to the life expectancy in Denmark.

In Figure 10, the number of deaths related to a group of risk factors is shown. Deaths are measured as extra deaths or as deaths that occur prematurely. In respect of smokers and ex-smokers, a comparison is made to never-smokers, and in respect of people with short educations, a comparison is made to mortality among people with a combined school and vocational education of 13 years or more.

Figure 10 Deaths in Denmark related to risk factors, annual number of deaths for men and women



Each year there are 14 000 premature deaths among smokers and ex-smokers and 7-8 000 among people with less than 13 years combined schooling and vocational education.

As to a large number of risk factors, it has been calculated that each year there will be between 1 000 and 4 000 premature deaths. These factors are physical inactivity, alcohol, high blood pressure, the two indicators of an unhealthy diet, work-related disorders, psychosocial work strain, accidents at and during leisure time, the two indicators of weak social relations (whether one is in contact with one's family, or whether one can expect any help from others in case of illness) as well as obesity and drug abuse.

There are some 500 deaths caused by traffic accidents each year, some 300 deaths related to unsafe sex and about 50 deaths caused by work accidents.

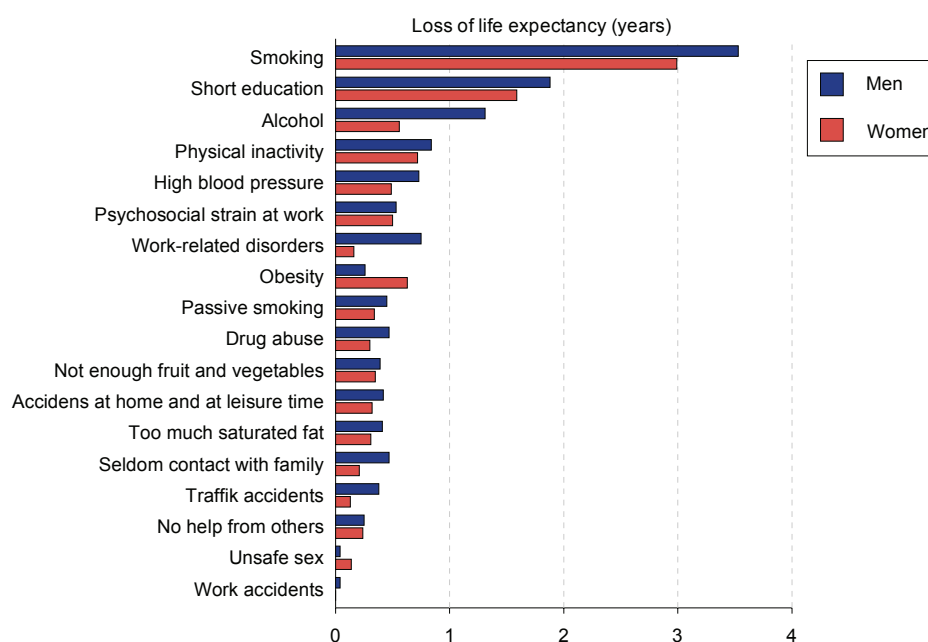
In respect of quite a few of the risk factors, we see approximately identical numbers of deaths among men and women. Deaths related to alcohol, high blood pressure and work-related disorders as well as traffic and work accidents are most frequent among men. The differences are especially large in respect of the work-related disorders, and the relatively few work accidents

almost always occur among men. As to obesity, there are more than twice as many extra deaths among women and the relatively moderate number of deaths related to unsafe sex occurs almost entirely among women.

In respect of some of the factors, deaths among children and adolescents are significant. Deaths before the age of 25 make up 20-30 per cent of the traffic accidents, 10-20 per cent of the work accidents and 4-5 per cent of accidents at homes and during leisure time.

Similarly, Figure 11 shows the impact of the risk factors to the Danish life expectancy.

Figure 11 Loss in the Danish life expectancy related to different risk factors; loss in life expectancy (years) for men and women



Unlike the number of deaths, it applies to loss in life expectancy that deaths among adolescents weigh more heavily than do deaths among older people.

Smoking gives men a loss of 3½ years and women a loss of 3 years. Also a short combined school and vocational education contributes with a great loss of 1½-2 years.

As to many of the risk factors, there is for both men and women a loss of ½-1 year. It applies to alcohol, physical inactivity, psychosocial work strain,

work-related disorders, obesity, drug abuse, accidents at home and during leisure time, traffic accidents, the two indicators of an unhealthy diet, and the two indicators of weak social relations.

There is a minor loss for women due to unsafe sex, while work accidents as a result of the few deaths hardly contribute to the loss in life expectancy.

For several of the risk factors, men and women have almost the same loss in life expectancy. As to alcohol, men have a loss that is nine months larger than that of women, as to smoking and work-related disorders 6-7 months, as to short education, traffic accidents and the indicator "seldom contact with family" about three months. On the other hand, women's contribution to the loss in connection with obesity is four months larger than that of men.

Treatment

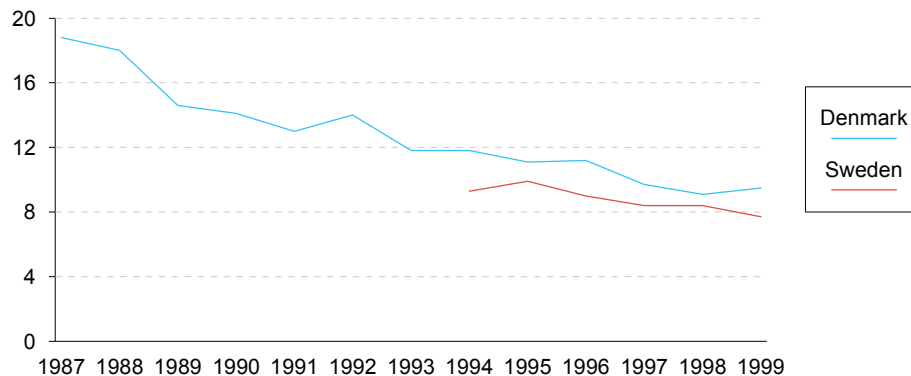
In the following, examples of differences in the treatment of myocardial infarction, colon cancer and lung cancer are presented.

A study has evaluated trends in prognosis after acute myocardial infarction (AMI) between Denmark and Sweden using routinely collected data. Case-fatality during 1987-1999 was compared.

Case fatality was defined as the proportion of events in which the patient died (all causes) during days 1-28, for which the denominator was the number of patients who survived the first day after the event.

Overall, both men and women in Denmark had higher age-standardized case-fatality rates than those in Sweden throughout the study period, and survival had improved in both countries. The age-standardized rates for 1987-1999 in Denmark declined from 29.8 to 17.9 per cent among men and from 28.9 to 19.8 per cent among women; and in Sweden, from 25.8 to 16.1 per cent among men and from 24.5 to 15.9 per cent among women. These declines veiled significantly different trends in the age groups. Among men aged 35-64 years, the odds ratio for case fatality for 1999 vs. 1987 was 0.39 in Denmark and 0.51 in Sweden. This means that, for men aged 35-64 years, the linear trends in case-fatality rates differed between the countries, as Denmark's trend was steeper between 1987 and 1993 ($P = .04$). During 1994-1999, the trends were almost identical, indicating that Denmark's case-fatality rates caught up in the beginning of the study period. For women aged 35-64 years, the odds ratios for case-fatality rates were 0.41 in Denmark and 0.46 in Sweden. Women had the same trend pattern as men. For older men and women, the decline was smaller and almost identical for Denmark and Sweden.

Figure 12 Case-fatality rates for acute myocardial infarction among men aged 35-64 during days 1-28, 1987-1999 for Denmark and Sweden, percentage of deaths



The incidence for colon cancer has been increasing in all the four Nordic countries from 1970 to 2000. Norway and Finland have had the largest increase. In 2000, Denmark holds the highest incidence after Norway, however. Generally for all the countries, the age-standardized incidence for colon cancer is higher for men than for women. The mortality rate is to some extent seen to have stagnated towards the end of the period in Denmark, Norway and Finland. As to Sweden, the mortality rate has, however, been decreasing slightly during that period. During the entire period, however, relative more people died of colon cancer in Denmark than in any of the other Nordic countries.

Although it could be expected that a person with a given cancer diagnosis in Denmark should have exactly the same prognosis as a person in one of the other countries, there are a number of factors that might influence this, such as the disease itself, other rivalling diseases, diagnostics, actual treatment, motivation and expertise of the person administering the treatment, and the patient's ability and inclination to follow the advice given.

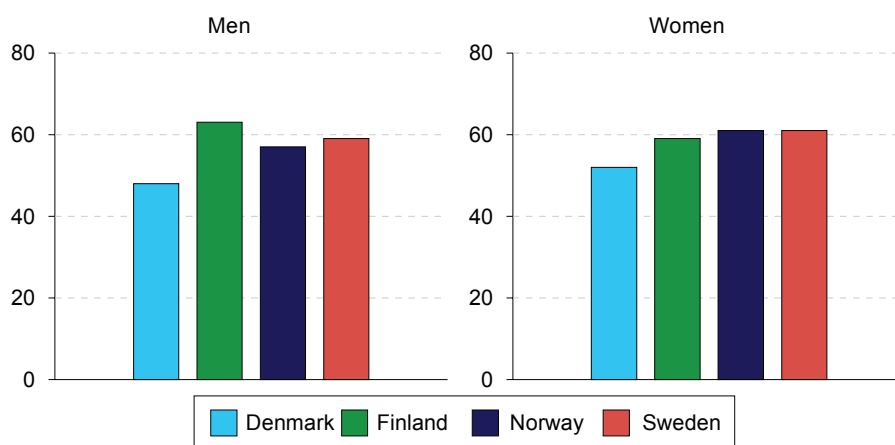
There has been no examination among the countries as to whether or not the patients that are being treated are so alike in their profiles that the survival results may be compared unconditionally. It can therefore not be ruled out that there are many explanations for the differences in survival - and although treatment is an important parameter, it is not the only one.

Relative survival is a goal for the excess mortality among cancer patients. Relative survival is calculated as the observed survival of cancer patients divided by the survival in a group of the population with similar age and gender distribution. It is thus taken into account that a potential change in the

survival of cancer patients is not necessarily directly related to the cancer, and partly that the total mortality increases with age.

The age-adjusted relative survival of patients with colon cancer is about 10 percentage points lower in Denmark than in the other Nordic countries, cf. Figure 13. The differences are statistically significant and can already be observed in the first year after the diagnosis.

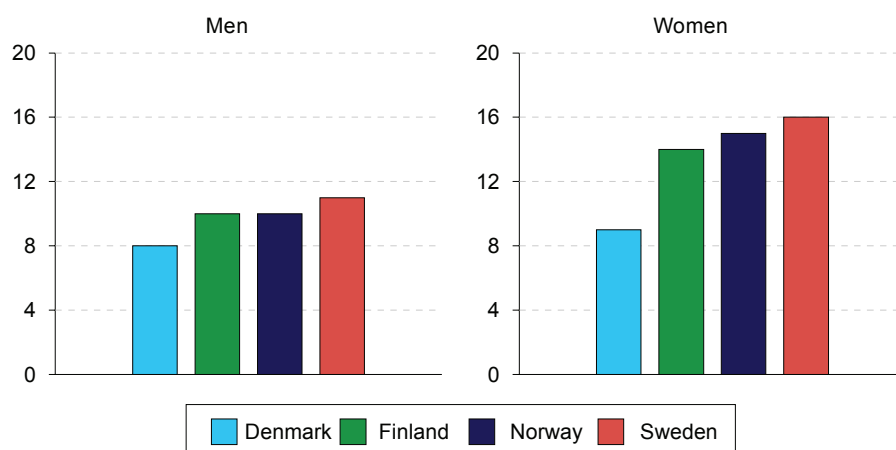
Figure 13 Age-standardized relative survival for colon cancer among men and women in Denmark, Finland, Norway and Sweden



Note: The figures are stated as the ratio in percent between the observed and the expected proportion of persons alive – expected in relation to the survival of the population – five years after the diagnosis.

From Figure 14, the equivalent data for lung cancer appear. As to Danish men, the incidence for lung cancer has been decreasing since the mid-1980s, and the same trend is seen for Swedish men. In Finland, the incidence rate has been decreasing since 1970, although the decrease was largest after 1980. In Norway, the trend is quite different with an increase up until the beginning of the 1990s, after which stagnation set in. The incidence pattern for lung cancer is for all the Nordic countries very different for women and men. In all four countries, the incidence for women increased during the entire period 1970-2000. In 2000, the incidence level was, however, still lower for women than for men. The mortality rate for lung cancer is characterized by being very high and by and large at the same level as the incidence rate. The development in mortality has by and large followed the development in incidence.

Figure 14 Age-standardized relative survivals for lung cancer among men and women in Denmark, Finland, Norway and Sweden



Note: The figures are stated as the ratio in percent between the observed and the expected proportion of persons alive – expected in relation to the survival of the population – five years after the diagnosis.

The survival rate after a lung-cancer diagnosis is poor in all countries. The age-adjusted relative 5-years-survival is low in Denmark and less than 10 percent. In the other Nordic countries, it is higher - for women as much as 16 percent. For men, the survival rate between the Nordic countries is only marginally different – Denmark holding the worst position, however. For women, the survival prognosis in Denmark is significantly worse than it is in the other Nordic countries.

References

Dahlgren G, Whitehead M. Policies and Strategies to Promote Social Equity in Health. Stockholm: Institute for the future studies, 1991.

Human Mortality Database. University of California, Berkeley (USA), and Max Planck Institute for Demographic Research (Germany). Available at www.mortality.org (data downloaded on November 3, 2006).

Juel K. Dødeligheden i Danmark gennem 100 år. Danskerne lever længere, men hvorfor 3-4 år kortere end svenske mænd og franske kvinder? København: Statens Institut for Folkesundhed, 2004.

Juel K, Sørensen J, Brønnum-Hansen H. Risikofaktorer og folkesundhed i Danmark. København: Statens Institut for Folkesundhed, 2006.

Rasmussen S, Abildstrøm SZ, Rosén M, Madsen M. Case-fatality rates for myocardial infarction declined in Denmark and Sweden during 1987-1999. *J Clin Epidemiol* 2004; 57:638-46.

Rogers RG, Hackenberg R. Extending epidemiologic transition theory: a new stage. *Soc Biol* 1987; 34:234-43.

Sundhedsstyrelsen. Kræftplan II 2005. København: Sundhedsstyrelsen, 2005.

Trovato F, Lalu NM. Narrowing sex differentials in life expectancy in the industrialized world: early 1970's to early 1990's. *Soc Biol* 1996; 43:20-37.

Jesper Thøgersen

The Significance of Fertility to the Number of 0-6-Year-Olds

Introduction

This chapter will deal with the effect changes in fertility theories have on the number of children aged 0-6 years. Developments will be calculated both as changes in relation to the number of 0-6-year-olds in 2005 and as developments in the number of places needed in day-care institutions.

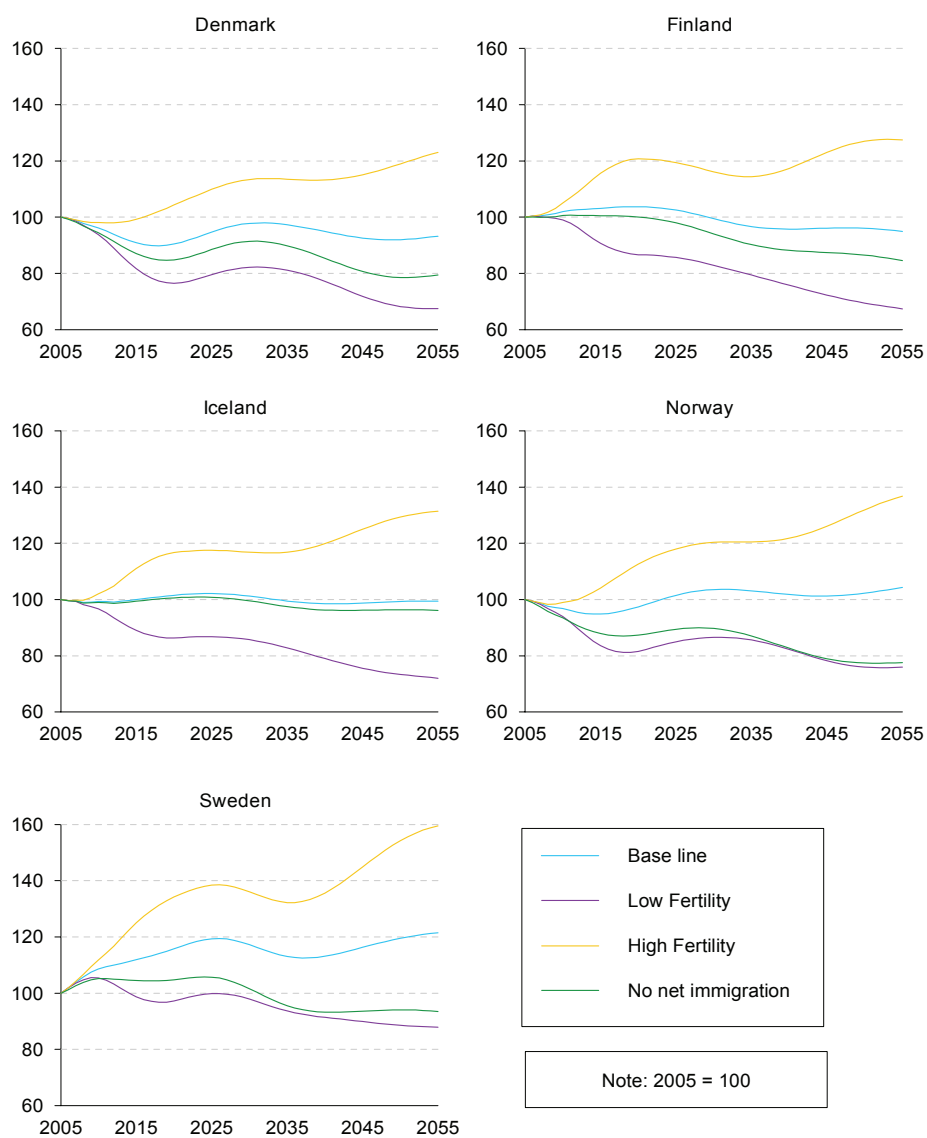
Changes in the Number of 0-6-Year-Olds

Both as regards number and percentages, there are differences as to how many 0-6-year-olds there are in the individual countries.

Table 1 0-6-year-olds in number and as percentages of the total population

	Denmark	Finland	Iceland	Norway	Sweden
Number	462 402	398 826	29 425	409 422	668 841
Percentage	8.5	7.6	10.0	8.9	7.4

As changes in the average life have practically no effect on the development of the number of 0-6-year-olds, it has been decided to disregard alternatives that contain shifts in the average life. Thus, the alternative with shifts in fertility and the alternative without net immigration will be taken into account.

Figure 1 Development in the number of 0-6-year-olds, 2005-2055

Not surprisingly, the alternative with low fertility renders the lowest index value for the number of 0-6-year-olds in all the countries, whereas an in-

crease distinctly affects the number of 0-6-year-olds. These changes are due to the fertility directly influencing the number of newborns.

In Norway and Sweden, who have the highest anticipated net immigration, absence of net immigration will have almost the same impact on the number of 0-6-year-olds as will a decrease in fertility. This is due to the fact that the majority of immigrants are anticipated to be children or of the fertile age.

Places Needed in Day-Care Institutions

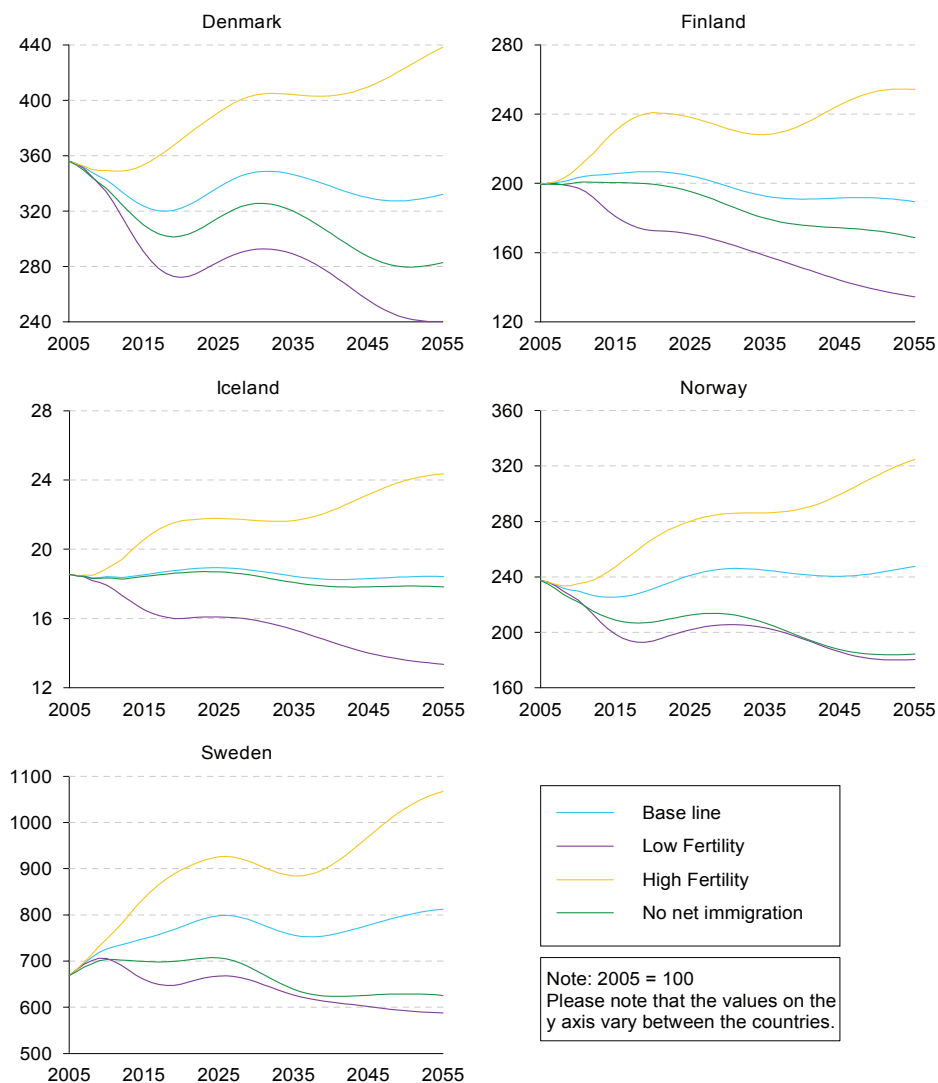
The development in the number of 0-6-year-olds can also be calculated as a change in the need for places in day-care institutions. The differences in the individual alternatives are the same as in the above index calculations, as the number of 0-6-year-olds, who are attending day-care institutions, is assumed to be constant during the entire period.

There are large differences between the countries as to how large a share of the 0-6-year-olds is attending day-care institutions, from 77 per cent of the children in Denmark to 50 per cent in Finland.

Table 2 Percentages of 0-6-year-olds in day-care institutions

	Denmark	Finland	Iceland	Norway	Sweden
Percentage	77	50	63	58	72

Figure 2 Development places needed in day-care institutions (1 000), 2005-2055



***Mika Gissler, Elina Hemminki and
Mikko Kautto***

Trends in the Fertility in the Nordic Countries

Late childbearing and low fertility challenge sustainable development

STAKES National Research and Development Centre for Welfare and
Health

P.O.BOX 220, 00531 Helsinki, Finland

Telephone +358-9 3967 2279

Fax +358-9 3967 2324

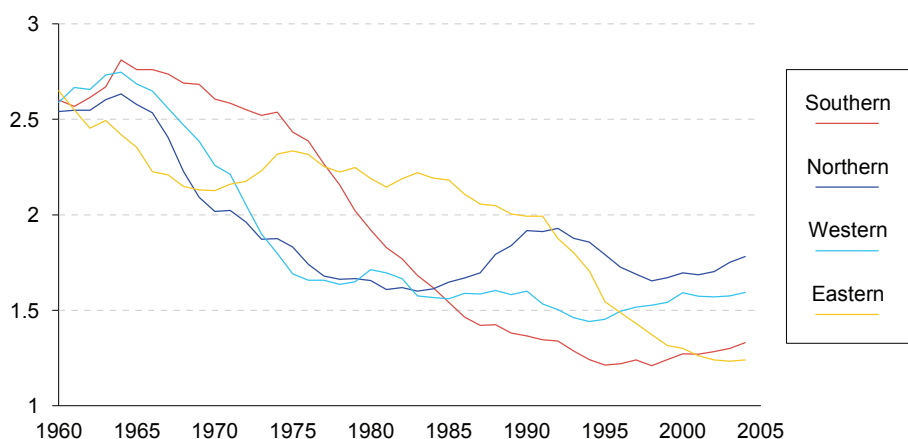
E-mail: mika.gissler@stakes.fi

Low fertility rates and ageing societies have been publicly debated all over Europe. Partly, they reflect nationalistic fears of nations disappearing, but also worry over the sustainability of the national health and welfare systems. Even the moderate EU population estimates double the number of people aged 70 years or more from 53.1 million to 105.7 million in the European Union between 2005 and 2050 (Eurostat 2005). By then, almost every fourth EU citizen (23.5 percent) will have passed his/her 70th birthday, while this population share is currently a mere 11.6 percent. Even though the elderly population's health is better than ever, longevity increases the social welfare and health expenditure due to high personnel costs of the welfare services and the development of more expensive medical care. Social scientists and politicians are asking whether or not increased fertility may solve the inevitable, complex equation.

Statistics Show Declining Fertility

Fertility has declined all over Europe since the 1960s

Figure 1 Total fertility rate in Europe 1960-2004



Data sources: OECD Health Data and Eurostat New Cronos

Southern: Greece, Italy, Portugal and Spain

Northern: Denmark, Finland, Iceland, Norway and Sweden

Western: Austria, Belgium, France, Germany, Luxembourg, Netherlands and Switzerland

Eastern: Czech Republic, Hungary, Poland and Slovak Republic

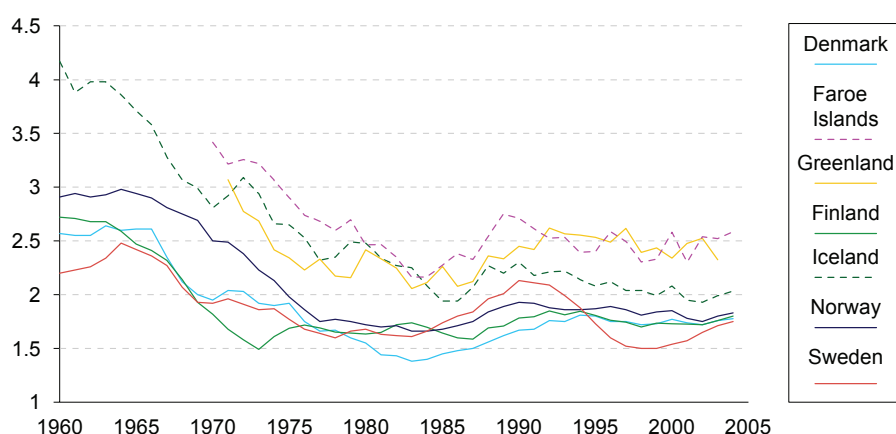
The total fertility rate (TFR)¹ declined below the theoretical replacement level (2.1 children per woman) first in the Nordic countries (in 1969) and then in Western Europe (in 1972). The same level was reached in Southern Europe in 1979 and in Central and Eastern Europe in 1986. The decline was at its fastest in Western Europe between 1965 and 1975, when the TFR declined from 2.7 to 1.7 (-37 per cent). Similarly, the TFR declined in Southern Europe from 2.4 to 1.5 (-37 per cent) between 1975 and 1985. The fertility levels remained relatively high in Central and Eastern Europe until the early 1990s, but the large political changes and economic restructuring after the collapse of the communist regime was followed by a decline in the fertility rate from 2.0 in 1988-1991 to 1.25 in 2001-2004 (-38 per cent). While the ferti-

¹ TFR is the sum of the age-specific birth rates, which measures the number of children each woman will give birth to, if the fertility level remains unchanged and no women die before the age of 50.

ity rates in the Western European countries (since the mid-1990s) and Southern European countries (since the late 1990s) have started to increase, this has not yet been the case in the Central and Eastern European countries.

Also in the Nordic countries the fertility rates declined up until the early 1980s, after which they increased up until the early 1990s. In the mid- and late 1990s and after the millennium, the Nordic TFRs have remained relatively stable, with the exception of Sweden, where there was larger variation, and Iceland, who experienced a slightly declining TFR trend.

Figure 2 Total fertility rate in the Nordic countries 1960-2004



Data sources: NOMESCO and Nordic statistical offices

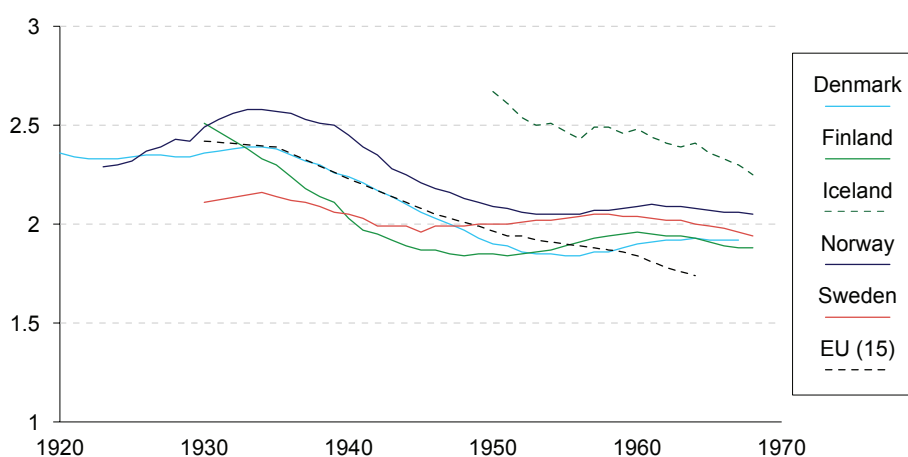
The fertility decline started similarly in Denmark, Finland and Sweden, and a few years later in Norway. The TFR was the lowest in Sweden up until 1969 and 1976-1978, while Finland held this position from 1970 to 1975. After that, Denmark had somewhat lower fertility levels than the other Nordic countries between 1979 and 1994. The high TFR of Sweden – mainly caused by political initiatives to reduce the pregnancy interval – was followed by a significant decline in the Swedish fertility levels, and the Swedish TFR has remained the lowest in the Nordic countries since 1995.

Among the 25 European Union countries, the highest TFR is in 2004 found in Ireland (1.99) and France (1.90) followed by the three Nordic EU countries, Finland, Denmark and Sweden (1.75-1.80). The fertility rates are even higher in the other Nordic countries: 1.83 in Norway, 2.03 in Iceland, 2.33 in Greenland and 2.59 in the Faroe Islands. The historical fertility trends show that there are higher fertility rates in the western Nordic

countries – consisting of Iceland, Greenland and the Faroe Islands – than elsewhere in the Nordic countries (Figure 2).

The TFR will give a misleading picture of the total number of children, if the childbearing age varies over time. In Europe, women postpone childbearing, which first in transition results in the TFRs underestimating the total number of children. The changes in the completed fertility rate (CFR) over time are smaller than in the periodical TFRs.

Figure 3: Completed fertility rate in the Nordic countries for women born in 1920-1968



Data source: Eurostat

For women born in the mid-1980s, the highest CFR can be seen in Iceland (2.3) followed by Norway (2.1). The rates in Denmark, Finland and Sweden are somewhat lower, i.e. around 1.9-2.0 (Eurostat 2005).

The postponement of childbearing can be seen in the mean age of parturients (STAKES 2005). Among all women giving birth in 2004, the oldest mothers were in Denmark and Sweden (30.5 years, followed by Finland (30 years), Norway and Iceland (29 years). Among primiparous women, the mean age is the highest in Denmark (29 years) followed by Sweden and Finland (28 years), Norway (27 years) and Iceland (25.5 years). For medical reasons, the proportion of parturients aged 35 years or more is monitored more carefully. This percentage has more than doubled in all Nordic countries within the past 25 years. The percentage is highest in Finland and

Sweden (19 per cent), followed by Denmark (17 per cent), Norway and Iceland (16 per cent).

From a fertility perspective, the proportion of women, who remain either voluntarily or involuntarily childless, is important. For women born in the mid-1960s, this percentage is lowest in Denmark, Norway and Sweden (12-13 per cent), while the Finnish figure is much higher: 20 percent. Since there is only a minor difference in the Nordic TFR and CFR levels, child-bearing is more polarised in Finland than in the other Nordic countries. In other words, the Finnish women, who have children, have on average more children than do women in the other countries. This is also confirmed by the Nordic Perinatal Statistics (STAKES 2005).

Fertility varies according to education and gender. In Finland, high education among men increases the likelihood of their having at least one child, but the opposite is true for women. Up to 83 percent of men aged 45-49 years with higher university degrees had at least one child, while the same proportion is 70 percent for men with no education in 2003. Among women with intermediate-level education, 86 percent have at least one child, while this percentage decreases to 78 percent for women with a master degree and to 73 percent for women with a licentiate or doctoral degree (Kautto 2004).

Theories Explaining Fertility Changes

The causes for the declining fertility in Europe remain unclear, even though competing theories have been proposed (Vikat 2004).

1) Theories based on new home economics interpret children as one of the many types of merchandise in the family budget. These economic models state that increasing incomes may be invested in children, but also in human capital, such as health and education. Therefore, income is not correlated with the number of children, even though higher incomes increase fertility by decreasing budget restrictions related to family size. In general, families calculate alternative costs, which are connected to the loss of income related to child-bearing and child care, which further explains the number of children.

Such kinds of theories are, however, static. Childbearing preferences are supposed to be permanent, even given externally, although they do vary in real life. Such preferences - as postulated in the theory of relative income - personal consuming preferences and attitudes towards childbearing appear during the socialisation process in the childhood home. Obstacles to achieving the preferred consuming level may cause declining family sizes. The following generation, however, may face declining risks of such obstacles, which may

increase the desired and achieved number of children. There is some empirical evidence of this kind of wave motion in post-war English-speaking countries outside Europe, but not so after the 1980s, not in Europe either.

2) Another fertility theory calculates the values of children instead of their benefits or the economic obstacles to childbearing. Decreasing uncertainty is one basic value of human life. People having slim possibilities of getting work have thus increased motivation for childbearing, since having a child is next to irreversible, and raising a child requires long-term commitment. Evidence supports this theory, despite the recent Finnish debate on the so-called 'preliterate generation' with stub and shred work causing severely limited possibilities and uncertainties for childbearing.

The value of children has also been investigated by parity: The first child indicates partner commitment, and subsequent children have sibling value. The commitment attached to the first child is even true for re-married couples, who have children from their previous relationships.

3) The third main theory on childbearing is based on societal values and attitudes. The fertility changes in Europe since the 1960s are caused by changes in the general values. According to the theory of the second demographic transition², the increase in divorce rates, extramarital births and fertility rates among women aged 30 years or more, and the general decrease in fertility rates are caused by attitude changes. These include:

- Sexuality becomes socially accepted.
- Institutional control weakens and individual moral freedom increases.
- Improved availability of contraceptives increases women's possibility of controlling their reproduction and timing of childbirth.
- Self-fulfilment and its consequences to relationships between partners are more important and have replaced the traditional motivation to replace the number of children by their "quality".
- Sexual equality has increased.
- Women are economically more active, which increases the alternative costs of childbearing.

Historical fertility trends suggest that the timing of these developments varied in Europe (Figure 1). Hakim (2003) suggests that women in Western

² The first demographic transition covers the change from high fertility and high mortality to low fertility and low mortality, where the fertility level normalises near to the reproduction level (TFR=2.1).

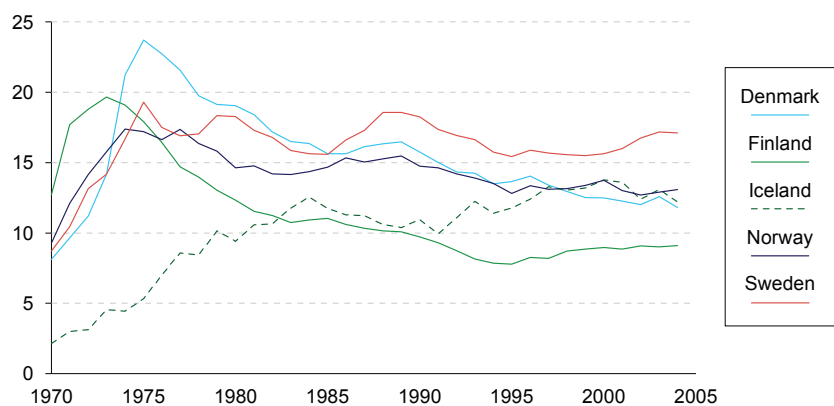
countries have a real possibility of choosing from different life strategies such as home-centric, work-centric and flexible strategies. Fertility statistics confirm that the majority of people belong to the flexible group, and that they aim at combining family and professional life. However, the Finnish data on polarisation of childbearing may reflect different life strategies among population groups.

Induced Abortions and Fertility

All the Nordic countries liberalised their legislation on induced abortion in the 1970s. In Denmark, Norway and Sweden, women may terminate their pregnancies on request within 12 weeks (in Sweden within 18 weeks). In Finland and Iceland, a indication mentioned in the abortion legislation is required for a termination. However, the legislation is interpreted liberally, and most induced abortions are performed on social grounds, such as insufficient means to raise a child, problems with or lack of relationship with the child's father, or problems to combine work or studies with childbearing.

Sweden has had the highest abortion rate in the Nordic countries since 1986, and Finland the lowest rate since 1983.

Figure 4 Induced abortions per 1000 women aged 15-49 in the Nordic countries



Source: STAKES 2004

According to the most recent data from 2004, Sweden had 17 induced abortions per 1000 women of fertile age (15-49 years), Denmark, Iceland and Norway 12-13 per 1000 and Finland 9 per 1000. Sweden has most and

Finland least induced abortions, when studied by age groups. The only exception is teenagers, for which Denmark and Norway has almost as low abortion rates as does Finland (STAKES 2004). In total, 25 percent of pregnancies (including birth and induced abortions, but not spontaneous abortions) are terminated in Sweden. The percentage is 19-20 in Denmark, Iceland and Norway and 16 in Finland (STAKES 2004 and 2005).

Terminated pregnancies decrease fertility in a given year, but in the long run, induced abortions have no or only a minor effect on the fertility. On the other hand, access to induced abortion along with the availability of effective contraceptives has decreased the number of unwanted children. According to data from Northern Finland, 12 percent of children were unwanted in 1966, but the percentage was merely 1 two decades later. Simultaneously, the number of wanted children increased from 63 percent to 92 percent (Rantakallio and Myhrman, 1990). Parallely, adoptions have become rare: Finland registered almost 1150 adoptions in 1950, some 600 in 1970, but less than 250 in 2004 (Statistics Finland 1972 and 2005). Most of the adoptions are currently within the family or foreign adoptions.

Infertility Treatment and Fertility

An important reason for the increased proportion of women and couples, who remain involuntarily childless, is the postponement of childbearing, because fertility declines with women's age. According to Finnish studies, every seventh woman who tried to get pregnant reported to have experienced difficulties. Primary infertility (no pregnancies ever) is reported by 9 percent and secondary infertility (no pregnancies after a successful one) by 5 percent of women of the reproductive age (Klemetti 2003). Besides postponement, increased pelvic inflammation rates, obesity rates and smoking rates negatively affect the female reproductive health and thus the fertility (Anttila 2006).

Since the 1980s, the use of fertility treatment has rapidly increased in the Nordic countries. IVF (in-vitro fertilisation) was started in the early 1980s, and currently 2 percent of Norwegian children and around 3 percent of children in the other Nordic countries are born after such treatment, where the fertilisation occurs outside the female body (NOMESCO 2005). There are significant differences in the number of IVF treatments given in the Nordic countries. Norway and Sweden, which have strict legislation on fertility treatment, have less initiated treatments (3-4 per 1000 women aged 15-49 years per year) than have Iceland and Denmark, who have more liberal legislations (6-9/1000), or Finland, who has no legislation at all on the matter (6/1000).

The information on other, less invasive infertility treatments than the IVF is sporadic. An informed estimation is that the number of children born after such other treatment is at least equally frequent as the IVF (Gissler 2003).

Reasons for Childbearing

Most Finnish surveys report that only from 1 to 3 percent of respondents prefer to remain childless. The most often mentioned reasons for not having any children include the lack of (the right) partner (both sexes), the sense of immaturity (women), and the fear of long-term commitment (men) and the lack of time (men).

Most Finns want to have at least one child. Women explain the wish to have their first child by the experience of being a mother, the continuation of life and the meaning of life, as well as by love and the feeling that a child brings a couple closer to together. The wish to have subsequent children is often explained by a wish to give the first one siblings. Also the wish to have a child of a certain sex arises from the third child onwards (Turunen 1998). Men explain their childbearing wishes similarly by the continuation of life, the experience to be a father and the joy of following a child's growing up and development (Nikander 1995).

The mean number of desired children in Finland has varied between 2.3 and 2.6 since the 1970s (Gissler 2003). Even though these views may be too optimistic – at least among childless people – the figure remains above the TFR and the CFR. Women prefer more children than do men. Farmers, entrepreneurs and students prefer most children, lower white-collar workers least. No cohort effect has been found among women, but young men prefer fewer children, possibly indicating men's slower maturation for family foundation and childbearing (Nikander 1992 and 1995, Paajanen 2002).

Finnish women and men state that the best age to have the first child is some two years before the current 28 years for women and 30 years for men (Gissler 2003). There are several reasons for postponing childbearing. The respondents of the 2002 Family Barometer in Finland mentioned the following as the main causes: increased egoism and the preference of independency and self-fulfilment, long education and the preference to complete studies before childbearing, the tightening requirements in the labour market and work places, the insecurity about the future and the problems to combine professional careers and family life (Paajanen 2002).

Politicians Worried

The principle aim of the population policy is to affect the population development, especially the population size and its structure, as well as the regional distribution. These policies strive by way of various actions to influence fertility, mortality and migration so that society may enjoy a favourable progress (Söderling 2004).

The history of the pronatalistic population policies reflects military objectives and parental protective insurance for old age in an era lacking pension systems. After the race hygienist theories of the early 20th century, the modern population policy in the Nordic countries was started in the 1930s, when the Swedes Alva and Gunnar Myrdahl started the discussion on active population and family policy. In Finland, the public discussion culminated in 1941, when the Finnish Family Federation was created. Its main aims were then – and still are – fertility promotion and promotion of the economic and social development among Finnish families (Kautto 2004). Thus, the modern population policy is closely interlinked with different social policies, in particular family policy, and they are thus difficult to separate.

The current discussion seldom includes the pronatalistic themes, even though an increasing number of children are warmly welcomed. This has been explained by the following: the contradiction between the antinatalistic population policies in the developing countries and the pronatalistic ones in the developed countries, the ideological contradiction disabling societies to affect families' childbearing in the post-modernistic and individualistic Western world, the doubts regarding the effectiveness of pronatalistic actions in fertility and population growth, and the inevitably long time lag up to 25-30 years before increased fertility de facto improves for example employment (Söderling 2004).

In 2003-2004, the Finnish Government initiated a report on the future demographic trends, population policy and preparation for the effects of an aging society. The report (available also in English, Prime Minister's Office 2004) and its five annexes are part of the dialogue between the Parliament and the Government. One of the annexes describes how the population development may be influenced and debates, whether Finland should increase its population through growing fertility and/or immigration (Valtioneuvoston kanslia 2004). The report reflects the concerns regarding the whole public financing, but particularly the financing of the pension systems, as well as worries as to who is going to pay for the growing social welfare and health expenditure. Similar discussions have been seen in other Nordic

countries, but also in Europe, as the 2000 Lisbon strategy and its follow-up shows (European Union 2006).

The main idea of the Finnish report is to describe a society that is good for people of all ages, but also to increase the equity between generations. The latter includes the idea that the costs related to ageing have to be paid fairly by different generations, but simultaneously the choices of forthcoming generations must not be narrowed. The provision should ensure people's wellbeing, and create financially and socially sustainable solutions in developing future public services and benefits.

Regarding fertility, the Finnish report aims at maintaining the current fertility rate or even increase it. No concrete aims are given recently by the Finnish Family Federation (TFR 1.9) (Finnish Family Federation 2004) or by the Ministry of Social Affairs and Health (TFR 1.9) (Ministry of Social Affairs and Health 2003). In general, family policy should be comprehensive and support fertility, but still encourage men and women to participate in work outside of their homes. The benefits in kind should maintain their level. Families should have different ways of organising child care. The different actors in family policy should cooperate more by means of networking. The possibilities of combining work and family should be secured.

The report presents the following means to increase fertility:

- 1) The best method to affect childbearing is to advance fertility. Since prolonged education has caused delayed childbearing, there should be better ways of combining education and childbearing by improving the social security and public services aimed at student families with child(ren).
- 2) The proportion of untypical work contracts, especially among young women, should be diminished in order to decrease uncertainties among young people.
- 3) Working places should support the use of family vacancies related to childbearing and families with young children. It is important to motivate both parents to use this kind of benefits.
- 4) Housing policy should give the possibilities to all kinds of families of choosing between different forms of housing (including owner-occupied housing, renting, right to residence -housing). The housing costs should be reasonable with high quality standards. The Finnish tendency that families with children have confined housing should be broken so that even families with small children can obtain safe and roomy housing.

Also other policies affect the fertility. The promotion of reproductive health has also been seen as a general aim to improve biological fertility. The problems of becoming pregnant, involuntary childlessness, fertility treatment and pregnancy complications have increased (Koponen and Luoto 2004). Even though other sexually transmitted infections have substantially decreased, more Chlamydia cases are reported and registered, especially among men and women aged less than 30 years. These factors combined with further postponement of childbearing and its effect on women's subsequent health will negatively affect the individual fertility in the future. A low number of induced abortions, a low proportion of terminated pregnancies and a low incidence of sexually transmitted diseases indicate good knowledge and correct use of contraception, a good standard of sexual knowledge, and good access and quality of health care services, especially among young men and women (Gissler 2003).

Also the child policy affects the welfare of families with children. Researchers have suggested that one of the reasons for increased ill-health among children and youth is the strained work requirements (Bardy et al. 2001). Unemployment has increased especially among women. They are more often given short-term and temporary work contracts than are men. This gender-specific development clearly affects the fertility and children's welfare. Also the increasing poverty among children has a negative impact. Thus, the level of subsistence for families with children has to be monitored, and actions to prevent poverty and to promote inclusion should be kept high on the political agenda. Finally, the welfare and health services produced and paid for by the local authorities have faced budgetary restrictions, which may have decreased for example the accessibility and quality of children's day-care services.

Does Policy Affect?

If we believe that the theory of a second demographic transition is valid, common policies do not affect the fertility rates, since people's preferences vary. However, recent fertility trends suggest that fertility is highest in the Nordic countries, which support women's active participation in work, decrease the burden of child care by organising public day-care services and subsidising care in the homes, increase gender equality and justice by defining social rights to public services (such as day care) and even provide generous social benefits (such as pregnancy, birth and child allowance, parental leave for child families). The lowest fertility rate can be seen in Southern Europe, where there are few and expensive day-care facilities, low benefits

during parental leave and uncertain work conditions among young people (Gissler 2003, Kautto 2004).

The connection between policy and fertility levels remains unsolved. There is no clear evidence that the availability of day-care services increases fertility (Vikat 2004). In Finland, even large improvements of child benefits have had only a minor effect on childbearing in the 1970s and 1980s. On the other hand, economic trends played a more important role. Until the 1990s, the number of newborns followed the economic fluctuation with a lag of 18 months (of which half equals the time of pregnancy). The fertility was the highest during and after the recession, but the lowest in the booming economy. After the deep recession of the early 1990 with higher fertility rates, the periodic fertility declined for ten years, but started to increase again after the millennium. If the connection between the economy and childbearing still exists, the time lag seems to become longer. The Finnish experience is completely different from the 1990s recession in Sweden (see the article by Tom Nilstirne & Bengt Eklind).

It is believed that changes in legislation - other than those regulating social benefits - have only minor effect on fertility (Kautto 2004). The proposal to increase the taxation of childless people is difficult to use because it is interpreted to be against the ban on discrimination. Another public law issue affecting fertility is the legislation on induced abortions, but there has been no serious motions to narrow women's possibilities of terminating their pregnancies in Finland. In civil law, legislation on marriage and children has lost its meaning regarding fertility, since the number of children born to unmarried mothers has increased substantially, up to 50 per cent of all children or even above that level (Council of Europe 2004). Finland has lacked legislation on assisted reproduction. A strict law prohibiting treatment of some groups - such as single mothers, lesbian couples and surrogacy arrangements - would decrease the number of children, but its effect is only negligible, since the vast majority of treatment is given to married or cohabiting heterosexual couples. The legislation on adoption does not permit others than married couples to adopt a child. To extend the right to cohabiting couples or couples with a registered partnership may increase the number of child families and the number of children through foreign adoption, but the total impact would be small.

When asking people how fertility can be advanced, Finns say that the best way would be to improve the economic situation of families planning childbearing (Paajanen 2002). Other means include the possibility of staying at home with the child after the maternity leave, tax allowances, flexible working times and organised care for children before and after school as

well as during school holidays. Women prefer services and benefits for child families, as well as tax relief, while men prefer decreased taxation, monetary benefits, and reduced housing costs. These are not far from the above-mentioned Government conclusions, even though the efficiency of these proposals is not based on evidence.

Conclusions

It is clear that the Nordic countries with developed social welfare and health services have a higher fertility rate compared with other European countries. The Finnish report states that the best policy to increase fertility may be to affect the group which is postponing childbearing due to economic uncertainty. There are several reasons, which negatively decrease the willingness to have a child, such as poor household economy, uncertain work conditions, uncompleted studies, and small apartments. The progress would be ideal if women could start their childbearing earlier and their actual family size could grow nearer to the ideal family size. Besides the number of children, an earlier starting age would be useful to the population level, since the need and demand for expensive and cumbersome infertility treatment would decrease.

Comparisons with countries with less comprehensive public sectors suggest that publicly financed and organised welfare services and benefits improve fertility. Benefits related to childbearing and child families have positive impact on the fertility, but it may be more important to affect employers' opinions. Currently, the cost of maternity and parental leave is mainly covered by mothers' employers. A more equal coverage of these costs would decrease the number of women with non-permanent work contracts, decreasing uncertainties and thus giving changes to increased fertility.

Acknowledgements

We would like to thank Dr Minna Salmi from STAKES for her valuable comments on this article.

References

Anttila Leena: Huoli hedelmällisyydestä on aiheellinen (Apprehension on fertility is justified, in Finnish). Suomen Lääkärilehti 61 (1-2): 23, 2006.

Bardy Marjatta, Salmi Minna, Heino Tarja. Mikä lapsiamme uhkaa? Suuntaviivoja 2000-luvun lapsipoliittiseen keskusteluun (What threaten our children? Guidelines for the discussion on child policy in the 21st century). STAKES: Reports 263: 2001.

Council of Europe: Recent demographic developments in Europe 2004. Strasbourg, Council of Europe Publishing. 2004.
http://www.coe.int/t/e/social_cohesion/population/demographic_year_book/ (as acceded 28 February 2006).

European Union. Growth and Jobs – Working together for Europe's Future (Lisbon Strategy). http://europa.eu.int/growthandjobs/key/index_en.htm (as acceded 28 February 2006).

Eurostat: New Cronos –database.<http://epp.eurostat.cec.eu.int/> (as acceded 28 February 2006).

Finnish Family Federation: Väestöpoliittinen ohjelma (Programme for Population Policy, in Finnish). Väestöliitto. Frenckellin kirjapaino Oy, Espoo 2004. Available also at:
http://www.vaestoliitto.fi/mp/db/file_library/x/IMG/13591/file/vpohjelma_lopullinenpdf.pdf

Hakim Catharine: A new approach to explaining fertility patterns: Preference theory. Population and Development Review 29 (3): 349-74, 2003.

Gissler Mika: Hedelmällisyys Suomessa ennen, nyt ja tulevaisuudessa (Fertility in Finland before, now and in the future, in Finnish with abstract in English). Yhteiskuntapolitiikka 6: 553–567, 2003.

Kautto Mikko: Syntyvyys ja maahanmuutto vaikuttavat väestökehitykseen (Natality and immigration affect population development, in Finnish). In book: Väestökehitykseen vaikuttaminen – tulisiko syntyvyyttä ja maahanmuuttoa lisätä? Tulevaisuusselonteon liiteraportti 3. Valtioneuvoston kanslian julkaisusarja 31/2004. Edita Prima Oy, Helsinki 2004.

Klemetti Reija: Tahaton lapsettomuus (Involuntary childlessness, in Finnish). Kirjassa: Luoto Riitta, Viisainen Kirsi, Kulmala Ilona: Sukupuoli ja terveys, s.113-123. Vastapaino, 2003.

Koponen Päivikki, Luoto Riitta (ed): Lisääntymisterveys Suomessa. Terveys 2000 -tutkimus. (Reproductive health in Finland. Health 2000 - study, in Finnish). Kansanterveyslaitoksen julkaisuja B5/2004.

Ministry of Social Affairs and Health: Perhepoliittinen strategia. Linjauksia ja taustoja perhepolitiikan kehittämiseen. (Strategy for family policy. Targets and background for development of family policy). February 2003.

Nikander Timo: Naisen elämäntietä ja perheellistymistä (Life course and family formation among women, in Finnish). Suomen virallinen tilasto: Väestö 1992: 1. Tilastokeskus. Helsinki 1992.

Nikander Timo: Suomalaismiehen perheellistymistä (Family formation among men, in Finnish). Suomen virallinen tilasto: Väestö 1995: 1. Tilastokeskus. Helsinki 1995.

NOMESCO: Health Statistics in the Nordic Countries. Helsestatistik for de nordiske lande 2003. Nordic Medico-Statistical Committee 73. Copenhagen 2005.

OECD: OECD Health Data 2005. CD-ROM. <http://www.ecosante.fr> (as accessed 28 February 2006).

Paajanen Pirjo: Saako haikara tulla käymään? Suomalaisien lastenhankinnan ihanteet ja todellisuus. Perhebarometri 2002 (May the stork visit us? The ideals and reality in Finnish childbearing. Family barometer 2002, in Finnish). Väestöliitto, Väestöntutkimuslaitos Katsauksia E 14/2002.

Prime Minister's Office: Finland for people of all ages: Government report on the future: demographic trends, population policy, and preparation for changes in the age structure. Prime Minister's Office Publications 34/2004. Edita Prima Oy, Helsinki 2004.

Rantakallio Paula, Myhrman Antero: Changes in fertility and the acceptability of pregnancies in northern Finland during the last 20 years. Int J Epidemiol 19 (1990): 1:109-114.

STAKES: Pohjoismaiset raskaudenkeskeytystilastot. Nordisk abortstatistik. Nordic statistics on induced abortions. Statistical Report 32/2004.

STAKES: Pohjoismaiset perinataalilastot. Nordisk perinatal statistics. Nordic Perinatal Statistics. Statistical Report 28/2005.

Statistics Finland. Statistical yearbook of Finland 1972. Valtion painatuskeskus Oy. Helsinki 1972.

Statistics Finland. Statistical yearbook of Finland 2005. Karisto Oy. Hämeenlinna 2005.

Söderling Ismo: Väestöpolitiikka historiallisessa tarkastelussa ja eurooppalaisessa vertailussa (Population policy in historic review and European comparisons, in Finnish). In book: Väestökehitykseen vaikuttaminen – tulisiko syntyvyyttä ja maahanmuuttoa lisätä? Tulevaisuusselonteon liiteraportti 3. Valtioneuvoston kanslian julkaisusarja 31/2004. Edita Prima Oy, Helsinki 2004.

Turunen Anne: Lastenhankinnan päätöksenteko - tilastollinen tutkimus suomalaisten naisten perhearvoista ja lastenhankintasuunnitelmiin vaikuttavista tekijöistä (The decision making in childbearing – a statistical study on family values and factors affecting childbearing plans among Finnish women, in Finnish). Sosiologian pro gradu -työ. Helsingin yliopisto 1998.

Valtioneuvoston kanslia: Väestökehitykseen vaikuttaminen – tulisiko syntyvyyttä ja maahanmuuttoa lisätä? Tulevaisuusselonteon liiteraportti 3. Valtioneuvoston kanslian julkaisusarja 31/2004. Edita Prima Oy, Helsinki 2004.

Vikat Andres: Syntyvyyteen vaikuttavat tekijät (Factors influencing natality, in Finnish). In book: Väestökehitykseen vaikuttaminen – tulisiko syntyvyyttä ja maahanmuuttoa lisätä? Tulevaisuusselonteon liiteraportti 3. Valtioneuvoston kanslian julkaisusarja 31/2004. Edita Prima Oy, Helsinki 2004.

***Bengt Eklind, Tom Nilstierna and
Christer Löfgren***

Swedish Family Policy

Tom Nilstierna
Administration Ministry
Bengt Eklind
Christer Löfgren
Ministry of Health and Social Affairs

**A documentation of Sweden's contribution
to the Nordic Social-Statistical Committee
(NOSOSCO)/Nordic Medico-Statistical
Committee (NOMESCO) Seminar on
Population and Sustainable Development
held in Oslo on April 6, 2006**

Birth Rate and Family Policy

On a number of occasions during the 20th century, concerned debaters and researchers put forward data on what they saw as an excessively low birth rate. This applied in particular to the 1930s and 1990s. A low birth-rate, they feared, would lead to a population imbalance, with growing numbers of elderly people having to be supported by a diminishing proportion of the working population.

Swedish family policy is directed at providing families with children with financial support and/or services of various kinds. Its purpose is to even out disparities in living conditions between households with and without children.

There is an interest in understanding the connection between birth rates and the family policy being pursued. Although a statistical correlation would of course be ideal, we shall have to content ourselves here with indications. Numerous factors apart from family policy may be adduced to explain birth rate developments.

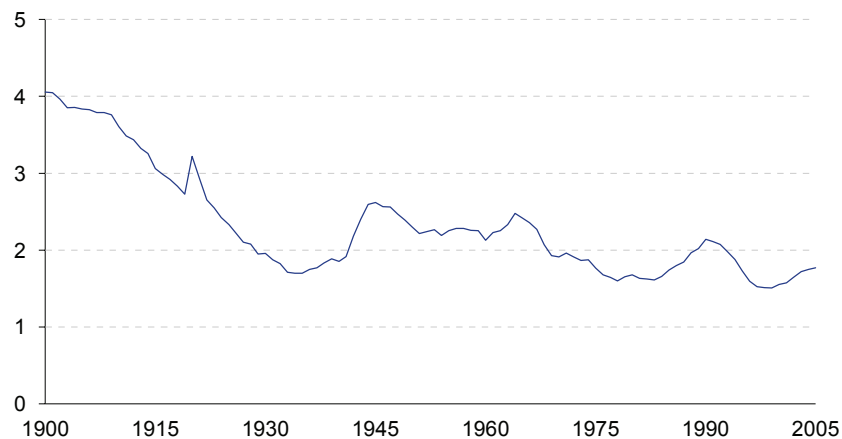
Below we present birth data according to two measurement models, an outline of family policies pursued by a brief survey of policy outcomes, and some of the future challenges facing family policy.

Birth Data

There has been a growing tendency in recent years to include birth data on the number of children men have. However, we will confine ourselves here to birth rate figures for women.

The most widely used measure of fertility is the total fertility rate. This measures the number of children born per woman in a given calendar year.³ Figure 1 shows the total fertility rate for the period 1900–2005.

Figure 1 Total fertility rate for the period 1900–2005, number of children per woman



As the figure shows, the fertility rate stood at 4 children per woman at the start of the 20th century. This fell steadily to a low of well under 2 children

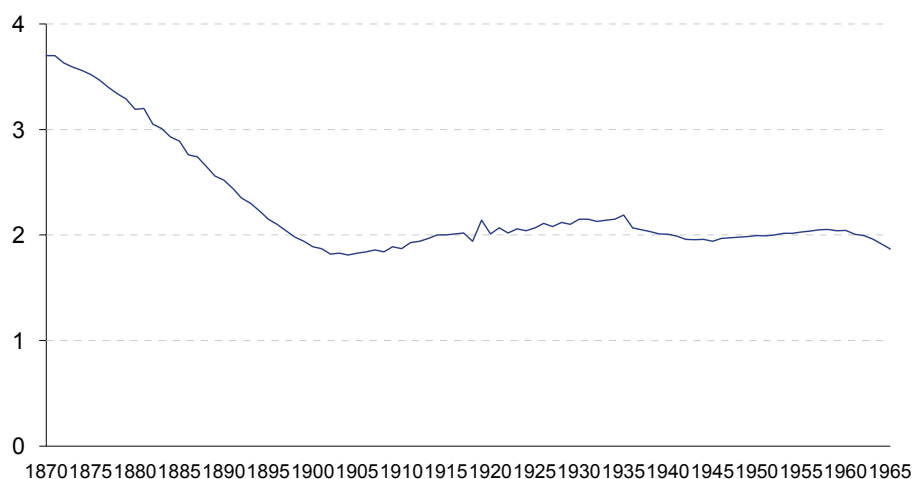
³ The average number of children born to women in each age group is calculated. These figures are then added to arrive at the total fertility rate.

per woman in the mid-1930s. It then recovered, reaching a lower peak in the mid-1940s, only to suffer a small general, long-term decline thereafter.

The other measure, known as the total cohort fertility rate (TCFR) is defined as the average number of children born to a cohort of women.

Figure 2 shows the TCFR for cohorts of women born in the years between 1870 and 1967, i.e. the average number of children born to women in each age group throughout their childbearing years.

Figure 2 TCFR for women born 1870–1965, number of children per woman



As the figure shows, the TCFR fell steadily from just under 4 children to just under 2 children per woman for cohorts born between 1870 and those born just after the turn of the century. The rate stabilised thereafter, at approximately 2 children per woman.

Although both measures are of course interesting and useful, their differences, in terms of characteristics and application, are worth examining in somewhat greater detail.

The first measure may be described as an indicator sensitive to economic fluctuations. The choice to have children may be influenced by economic, social and other conditions. It is quite conceivable that difficult financial circumstances or wartime conditions would cause people to put off the decision to have children. It is very probable that the high total fertility rate in the years around 1945 is a reflection of this. The rate fell back in the early 1950s. The decision to postpone childbearing led to fluctuations in the total fertility rate. When those women who decided to wait until 1945 before hav-

ing children gave birth at the same time as women who didn't wait, the result was a sharp rise in the total fertility rate for that year.

The TCFR measure is less sensitive to fluctuating economic conditions and should be seen as more structurally related. The rising TCFR for cohorts born between the turn of the century and the mid-1930s may be seen as the result of long-term favourable social conditions conducive to child-bearing.

Population Crisis

In 1934, Gunnar and Alva Myrdal published a book entitled *Population Crisis* (*Kris i befolkningsfrågan*). In it, they wrote that the cost of having children had risen since the beginning of the century. There were several contributing factors to this. These included:

- the rationalisation of housework
- the declining significance of the household as a production unit
- longer schooling periods/longer periods of dependency on parental support
- a rise in the alternative cost of having children associated with the growing number of job opportunities for men *and* women.

The Myrdals concluded that young people of fertile age could either choose to work or to have children, but had difficulties to do both at the same time.

It may be safely said that the book marked the inception of a family policy aimed at spreading the cost of having children to others as well as to parents.

Swedish Family Policy

The successive development of modern Swedish family policy dates back to the 1940s. The rationales for the various family policy measures adopted in succeeding years may be grouped under four headings.

The first to be advanced was the **population policy argument**. During the economic depression of the 1930s, the birth rate dropped to an unprecedented low. This conscious curtailment not only demonstrated that living conditions were not conducive to parenthood but also led to a rise in the relative number of older people in the population, thereby increasing the risk for lack of labour force. A population commission was set up to propose recommendations, resulting in a raft of measures designed to support ex-

pectant and new mothers and to provide financial assistance to the child categories most at risk. At the same time, the right to voluntary parenthood was maintained through the introduction in 1938 of measures to facilitate contraceptive distribution, legislation on legal abortion and a maternity assistance scheme. However, contraceptives did not become freely available until 1970 and abortion legislation was applied very restrictively until the picture changed with the introduction of the 1974 Abortion Act. Other milestone years in this period were 1931, which marked the introduction of a maternity benefit scheme, and 1935, which saw the launching of the *barnrikehus*⁴ scheme. Maternity assistance (*mödrahjälp*) and maternity benefit (*moderskapspenning*) differed in that the former targeted mothers in serious financial difficulty while the latter was paid to every Swedish woman in need of financial support to help offset the cost of bringing up children. The maternity benefit scheme was transformed into the present Swedish parental insurance scheme in 1974. The purpose of the *barnrikehus* support scheme was to alleviate overcrowding in households with children. An inquiry had shown that 30 per cent of all children under 15 were living in overcrowded conditions according to the then current criterion of “more than two persons per room, including kitchen”. The scheme, which targeted “less well-off” families with a higher than average number of children, featured favourable loans for the construction of houses for such families and housing allowances for those moving in.

A second rationale, the **argument on grounds of fairness**, emerged somewhat later. The contention was that children and parents in multi-child families should not have to suffer a lower standard of living than the rest of the population. This was officially acknowledged in the 1940s, a decade that saw the introduction of the child allowance (1948) and a range of services designed to improve conditions for families with children.

The **efficiency argument** gained increasing prominence in the 1960s. Modern society, with its complex production and administrative processes needed well-educated, highly trained people. The problem was that increasingly prolonged education/training periods meant parents could no longer be expected to take responsibility for supporting and educating children during these periods. The result was a series of educational reforms that have significantly altered the economic circumstances of families with children and young people.

The **gender equality argument** also gained currency in the 1960s. Gender equality implies that both parents must be equally free to participate in work-

⁴ Dwellings for large families.

ing life and that household tasks and responsibilities should be shared equally. Individual taxation was introduced in 1970 and the national parental insurance scheme in 1974. Gender equality has been a prominent issue in Swedish society since the 1970s. Public child day-care provision and the right to leave of absence for both parents have accordingly been priority objectives on the reform agenda. A ceiling on child day-care charges was introduced in 2002.

The goal of Swedish (economic) family policy today is to reduce economic disparities between households with and without children. The policy therefore aims to remove obstacles preventing parents from having as many children as they want. In other words, there are no specific population-growth or birth rate-policy targets. However, development in these areas can of course be affected by the policy being pursued.

Support for families with children can take one of two forms: a cash benefit or a public service. Child allowance, housing allowance, study support and maintenance support are examples of the former. One example of a public service is child day-care. Such services are also provided as part of the health and medical-care system; these include maternity and child healthcare centres and maternity care.

Some Remarks on the Outcome of Family Policy

Child Day-Care

1. The extent of child day-care provision

Though a relatively new phenomenon, child day-care is widely available in Sweden. Child day-care legislation was first introduced in 1975, in what had previously been a wholly unregulated sector. Under the new provisions, municipal councils were to draw up plans for a comprehensive extension of child day-care within their respective municipalities, six-year-old children were to be offered pre-school places free of charge, and, where possible, children in need of special support were to be allocated places before the age of six.

On the basis of an agreement between the Government and the Swedish Association of Local Authorities (*Svenska Kommunförbundet*)⁵, the Riksdag⁶ approved a programme for the comprehensive development of child day-care. The plan provided for the creation over a five-year period of 100,000 new day-care places, 50,000 new places in out-of-school recreation centres and an increase in the number of family day-care units (childminders working in their own homes). These targets were not fully achieved within the five-year period, however. New child day-care legislation introduced in 1995 tightened up and gave clearer definition to municipal responsibility for providing child day-care services.

Day-care provision has expanded very rapidly in the last three to four decades. The period 1970–2000 saw a tenfold increase in the total number of places – from 70,000 to over 700,000. However, demand greatly exceeded supply throughout the period. The shortage of day-care places was a constantly recurring topic of discussion and in the 1990s expansion was intensified. The new, tougher provisions requiring municipal councils to provide pre-school and school-age day-care places without undue delay combined with the high birth rate led to the creation of record numbers of new places each year. After 1997, the total number of children enrolled in a day-care centre or family day-care unit declined, only to rise once more: in 2003, 733,500 children were registered as attending pre-school or school-age day-care activities, the highest number to date. By the beginning of the present decade, virtually all municipal councils had met their obligation to provide places for children of working or studying parents without long waiting times. In 2004, 96.5 per cent of all four- and five-year-old children attended pre-school or school-age day-care activities. The figure for children aged 1–3 was 74.4 per cent, while 10.2 per cent of children aged 10–12 attended school-age day-care activities.

The increase in the number of children enrolled in all forms of pre-school and school-age day-care is shown in Table 1 below.⁷

⁵ Now reorganised and renamed the Swedish Association of Local Authorities and Regions (*Sveriges Kommuner och Landsting*).

⁶ Swedish parliament.

⁷ 1991–1999 *Barnafödandet i fokus* (Ds 2001:57). 2000–2004 *Beskrivande data om förskoleverksamhet, skolbarnomsorg, Skola och vuxenutbildning 2004 resp. 2005* (National Agency for Education).

Table 1 Number of children enrolled in all forms of pre-school and school-age day-care (thousands).

	Day-care centres	Part-time day-care groups	Out-of-school centres	Family day-care units	Total number of registered children
1980	129	105	49	125	408
1985	184	78	74	162	498
1990	268	63	109	156	571
1995	361	67	210	123	725
2000	315		332	58	705
2001	315		337	50	701
2002	334		351	45	730
2003	352		342	40	734
2004	364		326	36	726

2. Costs and charges for child day-care

Gross municipal expenditure on pre-school and school-age day-care totalled SEK 48.1 billion in 2004, an increase of 3 per cent on 2003 at fixed prices. Pre-school day-care accounted for 72 per cent, out-of-school recreation centres for 21 per cent and family day-care units for 6 per cent respectively of total expenditure. Between 2003 and 2004, the total cost of *pre-school* day-care rose by 5 per cent to SEK 34.4 billion. Over the same period, the average number of registered children increased by 4 per cent. The cost per registered child thus rose by just under 1 per cent in 2004 to SEK 94,700.

Although the ratio has varied over time, day-care charges have generally accounted for a small proportion of the cost.

In 1991, 10 per cent of the cost was covered by parents. This share rose gradually during the 1990s, reaching 18 per cent in 1999–2001. In 2002, charges were capped and the self-financing share fell to 11 per cent in the same year. In 2003 and 2004, this share amounted to 11 per cent. In 2004, the self-financing share was highest in the case of out-of-school centres (16 per cent), compared to 8 per cent for pre-school day-care and 10 per cent for family-based day-care. The charge ceiling introduced in 2002 was framed as follows:

Table 2 Child day-care charges (paid by parents).

	Pre-school children		School-age children	
	Percentage of income	Max. SEK/month	Percentage of income	Max. SEK/month
<i>Children</i>				
No. 1	3	1,140	2	760
No.2	2	760	1	380
No.3	1	380	1	380

Prior to 2002, charging scales were set by the municipal councils themselves, and both income-dependent and non-income-dependent systems were to be found. On the basis of data collected by Statistics Sweden from a number of municipalities it was estimated that in 1996 child day-care charges for households in a range of income brackets rose by between 5 and 7 per cent for every increase in household income of SEK 1,000 per month.⁸ The charge ceiling has thus led to a 40-per-cent reduction in charges paid by parents, while the marginal effect on people with rising incomes has been reduced by at least half.

3. Economic standard for single people with or without children

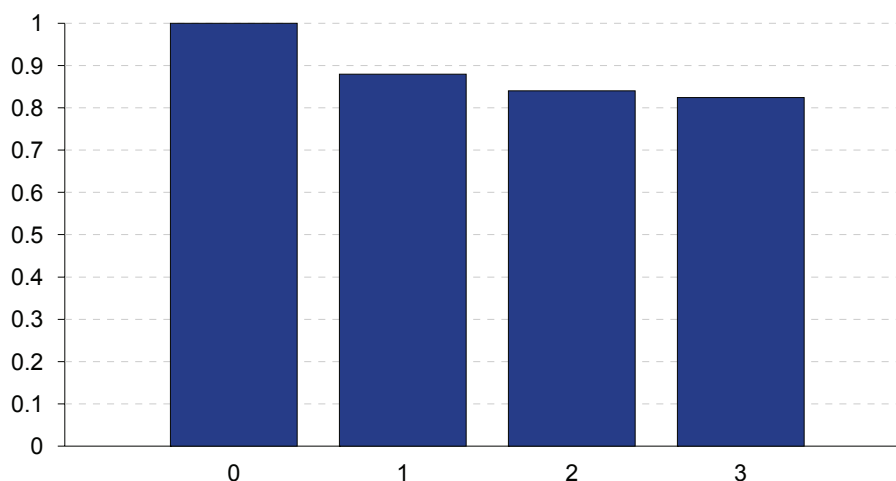
One way of measuring the outcome of current family policy is to compare the economic standard for households with or without children.

In one calculation performed on the basis of rules introduced in 2006, we compare what a single woman earning SEK 15,000 per month retains as disposable income per consumption unit after income tax and benefits. The benefits included in the calculation are child, housing and maintenance allowances.

Figure 3 below shows the equivalent disposable income for a single-woman household with 1 to 3 children, using a single-woman household with no children as a basis for comparison.

⁸ *Lönar sig arbete?* (Does it Pay to Work? – A report by the Expert Group on Public Finance) Ds 1997:73.

Figure 3 Economic standards for single-woman households with or without children. Values <1 refer to standards below that of a single-woman household with no children.

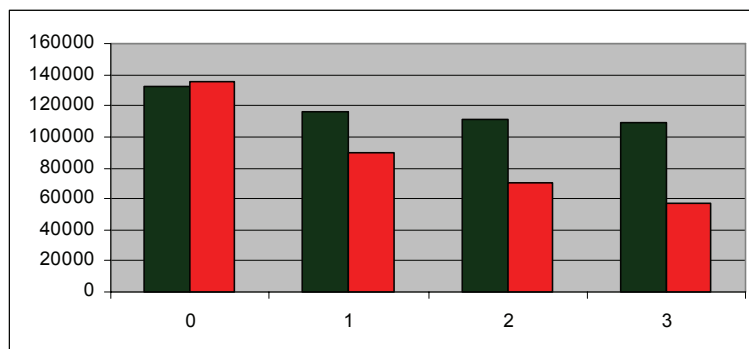


It is clear from the above figure that the equivalent disposable income is inversely proportional to the number of children in the household. This would indicate that equalisation of income disparities falls short of ensuring that people will maintain their living/economic standard when they have children. Moreover, although the economic standard for a single woman with three children is just over 80 per cent of that for a woman with no children, the disparity would be far greater in a scenario without taxes or benefits.

To shed more light on the income distribution effect, we performed an experimental calculation. We retained the family constellations but posited a scenario without benefits (total cost SEK 34 billion) and reduced the local government income tax rate by 7.5 per cent (leaving a local government income tax rate of 92.5 per cent).

The results of our calculation are set out in Figure 4 below. The left-hand column (black) represents the economic standard for the respective family constellations under existing benefit/tax rules, while the right-hand column (red) represents the effects of the posited scenario.

Figure 4 Effect on equivalent disposable income of removing child, housing and maintenance allowances and introducing a fiscally neutral tax reduction.



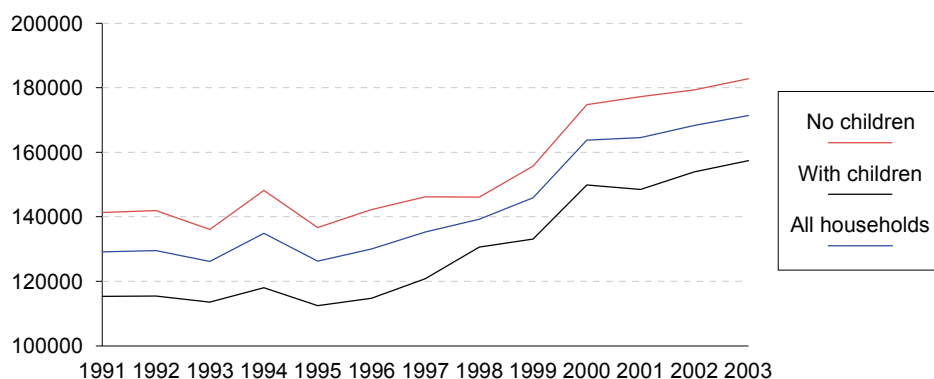
The figure clearly shows that a woman with no children would benefit somewhat under the scenario while the other constellations would lose out significantly.

4. Economic standard for childless households compared with those for families with children

Another way of measuring the effects of family policy is to compare the equivalent incomes (the economic standard) for households with or without children over time.

Figure 5 below shows the nominal economic standard for households with or without children over the period 1991–2003. The top curve (red) plots the average economic standard for families with no children. The bottom curve (black) plots the average economic standard for households with children. The middle curve (blue) represents all households.

Figure 5 Nominal economic standards over time for households with or without children, averaged figures



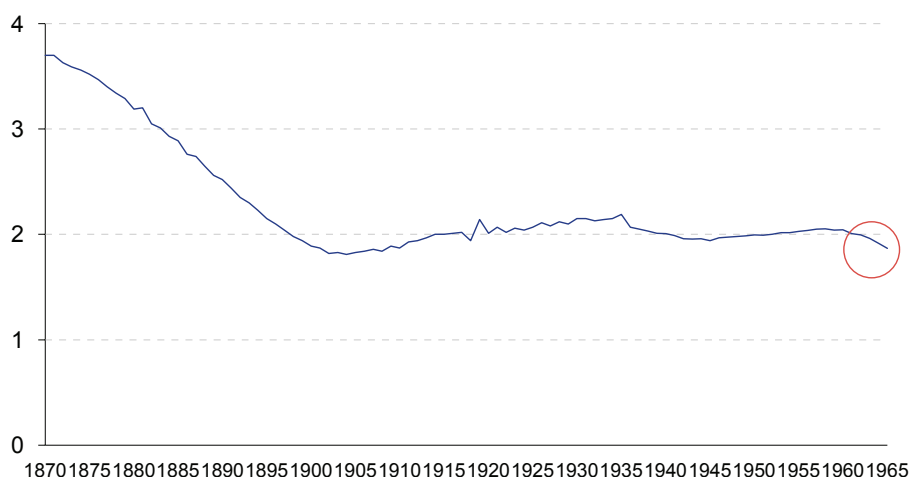
The figure shows that households with no children enjoyed a higher economic standard throughout the period than households with children. Supplementary estimates indicate that the gap between families with children and those without, measured as a percentage of the economic standards of childless households, narrowed somewhat – from 82 per cent to 85 per cent – over the period. The gap was even smaller in the last years of the 1990s.

In conclusion, it may safely be said that Swedish family policy has tended to even out inequalities between those who have children and those who do not. However, full equalisation has not been achieved. Disparities in terms of economic standards have shown a marginal diminution over the last 10 plus years.

Challenges Facing Family Policy

As we have seen, the total period fertility rate (TCFR) has remained constant at 2, or occasionally just above, for many years now. This stability can be traced back to cohorts born at the beginning of the 20th century. A closer examination of the figure below could prompt us to question whether the TCFR has now begun to fall.

Figure 6 TCFR for women born 1870–1965, number of children per woman



There appears to be a downward trend for cohorts born after 1960. It may be that all the children of the very latest cohorts have yet to be born. However, experience tells us that any additional numbers are likely to be small. The TCFR is now approaching the low levels for cohorts born just after the turn of the century.

There are of course many factors that may contribute to a real or purported decline in the birth rate. The question, however, is whether family policy, or any other policy, for that matter, can counter such a development.

It is often alleged that women's essentially unchanged responsibility for the home and family perpetuates wage disparities between men and women. This is supposed to make them less attractive in the labour market as they are purportedly less able to assume greater responsibility in the workplace.

Can one conceive of a policy that positively seeks to increase men's participation in and responsibility for home and family? Sweden has long been a leading Nordic country in terms of male parental leave taken. However, although the percentage of male parental leave taken rose from approximately 10 per cent to almost 20 per cent between 1995 and 2004, Iceland has actually overtaken Sweden on this criterion. In 2004, almost one third of all parental leave days in Iceland were taken by men. This can be attributed to a recent reform reserving one third of all available leave days for men.

The Myrdals maintained in the early 1930s that the problem was the inability of young people to reconcile gainful employment with child rearing.

Since then, the practical effect of government policies has been to enable people to achieve this reconciliation. Economic disparities between households with or without children have been reduced and publicly financed services have been introduced or expanded.

So if the birth rate is in fact declining, the question is: what is it that people find so difficult to reconcile with having children in present-day Sweden? We know that young people nowadays become established in working life at an increasingly later age. In 2004, the establishment age⁹ was 27. Yet there has been hardly any change in this figure since the last increase in the early 1990s. However, the establishment age is highly sensitive to economic fluctuations; in 1997 it stood at 35 for women. We also know that adequate parental insurance benefits are essential if parents are to enjoy a reasonable economic standard while their children are young. It is sensible for young couples to put off having children until their income levels entitle them to a sufficiently high benefit. In other words, having children can be readily reconciled with jobs that yield high parental benefits.

It is more than likely that prolongation of the period of youth and time spent in education, followed by difficulty in gaining a foothold in the labour market all act to defer childbearing. What can family policy do about this? Could it be that long periods of study combined with benefits linked to gainful employment are the problem? Should we perhaps start thinking about enabling young people to combine higher education with parenthood? The Myrdals saw that it was difficult for young people to combine a career with parenthood and sought to steer policies accordingly. Could the next stage be family and education policy measures designed to enable people to reconcile higher education with parenthood?

⁹ The age when 75 per cent of the population becomes employed.

Jesper Thøgersen

Labour Force and Dependency Load

Introduction

With the alternative population projections as point of reference, we will look more closely at future developments in the number of individuals in the labour force, and at how high an employment percentage will be needed to maintain the number of individuals in employment at the 2005 level. Finally, we will take a closer look at the dependency load development in the individual countries.

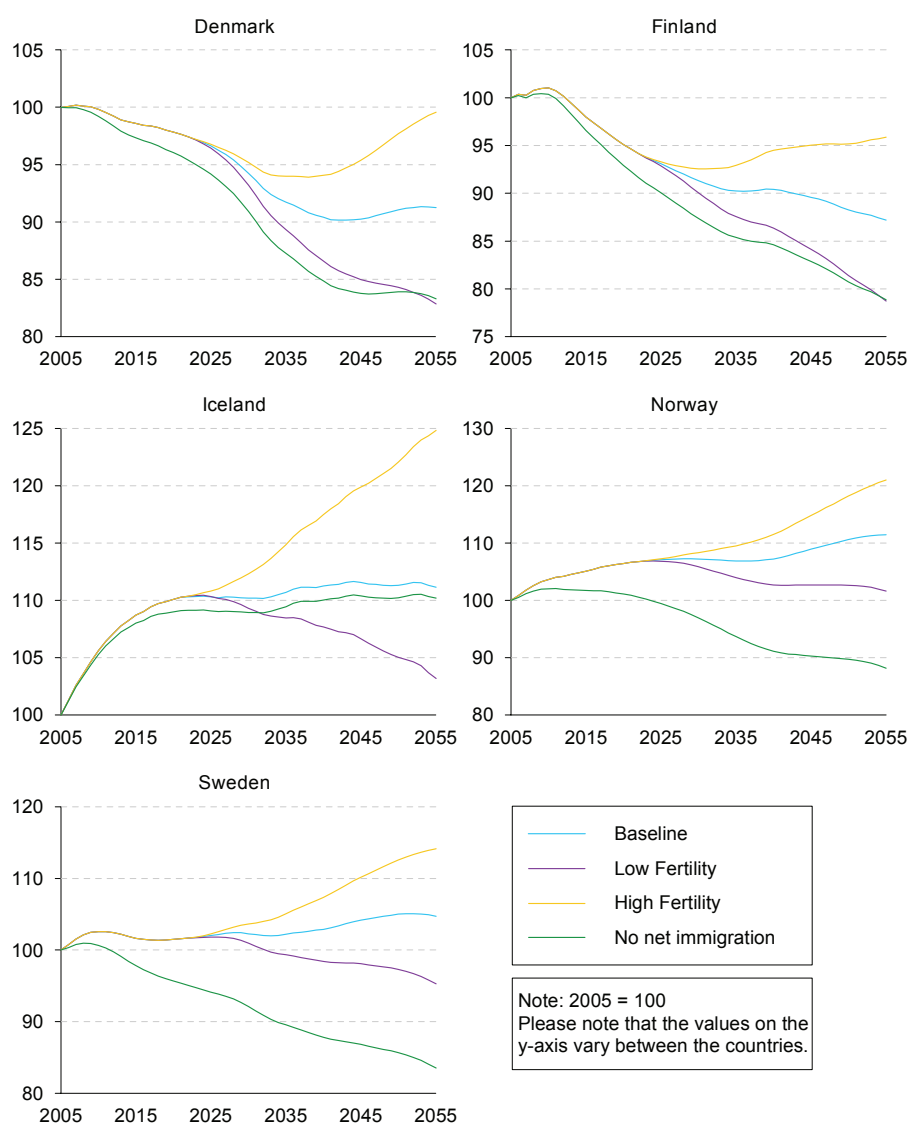
Development in the Labour Force

We will take a look at the number of the 16-64-year-olds as a simple goal for the labour force.

Table 1 16-64-year-olds in number and percentage of the total population

	Denmark	Finland	Iceland	Norway	Sweden
Number	3 515 946	3 426 312	188 929	2 957 617	5 750 678
Percentage	65.5	65.4	64.4	64.2	63.4

Since mortality in this age group is relatively low, changes in average life has very little effect on the projections, and thus such alternatives will be disregarded here.

Figure 1 Development in the labour force, 2005-2055

In Denmark and Finland there will, according to the projections, be a decrease in the number of 16-64-year-olds during the next 50 years, whether or not the fertility rate will increase.

According to the projections, both Norway and Sweden may expect an increase in the number of 16-64-year-olds in both basic projection and the

alternative with the higher fertility. That Norway and Sweden, unlike Denmark and Finland, expect an increase in the number of 16-64-year-olds is due to their assuming a high net immigration. This also clearly appears from the figures; if net immigration is disregarded, a decrease in the labour force may be anticipated for all four countries.

Only Iceland may, regardless of the alternative, expect an increase in the number of 16-64-year-olds. This is due to the fact that the Icelandic population at the point of reference is younger than those of the other four countries.

An alternative way of regarding future development in the labour force is to take a look at what the future employment percentage should be if the number of individuals in work were to remain at the 2005 level.

Table 2 Required employment percentage, broken down by gender

	Denmark		Finland		Iceland		Norway		Sweden	
	M	F	M	F	M	F	M	F	M	F
<i>Baseline</i>										
2005	80	71	69	66	87	81	79	73	76	73
2015	81	72	70	67	80	75	75	69	75	72
2025	83	73	74	71	79	74	74	68	75	71
2035	88	77	76	74	78	74	74	68	74	71
2045	89	78	76	74	77	73	73	67	73	70
2055	88	77	79	76	78	74	71	65	73	70
<i>Low fertility</i>										
2005	80	71	69	66	87	81	79	73	76	73
2015	81	72	70	67	80	75	75	69	75	72
2025	83	73	74	71	79	74	74	68	75	72
2035	90	79	78	76	80	75	76	70	77	73
2045	95	83	81	79	81	77	77	71	78	74
2055	97	85	87	84	83	79	78	72	80	77
<i>High fertility</i>										
2005	80	71	69	66	87	81	79	73	76	73
2015	81	72	70	67	80	75	75	69	75	72
2025	83	73	74	71	78	73	74	68	74	71
2035	86	75	74	71	75	71	72	66	72	69
2045	84	74	72	70	72	68	69	63	69	66
2055	81	71	71	69	69	66	65	60	67	64
<i>Zero net immigration</i>										
2005	80	71	69	66	87	81	79	73	76	73
2015	82	73	72	68	80	75	78	72	78	75
2025	85	76	77	73	80	74	79	73	80	78
2035	91	82	81	78	79	74	84	78	85	82
2045	95	85	83	80	78	74	87	81	87	85
2055	95	86	87	84	78	74	89	83	90	88

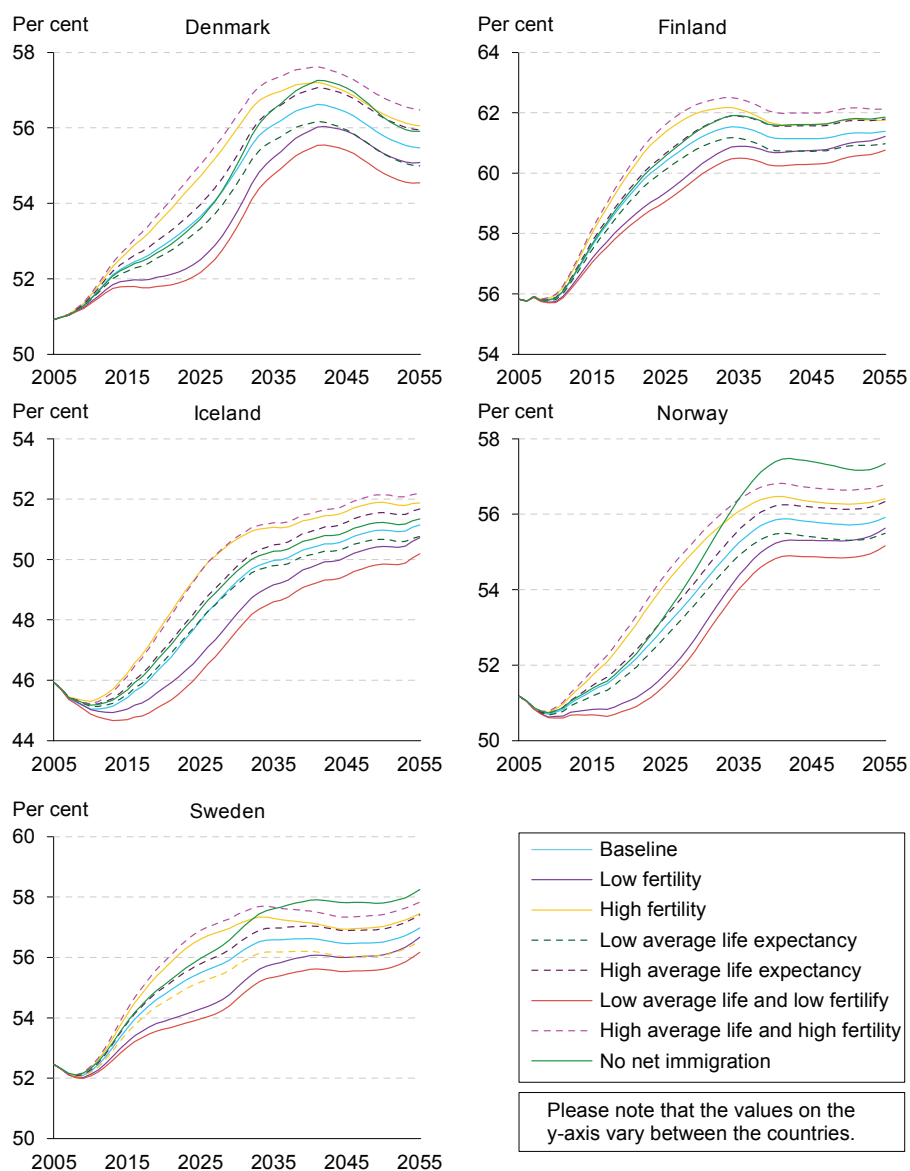
In respect of Denmark and Finland, it applies to the basic projection that the future employment percentage must be increased in order to maintain the number of employed individuals. In Iceland, Sweden and Norway, the increased number of people of the age group 16-64 years means that it is possible to preserve the number of people in employment at a lower employment percentage.

It is quite another matter if net immigration is taken into consideration. In Denmark, Finland, Norway and Sweden pronounced increases in the employment percentage will be required if the number of employed people is to be maintained.

Dependency Load

One calculation method that is often used in connection with the development of the population composition is the dependency load. The dependency load is calculated as the number of people outside the labour force in per cent of the total population. As an estimate of the number of people outside the labour force, the total population minus the number of 16-64-year-olds in employment will be used here. For the calculation of the future number of people in employment, the employment percentage for the entire period will be maintained at the 2005 values from Table 2.

In respect of all the countries, an increase in the dependency load will be seen. In Denmark, Finland and Iceland, the HH scenario, in which more children will be born, and the population will live longer, will in the long run result in the highest dependency load. As to Norway and Sweden, the highest dependency load will appear, if net immigration is set at zero.

Figure 2 Dependency load, 2005-2055

Nabanita Datta Gupta^{*}

The Determinants of Non-Employment among Working-Age Individuals in Denmark

**Marginal Groups, Retirement Patterns
and Nordic Comparisons**

^{*} The Danish National Institute of Social Research, Herluf Trolles Gade 11, DK-1052 Copenhagen K. Ph: (+45) 33 48 09 85, Fax: (+45) 33 48 08 33, email: ndg@sfi.dk.
Philip Røpcke and Jane Greve provided very capable research assistance. Comments received at the NOSOSCO/NOMESCO seminar on Sustainable Development, Oslo, April 6th, 2006 are gratefully acknowledged. All errors are the sole responsibility of the author.

I. Introduction

Denmark – like the other Nordic countries – can expect to face a growing dependency burden in the coming generations, mainly as a result of rising life expectancy and the increasing trend towards early retirement. According to the Welfare Commission's report, by 2040, an additional 400,000 persons above 65 will have been added to the population, an increase of 50 per cent compared to today. At the same time, the working age population will have been reduced by 350,000, a 10 per cent shrinkage in today's terms (Welfare Commission's report, 2005). This implied fall in the labour force in the near future will mean a drop in the level of welfare or a steep increase in taxes unless ways are found to both retain workers longer on the labour market and to engage the participation of marginal groups which have thus far been excluded from the workforce.

This chapter analyses the determinants of non-employment among working age individuals in Denmark. Special attention is given to the experience of marginal groups outside the labour market and the factors associated with their non-participation. Retirement patterns, including rising early retirement and the problem of retention of older workers on the labour market are also discussed. Finally, cross-Nordic experiences in all these areas are compared.

The analysis focuses on the 16-64 age group. By *non-employment* is meant both persons outside the labour force as well as individuals who are in the labour force but unemployed. Three special groups are targeted in the analysis: In Section II, the disabled and first generation immigrants and refugees and in Section III, older workers approaching retirement age. Section IV discusses Nordic similarities and differences and Section V concludes.

II. Non-employment of Marginal Groups

A. Non-employment among Disabled Individuals

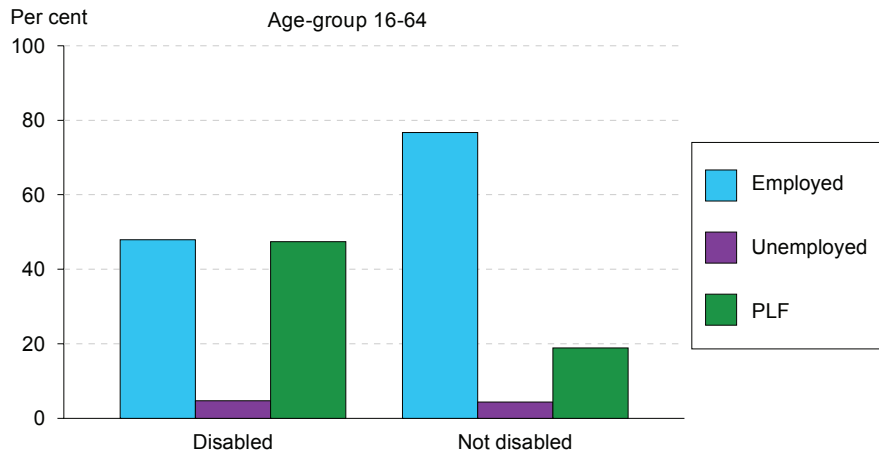
According to a study based on a representative sample of the working age population in Denmark, about 1 out of every 5 persons in the 16-64 age group report themselves to be either disabled or suffering from a chronic disease (SFI Report 04:03, 2004). About a third of this group does not suffer work limitations related to their handicap and have about the same rate of employment as able individuals. Of the remaining 2/3rds with work limi-

tations, a little over 50 per cent are non-employed, typically receiving some sort of disability pension, while the rest continue to work despite their limitations. This last figure is revealing because it indicates that a sizable fraction of disabled persons (1/3) are active in the labour market in spite of having reduced working capacity.

Data from Statistics Denmark's Labour Force Survey (*Arbejdskraftundersøgelse*), 2002, 2nd quarter, are utilized to determine the extent of non-employment in the group of disabled individuals and the factors that determine it. According to Figure 1 below, in the disabled group, 53 per cent are non-employed in 2002 compared with 23 per cent of the non-disabled. Interestingly, the share that is unemployed is roughly the same in each group, the largest difference evidenced in employment rates whereby able individuals are more than 1.5 times as likely to hold a job compared with disabled individuals.

When breaking down by type of disability in Figure 2 below, it appears that employment shares are highest among those with sensory/communications disorders (60 per cent) and lowest among those with mental, nervous or emotional disorders (27 per cent). As unemployment shares are the same irrespective of the type of disorder, this means that the share outside the labour force is the highest for the group with mental disorders and lowest for the group with sensory disorders. Of course in Figure 2 we do not control for the incidence of these disorders in the population. The largest disabilities are mobility-related disorders and chronic diseases (about 9 per cent and 8.3 per cent of the population) while psychological disorders comprise 1.4 per cent of the working age population and sensory disorders about 1 per cent of the 16-64 population (SFI Report 04-03, 2004).

Figure 1 Employment Shares of the Disabled & Able, Labour Force Surveys, 2002, 2nd quarter



Another aspect that is relevant to mention in this context is that some disabilities are *relievable* i.e. can be accommodated, while others are not. A study by Jensen, Pedersen and Tranæs (2004) finds that statistical discrimination in employment in Denmark seems only to be present against disabled workers with non-relievable disorders.

Figure 2 Employment Shares by Type of Disability, Labour Force Surveys, 2002, 2nd quarter.

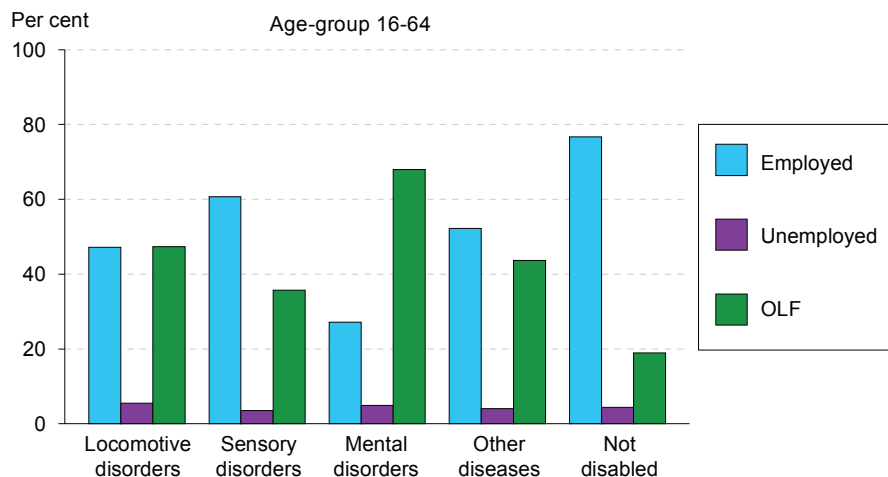


Table 1 shows a Probit regression of the factors affecting the probability of employment for a sample of 1,962 disabled individuals aged 16-64 drawn from the LFS, omitting a small number of individuals who are classified as disabled due to developmental retardation. Without access to panel data on disabled individuals, only a simple cross-sectional analysis is feasible.

Results show that women are significantly less likely to be employed but that there is no significant effect of marital status, once spouses' employment status is controlled for. Having an employed spouse, however, increases own employment likelihood, indicating perhaps that those disabled whose spouses who are employed (as opposed to providing care for them at home or compared to those without spouse) have higher working capacities.

Table 1 Probability of Employment, Disabled Individuals, LFS, 2002, 2nd quarter

	Coefficient (T-value)	Marginal Effect
Constant	- 0.9024*** (- 4.85)	---
Female	- 0.1518* (-1.88)	- 0.0605
Age 16-24	1.1669*** (6.35)	0.4024
Age 25-34	1.2466*** (9.27)	0.4303
Age 35-44	1.0189*** (8.07)	0.3762
Age 45-54	0.5588*** (5.17)	0.2190
Married	- 0.1011 (- 0.84)	- 0.0403
Working spouse	0.5877*** (5.02)	0.2311
Vocational education	0.2255** (2.44)	0.0898
Short-cycle education	0.2263 (1.18)	0.0898
Medium-cycle education	0.5488*** (4.13)	0.2125
Long-cycle education	0.5788*** (2.92)	0.2214
Experience	0.0413* (1.85)	0.0165
Experience squared	2.35x10 ⁻⁷ *** (2.48)	9.37x10 ⁻⁸
Mental/Emotional disorders	- 0.5016*** (- 2.92)	- 0.1925
Sensory disorders	- 0.1873 (- 0.99)	- 0.0741
Other diseases	- 0.2178** (- 2.47)	- 0.0866
Reduced working capacity	- 0.9496*** (- 10.71)	- 0.3618
Pseudo R ² = 0.5634		
Wald chi ² (19) = 954.36, prob>chi ² 0.000		

Reference age group: ages 55-64; reference disability group: locomotive disability; reference education group: basic education (school leaving). *Significant at 10 per cent level, **significant at 5 per cent level, ***significant at 1 per cent level.

By far the largest effects are due to age – the younger age-groups (16-44) have a 37-43 per cent higher probability of being employed than the reference group, and the middle-aged group (45-54) about a 22 per cent higher

employment probability than the reference group (55-64). The large drop in the marginal effect of age in the 45-54 age group probably reflects their growing take-up of disability or early retirement. In terms of the effect of education, those disabled with a vocational level education and either medium or long cycle educational levels are more likely to be employed than the disabled with basic schooling. In part, educational qualifications may capture type of job/working conditions. Medium-cycle educational qualifications correspond to a number of jobs in the public sector with softer working conditions that can more easily accommodate persons with disabilities. Disabled persons with mental, nervous or emotional disorders or sensory/communication disorders and other chronic illnesses were less likely to be employed compared with the reference category, locomotive disorders, (in the case of sensory disorders, however, the effect is not significant). This is not unexpected given that the reference category comprises individuals with joint and arthritic disorders and back pain, debilitating but not necessarily seriously disabling medical conditions. Finally, a strong predictor is reduced working capacity, which decreases the probability of employment by 36 per cent.

Of course unobserved differences across disabled individuals are not controlled for. Some disabled workers may lack motivation to search for a job as a result of being repeatedly turned down for jobs by discriminating employers. These factors cannot be captured in the present analysis. See Jensen, Pedersen and Tranæs, 2004 for a study that tests for the presence of statistical discrimination in employment of disabled workers in Denmark.

B. Non-Employment among Ethnic Minorities

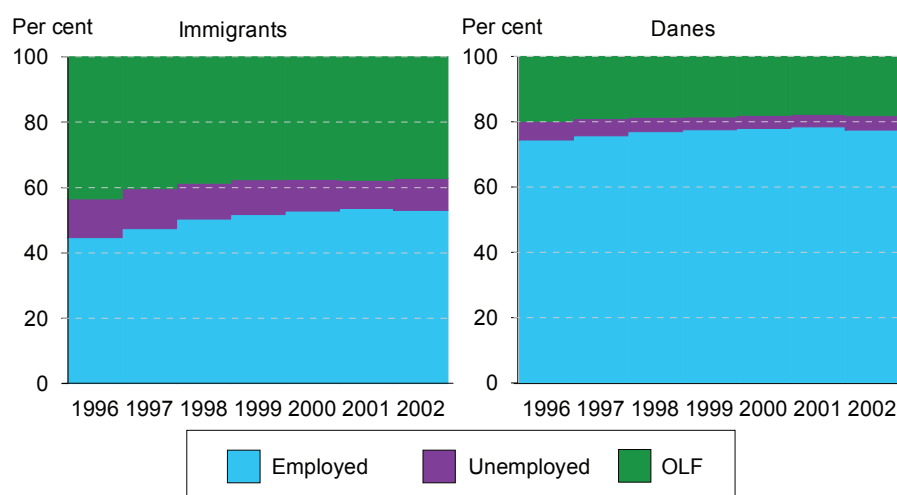
In Denmark, 47 per cent of the ethnic minorities of working age are outside the labour force or unemployed in 2001¹⁰. This figure is higher than in other OECD countries (OECD Employment Outlook 2001) but comparable to the share in other welfare-state economies. According to Borjas' (1987) theory of self-selection in migration, countries with a high guaranteed basic income and a compressed income distribution are attractive to low-skilled immigrants whereas qualified professionals prefer to migrate to destinations where skill premia are high. In addition, Borjas (1999) finds empirical support for the hypothesis that immigrants tend to cluster in states in the U.S. that offer high welfare benefits. Similarly, welfare state countries may act as a "magnet" to immigrants because of their generous social assistance pro-

¹⁰ Author's own calculations from IDA data on all persons, Statistics Denmark, 2002.

grammes. Thus, part of the explanation for the low work participation of ethnic minorities in Denmark may have to do with their lack of labour-market skills and their dependence on social transfer payments.

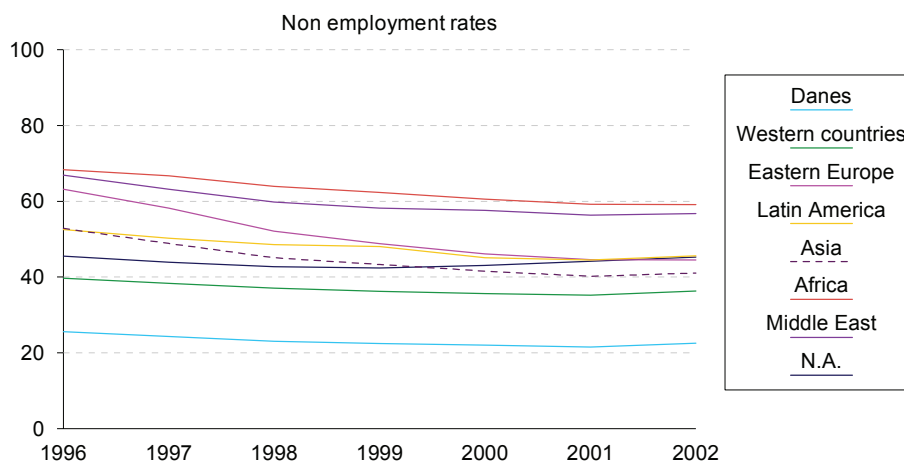
Figure 3 below shows trends in the labour-force participation of ethnic minorities compared to native Danes. Over this period, ethnic minorities are more than twice as likely to be non-employed than are native Danes. For both groups, however, the share outside the labour force dominates the share unemployed, and the former falls slightly over this period, especially for the ethnic minorities. Still, from 1999 and on, the share outside the labour force remains more or less constant for both groups.

Figure 3 Labour Market Statuses of Immigrants and Danes, 1996-2002



When breaking down by country of origin in Figure 4 below, not unexpectedly, ethnic minorities from Africa and the Middle East, a large share of whom are refugees rather than economic migrants, have higher rates of non-employment. Eastern European immigrants start out the period with a high rate of non-employment, nearly 65 per cent, but improve their rate of participation by nearly 15 percentage points by the end of the period, ending at the same level as immigrants from Latin America. The groups with the lowest rates of non-employment are those from Western countries followed by Asia.

Figure 4 Non-employment Rates of Immigrants by Country of Origin



Based on the IDA All Persons data, 1996-2001, from Statistics Denmark, employment probability panel regressions are estimated on the (100 per cent) population of working-age immigrants (first generation only), to assess the importance in particular of skills and human capital, country of origin, duration of stay in Denmark, dependence on social assistance, self-employment and ethnic segregation. The results appear in Table 2. Looking first at column 1, being self-employed the previous year increases the probability of employment. Male immigrants are more likely to be employed. Older immigrants are more likely to be non-employed relative to the youngest age group, as are those with medium cycle or long-cycle higher education (relative to short cycle education). Having a high-school or bachelor level education, however, reduces employment chances relative to having short-cycle education¹¹. Relative to immigrants from Western countries, almost all other groups are less likely to be employed, but in particular immigrants from Africa and the Middle East. Marital status is associated with higher employment probability. Finally, township (*kommune*) size is associated with lower employment probabilities for immigrants, as is living in the greater Copenhagen area, but controlling for township size, there is a significant positive effect of living in a township with a greater share of (non-Western) ethnic minorities. Employment probability increases significantly

¹¹ Note that by educational qualifications here are meant education obtained in Denmark, as qualifications obtained in the home-country are not in general recorded in the Danish registers. More recently, Statistics Denmark has recorded this information for a limited sample of immigrants.

with years since migration, but after 2.5 years this assimilation turns negative. Previous research has also shown the importance of controlling for unobserved factors when estimating wages or employment probabilities of immigrants versus ethnic Danes (Husted et al. (2001)). Similarly, in this panel random effects probit model, the unobserved effect is found to be highly significant.

In column 2, an indicator for lagged non-employment status is added to the model. The coefficient is highly significant and negative, confirming the hypothesis of the negative effects of welfare dependency on re-employment likelihood. Although lagged non-employment could correlate with measured human capital and thereby weaken their significance, the signs and significances of these human capital factors are about the same as before in column (1). One difference is that lagged self-employment now has a negative effect on employment chances. Many (especially non-Western) immigrants in Scandinavia earn their livelihood through self-employment (Dohlmann (2001), Andersson and Wadensjö (2004)).

Table 2 Probability of Employment, All Immigrants 16-64, IDA, All Persons, 1996-2002

	Panel analysis, 1996-2002		Panel analysis,1996-2002	
	Coefficient (T-value)	Marginal Effect	Coefficient (T-value)	Marginal Effect
Constant	- 0.1420 (- 1.44)	---	0.8692*** (10.07)	---
Lagged non-employed	---	---	- 1.3233*** (- 308.58)	- 0.4912
Lagged self-employed	0.1716*** (10.15)	0.0679	- 0.2783***(- 19.58)	- 0.1097
Male	0.6683*** (90.12)	0.2614	0.3367*** (80.92)	0.1337
Age 25-34	- 0.3175*** (- 42.31)	- 0.1257	- 0.2121*** (- 38.39)	- 0.0844
Age 35-44	- 0.4527*** (- 48.66)	- 0.1774	- 0.3019*** (- 46.90)	- 0.1198
Age 45-54	- 0.8056*** (- 66.85)	- 0.2945	- 0.5510*** (- 68.08)	- 0.2122
Age 55-64	- 1.7978*** (- 96.44)	- 0.4729	- 1.1949*** (- 96.00)	- 0.3934
Basic education	- 0.4426*** (- 4.54)	- 0.1749	- 0.3078*** (- 3.58)	- 0.1223
High-school education	- 0.2880*** (- 2.94)	- 0.1132	- 0.2072** (- 2.41)	- 0.0822
Vocational education	- 0.0385 (- 0.39)	-0.0153	- 0.0708 (- 0.82)	- 0.0282
Short-cycle education	0.0486 (0.49)	0.0194	- 0.0240 (- 0.28)	- 0.0096
Medium-cycle education	0.2317** (2.36)	0.0920	0.0655 (0.76)	0.0261
Bachelor education	- 0.2466** (- 2.41)	- 0.0968	- 0.2019** (- 2.27)	- 0.0800
Long-cycle education	0.2153** (2.19)	0.0856	0.0854 (0.99)	0.0340
Eastern Europe	- 0.5858*** (- 52.24)	- 0.2249	- 0.2732*** (- 43.42)	- 0.1083
Latin America	- 0.4817*** (- 18.85)	- 0.1834	- 0.2248*** (- 16.01)	- 0.0890
Asia	- 0.3131*** (- 24.46)	- 0.1228	- 0.1351*** (- 19.01)	- 0.0538
Africa	- 1.1902*** (- 84.85)	- 0.3972	- 0.5945*** (- 74.68)	- 0.2274
Middle East	- 1.2147*** (- 116.92)	- 0.4452	- 0.6016*** (- 98.22)	- 0.2354
Married	0.1407*** (26.43)	0.0560	0.1225*** (30.67)	0.0488
Immigrant share in the township	0.0061*** (7.23)	0.0024	0.0032*** (6.17)	0.0013
Greater Copenha- gen	- 0.2684*** (- 29.06)	- 0.1061	- 0.1907*** (- 32.68)	- 0.0759
Large township	- 0.1903*** (- 25.74)	- 0.0757	- 0.1290*** (- 27.33)	- 0.0514
Years since migration	0.1578*** (89.86)	0.0629	0.0562*** (41.15)	0.0224
Years since migration-squared	- 0.4021*** (43.80)	- 0.1602	- 0.0857*** (- 11.71)	- 0.0342
Year Dummies	Yes		Yes	
Rho	0.6478 (0.0014)		0.2252 (0.00249)	
N=1,096,047		N=1,096,047		
Wald chi2(29) = 66064.40, Prob > chi2 = 0.0000		Wald chi²(30) = 226942.42, Prob>chi² = 0.0000		
Log likelihood = -548533.94		Log likelihood = -510357.25		
Test of rho=0: chi²(1) = 2.5e+05,		Test of rho=0: chi²(1) = 8131.63		
Prob >= chi² = 0.000		Prob >= chi² = 0.000		

Reference age group: Ages 16-24; Reference education group: Preparatory education.

*Significant at 10 per cent level, **Significant at 5 per cent level, ***Significant at 1 per cent level.

As self-employment is risky and more prone to business failure, this may explain the greater likelihood of current non-employment. As in the previous specification, years since migration is significant, being positive in the level and negative in the squared term indicating initial employment convergence at least up to 1.8 years. Also, here, the share of ethnic minorities in the township increases the probability of employment significantly, which is different from what was found by Damm and Rosholm (2004) who find that dispersal policies promote immigrant labour market outcomes (the hazard of first job declines with immigrant share). This could be because the selection of township residence in the present analysis is not controlled for (except through controlling for unobserved factors that may affect both selection of township and employment) and partly because the present study includes both refugees and immigrants whereas their study was based on refugees only. One explanation for the finding could be that ethnic capital could have some positive effects in terms of job referrals or the formation of informal networks. Comparing the marginal effects of the discretely measured variables reveals that by far the largest effects on non-employment are from non-employment the previous year, being older in age and being an immigrant from either Africa or the Middle East, even after controlling for human capital characteristics such as education and years since migration, which could proxy for linguistic proficiency.

III. Retirement Patterns

Denmark, until fairly recently, had a relatively high official retirement age at 67 years. From 2004, this has been reduced to 65 years. The rationale for lowering the retirement age (in contrast to the pattern in most other OECD countries) was an attempt to stem the flow into early retirement by bringing the early and normal retirement ages closer together. Still, despite the reform, the take-up of voluntary early retirement through a labour market programme called the voluntary early retirement programme (VERP) or *efterløn*, which those workers who are long-term members of an unemployment insurance fund are eligible for, starting at age 60, is still high. In fact, 2004 data show that the labour force participation of the eligible age group (60-64 years) drops dramatically from 83.7 per cent at age 55-59 to 41.7 per cent. About 75 per cent of these transitions into early retirement are made up of workers entering the state directly from employment, 20 per cent due to workers who previously had some form of unemployment in-

surance benefits, while the rest comprises workers with a low work attachment (Larsen and Pedersen, 2006).

That older Danish workers tend to react to the availability and/or generosity of retirement programmes has been documented in a number of previous studies as well. Bingley et al. (2004) find that the provisions of social security, in particular the future expected income flow in retirement, play an important role in determining retirement behaviour in Denmark. Simulations of reforms of the pension system show that mandatory increases in age of eligibility have a much larger impact than changes in the actuarial incentives. Christensen and Datta Gupta (2000) also find that an increase in the age of eligibility has a greater impact on expected early retirement than a reduction in the level of benefit. The effects are not symmetric, however, across husbands and wives, pointing to the importance of taking into account gender and the coordination of spousal retirement for policy purposes. In fact, when modelling spousal joint retirement, it is found that complementarities in leisure times is most important for early retirement, while assortative mating/matching on unobservables is consistent with later retirement in Denmark (An et al., 2004).

Besides financial incentives and access to/changes in retirement programmes, other factors also play a role in affecting retirement behaviour of older men and women. Health is of singular importance when older workers approaching retirement age make plans for retirement (Larsen and Datta Gupta, 2004). And further, good job characteristics and a high level of job satisfaction contribute to retaining workers on the labour market (Larsen, 2006).

Figure 5 Labour Market Status of Older Individuals, 1996-2002

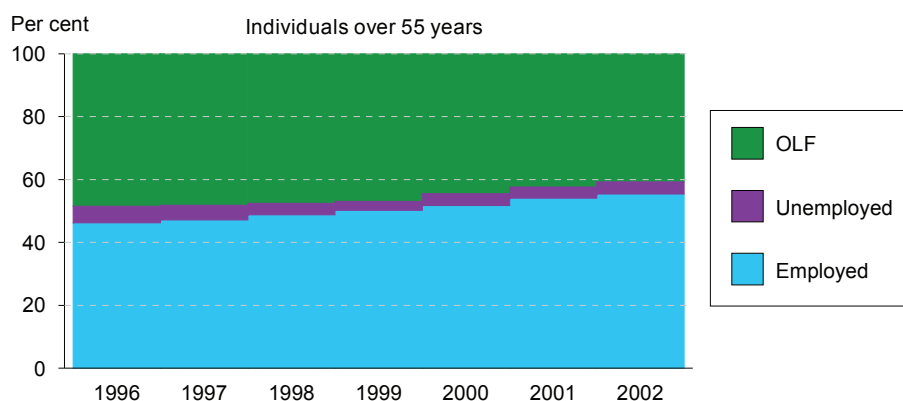


Figure 5 above shows the development in recent years of the labour market participation of individuals older than 55 years, based on data drawn from the IDA All Persons Data, Statistics Denmark, 1996-2002. In 1996, 10.4 per cent of this age group was unemployed and 43.4 per cent out of the labour market. While in 2002, 6.5 per cent were unemployed and 38.1 per cent in the OLF category. Still, 44.6 per cent of older persons 55+ are non-employed in 2002. The most likely reason behind the drop in the rate of elderly non-activity over this period is the effect of cyclical factors.

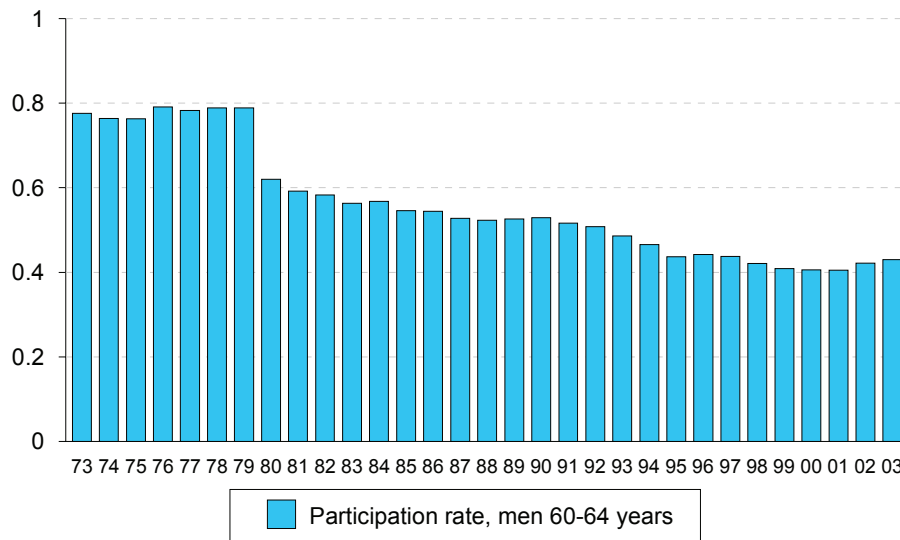
Focusing on retirement patterns of men aged 60-64 years over a 20 year period in Figure 6 below, the large drop in participation (by 20 percentage points) following the introduction of VERP in 1979 is evident, as are the opening and closing of the Transitional Benefits (*overgangsydelse*) programme between 1992-1996 (a temporary retirement window which had served as a temporary stop gap until early retirement, intended mainly for long-term unemployed workers between the ages of 55-59, and extended to the 50-54 age group as well in 1994) and the effect of a reform to VERP in 1999 which increased participation rates slightly by 2.5 percentage points.

Data for the analyses are drawn from SFI's Elder Database (*Ældredatabasen*) waves 1 and 2, from 1997 and 2002, respectively. This is a survey of individuals drawn from two birth cohorts originating from 1940 and 1945, in which both male and female respondents were asked an array of questions relating to their labour-market status, health, income, wealth and job characteristics. Pooling the two cohorts together, a sample of 1,801 male and female older individuals is created. As only two waves of data are available, a simple probit specification is employed in which retirement status in 2002 is regressed on the factors found important for retirement mentioned above, measured in 1997. The results appear in Table 3 below.

The results show that being employed in the previous wave lowers the chance of retirement¹². Being in the older age cohort increases the chances of retirement as expected, while being member of an unemployment insurance fund in 1997 lowers it. The interaction, however, between age 57 in 1997 and unemployment insurance-fund membership strongly increases retirement probability by 23 per cent, capturing eligibility for the voluntary early retirement program (VERP). Older females are more likely to retire while highly educated individuals are less likely to do so.

¹² A specification excluding this variable is also tried, but the signs and significances of all the other variables in the model remain identical.

Figure 6 Labour Force Participation Rates, Men 60-64 Years Old, 1973 – 2003



Source: Bingley et al. (2005)

Both poor general health in wave 1 plus a health shock occurring between waves significantly increases the chances of retirement, and are found to be equally important, the marginal effects being 10 per cent in each case. Greater wealth is associated with retirement but not significantly so, and a variable measuring the compensation rate next year of retiring today (i.e. expected pension benefits) is strongly significant so that a 1 percentage-point increase in this rate is associated with a 24 per cent increase in the probability of retirement. Labour market characteristics such as experience, unemployment degree, sector and occupation and working in a physically demanding job are not found to be significant. The sample is not large and neither is individual-specific unobserved heterogeneity controlled for in the analysis. Still, eligibility for early retirement, age, health and the expected income from retirement are found to be important predictors here, as in previous studies.

Table 3 Probability of Retirement, Older Individuals, Ældredatabasen, 1997-2002

	Coefficient (T-value)	Marginal Effect
Constant	- 1.3276*** (-3.32)	---
Employed 1997	- 0.7278*** (-4.79)	- 0.2141
1940 birth cohort	1.1972*** (4.70)	0.3045
Member of an unemployment insurance fund	- 0.5724*** (-2.60)	- 0.1585
1940 birth cohort* Member unemployment insurance fund	0.8857*** (3.29)	0.2260
Female	0.2157** (2.17)	0.0485
Single	- 0.0596 (-0.54)	- 0.01297
Vocational education	- 0.0548 (-0.58)	- 0.0121
Higher education	- 0.2440* (-1.89)	- 0.0507
Poor general health	0.4165*** (4.00)	0.1062
Health shock between waves	0.3913*** (2.90)	0.1015
Wealth	0.0102 (0.49)	0.0023
Compensation rate	1.0861*** (4.30)	0.2414
Experience	0.0025 (0.34)	0.0006
4-year average unemployment degree, lagged	- 0.0443 (-0.55)	- 0.0098
Private sector	0.0119 (1.31)	0.0026
Assisting spouse	- 0.1791 (-1.31)	- 0.0372
Salaried worker	- 0.0586 (-0.66)	- 0.0121
Physically demanding job	0.0588 (0.66)	0.0130
N=1801		
Pseudo R ² = 0.3864		
LR chi2(19) = 773.00		
Prob > chi2 = 0.000		

Reference education group: basic education (school leaving). Reference occupation group: skilled/unskilled worker. *Significant at 10 per cent level, **significant at 5 per cent level, ***significant at 1 per cent level. Dummy for missing compensation rate is also included.

IV Nordic Comparisons

When comparing the prevalence of a longstanding health problem or disability across the Nordic countries, it appears in Table 4 below, that while self-reported disability rates are the same in Denmark and Sweden (and only a little lower in Norway), they are more than 1.5 times as high in Finland. The high share of respondents who cite health problems or disabilities in Finland is most likely due to cultural differences in how the question on disabilities was interpreted rather than due to real differences in underlying health. In general, however, disability rates in welfare state countries are higher when measuring objectively by the take-up of disability in-

surance, which for example, is as high as 16 per cent in Sweden and Denmark but only 3 per cent in Greece in the 50-64 age group. Such a large variation in disability rates is not related to differences in actual health status or demographic differences (SHARE project, Axel Börsch-Supan, 2005).

When breaking down the prevalence of self-reported disability by gender and economic activity, Table 4 also shows that gender differences are not large but that the disability rates are highest among the labour-market inactive in all the Nordic countries except Sweden. As health-care costs per capita are roughly comparable between Sweden, Denmark and Norway (\$2000 per capita) and slightly lower, \$1500 per capita in Finland (OECD Health Data, 1999), one explanation could be a greater pool of healthy inactive in Sweden. For example, full-time students make up $\frac{1}{2}$ of the inactive in Sweden (Statistics Sweden, Arbetskraftsundersökningarna 4th quarter, 2005) but a lower fraction in other Nordic countries – $\frac{1}{5}$ in Denmark for example – where students typically are engaged part-time in the labour market while studying.

Compared with the group of OECD countries, immigrants make up a smaller share of the population in the Nordic countries, ranging from about 5-6 per cent of the population in Norway, Sweden and Denmark to 1.6 per cent in Finland and even lower in Iceland.

Table 4 Cross-Nordic Comparisons of Disability Incidences, by Gender and Labour Market Status, 2003.

	Denmark	Sweden	Finland	Norway
<i>Prevalence of longstanding health problem or disability</i>				
All	19.9	19.9	32.2	16.4
Females	21.1	21.7	33.6	17.4
Males	18.8	18.2	30.7	15.5
<i>Females by activity</i>				
Employed	13.7	21.8	29.2	10.8
Unemployed	18.1	21.7	28.2	13.5
Inactive	44.6	21.5	48.4	42.4
<i>Males by activity</i>				
Employed	13.6	17.5	25.1	9.2
Unemployed	21.5	19.9	24.2	18.4
Inactive	45.7	20.4	55.5	52.4
<i>Females and males by activity</i>				
Employed	13.6	19.5	27.1	10.0
Unemployed	19.9	20.7	26.0	16.1
Inactive	45.0	21.0	51.6	46.4

Source: Employment of Disabled People in Europe in 2002, Dupré and Karjalainen, Statistics in Focus, Theme 3, 26/2003.

Compared to their share in the population, however, immigrants are disproportionately represented among the ranks of the unemployed in the Nordic countries, especially in Finland, Sweden and Denmark, where the foreign born are more than twice as likely to be unemployed compared to the native born. In Iceland, they are twice as likely, and in Norway 1.5 times as likely. In countries such as Italy and Spain, migrants have lower unemployment rates than natives. In all the Nordic countries, immigrant women face much worse labour-market outcomes than immigrant men, and many immigrants typically choose self-employment as a route out of inactivity (OECD Employment Outlook, 2001). Part of the reason for the difficulties of integrating immigrants in the workforces in Nordic countries must lie in a gap between the skills required by the skill-intensive, high-technological Nordic workplaces and the human capital of low-skilled immigrants to Nordic countries. Language difficulties and cultural distance are other barriers. There probably, however, also exists some extent of employment discrimination against immigrants from less developed countries. All in all, immigrants remain a potentially untapped source of labour in the Nordic countries.

The Nordic countries like most other western countries will experience a growing dependency burden in the coming decades due to both population ageing as well as the rising trend towards early retirement. Herbertsson and Orszag (2003) have devised a method of costing the full impact of early retirement as a share of GDP in OECD countries. This information is presented in the table below along with the average ages of retirement and the implicit tax rate on continued work between 55 and 65, which is the average annual variation in social-security wealth relative to gross earnings as a result of postponing retirement from 55 to 64 years of age, presented as a percent of gross annual earnings.

It is clear from this evidence that the average age of retirement is lower in Finland and considerably higher in Iceland than the other Nordic countries. In Denmark and Finland in particular, implicit tax rates on continued work in the 55-64 age range is the likely explanation, and these tax rates are particularly high when unemployment-related benefits/programmes for the elderly long-term unemployed are taken into account.

Table 5 Average Retirement Age, Retirement Disincentives & (Calculated) Costs of Early Retirement in the Nordic Countries

	Avg. Ret. Age, Males, Females, 1995	Implicit Tax Rates on Continued Work, 55-64, 1995, Percentage		Cost of Early Retirement, Percentage		
		OAP	OAP + UIB	1990	2000	2010
Denmark	62.7, 59.4	0	51	6.9	8.2	11.3
Sweden	63.3, 62.1	18	18	4.7	5.2	7.5
Norway	63.8, 62.0	15	15	4.9	5.2	8.1
Finland	59.0, 58.9	22	42	10.5	10.9	16
Iceland	69.5, 66.0	1	1	0.5	1.6	2.2

Source: Herbertsson and Orszag (2003), Blöndal and Scarpetta (1998).

The high taxes on work in these ages translate to a growing budgetary burden of funding early retirement, projected to be 16 per cent and 11 per cent of the GDP in Finland and Denmark, respectively, in 2010. Iceland, on the other hand, comes out as being the Nordic country that has managed to retain its elderly workers, both male and female, on the labour market and thereby faces very low implied taxes on continued work and low fiscal costs of early retirement.

V. Conclusions

This chapter has analyzed the determinants of non-employment of working age individuals in Denmark, with special focus on marginal groups, retirement patterns and comparisons across the Nordic countries. Results of multivariate analyses of the determinants of non-employment in the previous sections point to some central factors which will be important in tapping so far unused sources of employment in both Denmark as well as the other Nordic countries:

- The importance of state-dependence or persistence in non-employment is an indication of the role of welfare benefits in sustaining dependency and inactivity of groups outside the labour market.
- For disabled workers, the constraining factor that is even more important than the type of disability is the reduction of working capacity.

Thus, governments and employers should share the responsibility of designing workplaces that can accommodate impairments so as to enable disabled individuals to continue to function effectively at work.

- Certain groups of immigrants face poor prospects in the Danish labour market, particularly immigrants from Africa and the Middle East. This is the case even after controlling for human capital characteristics, years since migration and unobserved individual-specific factors. A challenge remains to give employers incentives to try to break down any hiring barriers faced by these groups on the labour market.
- Individuals approaching retirement age react strongly to the financial disincentives of work at older ages inherent in the pension system. Thus, eligibility to VERP and the compensation rate act as strong drivers of retirement in Denmark implying the critical need for reform of pension programmes if retirement is to be delayed. Underlying health and health shocks, however, are important factors as well.
- All Nordic countries face a growing dependency burden in the coming decades and need to find ways to engage currently non-employed individuals in their labour markets. The other Nordic countries could learn from the solutions adopted by Iceland in some of these areas.

VI. References

- An, M.Y., Christensen, B.J. and Datta Gupta, N. "Multivariate Mixed Proportional Hazard Modelling of the Joint Retirement of Married Couples", Special issue on Econometrics of Social Insurance of the *Journal of Applied Econometrics*, Vol. 19, No.6, pp. 687-704, 2004.
- Andersson, P. and Wadensjö, E., 'Self-Employed Immigrants in Denmark and Sweden: A Way to Economic Self-Reliance?' IZA DP 1130, 2004.
- Bingley, P., Datta Gupta, N. 'The Impacts of Incentives on Retirement in Denmark' in *Social Security Programs and Retirement around the World: Micro-Estimation*, (eds.) Jonathan Gruber and David Wise (eds.), The National Bureau of Economic Research Press, pp. 153-234, 2004.
- Bingley, P., Datta Gupta, N. and Pedersen, P.J. 'Social Security and the Income, Consumption, Health and Well-Being of the Elderly in Denmark', working paper, 2005.
- Blöndal, S. and S. Scarpetta "Falling Participation Rates Among Older Workers in the OECD Countries: The Role of Social Security Systems", OECD Economics Department, Working Papers, 1998.
- Borjas, G. "Self-Selection and the Earnings of Immigrants", *American Economic Review*, 531-553, 1987.
- Borjas, G. 'Immigration and Welfare Magnets', *Journal of Labor Economics*, Vol.17, Number 4, Part 1, pp.607-637, October, 1999
- Börsch-Supan, A 'Using new data on elderly people to project future trends in health care use and expenditures-Preliminary evidence on the EU research project SHARE', presentation at the Workshop on the Working Group on Aging, European Commission and OCED, Brussels, February 2005.
- Christensen, B.J. & Datta Gupta, N. 'The Effect of a Pension Reform on the Retirement of Danish Married Couples' (in Danish). *Nationaløkonomisk Tidsskrift*, 138, pp. 222-242.

Clausen, T., Pedersen, J.G. Olsen, B.M and Bengtsson, S. 'Handicap og Beskæftigelse – Et Forhindringsløb?' (Disability and Employment – An Obstacle Race?), SFI Report No. 04:03, 2004.

Damm, A.P., and Rosholm, M. 'Employment Effects of Dispersal Policies on Refugee Immigrants: Empirical Evidence', ASB working paper, 04-20 and IZA DP no. 925, 2004.

Dohlmann, C. 'Self-employment among male immigrants in Denmark', SFI Report no. 01-08, 2001.

Herbertsson, T.T. and Orszag, M. 'The Costs of Early Retirement in the OECD', Institute of Economic Studies Working Paper, no. W01:02, 2001.

Husted, L., Nielsen, H.S., Rosholm, M. and Smith, N. 'Employment and Wage Assimilation of Male First Generation Immigrants in Denmark, *International Journal of Manpower*, 22, 39-68, 2001.

Jensen, P., Pedersen, J.G. and Tranæs, T. 'Statistical Discrimination of Disabled Workers?', working paper, 2004.

Larsen, M. 'The Effect of Job Characteristics and Job Satisfaction on Men and Women's Planned Retirement Age', working paper, 2006.

Larsen, M. and Pedersen, P.J. 'Pathways to Early Retirement in Denmark, 1984 – 2000', working paper, 2006.

Larsen, M. and Datta Gupta, N. 'The Impact of Health on Individual Retirement Plans – A Panel Analysis Comparing Self-Reported versus Diagnostic Measures'. Aarhus School of Business, Department of Economics, WP 04-07, 2004.

Nielsen, H.S., Rosholm, M., Smith, N. and Husted, L.' Intergenerational Transmissions and the School-to-Work Transition of 2nd Generation Immigrants', *Journal of Population Economics*, 2003, 16 (4), 755-786.

Velfærdskommissionens rapport. Fremtidens velfærd, vores valg. 2005.

Einar Øverbye

Activation Policy in the Nordic Countries

Einar Øverbye
Oslo University College
PoBox 4, St. Olavs Plass, NO-0130 Oslo
einar.overbye@oks.hio.no

“Activation policies” denote government strategies to integrate more people in the labour market. During the 1990s and 2000s, there has been a host of policy initiatives in the Nordic countries to encourage participation in paid work. This is part of an international trend. As early as 1989, the International Social Security Association (ISSA) reported a change in the social policy discourse in member countries, focusing more on how social policy could serve “productive” purposes. In the mid-1990s, OECD (1996) launched a broad set of policy recommendations explicitly aimed at increasing activation efforts. Within the EU, the European Employment Strategy of 1997 made similar recommendations.

Activation policies were initially designed to combat structural unemployment. Recent demographic developments, in particular the projected ageing of the population, have lead to increased efforts also to activate those receiving, or at risk of receiving, sickness-related social benefits. Hence activation is becoming a more important policy goal in social policy as well as in labour market policy. In a recent international study of social policy reforms, Gilbert (2004, 62) found “a wide range of reforms that links cash benefits under disability, unemployment and public assistance programmes to work-oriented incentives”.

Activation strategies can be categorised within four broad groups: 1) use of active labour-market measures (rehabilitation, education, employment subsidies); 2) designing income transfer programmes to facilitate labour market integration; 3) efforts to involve employers and the social partners in

activation; and 4) reforms to make activation agencies as efficient as possible. This paper provides an overview of how, and to which extent, these activation strategies are pursued in the Nordic countries.

1 Spending on Active Labour-Market Measures

Active labour-market measures can be defined in different ways. Since 1998, Eurostat has operated a Labour Market Policy database (LMP), allowing comparisons of active labour measures across European countries. The LMP database defines active measures as

"...labour market measures which can be described as [p]ublic interventions in the labour market aimed at reaching its efficient functioning and to correct disequilibria, and which can be distinguished from other general employment policy measures in that they act selectively to favour particular groups in the labour market". Public interventions are further defined as "measures...which involve expenditure, either in the form of actual disbursement or of foregone revenue" (Eurostat 2003, 134).

Active labour market measures that "act selectively to favour particular groups" constitute only a fraction of all active measures available in the activation toolbox. Within its limits, however, the LMP is the best source of comparative data on activation measures. All the Nordic countries, except Iceland, participate in the LMP. In the following, the LMP data on the Nordic countries are presented. A qualitative presentation of other types of activation measures is provided in parts 2, 3 and 4.

1.2 Types of Active Measures in the LMP

The LMP distinguishes between six types of active labour-market measures: training, job rotation and job sharing, employment incentives, integration of the disabled, direct job creation and start-up incentives (Eurostat 2003, 135).

Training aims at enhancing the skills of the unemployed and other vulnerable groups. General training programmes (lifelong learning, etc.), and courses limited to enhance employment-search efforts, are not included in the LMP. Based on these definitions, Denmark spent most on training measures in 2004 (0.541 per cent of the GDP), followed by Finland (0.405), Sweden (0.347) and Nor-

way (0.091) (Eurostat 2004). Training courses provided by ordinary schools (polytechnics, etc.), or in the form of special training courses, represented 68 per cent of Danish training expenditures (Eurostat 2003b, 10).

Employment incentives are also widely used activation measures. In 2004, Denmark spent 0.461 per cent of the GDP on such measures, followed by Sweden (0.185), Finland (0.124) and Norway (0.027) (Eurostat 2004). These expenditures usually take the form of direct and indirect wage subsidies.

Integration of the disabled comprises a diverse set of measures, such as compensating employers for taking on disabled employees, sheltered employment, and job-training courses targeted at disabled persons. They also represent widely used active measures. In 2004, Norway spent 0.536 per cent of the GDP on such integration measures, followed by Denmark (0.521) Sweden (0.430) and Finland (0.100) (Eurostat 2004). In Norway, subsidised education in regular schools was the economically most important type. In Denmark, permanent wage subsidies (flexi-jobs) aimed at maintaining disabled people in the workforce were also important.

Job rotation and job sharing are less used activation measures. Finland topped the list in 2004 by spending 186.33 million Euros, or 0.051 per cent of the GDP (Eurostat 2004). Sweden spent 16.88 million Euro (0.006 per cent of the GDP), Norway 0.24 million and Denmark nothing. Evidently, job rotation and sharing is not an important Nordic strategy for integrating marginal labour. In the economically most important Finnish job rotation scheme (Työnvuorottelu), an employee can seek leave and be replaced by a jobless person for between 90 and 359 days (Eurostat 2003c, 28).

Direct job creation is even less used. Again, Finland spends relatively more: 0.085 per cent of the GDP (Eurostat 2004). 87 per cent of this expenditure were spent on temporary (up to 10 months) employment in the public sector (Valtion työtehtävät), or temporary wage subsidies (Kunnallinen työllistämistuki) administered by the local authorities (Eurostat 2003c, 38, 39).

Start-up incentives aim at stimulating entrepreneurship among the unemployed and other marginal groups (start-up incentives open to everybody are not registered in the LMP). Such targeted start-up incentives are not an economically important set of activation measures. Relatively speaking, Sweden spent most in 2004 (0.033 per cent of the GDP), followed by Finland (0.015), Norway (0.003) and Denmark (nothing) (Eurostat 2004).

To sum up, training, employment incentives and measures to integrate the disabled were the preferred activation measures in 2004 in the Nordic countries regarded as a group. (See Melis 2002, 2003 and 2005 for comparisons of the Nordic activation-measures profile relative to other European countries.)

1.3 Change across Time

Across time, old activation measures are discontinued, and new measures are introduced. This makes it difficult to construct reliable time series on activation efforts. The LMP has none the less attempted to provide standardised data, so far for the period 1998 – 2004 (Table 1).

According to Table 1, the use of active measures decreased in Denmark and Sweden between 1998 and 2004. Finland and Norway experienced a reduction between 1998 and 2000/2001, followed by an increase. Sweden reduced spending on active measures most through the period, but from the highest starting point of all (2.260 of the GDP in 1998).

Table 1 Public spending on active measures as percentage of GDP, 1998–2004.

	1998	1999	2000	2001	2002	2003	2004
Denmark	1.667	1.004	1.641	1.624	1.667	1.529	1.523
Finland	1.009	0.907	0.742	0.683	0.722	0.748	0.780
Sweden	2.260	1.998	1.507	1.341	1.385	1.042	1.002
Norway	0.682	0.616	0.511	0.524	0.571	0.666	0.658

Source: Eurostat 1998, 1999, 2000, 2001, 2002, 2003, 2004.

Table 1 shows that increased political emphasis on activation does not translate into an ever-increasing relative amount spent on activation measures. Reduced effort probably reflects reduced unemployment levels between 1998 and 2004, which have somewhat reduced the “demand” for activation measures.

1.4 Changes in the Composition of Active Measures

The overall reduction in spending on active measures between 1998 and 2004 hides significant changes in the preferred types of measures, as illustrated in Table 2. The shift in preferred types of active measures is largest in Sweden and slightest in Norway.

Table 2 Per cent of total amount spent on different types of active measures, 1998 - 2000 - 2004.

	Denmark	Finland	Sweden	Norway
<i>1998</i>				
Training	43	44	65	17
Job rotation and job sharing	-	6	-	2
Employment incentives	7	7	3	6
Integration of the disabled	12	9	25	74
Direct job creation	35	31	3	-
Start-up incentives	4	3	4	1
Total pct	101	100	100	100
Total as pct of GDP	1.667	1.009	2.260	0.682
<i>2000</i>				
Training	41	48	45	17
Job rotation and job sharing	-	7	2	0
Employment incentives	30	16	16	5
Integration of the disabled	25	13	32	77
Direct job creation	3	15	3	-
Start-up incentives	0	1	3	1
Total pct	99	100	101	100
Total as pct of GDP	1.641	0.742	1.507	0.511
<i>2004</i>				
Training	36	52	35	14
Job rotation and job sharing	-	7	0	0
Employment incentives	30	16	19	4
Integration of the disabled	34	13	43	81
Direct job creation	0	11	-	0
Start-up incentives	-	2	3	1
Total pct	100	101	100	100
Total as pct of GDP	1.523	0.780	1.002	0.658

Source: Eurostat 1998, 2000, 2004.

In 1998, training represented 65 per cent of the Swedish active labour-market expenditure. In 2004, the relative share was down to 35 per cent (of a lower total percentage of the GDP spent on active measures). Employment incentives and integration of the disabled increased their share correspondingly. Between 1998 and 2004, integration of the disabled rose from

25 to 43 per cent of the Swedish activation expenditure. The tendency is the same in Denmark. Expenditure on training was reduced, while spending on employment incentives and integration of the disabled became relatively more important. Finland also experienced a relative increase in spending on employment incentives and integration of the disabled, but the change in emphasis was less than in Sweden and Denmark. The Finnish increase was mainly at the expense of direct job creation. In 2004 as in 1998, Finland distributed spending on active measures more evenly between all six LMP categories than the other Nordic countries. This "even spread" is common also in many continental European countries (Melis 2005). By contrast, in 1998 as in 2004, Norway focused activation efforts almost entirely on integration of the disabled. In 2004, 81 per cent of all Norwegian active measures were directed toward integration of the disabled, up from 74 per cent in 1998. This may reflect the somewhat higher prevalence of claimants to sickness and disability-related benefits in Norway than in the other Nordic countries (Nososko 2003).

In conclusion, measures to include the disabled have increased their relative share of the total activation expenditures. This reflects growth in sickness and disability-related social benefits, and a corresponding concern that activation should be a goal also with regard to sickness-related benefits (cf. the introductory remarks). Thus the growth in such measures illustrates that activation is becoming a goal in social policy as well as in labour market policy. Further, the use of employment incentives is on the rise in most Nordic countries. This may indicate a shift in emphasis away from *indirect* (via training) to more *direct* activation strategies. (However, even more direct activation measures – such as direct job creation or job rotation – have not been expanded.) In 1998 as in 2004, training, employment incentives and integration of the disabled were the preferred activation categories in the North, but the relative emphasis on these three categories of measures has shifted across time.

2 Redesign Income-Transfer Programmes

Income-transfer programmes secure individuals against the risk of income loss due to various social risks. The most important social risks are involuntary unemployment, sickness, disability, old age, surviving a provider or sole/main care responsibility for a small child. The LMP defines income-transfer programmes as "passive" programmes, to be distinguished from the "active" measures discussed above. "Passive" connotes that the reception of

transfers is not tied to training or integration efforts. However, the passiveness of an income-transfer programme is a matter of degree. Income-transfer programmes are to a varying extent designed to encourage (re)entry into the labour market. Following Bruijn and Huifen (1998), one may distinguish between three sets of policy instruments to redesign income programmes: 1) forge a clearer legal connection between rights and duties (*regulations*); 2) provide economic incentives for re-entry (*incentives*) or 3) enhance self-motivation through joint agreement with the user (*deliberation*). In practice regulative, economic and deliberative policy instruments are used in combination. In the following, Bruijn and Huifens trichotomy is used to compare how and to which extent the Nordic countries have redesigned “passive” income-transfer programmes to enhance labour-market integration.

The presentation is limited to income programmes safeguarding against involuntary unemployment (including social assistance), sickness and disability. An account for activation initiatives with regard to old age (encouraging workers to postpone the retirement decision), responsibility for small children (enhance the ability of parents to combine employment and care work), and surviving a provider (when a surviving spouse is still of working age) would require a much longer paper.

2.1 The Rights and Duties Approach (Regulations)

Among the working-age population, the right to income transfers is to an increasing extent tied to a duty to participate in activation measures, or to be (more) active in job search, or to accept rehabilitation offers, or to accept subsidised or publicly sponsored work.

Such “active obligations” have traditionally been most prominent with regard to unemployment benefits. Since the early 1990s, an extension and specification of such obligations has taken place. Claimants must document job search activities more accurately, accept a wider range of job offers, and in a wider geographical area. For example, Denmark strengthened the obligation to accept any job offer in 1993, and the obligation to accept work in a wider geographical area in 1996. More recently, similar obligations have been strengthened in social assistance schemes. Recipients of social assistance benefits can be obliged to work in exchange for their benefit if below the age of 25 (in Norway and Finland), or at any age (in Denmark). And in all Nordic countries, benefits to new immigrants now condition such benefits on participation in various introductory and labour-training programmes. Active obligations have also been strengthened in sickness-benefit schemes. Receipt of sickness benefits is being conditioned on participation

in rehabilitation measures. For example, in Norway an obligation to accept rehabilitation already after 8 weeks of sickness absence was introduced in 2004. The beneficiary must be involved in work-related rehabilitation after eight weeks unless a medical doctor certifies that passivity is an integral part of the recovery process. Otherwise, the benefit may be withdrawn.

2.2 The Economic Incentives Approach

Economic incentives represent a softer activation strategy. The claimant is not forced to accept activation as a condition for receiving benefits. Rather, the benefit system is designed to provide an economic incentive to scale down benefit dependency, and scale up labour-market participation. The purpose is to prevent poverty traps (high effective marginal tax rates), plus provide recipients on permanent benefits with economic incentives for re-entry.

The restructuring of disability benefits is a case in point. Disability beneficiaries will often be reluctant to trade off a limited, but secure, disability benefit against a higher, but less secure, labour market income. To counter this risk, “dormant benefit periods” have been introduced in disability schemes. In Sweden, the disability benefit can be dormant for up to 24 months. This means that if a beneficiary takes up work, but the work effort does not succeed within a period of 24 months, he/she can automatically reclaim the disability benefit. In this fashion, beneficiaries can take up work without risking having to start the disability claim process again from scratch if the attempt does not succeed. In Norway, the benefit can lay dormant for up to five years (as from 2006). This is the case also in Finland, although in Finland dormant benefits are only awarded in the rather limited people’s pension scheme, not in the earnings-related super-annuation schemes. In Denmark (where disability benefits are means tested), there is no time limit on dormant benefits. Iceland has not introduced dormant benefits, but if the claimant takes up or expands work, the (means-tested) disability pension is only reduced by ISK 0.45 for each ISK earned. Further, all Nordic countries employ “free amounts” within the disability benefit system, implying that beneficiaries may earn a limited sum (and thus get a toehold in the labour market) before benefits are cut back, or the degree of disability is reassessed.

2.3 The Deliberations Approach

Deliberation is an even softer (less intrusive) activation approach than economic incentives. “Deliberation” denotes efforts to work together with the

client, to enhance his/her work motivation and make him/her “own the (re)activation process”. Activation may be more successful and lasting if the claimant internalises the activation goal, rather than be externally driven by threats of benefit withdrawal (rights and duties) and/or monetary incentives. Deliberation represents a meeting point of motivational strategies on behalf of street-level administrators, and demands from user groups for “empowerment” and a “more equal relationship between administrators/activators and clients/claimants”.

Deliberation is not a new approach in activation. The general idea can be traced back at least as far as the social casework methodology among social workers (Kokkin 2005). But this strategy has gradually been extended from social assistance recipients (the traditional group dealt with by social workers) to beneficiaries of all temporary income maintenance programs. Deliberation implies, among other things, to actively involve the claimant in setting up and carrying out an individual activation plan. Individual plans (aka activation plans or integration plans) have been introduced in all the Nordic countries. Benefits as diverse as unemployment benefits, social assistance benefits, sickness benefits and rehabilitation benefits now have specified time limits for when an individual plan shall be set up, what type of information must be collected when constructing the plan, a specification of the content, the stages in the implementation, and what sanctions to impose (plus how to complain) if one or several of those items and stages are not followed in practice. In this process, the role of the street-level administrator controlling access to benefits is gradually changing from being a “judge” deciding if entry criteria are fulfilled, to also becoming a “social engineer”, searching for ways to enhance the claimant’s self-motivation and identification with an activation process.

2.4 Conclusions

There is no clear dichotomy between spending on “active” measures and “passive” income-maintenance schemes. Income-maintenance schemes can be designed in a variety of ways, and the distinction between active and passive should be perceived as a continuum rather than a dichotomy. During the 1990s and 2000s, several changes have enhanced activation elements *within* income-maintenance schemes. The direction of change is the same across countries, but implementations vary according to the social policy traditions of different countries. For example, local authorities have a larger role in activation in Denmark than in the other Nordic countries, where most income-transfer schemes are run by the state.

Regulation (rights and duties), economic incentives and deliberation with the claimant are three types of policy instruments used to enhance activation. In principle, *regulation* represents the most coercive policy instrument and *deliberation* the least coercive. In practice, however, deliberations between administrator and claimant are seldom an offer the claimant can refuse; it is usually a duty he/she must fulfil to receive the benefit in question. Hence “soft” deliberation and “hard” regulation are often used in combination; eventually further boosted by economic rewards (incentives) if the claimant should succeed in expanding his/her work efforts.

3 Involve Employers and the Social Partners

Employers play a key role in successful activation, not least since rehabilitation in the workplace is usually more successful than rehabilitation outside the workplace. A separate set of activation strategies focus on employers and the social partners to encourage their cooperation with public authorities. One can distinguish between a regulation (rights and duties), incentive and deliberation approach also with regard to these strategies.

3.1 Regulations (*Rights and Duties*)

The first labour-protection laws in the Nordic countries date from the late 1700s or early 1800s. Labour-protection laws give employers a duty to (among other things) provide a work environment that limits work-related accidents and sickness spells. Similarly, anti-discrimination laws aim to reduce employment barriers among groups who are overrepresented among the unemployed.

3.2 Economic Incentives

Public expenditure in the form of employment subsidies are directed toward employers rather than toward claimants. They take the form of direct transfers, or indirect transfers such as tax and social-security deductions for specific groups. Employment subsidies represent *positive* economic incentives to encourage employers to provide room for marginal labour (and are registered in the LMP). Mandatory employer co-financing of sickness, rehabilitation and disability benefits represent *negative* economic incentives for the same

purpose (and are not registered in the LMP). Norway, Sweden, Finland and Denmark compel employers to pay the first part of a sickness-benefit spell to provide employers with an incentive to curb short-term sickness absence. In Iceland, employers also pay for long-term sickness through mandatory occupational sickness funds topping up public sickness benefits. However, the net activation effect of such negative economic incentives is ambiguous. Employers are not only furnished with economic incentives to limit sickness spells, but also with incentives to avoid employing persons with higher than average risks of short-term sickness spells. The net effect is often indeterminate.

3.3 Deliberation

Employers that internalise social obligations, take on marginal labour because they are internally motivated to do so. This may provide a better, or more stable, way to influence the behaviour of employers than (only) to threaten with sanctions (if labour-protection and anti-discrimination laws are not followed), or tempt with economic incentives. The Nordic countries try to co-opt employers through more or less formalised agreements with the social partners, as well as with individual employers.

Denmark, Finland and Sweden maintain collective agreements between the social partners (trade-union and employer federations) to enhance social responsibilities. In Norway, a tripartite agreement from 2001 ties integration efforts on behalf of the social partners to a bundle of activation measures put forward by the government. Such collective agreements are complemented by "contracts" between individual employers and public activation agencies.

Government-sponsored information campaigns, including naming and shaming, may also encourage employers to adopt a broader set of social responsibilities. For example, a Danish social index measures the social profile of individual companies. Employers may want to ensure a high score on this publicised index, to strengthen their reputation as socially conscious employers in the eyes of jobseekers as well as customers.

3.4 Conclusions

In-the-workplace rehabilitation is usually more effective rehabilitation. Nordic governments have used regulations, incentives and deliberation to enhance employer interest in successful activation. Regulations give employers legal duties e.g. with regard to work protection standards, and to combat discrimination. Economic incentives take the form of employment subsidies, as well as requesting employers to carry some of the costs if workers end up on sickness

benefits. Deliberations concern joint agreements between the government and the social partners to combat exclusion, coupled with contracts between individual employers and public authorities granting special benefits and services to employers who do an extra activation effort. Although underlying ideas are rather similar, the implementation of these ideas in the Nordic countries varies, reflecting different industrial relations traditions.

4 Reforming Activation Agencies

4.1 Horizontal Cooperation between Government Agencies

The administrative responsibility for income-transfer programmes has traditionally been divided between employment agencies (responsible for the insured unemployed), social security agencies (responsible for other social insurance benefits), and social assistance agencies (responsible for social assistance benefits). Until recently this administrative division of labour was adopted in all Nordic countries, with a partial exception of Denmark (where most social security and social assistance benefits are administered by the local authorities). Finland and Iceland also maintain administrative divisions between agencies administering minimum and earnings-related social security benefits.

As activation has become a shared goal with regard to most social benefits, the rationale for these administrative divisions of labour has become less clear. First, there is the risk of a “grey area clientele” being passed from agency to agency without anyone taking overall responsibility for activation. Second, there is an (opposite) lock-in problem: that a client is *not* passed on to another agency even if this agency has a better activation repertoire (given the problems and demands of the client).

Denmark and Norway have merged different social security agencies in their efforts to overcome horizontal coordination problems. In Denmark, the local authorities are now in charge of almost all social benefits. (A system of reimbursements and equalising grants has been set up to counter the risk of municipal responsibility leading to race-to-the-bottom competition between municipalities.) The only benefit left out is unemployment insurance, which is administered by separate Labour Offices not part of municipal jurisdiction. (However, in conjunction with the extensive 2005 Danish municipality reform, municipal social protection offices and local labour of-

ices will be located together, to encourage closer coordination). In Norway, a restructured state agency (NAV) has been put in charge of almost all social benefits (including unemployment insurance). The only benefit left out is social assistance, which is administered by the local authorities. (However, in conjunction with the 2005 administrative reform that created the NAV, municipal social assistance offices and local NAV offices will be located together, to encourage closer coordination.)

Sweden, Finland and Iceland have chosen less dramatic institutional reforms. Sweden has encouraged closer cooperation between social-security agencies, unemployment-insurance agencies and municipal social-assistance offices, without actually merging these separate institutions. Finland has likewise strengthened the coordination between agencies and introduced special Service Centres controlled jointly by labour market, municipal and social-security agencies. Iceland still maintains separate agency responsibilities for different social transfers.

4.2 Vertical Cooperation between Government Levels

Social-security benefits have been the reserve of national insurance institutions (except in Denmark), while social assistance has been a municipal responsibility. There is a risk that agencies at different government levels guide claimants on to benefits that are the financial responsibility of other government levels. The administrative reforms referred to above are also meant to soften this problem, although no country has gone all the way and collected the responsibility for *all* social benefits at the same government level (state, region or municipality).

4.3 Cooperation between Public and Private Activators

Activation services may be provided by a public activation agency, or it may be outsourced to private contractors (for-profit as well as non-profit). As an in-between measure, the service-providing unit within the public agency may be “empowered” with a more autonomous mandate to pursue activation strategies. Yet another type of reform is to give activation money directly to users (possibly in the form of vouchers), and let them choose between competing activation service providers. Voluntary organisations are also approached as more-or-less equal partners in local activation, to deliberate with local authorities how best to set up and implement local activation initiatives.

The Nordic countries experiment with different combinations and blends of the above models in their attempts to enhance efficient activation

service delivery. In these efforts, regulative, economic and deliberative policy measures are sometimes combined in innovative ways, as illustrated by the Danish social service law of 1998 (§ 115). The law introduced a legal duty for local authorities to seek cooperation with voluntary organisations in the field of activation. Earmarked grants were also reserved for this purpose (Hansen and Hansen, 2001). Here the state *compels* local authorities to cooperate with voluntary organisations, while at the same time providing *economic incentives* to boost municipal motivation. The resulting enhanced *deliberation* between local authorities and voluntary organisations can be perceived as an effect of these regulative-economic state policy measures.

5 Final Remarks

This paper has provided a broad overview of activation policies in the Nordic countries. A discussion of the effects of these measures on labour-market participation would require a more detailed presentation of the individual measures, and would in any case only be possible to the extent that proper effect-evaluations have been carried out. Several evaluations exist, and evaluation research is a rapidly expanding field in the social policy area (see e.g. Filges et al 2002, Salonen and Ulmestig 2004, Lødemel and Johannessen 2005). However, it is outside the scope of this paper to discuss the effectiveness of the wide Nordic smorgasbord of activation strategies presented here, or the present state of this evaluation research.

There are sound macroeconomic reasons for pursuing activation. Activation can also represent a positive benefit for the individual, in particular if it is possible to match individual ambitions and skills with the available choice of jobs. However, some claimants will never be able to work, no matter how innovative activation strategies a government might pursue. When activation into work fails, an alternative is to spend resources on social activation. Social activation ensures that claimants are offered meaningful activities, and are integrated into social communities. Social activation can always be a government aim, also in situations where activation into paid work is not possible. All the Nordic countries pursue social activation in various forms. However, comparative data in this field are hard to construct. For this reason, the presentation in this paper has been limited to work-oriented activation measures.

List of References

Brujin Hans A & Hans A M Hufen. 1998. The traditional approach to policy instruments. I B

Guy Peters & Frans K M van Nispen (red): Public policy instruments. Evaluating the tools of public administration. Cheltenham: Edward Elgar.

Eurostat. 2000. *Labour market policy database. Methodology, April 2000*. Directorate E: Social and regional statistics and geographical information system, Unit E-2: Living conditions 3/2001/E/No 2. Luxembourg: European Commission

Eurostat. 1998, 1999, 2000, 2001, 2002, 2003, 2004. *European Social Statistics. Labour market policy expenditure and participants*. Eurostat theme 3: Population and social conditions. Luxembourg: Eurostat.

Eurostat. 2003b. *Labour market policy Qualitative report: Denmark*. Eurostat Qualitative reports of the labour market policy database. Luxembourg: Eurostat.

Eurostat. 2003c. *Labour market policy Qualitative report: Finland*. Eurostat Qualitative reports of the labour market policy database. Luxembourg: Eurostat.

Filges Trine, Ivan Harsløf and Mogens Nord-Larsen. 2002. *Revalidering: deltagere, forløb og effekter*. Copenhagen: The Danish Institute of Social Research, report no 2.

Finland's National Action Plan for Employment. 2004. *Finland's National Action Plan for Employment. In accordance with the EU's employment guidelines*. Publication of Labour Administration no 342. Finland: Ministry of Labour.

Gilbert, Neil. 2004. *Transformation of the welfare state*. Oxford: Oxford University Press.

Hansen F. K. og H. Hansen (2001). Kommuner og amtskommuners samarbejde med frivillige sociale organisationer – paragraf 115. København, Centre for Alternative Social Analysis (CASA)

ISSA. 1989. *Developments and trends in social security 1978 -89*. International Social Security Review 3, 258-

Kokkinn Judy. 2005. *Profesjonelt sosialt arbeid*. Oslo: Universitetsforlaget.

Lødemel Ivar & Asbjørn Johannessen. 2005. *Tiltaksforsøket: mot en inkluderende arbeidslinje?* Høgskolen i Oslo: HiO rapport nr 1.

Melis, Africa. 2002. *Public expenditure on Labour Market Policies varied greatly among member States*. Population and social conditions 03/2002. Eurostat: Statistics in focus.

Melis, Africa. 2003. Women participating in active labour market policies. Population and social conditions 17/2003. Eurostat: Statistics in focus.

Melis Africa. 2005. *Expenditure on labour market policies, 1998 - 2003*. Population and social conditions 17/2005. Eurostat: Statistics in focus.

Nososco. 2003. *Social protection in the Nordic countries 2002*. Copenhagen: Nordic Ministry Council.

OECD (1996). The OECD jobs strategy. Enhancing the effectiveness of active labour market policies. Paris: OECD.

Salonen Tapio og Rickard Ulmestig. 2004. *Nedersta trappsteget – en studie om kommunal aktivering*. Växjö: Växjö Universitet.

Mika Gissler

Conclusions

Summary and Conclusion of the Meeting

Many times, one has heard the question: What is sustainable development? My background is that of an economist, and there one remembers a similar discussion about efficient economy. It is supposed to be like a beautiful girl: difficult to describe, but everyone will know when they meet one. Sustainable development may be even harder to describe and especially so sustainable development within the social and health sectors. It may be very different things when one thinks globally, nationally, regionally or locally. In the same way, sustainable development may be something completely different, when one looks at women and men, different age groups and different generations. NOMESCO and NOSOSCO have worked with sustainable development since 2002 within the social and health sectors. We have had fine presentations and articles, good statistics and constructive discussions. We have become wiser, but it is still difficult to describe sustainable development.

Our scenario calculation showed that by the year 2055 there will be 27.2 million of us in the Nordic countries, but the population may be more than four million less or three million more. Also the differences in the number of children born alive may be 100 000 less or more according to the basic scenario. That corresponds to all children born in Sweden during one year. It is not strange that the politicians are worried about the future development of our welfare society.

The articles in this book show that sustainable development requires the births of a sufficient number of children, that people work sufficiently long and that the general health continues to improve, especially among the elderly, who need most care and nursing. The overall outline and trends are basically alike in all the Nordic countries, but there are large differences in the policies. The countries have tried 'with carrot and stick' to influence the

population development and the participation in working life, but it is hardly ever easy to measure the direct correlation between policies and their influence. This does not mean, however, that we should not try to do it by developing methods for the evaluation of social policies.

But fertility and working life is not all. Many important aspects were not included, such as children's and adolescents' health or the consequences of migration. The work must continue. One of this seminar's proposals was after all to continue the analysis of the population's health, mortality and life style indicators. NOMESCO and NOSOSCO must also continue to develop and gather statistics and indicators for social and health sectors. One important part will be to publish this information, also from the sustainable angle. Hopefully, this material will inspire Nordic researchers to establish a Nordic cooperation in order to work with the subject in depth. Sustainable development will be politically relevant also in future, and that will influence the Nordic statistical cooperation.

Mika Gissler
STAKES, Finland
Chairman of NOMESCO

Appendix 1

Seminar on Sustainable Social and Health Development on April 6, 2006, in Oslo Universitetsgata 2

PROGRAMME

Chairman	Johannes Nielsen, NOMESCO & NOSOSCO
10am-10.15am	Øystein Haram, Head of Department, Ministry of Labour and Inclusion, Norway, Chairman of NOSOSCO opens the seminar
10.15am-11am	<p>The main results from the alternative population projections</p> <ul style="list-style-type: none"> • Fertility • Labour force/Dependency load • Anticipated average life <p><i>Jesper Thøgersen; NOMESCO & NOSOSCO, Denmark</i></p>
11am-11.15am	Coffee break
11.15am-12am	<p>Factors influencing average life</p> <ul style="list-style-type: none"> • Dietary habits, alcohol and tobacco, etc. • Social relations (work conditions, social network, etc.) • Life-prolonging treatment (for diabetes, heart and vascular diseases, etc.) <p><i>Knud Jøul; SIF, Denmark</i></p>

APPENDIX 1: PROGRAMME

12am-1pm	Lunch break
1pm-1.15pm	<p>Facts on fertility, minding needs, etc., on the basis of the alternative population projections:</p> <ul style="list-style-type: none"> • Fertility patterns • Minding needs, etc. <p><i>Jesper Thøgersen; NOMESCO & NOSOSCO Denmark</i></p>
1.15pm-2pm	<p>Trends in fertility patterns in the Nordic countries and the EU</p> <ul style="list-style-type: none"> • Low birth rates • High birth age • Explaining factors <p><i>Mika Gissler; STAKES, Finland</i></p>
2pm-2.45pm	<p>Family-policy measures influencing the fertility level</p> <ul style="list-style-type: none"> • Minding measures • Other services to families with children • Financial support to families with children (subsidies towards child minding, child allowances, etc.) <p><i>Tom Nilstierna; Administration Ministry & Bengt Eklind; Ministry of Health and Social Affairs, Sweden</i></p>
2.45pm-3pm	Coffee break
3pm-3.15pm	<p>Facts about the dependency load on the basis of the alternative population projections</p> <ul style="list-style-type: none"> • Potential labour force • 16/64/66-year-olds outside the labour force • Retirement patterns <p><i>Jesper Thøgersen; NOMESCO & NOSOSCO, Denmark</i></p>

- 3.15pm-3.45pm People of working age outside the working life, retirement patterns and influencing/explaining factors
- Types of marginal groups outside the working life
 - Retirement patterns
 - Nordic similarities and differences
- Nabanita Datta Gupta; SFI, Denmark*
- 3.45pm-4.30pm Policies that may influence more people to participate in the working life
- Integration
 - Activation of disabled people
 - Social activation, etc.
- Einar Øverbye, Høgskolen in Oslo, Norway*
- 4.30pm-5pm Summary and conclusion
- Mika Gissler, STAKES; Chairman of NOMESCO*

Appendix 2

Participants at Seminar on Sustainable Development

Denmark:

Knud Juul

National Institute of Public Health

Niels K. Rasmussen

National Institute of Public Health

Nabanita Datta Gupta

SFI

Jesper Thøgersen

NOMESCO & NOSOSCO

Johannes Nielsen

NOMESCO & NOSOSCO

Liv Mølgaard Mathiasen

NOMESCO & NOSOSCO

Finland:

Seija Lehtonen

Finnish Centre for Pensions

Mika Gissler

STAKES

Jarmo Malmberg

STAKES

Riitta Sääntti

Ministry of Social Affairs and Health

Matti Klockars

University of Helsinki

Norway

Elisabeth Fougner
National Insurance Administration

Inger Spangen
National Insurance Administration

Lars Johansson
Directorate of Health and Social Affairs

Hans Th. Waaler
National Knowledge Centre for Health Service

Einar Øverbye
Oslo University College

Øystein Haram
Ministry of Labour and Social Inclusion

Marit Helene Mørkved
Ministry of Labour and Social Inclusion

Bjørn Halvorsen
Ministry of Labour and Social Inclusion

Asbjørn Haugsbø
Directorate of Health and Social Affairs

Inger Texmon
Statistics Norway

Jan Oddum
Directorate of Health and Social Affairs

Unni Beate Grebstad
Directorate of Health and Social Affairs

Kirsti Strand
Directorate of Health and Social Affairs

Line Bøystad
Ministry of Health and Care Service

APPENDIX 2: PARTICIPANTS

Sweden:

Tom Nilstierna
Administration Ministry

Bengt Eklind
Ministry of Social Affairs and Health

Christer Løfgren
Ministry of Social Affairs and Health

Publications Issued by NOMESCO since 1995

43. Rates of Surgery in the Nordic Countries. Variation between and within nations. NOMESCO, Copenhagen 1995.
44. Health Statistics in the Nordic Countries 1993. NOMESCO, Copenhagen 1995.
45. Sygehusregistrering i de nordiske lande. NOMESKO, København 1995.
46. Classification of Surgical Procedures. NOMESCO, Copenhagen 1996.
47. Health Statistics in the Nordic Countries 1994. NOMESCO, Copenhagen 1996.
48. NOMESCO Classification of External Causes of Injuries. 3rd revised edition. NOMESCO, Copenhagen 1997.
49. Health Statistics in the Nordic Countries 1995. NOMESCO, Copenhagen 1997.
50. Health Statistics in the Nordic Countries 1996. NOMESCO, Copenhagen 1998.
51. Samordning av dödsorsaksstatistiken i de nordiska länderna. Förutsättningar och förslag. NOMESKO, Köpenhamn 1998.
52. Nordic and Baltic Health Statistics 1996. NOMESCO, Copenhagen 1998.
53. Health Statistic Indicators for the Barents Region. NOMESCO, Copenhagen 1998.

PUBLICATIONS ISSUED BY NOMESCO AND NOSOSCO

54. NOMESCO Classification of Surgical Procedures, Version 1.3. Copenhagen 1999
55. Sygehusregistrering i de nordiske lande, 2. reviderede udgave, København 1999
56. Health Statistics in the Nordic Countries 1997. NOMESCO, Copenhagen 1999.
57. NOMESCO Classification of Surgical Procedures, Version 1.4. Copenhagen 2000
58. Nordiske læger og sygeplejersker med autorisation i et andet nordisk land. København 2000.
59. NOMESCO Classification of Surgical Procedures, Version 1.5. Copenhagen 2001.
60. Health Statistics in the Nordic Countries 1998. NOMESCO, Copenhagen 2000.
61. Health Statistics in the Nordic Countries 1999. NOMESCO, Copenhagen 2001.
62. Nordic/Baltic Health Statistics 1999. NOMESCO, Copenhagen 2001.
63. NOMESCO Classification of Surgical Procedures, Version 1.6. Copenhagen 2002
64. Health Statistics in the Nordic Countries 2000. NOMESCO, Copenhagen 2002.
65. NOMESCO Classification of Surgical Procedures, Version 1.7. Copenhagen 2003
66. Health Statistics in the Nordic Countries 2001. NOMESCO, Copenhagen 2003
67. Sustainable Social and Health Development in the Nordic Countries. Seminar 27th May 2003, Stockholm. NOMESCO, Copenhagen 2003

68. NOMESCO Classification of Surgical Procedures, Version 1.8. Copenhagen 2004
69. Health Statistics in the Nordic Countries 2002. NOMESCO, Copenhagen 2004
70. NOMESCO Classification of Surgical Procedures, Version 1.9:2005. Copenhagen 2004
71. Nordic/Baltic Health Statistics 2002. NOMESCO, Copenhagen 2004.
72. Medicines Consumption in the Nordic Countries 1999-2003. NOMESCO, Copenhagen 2004.
73. Health Statistics in the Nordic Countries 2003. NOMESCO, Copenhagen 2005.
74. NOMESCO Classification of Surgical Procedures, Version 1.10:2006. Copenhagen 2005.
75. Health Statistics in the Nordic Countries 2004. NOMESCO, Copenhagen 2006.
76. Health Classifications in the Nordic Countries. Historic development in a national and international perspective 2006. NOMESCO, Copenhagen 2006.
77. NOMESCO Classification of Surgical Procedures, Version 1.11:2007. Copenhagen 2006.
78. Sustainable Social and Health Development in the Nordic Countries. Seminar 6th April 2006, Oslo. NOMESCO, Copenhagen 2006.

Publications Issued by NOSOSCO since 1995

Social tryghed i de nordiske lande. Omfang, udgifter og finansiering 1994.
Nordisk Socialstatistisk Komité nr. 3:96. København 1996.

Nordisk socialstatistik 1946-1996. Nordisk Socialstatistisk Komité nr. 4:96.
København 1996.

Social Security in the Nordic Countries. Scope, expenditure and financing 1994.
Nordic Social-Statistical Committee no. 5:96. Copenhagen 1996.

Social tryghed i de nordiske lande. Omfang, udgifter og finansiering 1995.
Nordisk Socialstatistisk Komité nr. 6:97. København 1997.

Social Protection in the Nordic Countries 1995. Scope, expenditure and financing.
Nordic Social-Statistical Committee no. 7:97. Copenhagen 1997.

Social tryghed i de nordiske lande. Omfang, udgifter og finansiering 1996.
Nordisk Socialstatistisk Komité nr. 8:98. København 1998.

Social Protection in the Nordic Countries 1996. Scope, expenditure and financing.
Nordic Social-Statistical Committee no. 9:98. Copenhagen 1998.

Förtida utträde från arbetslivet 1987-1996. En jämförelse mellan de nordiska länderna. Nordisk Socialstatistisk Komité nr. 10:99. København 1999.

Social tryghed i de nordiske lande. Omfang, udgifter og finansiering 1997.
Nordisk Socialstatistisk Komité nr. 11:99. København 1999.

Social Protection in the Nordic Countries 1997. Scope, expenditure and financing.
Nordic Social-Statistical Committee no. 12:99. Copenhagen 1999.

Social tryghed i de nordiske lande. Omfang, udgifter og finansiering 1998.
Nordisk Socialstatistisk Komité nr. 13:00. København 2000.

Social Protection in the Nordic Countries 1998. Scope, expenditure and financing.
Nordic Social-Statistical Committee no. 14:00. Copenhagen 2000.

Social tryghed i de nordiske lande. Omfang, udgifter og finansiering 1999.
Nordisk Socialstatistisk Komité nr. 15:01. København 2001.

Social Protection in the Nordic Countries 1999. Scope, expenditure and financing.
Nordic Social-Statistical Committee no. 16:01. Copenhagen 2001.

Social tryghed i de nordiske lande. Omfang, udgifter og finansiering 2000.
Nordisk Socialstatistisk Komité nr. 17:02. København 2002.

Social Protection in the Nordic Countries 2000. Scope, expenditure and financing.
Nordic Social-Statistical Committee no. 18:02. Copenhagen 2002.

Nordic/Baltic Social Protection Statistics 2000.
Nordisk Socialstatistisk Komité nr. 19:03. København 2003.

Social tryghed i de nordiske lande. Omfang, udgifter og finansiering 2001.
Nordisk Socialstatistisk Komité nr. 20:03. København 2003.

Social Protection in the Nordic Countries 2001. Scope, expenditure and financing.
Nordic Social-Statistical Committee no. 21:03. Copenhagen 2003.

*Sustainable Social and Health Development in the Nordic Countries. Seminar
27th May 2003, Stockholm.* Nordic Social-Statistical Committee no. 22:03.
Copenhagen 2003.

Social tryghed i de nordiske lande. Omfang, udgifter og finansiering 2002.
Nordisk Socialstatistisk Komité nr. 23:04. København 2004.

Social Protection in the Nordic Countries 2002. Scope, expenditure and financing.
Nordic Social-Statistical Committee no. 24:04. Copenhagen 2004.

Social tryghed i de nordiske lande. Omfang, udgifter og finansiering 2003.
Nordisk Socialstatistisk Komité nr. 25:05. København 2005.

Social Protection in the Nordic Countries 2003. Scope, expenditure and financing.
Nordic Social-Statistical Committee no. 26:05. Copenhagen 2005.

PUBLICATIONS ISSUED BY NOMESCO AND NOSOSCO

Social tryghed i de nordiske lande. Omfang, udgifter og finansiering 2004.
Nordisk Socialstatistisk Komité nr. 27:06. København 2006.

Social Protection in the Nordic Countries 2004. Scope, expenditure and financing.
Nordic Social-Statistical Committee no. 28:06. Copenhagen 2006.

*Sustainable Social and Health Development in the Nordic Countries. Seminar
6th April 2006, Oslo.* Nordic Social-Statistical Committee no. 29:06.
Copenhagen 2006.