Norsk demografisk forening
Norwegian demographic society

The 18th Nordic Demographic Symposium

13-15 September 2012
Tønsberg, Norway

Demographic Changes and Challenges in Northern Europe

Final Program

Welcome to NDS 2012

Dear Colleagues,

We are pleased to welcome you all to the 18th Nordic Demographic Symposium 2012 in Tønsberg. This year's conference, titled "Demographic changes and challenges in Northern Europe", focuses on demographic changes and challenges present in all Nordic countries. Fairly similar economic, cultural and social trends make the Nordic countries an interesting region for comparison. The Nordic Demographic Symposium is an important forum at which to present and discuss perspectives on the different topics in a Nordic context. The Symposium has a long history and Nordic demographers have come together at this meeting since 1968.

The 18th Symposium is organised by the Norwegian Demographic Society on behalf of the Nordic Demographic Society. Organising the Symposium is not done by it self and has required great effort from the organising committee.

We would like to thank The Research Council of Norway for sponsoring the Symposium with NOK 125 000. We also thank Statistic Norway for their support.

We wish everyone a productive and stimulating conference!

Trude Lappegård, Silje Vatne Pettersen, Anne Reneflot, Rannveig V. Kaldager, Henrik Urdal, Arve Hetland, Astri Syse, Stig Omre and Christina Lyle

– National Organising Committee

Content

Program

Thursday 13 September

10:30- Welcome and Registration
13:00-14:00 Keynote address:
"Forerunners of the Forerunners: Swedish Cohabiting Parents 1960-2006"
Elizabeth Thomson, Stockholm University Demography Unit
14:00-14:30 Coffee
14:30-16:00 Parallel Sessions 1
16:15-17:45 Parallel Sessions 2
18:00-18:50 City walk, group I
19:00-19:50 City walk, group II
20:00 Welcome Reception, including dinner

Friday 14 September

09:00-10:30 Parallel Sessions 3
10:30-11:00 Coffee
11:00-12:00 Keynote address: "How well do Nordic countries age? Assessing the productivity potential of seniors across countries"
Vegard Skirbekk, International Institute for Applied Systems Analysis, Austria
12:00-13:30 Lunch
13:30-15:00 Parallel Sessions 4
15:00-15:30 Coffee
15:30-17:00 Parallel Sessions 5
17:15-18:00 Nordic Demographic Association General Assembly
19:00 Dinner, party

Saturday 15 September

09:30-11:00 Parallel Sessions 6
11:00-11:30 Coffee
11:30-12:30 Keynote address:
"The Nordic gap in cohort survival"
Vladimir Canudas Romo, University of Copenhagen
12:30-12:45 Closing remarks
12:45 Lunch

List of Parallel Sessions

Session 1: Thursday 14:30-16:00

LIFE COURSE PERSPECTIVES ON PARTNERSHIP DYNAMICS I

Room: Blanca

Chair: Jennifer Holland, *Netherlands Interdisciplinary Demographic Institute*

1. Transitions within and from interethnic unions in Finland – **Jan Saarela,** *Åbo Akademi University*; **Fjalar Finnäs**, *Åbo Akademi University*

2. Comparison of sample-based and register-based statistical relationship – **Kristina K. Andreassen,** *Statistics Norway*; **Tove Slaastad,** *Statistics Norway*

3. From registered partnerships to same-sex marriages – **Kenneth Aa. Wiik,** *Statistics Norway;* **Turid Noack,** *Statistics Norway;* **Ane Seierstad,** *Statistics Norway*

ECONOMIC RESOURCES AND FERTILITY Room: Ballsalen

Chair: Gerda Neyer, *Stockholm University Demography Unit*

1. Female relative income and continued childbearing in Sweden (1968 to 2009) – **Ernesto Silva,** *Centre for Economic Demography, Lund University*

2. The changing impact of earnings on first birth rate among Norwegian men – **Rannveig V. Kaldager,** *Statistics Norway*

3. Does his paycheck also matter? The socioeconomic resources of co-residential partners and the entry into parenthood – **Marika Jalovaara,** *Department of Social Research, University of Turku*; **Anneli Miettinen,** *Population Research Institute, Väestöliitto*

4. How soon is now? Age at arrival and the fertility and marriage patterns among the children of immigrants in Norway – **Torkild H Lyngstad,** *University of Oslo;* **Fernando Riosmena,** *University of Colorado*

PROJECTION OF MORTALITY AND AGEING Room: Kristina

Chair: Vladimir Canudas Romo, *University of Copenhagen*

1. Changing mortality trends by age and sex challenges for mortality projections – **Örjan Hemström,** *Statistics Sweden*

2. Danish life tables with forecasted mortality rates – **Thomas Michael Klintefelt,** *Statistics Denmark*

3. Ageing population challenges in Sweden – **Lena E. Lundkvist,** *Statistics Sweden*

4. Scenarios for describing future vulnerability of the elderly to climate change in Finland – **Emma Terama,** *University College London and Finnish Environment Institute*; **Stefan Fronzek,** *Finnish Environment Institute;* **Timothy R. Carter,** *Finnish Environment Institute*

Session 2: Thursday 16:15-17:45

LIFE COURSE PERSPECTIVES ON PARTNERSHIP DYNAMICS II

Room: Ballsalen

Chair: Gunnar Andersson, *Stockholm University Demography Unit*

1. Your place or mine? On residence choice of young couples in Norway – **Katrine V. Løken,** *University of Bergen;* **Kjell Erik Lommerud,** *University of Bergen;* **Shelly Lundberg,** *UC Santa Barbara*

2. Transitions within and from first unions in Finland – **Fjalar Finnäs**, *Åbo Akademi University;* **Jan Saarela,** *Åbo Akademi University*

3. Family structures and separations among first time parents in Sweden – **Karin Lundström,** *Statistics Sweden;* **Andreas Raneke,** *Statistics Sweden*

4. Marriages and life style – **Annemette L. Olsen,** *Statistics Denmark*

FERTILITY AND HEALTH **Room: Blanca**

Chair: Anne Reneflot, *Norwegian Institute of Public Health*

1. Does the perceived importance of having children influence whether couples deliberately end fertility treatment without having conceived? A study from Denmark – **Lisbeth B. Knudsen,** *Department of Sociology and Social Work, Aalborg University*; **Lone Schmidt,** *Institute of Public Health, University of Copenhagen*

2. The effect of violent conflict on age at first sexual intercourse in Rwanda. In a context of high HIV prevalence – **Elina Lindskog,** *Stockholm University Demography Unit*

3. Civil war and gender inequalities in health: The impact of war on fertility and maternal mortality – **Henrik Urdal,** *PRIO;* **Chi Primus Che,** *PRIO*

INTERNAL MIGRATION **Room: Kristina**

Chair: Marianne Tønnesen, *Statistics Norway*

1. Commuter´s mobility – an indicator of municipality attraction – **Siv M. Schéele,** *Stockholm University Demography Unit*

2. Which factors govern immigrant preferences regarding immigrant residential clustering, and how much do preferences actually explain in predicting the degree of immigrant clusters? – **Svein Blom,** *Statistics Norway*

3. The changes of net migration rates in urban areas and the changes of gross domestic product in Finland in 1973-2009 – **Matti Saari,** *Statistics Finland*

Session 3: Friday 09:00-10:30

UNION DISSOLUTION Room: Ballsalen

Chair: Torkild Lyngstad, *University of Oslo*

1. Separations between parents in Sweden – **Johan Tollebrant,** *Statistics Sweden*

2. Gender equality perceptions, division of household work, and partnership breakup in Sweden in early 21st century – **Livia Sz. Olah,** *Stockholm University Department of Sociology;* **Michael Gähler,** *Inst. For Social Research, Stockholm University*

3. The pattern of the out-movement and the in-movement of unmarried young people – **Henning Christiansen,** *Statistics Denmark*

FERTILITY, WORK AND FAMILY POLICY Room: Blanca

Chair: Trude Lappegård, *Statistics Norway*

1. The effect of child allowance on fertility behavior – **Taryn Ann Galloway,** *Statistics Norway;* **Rannveig V. Kaldager,** *Statistics Norway*

2. Childbearing and labor market return: the case of South Korea – **Li Ma,** *Stockholm University Demography Unit*

3. Parental leave reforms and continued childbearing – **Ann-Zofie Duvander,** *Stockholm University Demography Unit;* **Mats Johansson,** *National Social Insurance Agency*

PROJECTION OF MIGRATION Room: Kristina

Chair: Henrik Urdal, *PRIO*

1. Projecting immigration to Norway – **Marianne Tønnessen,** *Statistics Norway*

2. Regional projections of immigrants – **Inger Texmon,** *Statistics Norway*

3. Intra-municipal breakdown of population forecast with public data - **Stian Skår Ludvigsen,** *Hordaland County Council, Norway*

Session 4: Friday 13:30-15:00

LIFE COURSE PERSPECTIVES AND BEHAVIORAL CHANGES

Room: Ballsalen

Chair: Lotta Persson. *Statistics Sweden*

1. Age at immigration and crime amongst male immigrants in Norway – **Synøve Andersen,** *University of Oslo and Statistics Norway*

2. Long-distance migration and mortality in Sweden: Testing the salmon bias and healthy migrant hypotheses – **Sven Drefahl,** *Stockholm University Demography Unit;* **Gunnar Anderson,** *Stockholm University Demography Unit*

3. Health behavior change following chronic illness in later life – **Marijke Veenstra,** *Norwegian Social Research;* **Astrid Syse,** *Norwegian Social Research*

YOUNG MOTHERS AND FERTILITY TIMING **Room: Blanca**

Chair: Lisbeth B. Knudsen, *Department of Sociology and Social Work, Aalborg University*

1. The importance of distinguish between correlation and causality when dealing with young motherhood – **Mette W. Kristensen,** *Aalborg University*

2. Young expecting mothers and psychological distress in Norway – **Anne Reneflot,** *Norwegian Institute of Public Health;* **Ingri Myklestad,** *Norwegian Institute of Public Health*

3. Infertility treatment in Denmark – Consequences for the family history – **Lene Tølbøll Blenstrup,** *Department of Sociology and Social Work, Aalborg University;* **Matthew Pirritano,** *Medical Services Initiative (MSI), Orange County California;* **Brennan Peterson,** *Chapman University, California*

Session 5: Friday 15:30-17:00

HEALTH AND AGEING Room: Ballsalen

Chair: Rannveig V. Kaldager, *Statistics Norway*

1. Has time to first severe disease increased in line with life expectancy in Sweden? – **Korinna Karampampa,** *Karolinska Institute;* **Sven Drefahl,** *Stockholm University Demography Unit;* **Tomas Anderson,** *Karolinska Institute;* **Anders Ahlbom,** *Karolinska Institute;* **Karin Modig,** *Karolinska Institute*

2. Calculation of individual estimates of prostate cancer lifetime risk from data on polygenic susceptibility – **Michael Væth,** *University of Aarhus*

3. The burden of cancer in aging societies – **Astrid Syse,** *Norwegian Social Research;* **Bjarte Aagnes,** *Cancer Registry of Norway;* **Steinar Tretli,** *Cancer Registry of Norway*

TIME USE AND GENDERED DIVISION OF LABOUR Room: Blanca

Chair: Ann-Zofie Duvander, *Stockholm University Demography Unit*

1. More involved fathering? Trends in fathers' family work in Norway – **Ragni Hege Kitterød,** *Statistics Norway*

2. Time alone or time together? The impact of employment status, parenthood and education on couples' time use in Sweden – **Jeff Neilson,** *Centre for Economic Demography, Lund University;* **Maria Stanfors,** *Centre for Economic Demography, Lund University*

3. Socioeconomic resources and division of breadwinning responsibilities in the early stages of childrearing – **Kari Skrede,** *Statistics Norway;* **Kenneth Aarskaug Wiik,** *Statistics Norway*

METHODS IN POPULATION PROJECTION Room: Kristina

Chair: Nico Keilman, *University of Oslo*

1. Stochastic population forecast for Norway – **Aslaug Hurlen Foss,** *Statistics Norway*

2. Projecting the population of Norway by age, sex, immigration status, country background and duration of residence – **Helge Brunborg,** *Statistics Norway;* **Inger Texmon,** *Statistics Norway*

3. Return migration by time spent in Sweden – **Christian Skarman,** *Statistics Sweden*

4. The consistency between international migration figures produced by selected European countries – **Kåre Vassenden,** *Statistics Norway*

Session 6: Saturday 09:30-11:00

ECONOMIC CONDITIONS, PENSIONS AND MORTALITY

Room: Blanca

Chair: Astrid Syse, *Norwegian Social Research*

1. Pro-cyclical mortality: What can we learn from Norwegian registry data? – **Venke F. Haaland,** *University of Stavanger*; **Kjetil Telle,** *Statistics Norway*

2. Disability pensioners and relative mortality trends in Norway – **Erik Nymoen,** *Statistics Norway;* **Vegard Skirbekk,** *IIASA;* **Kjetil Telle,** *Statistics Norway*

3. Gendered trends of retirement risks in East and West Germany – **Kim Jansson,** *Stockholm University Department of Sociology*

GRANDPARENTHOOD AND GENDER PREFERENCES Room: Sand

Chair: Anneli Miettinen, *Population Research Institute, Väestöliitto*

1. The transition to grandparenthood in Norway: Recent changes and social differences – **Lars Dommermuth,** *Statistics Norway;* **Turid Noack,** *Statistics Norway;* **Jan Lyngstad,** *Statistics Norway*

2. Gender preferences among native born and foreign born in Sweden – **Lotta Persson,** *Statistics Sweden*

3. Similarities and differences in demographic development of the Baltic Sea Regions – **Peteris Zvidrins,** *Centre of Demography, University of Latvia*

DEMOGRAPHIC CHANGES AND INTERNATIONAL LABOUR FORCE Room: Flo

Chair: Maria Stanfors, *Centre for Economic Demography, Lund University*

1. The employment rate and the level of education – **Pekka Myrskylä,** *Statistics Finland*

2. Labor force attachment of second generation Turkish and majority young adults in Europe: The role of gender, family formation and country context – **Jennifer Holland,** *Netherlands Interdisciplinary Demographic Institute;* **Helga A.G. De Valk,** *Netherlands Interdisciplinary Demographic Institute*

3. Estimating the date the population of Norway would pass five million – **Helge Brunborg,** *Statistics Norway*

Abstracts

Session 1: Thursday 14:30-16:00

LIFE COURSE PERSPECTIVES ON PARTNERSHIP DYNAMICS I

1. Transitions within and from interethnic unions in Finland – **Jan Saarela,** *Åbo Akademi University*; **Fjalar Finnäs**, *Åbo Akademi University*

We study the influence of ethnic heterogamy on transitions within and from first unions, utilising longitudinal population register data from Finland. The aim is to assess how interethnic unions differ from ethnically homogamous ones with respect to the risk of making different transitions in the family formation process subsequent to entry into cohabitation, incorporating marriage, parenthood, and separation. We find that the general norms of ethnic heterogamy apply also to other relationships than marriage, and to other transitions than divorce. Heterogamous cohabiting unions are less likely than homogamous ones to lead to marriage and to marriage with children, and are more likely to split up, no matter where in the process they are observed. Stages in the family formation process tend to function as a social filter, but heterogamy effects on dissolution risks appear particularly strong for couples who have come a long way in the process.

2. Comparison of sample-based and register-based statistical relationship – **Kristina K. Andreassen,** *Statistics Norway;* **Tove Slaastad,** *Statistics Norway*

The project "Comparison of sample-based and register-based statistical relationship" was started by the initiative of the Division for Population Statistics. The project owner wanted the project to look at the differences found between cohabitation statistics based on family and household registry and the sample-based relationship statistics that are based on interview data from the Travel Survey. The register-based statistics consistently show a lower proportion of cohabiting and married than the sample-based statistics. The project particularly wanted to examine whether the lack of weighting of interview data contribute to the discrepancy between the two cohabitation statistics. In addition, the project wanted to connect the sample data with registry data to make a causal analysis at the individual level. The results show that the sample-data has dropout bias as to whether one is married or not. Non-response weighting will therefore help to reduce the discrepancy between the proportion married in the sample-data and the register statistics. For cohabitants there was no dropout bias. Inequality as regards the proportion cohabiting must be due to cohabitation is defined/constructed differently in the sample-data and the register. The analysis done at the individual level shows that for married and people who do not live in relationship, it is a good correlation between the register and sample-data. 97 percent of married match between the register and the sample-data, while for those who do not live-in relationship is the agreement of 95 percent. When one looks at cohabitants,

only 77 percent that corresponds to the sample-data and the register. The largest group of erroneous is among those who provide in interviews that they are cohabiting, but the registry is registered as not in unions. Some of the errors registered characterized as students, confirming the notion they had of the deviations from before. Other errors have registered no typical characteristics that would indicate that they are a homogenous group. The project has not been able to go deeper into providing concrete recommendations to improve procedures at the production of statistics. The project proposes, however, that introducing drop-weighting of the sample-based statistics to reduce the deviations from the register. The project also suggests opportunities for further analysis and action to further be able to document and improve the involved statistics.

3. From registered partnerships to same-sex marriages – **Kenneth Aarskaug Wiik,** *Statistics Norway;* **Turid Noack,** *Statistics Norway;* **Ane Seierstad,** *Statistics Norway*

How many and which couples have converted their partnership to marriage? Norway was among the first countries to legally recognize same-sex unions when registered partnerships were introduced in 1993. Then, in 2009 a fully gender neutral marriage legislation was adopted. 3,428 same-sex couples (52% male) formalized their unions between 1993 and 2010. With the introduction of the 2009 marriage law registered partners were also given the opportunity to convert their partnership to marriage. Using Norwegian longitudinal register data on registered partnerships contracted 1993-2008, we investigate how many and which couples converted their partnerships to marriage in the first two years following the introduction of the new marriage law. Results show that by the end of 2010, 32% of the intact registered partnerships entered between 1993 and 2008 (N = 2,209 couples) had been converted to marriage. The conversion rate was, however, substantially higher among women (41%) than men (26%). Multivariate results confirm that female couples had a higher likelihood of converting their partnership to marriage, net of the other variables included (e.g., age, union duration, common children, education, region of residence). However, controlling for whether or not both partners were foreign born significantly reduced this gender gap in partnership conversion. In addition, couples whose mean age was above 40 years were less conversion prone than younger couples, as were those living in partnerships of longer duration. Age homogamy, residency in the capital region and education, on the other hand, were positively related to partnership conversion.

ECONOMIC RESOURCES AND FERTILITY

1. Female relative income and continued childbearing in Sweden (1968 to 2009) – **Ernesto Silva,** *Centre for Economic Demography, Lund University*

Recent studies have challenged the expectation based on some New Home Economics models that female earnings should be negatively related with fertility as they captured the bulk of the opportunity costs of children. The aim of this paper is to test the relationship between female income as a share of the household income and continued childbearing among Swedish couples from 1968 to 2009. Sweden is an interesting case because it has developed a wide array of social policies aimed to mitigate the conflict between family and work. The opportunity costs of children are alleviated by state, while female employment and fathers' involvement in childrearing are both promoted. In such context, it is not clear whether predictions based on a classical male breadwinner model are likely hold. Alternative hypothesis such as the income pooling assumption and spheres of influence are also considered. We found no evidence that female income is negative related to fertility in Sweden. Quite the contrary, in most situations it seems that a higher income share increases the risk of having another child. There is also no apparent relationship between female income share and fathers' uptake of parental leave, casting doubts on the hypothesis that high earning women's willingness to continue childbearing is related to fathers' involvement in childbearing (at least according to the variables that we can observe). This study is based on longitudinal register-based data covering all Swedish couples living in Sweden at some point after 1968. Income figures are given annually and we have the proportion of that income that comes from parental leave benefits.

2. The changing impact of earnings on first birth rate among Norwegian men – **Rannveig V. Kaldager,** *Statistics Norway and University of Oslo*

A positive association between educational level and fertility is consistently found for men. This is partly driven by men with higher education being attractive as partners, that is, higher education is associated with high union entry rates and low union dissolution rates among men. Higher earnings potential and more gender egalitarian attitudes are commonly used to explain the positive impact of higher education on union entry and union stability among men. Additionally, the higher earnings potential and more gender egalitarian attitudes of men with higher education may also make these men (and/or their partners) more motivated to have children. Using information on educational level only, it is near impossible to disentangle the impact of earnings potential from the impact of attitudes or knowledge. This study uses a more direct measure of earnings potential, observed annual earnings, to estimate the impact of earnings potential on men's first birth rate. Discrete-time hazard regressions are estimated on highly accurate data from the Norwegian population registers, covering all men at risk of having a registered first birth in the period 1975-2010. Preliminary results show a monotonously positive and substantial impact of observed annual earnings on

first birth rate. Throughout the period of study, the labour force participation of Norwegian mothers increased substantially, and Norwegian fathers increasingly have taken part in care work. Cross-sectional comparisons have shown that the earnings-union entry association is weaker for men in contexts with low gender. Specialisation. In line with this, one could expect the selection on earnings into fatherhood to weaken over time for Norwegian men. Preliminary results indicate that the opposite is the case. Possible explanations for this strengthening association are discussed, including union instability/multi-partner fertility and increasing material expectations.

3. Does his paycheck also matter? The socioeconomic resources of co-residential partners and the entry into parenthood – **Marika Jalovaara,** *Department of Social Research, University of Turku*; **Anneli Miettinen,** *Population Research Institute, Väestöliitto*

We examine how the socioeconomic resources of co-residential partners affect the entry into parenthood, and disentangle the effects of educational attainment, economic activity, and income of the female and the male partner. Event-history methods are applied to Finnish register data which exceptionally cover all co-residential unions, also childless, irrespective of marital status, and include symmetrical data on the socioeconomic resources of each partner. The analyses focused on ca. 48 thousand unions formed between 1988 and 2003. The effects of the socioeconomic resources of the female partner are notably similar to those of the male partner. Each partner's being employed (as opposed to studying) and having a higher income seems to encourage the entry into parenthood. Unemployment has clear negative effects only in the older age group (31-44). In some regards (higher income and education in the older age group), the effects of the woman's resources are stronger than those of the male partner's. The resources of the male partners have their own independent effect on the entry into parenthood, but the effects of the female partner's resources are notably robust to the controls for the male partner's resources. Further, no clear interactive patterns were found between the female and the male resources; rather, the effects just add up to produce the highest rate when both partners are employed and have a high income, for instance. The Finnish results suggest there is a great deal of gender-neutrality in the antecedents of entry into parenthood. Further, it seems that the female partner's position is decisive in that the male partner's resources do not explain or notably modify its effects. Our results suggest that previous studies from the Nordic countries have not overestimated or misrepresented the impact of women's economic resources, but just left out the role played by men's resources.

4. How soon is now? Age at arrival and the fertility and marriage patterns among the children of immigrants in Norway – **Torkild H Lyngstad,** *University of Oslo;* **Fernando Riosmena,** *University of Colorado*

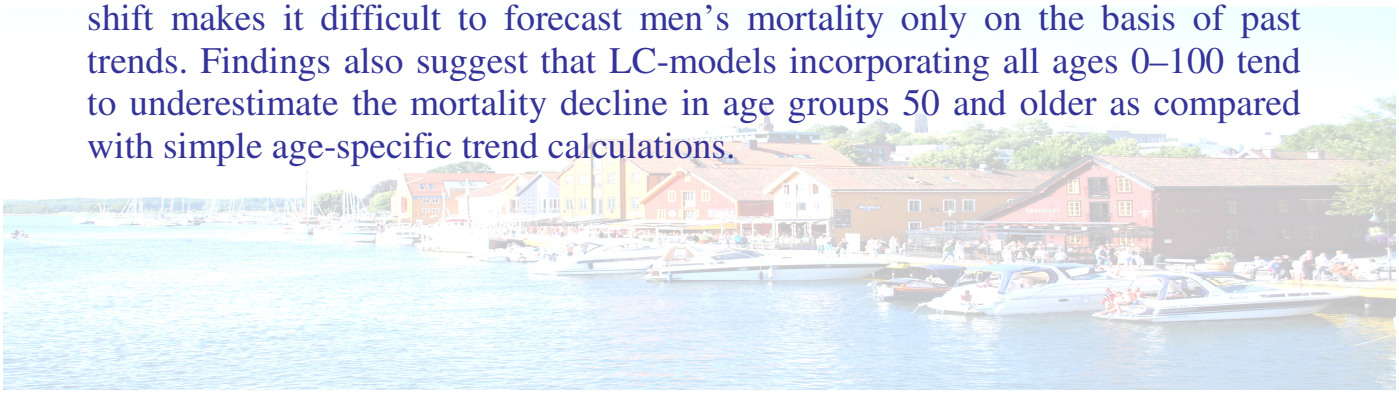
Using high-quality administrative register data from Norway, we study the effect of exposure to the host country on marriage and fertility timing. Our novel

approach is to use information on siblings that arrived at different ages in the host country (or were born there) to establish whether there is a causal effect of age at arrival, and thus exposure to the host country and its culture, on family demographic behaviour (i.e. sibling fixed-effects). The demographic behavior of immigrants and descendants has been used as measures of said integration into or exclusion from the host society. Adaption to the majority patterns of fertility and marriage timing are considered indicators of such. Preliminary results indicate that although there is a gradient by age-at-marriage in fertility and marriage timing, this gradient disappears when unobserved family background factors are controlled for. Thus, the higher fertility and marriage rates of immigrant children seems to be due to socialization effects transmitted through the family, and it seems that the mere exposure to the host country is less relevant than argued in theoretical contributions.

PROJECTION OF MORTALITY AND AGEING

1. Changing mortality trends by age and sex challenges for mortality projections – **Örjan Hemström,** *Statistics Sweden*

There are a number of different ways to forecast mortality. Extrapolative methods, such as the one suggested by Lee and Carter (LC), has been widely used in recent years. Evaluations of the mortality development during the 20th century suggest that the LC-model satisfactorily predicts future gains in life expectancy. Key assumptions of the LC-model are constant age dependency to the predicted general mortality change. The LC-model is therefore conditioned upon rather smooth mortality changes and relatively homogenous time trends across age groups. Trend shifts in recent mortality in relation to age and sex are challenges to the LC-model as well as to other extrapolative models with an aim to forecast mortality. An important question is how to interpret and evaluate such shifts for the future. It has previously been shown that mortality in the latter half of the 20th century declined somewhat faster at older relative to younger ages than in the first half of the 20th century. Has this development continued further? In this study, the development of Swedish mortality in the period 1975–2011 was analysed by means of various sex-specific LC-models using base-periods of varying length. Results suggest that the LC-model is suitable in forecasting Swedish women's mortality but not as suitable for men's mortality. The predicted mortality change in men differed by length of the base-period, in particular at ages 65 years and over. Close inspection of older men's mortality shows that mortality has declined at an increasing rate in older age groups. Such shift makes it difficult to forecast men's mortality only on the basis of past trends. Findings also suggest that LC-models incorporating all ages 0–100 tend to underestimate the mortality decline in age groups 50 and older as compared with simple age-specific trend calculations.



2. Danish life tables with forecasted mortality rates – **Thomas Michael Klintefelt,** *Statistics Denmark*

In the traditional life tables the latest available mortality rates are used to calculate life expectancy. In a situation with falling mortality rates for almost every age group, it is not a good prediction of actual life expectancy but merely a mortality indicator for a population. However in population projections mortality rates are forecasted and by using the forecasted mortality rates alternative life tables can be created. These alternative life tables give a more realistic picture of the actual life expectancy for different groups alive today. The idea of this paper is mainly to present some results from the above mentioned alternative life tables based on assumptions from the Statistic Denmark's 2012 population projection. Comparing them with the widely used traditional life tables it is shown that the life expectancy from the traditional life tables could underestimate the life expectancy at birth by as much as 10 years.

3. Ageing population challenges in Sweden – **Lena E. Lundkvist,** *Statistics Sweden*

The aging population trend will implicate political challenges in Sweden as in many other countries. The demographic dependency ratio is often used as a measure to estimate the economic consequences of the population development. The dependency ratio has been relatively constant since the 1960s with a level of around 70, meaning that 100 of working age are to support 70 young and old people outside of working age. Due to preliminary results from Statistics Sweden's population forecast from 2012, this level is expected to increase to more than 90 persons per 100 of working age. That is if the retirement age remains at the current level of 65 years. The study examines consequences of alternative fertility and immigration assumptions. What happens with the ratio if fertility or immigration increases or decreases? Or can other measures be taken to keep the dependency ratio constant? It turns out that a raised pension age is an effective measure.

4. Scenarios for describing future vulnerability of the elderly to climate change in Finland – **Emma Terama,** *University College London and Finnish Environment Institute*; **Stefan Fronzek,** *Finnish Environment Institute;* **Timothy R. Carter,** *Finnish Environment Institute*

In this paper we assess the regional vulnerability of the elderly in the face of changing climate in Finland, using climate and demographic scenarios. Vulnerability to climate change is often defined as a function of exposure to climate change, sensitivity to the exposure, and adaptive capacity. Combining exposure and sensitivity we were able to address potential impacts of future changes in high and low temperature conditions using a simple temperature-mortality model. In addition to the physical indicators we employ population (65+), and social indicators related to health and welfare. Under different scenarios, some of the largest future changes in climate (exposure) are expected

in northern Finland, which also includes areas expected to have some of the lowest capacity to adapt, due to a rapidly ageing population. The indicators are captured in a geographically detailed web-based tool that allows interactive mapping of combinations of indicators into indices of vulnerability. The tool is designed to allow users to explore these aspects, e.g. by selecting indicators of interest, mapping them one by one, weighting them, combining them, and/or looking at them in conjunction with exposure indicators under different climate scenarios, rather than predefining the factors that influence vulnerability. The possibility of combining probabilistic population scenarios with deterministic scenarios of other indicators is investigated. We acknowledge contributions from Aino Inkinen, Ismo Lahtinen and Hanna Mela, who helped in collecting and analysing data and with developing a web-based mapping system. The work was funded through the Academy of Finland's MAVERIC project (decision no. 128043) and the European Commission' 7th Framework Programme MEDIATION project (no. 244012).

Session 2: Thursday 16:15-17:45

LIFE COURSE PERSPECTIVES ON PARTNERSHIP DYNAMICS II

1. Your place or mine? On residence choice of young couples in Norway – **Katrine V. Løken,** *University of Bergen;* **Kjell Erik Lommerud,** *University of Bergen;* **Shelly Lundberg,** *UC Santa Barbara*

Norwegian registry data is used to investigate the location decisions of a full population cohort of young adults as they complete their education, establish separate households and form their own families. We find that the labor market opportunities and family ties of both partners affect these location choices. Surprisingly, married men live significantly closer to their own parents than do married women, even if they have children, and this difference cannot be explained by differences in observed characteristics. The principal source of excess female distance from parents in this population is the relatively low mobility of men without a college degree, particularly in rural areas. Despite evidence that intergenerational resource flows, such as childcare and eldercare, are particularly important between women and their parents, the family connections of husbands appear to dominate the location decisions of less-educated,marriedcouples.

2. Transitions within and from first unions in Finland: Educational effects in an extended winnowing model – **Fjalar Finnäs**, *Åbo Akademi University;* **Jan Saarela,** *Åbo Akademi University*

This paper studies how different transitional phases from childless cohabitation relate to education and educational resemblance of the partners. Using longitudinal population register data from Finland, we extend analyses of previous research to better suit the conditions in highly secularised societies

where almost all unions begin before marriage and much childbearing takes place outside marriage. Educationally heterogamous couples are found to have higher separation risks than homogamous ones and a somewhat smaller tendency to marry or become parents. Winnowing consequently takes place also after parenthood, but the strongest effect is recently after couples have entered a cohabiting union. Traditional family formation behaviour in terms of marriage before children is nevertheless much more common among higher-educated people. Lower-educated couples constitute the lion's share of all those who become parents before they marry and they are much more likely to remain as unmarried parents. Hence, provided that parenthood is taken into account, marital status remains an important device for categorising couples.

3. Family structures and separations among first time parents in Sweden – **Karin Lundström,** *Statistics Sweden;* **Andreas Raneke,** *Statistics Sweden*

The aim of the study is to investigate union formation and separations among first time parents. The data used is based on information from the Swedish Total Population Register and covers about 34 000 couples who had their first child in 2000. The couples are followed from the day that they started living together to a possible separation or the end of 2010. The couple is assumed to live together if both partners are registered in the same dwelling unit. In the study different paths (from family formation to a possible dissolution) are described, the most common being cohabitation, first child and marriage, which corresponds to 25 percent of the couples. The results show that it is more common for the woman to move in with the man than vice versa. If the woman is older than the man, however, it is more common for a couple to start cohabiting in her home. Results also show that while most children in Sweden are born to cohabiting couples most couples eventually marry. Separations are analyzed using a Cox proportional hazard regression model and the results show for example that the propensity to separate is higher during the first years after the child's year of birth. The risk of separation is higher for couples where the woman is under 24 years when the first child is born and if the couple start to cohabit in connection with the child's birth. Cohabiting couples are more likely to separate compared to couples who get married either prior to or after the child's birth. Having a second or third child and level of education are examples of other time-dependent covariates that are included.

FERTILITY AND HEALTH

1. Does the perceived importance of having children influence whether couples deliberately end fertility treatment without having conceived? A study from Denmark – **Lisbeth B. Knudsen,** *Department of Sociology and Social Work, Aalborg University*; **Lone Schmidt,** *Institute of Public Health, University of Copenhagen*

The continuously delaying of first birth and the resulting period (and cohort) total fertility rate below replacement level in Denmark, have increased focus on artificial reproduction technologies, both as a means to help couples to achieve the number of children wished-for, to keep-up national fertility level and diminish the risk of adverse outcomes. The research presented is part of an ongoing project on "Family histories and establishing of daily life after fertility treatment" (http://www.infertilityandfamily.aau.dk/), including couples, who initiated a new period of fertility treatment at a public clinic in Denmark (covering 63 pct. Of all registered treatments) during 2000-2001: the COMPI-cohort (http://www.compipro.dk/). Both partners in the couples were individually interviewed at initiation of treatment (base-line) and after 1 and 5 years follow-up, irrespectively whether they had achieved pregnancy or were still undergoing treatment. The base-line questionnaire was completed by both partners in 1,069 couples. In total 568 couples, who had no child at the initiation of treatment completed all three questionnaires. We present an analysis of whether couples, who deliberately end further treatment even though they are still childless, differ from other couples in the COMPI-cohort. A preliminary analysis showed that in total, 123 couples who did not conceive, were still together as a couple at the 5-year follow-up. Of those, 77 couples chose to stop treatment, while the remaining 46 continued. A first analysis did not show any convincing socio-demographic differences between the two groups. In order to get more thorough understanding of the reasons for the decision and reveal any differences between the groups, we include information from the questionnaires regarding the attached meaning and importance of having a joint child as well as infertility related stress and previous family histories. In this way, we hope to be able to identify possible selection processes influencing who undergo treatment.

2. The effect of violent conflict on age at first sexual intercourse in Rwanda. In a context of high HIV prevalence. – **Elina Lindskog,** *Stockholm University Demography Unit*

Rwanda has been considered to be one of the African countries most affected by AIDS and has also experienced civil war and genocide in 1994. It is believed that HIV/AIDS can create conditions conducive to conflict and conflict can affect the epidemiology of HIV/AIDS (Mock et al., 2004, Elbe, 2002, Untied States Institute of Peace). Conflict disrupts individual lives and communities in ways that may exacerbate the spread of HIV/AIDS but also may inhibit the spread. This study aims to understand links between violent conflict and individual's

reproductive behaviors, in a context of already high HIV prevalence, which increases the exposure risk and vulnerability to HIV infection. The focus will be on studying the effect that the civil war and the genocide might have had on age at first sexual intercourse. The genocide in Rwanda was a three-month period of state organized ethnic cleansing of the Tutsi population, where an estimated 800,000 Rwandans, mostly Tutsi were killed and an estimated 500,000 women were raped. Rape as a tactic of war is devastating for individual women and destroys family and community ties (Milillo, 2006). The genocide in Rwanda is one example of a conflict notorious for rape being used as a "weapon of war", where soldiers and combatants use sexual violence as a tactic of war to disrupt the opponent ethnic group and to control civilian population. I am interested in seeing if there will be a bump of women who experience their first sexual intercourse in regions experiencing high levels of violence during the conflict years. I cannot directly see if rape is a factor behind any changes in the pattern of age at first sexual intercourse, but I can see if there is an increased risk of age at first sex during the conflict years. I will use Rwandan Demographic and Health Survey from 1992, 2000 and 2005 data to estimate a model by using Event History Analysis to identify the determinants of age at first sexual intercourse in Rwanda. I will build my case with supplementary analysis from the RDHS 2005 where question on forced first sexual experience was included. The idea is to then identify the region where the women lived during the violent conflict to match this information with conflict data from the Peace and Conflict Institute in Uppsala, where I have information on the intensity and the timing of the conflict at regional level.

3. Civil war and gender inequalities in health: The impact of war on fertility and maternal mortality – **Henrik Urdal,** *PRIO;* **Chi Primus Che,** *PRIO*

This paper assesses the impact of civil war on fertility and maternal mortality. The point of departure is the recent finding that civil wars generally increase female mortality more than male, despite the fact that the vast majority of direct conflict deaths, military as well as civilian, are in men. This implies that women are significantly more vulnerable to indirect health consequences of conflict. While several possible explanations for higher excess female mortality have been proposed, this article argues that higher maternal mortality may be a main driver behind higher female war and post-war mortality. Two proximate determinants are assumed to combine to increase maternal mortality. First, health infrastructure is likely to deteriorate, increasing the relative risk of dying from complications associated with pregnancy and child birth. Second, civil war may increase fertility levels due to factors such as increased social insecurity, lower availability of reproductive health services and, lower female education. The paper offers a global time-series cross national study covering the 1950-2010 period, considering the effect of high-intensity armed conflict (at least 1,000 battle-deaths per year) on aggregate measures of fertility and maternal mortality (reliable time-series data are not available for maternal mortality, however). It addresses the

impact of different aspects of conflict, such as outbreak, intensity, duration, and type, and also considers possible changing effects over time.

INTERNAL MIGRATION

1. Commuter´s mobility – an indicator of municipality attraction – **Siv M. Schéele,** *Stockholm University Demography Unit*

Municipalities are generally interested in population growth. It gives a larger tax base and a more positive spirit. The means a municipality can handle is apart from the tax rate, the general accessibility to work, schools and leisure activities. The accessibility depends on the transport system and where the activities are situated in the municipality or in a wider region. A municipality can plan for new dwellings and to a certain degree new workplaces. Are there any indicators of municipality attraction? Commuter's choice could be possible. Commuters are in this case defined as having the residence in one municipality and the workplace in another. By studying the event "stop commuting" analyses are being made of migration – to the workplace municipality – and change of workplace –to the residence municipality. Individual characteristics of the commuters – demographic and economic variables, commuting distance and the time being a commuter – and characteristics of the municipalities – are independent variables in a discrete multinomial logistic regression model. Longitudinal micro-data, the register data from Statistics Sweden (SIMSAM project) are used.

2. Which factors govern immigrant preferences regarding immigrant residential clustering, and how much do preferences actually explain in predicting the degree of immigrant clusters? – **Svein Blom,** *Statistics Norway*

Previous research has shown that economic factors play a vital role in trying to explain the causes behind the clustering of immigrants in certain residential areas. Using Oslo as an example there are huge differences in housing prices between different dwelling areas of the city. Equipped with different amounts of capital assets and purchasing power, households have widely different access to the various areas. With generally less economic resources compared to majority households, immigrant households have fewer residential choices within their reach. Does this represent the main explanation for the existence of immigrant residential clustering in certain areas, or does it also matter what immigrants prefer themselves? A popular notion when it comes to explaining why immigrants tend to cluster in the same residential places, is that they stick together with people of similar background because they like to live close to each other. Based on interview data we can study in more detail this notion. We will show how immigrants' residential preferences regarding the extent of desired clustering vary between different immigrant groups and with different immigrant characteristics. Having combined the interview data with register data on the proportion of immigrants in the tracts where the respondents were living

at the time of the interview, we can also study the interplay between the preferences expressed and the actual immigrant density in the neighbourhood. Finally, by treating the immigrant density variable as the dependent variable, we may investigate the relative impact of a handful of explaining factors alongside the preference variables in predicting the actual immigrant density. By doing so we may get an idea of the role individual preferences play in explaining the existence of immigrant clustering.

3. The changes of net migration rates in urban areas and the changes of gross domestic product in Finland in 1973-2009 – **Matti Saari,** *Statistics Finland*

The growth of gross domestic product (GDP) has been observed to join to the gain of net migration in urban zone. Hämäläinen and Böckerman (2002; 2004) have analysed even regionally the connection between the net internal migration and the change of GDP in Finland in 1987-1997. Many researches have been made of turnaround years of the change of GDP in Finland in 1975-2010. The turnaround years of net migration in urban areas should hit to same years as the turnaround years of the change of GDP have hit according to previous researches. The aim of this study is to determine the years when the changes of net internal migration in urban areas became on the average for the first time positive after a period of negative values in 1973 –2009. The data of this research consists of net internal migration in Finland and population figures by urban region in 1971-2009. In analysing the changes of net migration rates in urban regions we have used analysis of variance. The changes of net migration rates of two successive years are included in each analysis and so we have had 35 analyses. The change of net migration rate of the latter year has in the model a parameter of its own that can be estimated putting a dummy variable into the model. The results help us to build a model that consists of a boom and the bust followed by the boom. We will present as a final result the estimation results of each boom in 1973-2009.

Session 3: Friday 09:00-10:30

UNION DISSOLUTION

1. Separations between parents in Sweden – **Johan Tollebrant,** *Statistics Sweden*

In year 2010, 49 600 children experienced a separation between their parents, that are 3,25 percent of the children living with two parents. The number of children that experienced a separation decreased during the first half of the 2000's but has increased the last years. This study aims to find explanations for the development of separations. This register study includes all children living with two parents 1999–2010. Event history techniques are used to calculate separation risks. The results show that children with cohabiting parents have around twice the risk for experiencing a separation between their parents,

compared with those with married parents. The results also show that separations are more common for children with foreign born parents. Separations between children's parents are also more common for them with parents that have a low educational level. If both parents have primary education the risk for a separation is higher than if both have post-secondary education. The parents' employment status is also of significance for the risk of a separation. When both parents are employed, the risk for experience a separation is lower than if none of them are. How much can socioeconomic and demographic changes of parents explain the variation of separations during 2000's?

2. Gender equality perceptions, division of household work, and partnership breakup in Sweden in early 21st century – **Livia Sz. Olah,** *Stockholm University Department of Sociology;* **Michael Gähler,** *Inst. For Social Research, Stockholm University*

With the increase in female employment and the decrease in gender labour specialization there has also been a marked change in men's and women's gender role attitudes. An increasing share of both genders has come to prefer gender egalitarianism. Here we study the impact of gender equality perceptions, i.e. the interplay between gender role attitudes and behaviour in terms of sharing unpaid work with one's partner, on union stability. We focus on Sweden, a country with long experience of the dual-earner model and policies supporting female labour-force participation while also promoting men's active engagement in family tasks. For the empirical analyses we use data from the Swedish Young Adult Panel Study (YAPS) conducted in 1999, 2003 and 2009. Logistic regression is the tool of analysis at this exploratory stage; thereafter we will estimate survival models. Our preliminary findings suggest that both women and men who hold gender egalitarian views but experience a traditional division of work in their partnership are substantially more likely to divorce/separate than those with egalitarian views who also share housework equally. Men with traditional views and traditional division of housework in their relationship face a high risk of partnership break-up as well.

3. The pattern of the out-movement and the in-movement of unmarried young people – **Henning Christiansen,** *Statistics Denmark*

The presentation will analyse the pattern of the in-movement and the out-movement of people aged 15-29 years in 2011 seen in relation to sex and choice of dwelling. The dissolution and pairing of couples take place partly by both young people moving out of/moving into the dwelling and partly by only one person of the couple moving out of/moving into the dwelling – i.e. moves out from/moves in with the partner at the place of residence. With regard to the segment where one person of the couple moves out of/moves in with the partner at the place of residence, the differences in sex as to who is moving will be analysed. Consequently, the paper will give a picture of whether it is women

who move out of/move into the dwelling of men or conversely and whether the type of dwelling, etc. has any impact on this.

FERTILITY, WORK AND FAMILY POLICY

1. The effect of child allowance on fertility behavior – **Taryn Ann Galloway,** *Statistics Norway;* **Rannveig V. Kaldager,** *Statistics Norway and University of Oslo*

Though the impact of income on fertility is widely studied, selection bias makes most of these studies unsuitable for causal inference. We use the exogenous variation in disposable income and the cost of childbearing income created by a regional tax and family benefit reform implemented in 1989-1990 dentify a causal effect of income on fertility. In 1989, a geographic differentiation in child allowance benefits levels was introduced in Norway, when people residing in the two northernmost regions of the country (North-Troms and Finnmark) were granted a higher level of benefits. In the following year, income tax deductions were introduced in the same regions, giving an exogenous increase in disposable income. The nature of this policy change thus allow for a difference-in-difference identification strategy to examine how the exogenous variation in disposable income and the cost of childbearing might have affected fertility rates. In other words, we will compare the difference in fertility-related outcomes before and after the policy change (reform) in the affected regions with the same outcomes before and after 1989 for unaffected regions of the country. A simple aggregate diff-in-diff model based on regional age-specific fertility rates indicates that the reform did increase fertility. Individual-level analysis (linear probability models and discrete time hazard regression models) show that this results pertains after control for observable individual and regional characteristics and region- and age-specific trends in fertility. Parity-specific models indicate that the strongest effects are found for the transition motherhood.

2. Childbearing and labor market return: the case of South Korea – **Li Ma,** *Stockholm University Demography Unit*

When becoming a mother, a woman's most readily economic response is to take some time out of the labor market for childcare. A woman usually takes into account of the benefits before deciding whether or not to return to work at a certain point of time. A lot of research has been done to explore the influence of childbearing on women's return to the labor market. According to Leibowitz and Klerman (1995), women with greater labor force attachment and higher pre-birth wages or greater financial need should, all else equal, return to work more quickly. Longer leaves can place women in an unfavorable position when they return to the labor market (Stier et al 2001). So far, most of the existing relevant studies focus on the Western world. Few relevant studies have ever been done regarding the most developed countries in East Asia. This study will fill in the

gap by looking at South Korea. Data for analysis come from Korea Labor and Income Panel Survey (KLIPS). I try to capture the link between the pre-birth job characteristics on the timing of return. I am also interested in how the length of time-out is associated with women's career paths upon return. The results reveal that all other things being equal, Korean women have a higher intensity of returning to work within 15 months after the first child is born. If not, they may wait until after the second child is born. Women with the least work experience, women working as full-timers, and women with high income are more likely to return than their counterparts. High income of a woman's husband decreases her likelihood of return. I also find that the sooner the return, the more likely it is for women to get a job of higher status compared with their pre-birth job. If they are away from the labor market for more than 3 years, their likelihood of returning to a job of lower status increases by around 60-100%. If they return immediately after the 3-month maternity leave, they are very likely to get the pre-birth job. If they would like to get a job of similar status, they still need to return as soon as possible.

3. Parental leave reforms and continued childbearing – **Ann-Zofie Duvander,** *Stockholm University Demography Unit;* **Mats Johansson,** *National Social Insurance Agency*

Since the introduction of the parental leave in Sweden a more gender-equal division of the leave has been aimed for. Several reforms have been introduced to reach this goal. In 1995 one month was reserved for each parent, implying that the month was forfeited if not used by the same parent. The reservation of one month was followed by another month in 2002. Although the main goal of these reforms was to promote fathers to use parental leave, also other changes in behavior may be expected. Earlier studies have pointed out that the second and third birth intensities are higher in couples where the father uses more parental leave and this study investigates the long-term effects of the reforms on continued childbearing. The analysis is done by a natural experiment-approach, using control and treatment groups with parents' to children born just before and after the introduction of each reform. We use register data from the Swedish Social Insurance Agency where parental leave use of all parents residing in Sweden are included. The preliminary results indicate limited long-term effects from the reforms on continued childbearing.

PROJECTION OF MIGRATION

1. Projecting immigration to Norway – **Marianne Tønnessen,** *Statistics Norway*

Migration is a central factor in population projections, and is often considered the most unpredictable of all the main components of population change. In Norway in 2011, more than two-thirds of the population growth was due to net migration, dominated by labour migration. In Statistics Norway, an econometric

model has been estimated to project the future numbers of immigrants to Norway. The model is based mainly on economic factors, using differences in income level and unemployment between Norway and the region of origin as key explanations for the immigration level. Other factors included are the number of immigrants from the region of origin already living in Norway, and policy changes of high relevance for immigration, like the opening of the Norwegian labour market for EU citizens. The model is estimated for three broad groups of countries: Western European countries along with North America, Australia and New Zealand; Eastern European EU-countries; and the rest of the world. For each of this group, the parameters are separately calculated based on historical data. The parameters estimated are relatively stable and fit the data well. The model projects increasing immigration to Norway in the short run, as the Norwegian income level is expected to stay high while other areas face large economic challenges. However, in the long run the income gap is expected to narrow as Norway's petroleum reserves are depleted – resulting in decreased immigration after some decades.

2. Regional projections of immigrants – **Inger Texmon,** *Statistics Norway*

Regional projections of the population of immigrants and their children born in Norway have been presented recently (March 2012), based on a division of Norway into 31 regions. In the projections the immigrants as well as their children born in Norway were further divided into three groups based on country background. The set of assumptions about fertility, mortality and external migration (all in three variants) were consistent with the official 2011 projections of immigrants on national level. The regional distribution of new immigrants, as well as their return migration and internal migration (secondary migration) were all based on the registered levels in the years 2006-2010, and thus only in one variant. In this paper some sensitivity analyses are included, in which effects of certain trends in internal migration and return migration are studied. According to the original set of projection alternatives the increase of the immigrant population in absolute figures is expected to be higher for Oslo than for any other region, since almost 30 per cent of the immigrants lived in Oslo at the beginning of 2011. In the medium variant of immigration the population of immigrants in Oslo (including their Norwegian-born children) is expected to increase from 28 per cent in 2011 to 47 per cent or near the half of the total population within the year 2040. The relative growth is, on the contrary, expected to be larger than for Oslo in several of the other 30 regions. Particularly high levels for the growth of the immigrants are expected to be found in some of the regions in Akershus, the neighbour county of Oslo, and in some regions around Stavanger, the oil capital in the western part of the country.

3. Intra-municipal breakdown of population forecast with public data – **Stian Skår Ludvigsen,** *Hordaland County Council, Norway*

Statistics Norway (SSB) publishes population forecasts for Norway's 429 municipalities, but municipal planners sometimes need a finer allocation of expected population growth. This author, affiliated with the Analysis & Documentation unit of Hordaland County, has developed a procedure to do this based upon publicly available data, and employed this procedure with the 2011-forecast on five municipalities in Hordaland. This paper will break down the 2012-forecast for Fjell, Sund and Øygarden into separate forecasts for the islands' eight boroughs (delområde). The procedure involves non-linear regressions of each borough's share of the municipality's population, with a forecast of this. A forecast of shares has the advantage that the sum of shares has to sum to 100 % for any given year, and any mismatch can be balanced before calculating population totals. Another advantage of this procedure is that a regression-based forecast gives us prediction intervals around our forecast. The next step is to calculate population totals based upon any expected or desired population growth for the entire municipality. A shortcoming with the procedure is that we do not get an age- or gender-distribution of the forecast for each borough. This is because we do not have publicly available information on this distribution for the basic statistical units of the municipalities. This could easily be added to the procedure, should this information become available. The procedure is conditioned by a "back-to-the-future-perspective", i.e. the allocation of the expected population growth is given by historic trends, and gives municipal planners a preview of what their municipality will look like if historic trends in housing development continue into the future. We see this as a useful tool for planners, officials and developers, also if they wish to break current trends.

Session 4: Friday 13:30-15:00

LIFE COURSE PERSPECTIVES AND BEHAVIORAL CHANGES

1. Age at immigration and crime amongst male immigrants in Norway – **Synøve Andersen,** *University of Oslo and Statistics Norway*

The goal of this analysis is to supplement our current knowledge and understanding of the much-debated issues concerning crime amongst immigrants, by looking into the relationship between the duration of residence and criminal behaviour amongst male immigrants in Norway. I use Norwegian register data for all male immigrants residing in Norway on a valid residential permit in the time span between 1992 and 2007, including only registrations made after the age of 15 (the lowest age for criminal prosecution). My analysis consists of a logistic regression model estimating the probability of committing at least one crime at any given age, followed by a negative binomial analysis aiming to capture the intensity in these violations. To explore the impact of

"exposure" to Norwegian society I estimate separate models for different age-at-immigration-groups, controlling for key socio-economical and immigration-related factors known from previous studies to be associated with age at immigration. I assert that if exposure to Norwegian society has no direct impact on the propensity to commit crime, the age-crime curve should be close to equal for all age-at-immigration groups ceteris paribus. Results show that significant differences between age-at-immigration groups remain even after keeping possible confounders constant. This holds for both the most serious offenses and crimes in general, and across the different models. It is particularly adolescents immigrating between 13 and 15 years of age (enrolled in lower secondary school in Norway) that stand out as relatively more rime prone than other groups. Children arriving before the age of 6 also have high probabilities of committing crime, but these are fewer in number and of the less serious kind. The age-crime curves of people immigrating after the age of 15 indicate a "duration of residence effect", where criminal activity increase the first years after arrival before it stabilizes or decrease again.

2. Long-distance migration and mortality in Sweden: Testing the salmon bias and healthy migrant hypotheses – **Sven Drefahl,** *Stockholm University Demography Unit;* **Gunnar Anderson,** *Stockholm University Demography Unit*

The demographic study of migrant populations sometimes produces different "paradoxes" as observed demographic rates fail to conform to expectations. The unexpectedly low mortality of immigrant populations in Europe and the U.S. is one such paradox. This is often ascribed to healthy-migrant effects and to "salmon effects" caused by selective return migration. Instead of focusing on international migrants, we test these hypotheses by studying the mortality of long-distance migrants in Sweden, avoiding the problem that individuals disappear from our data at migration. We exploit Swedish register data to distinguish between the two effects in migrant mortality. We cover 11.9 million Swedish born individuals, of whom 473,000 were born in Norrland and moved to other parts of Sweden. 131,000 of them returned to Norrland. Separate analyses are conducted for adult and old age mortality by sex. First descriptive results confirm that both mechanisms can be observed for long-distance migrants in Sweden.

3. Health behavior change following chronic illness in later life – **Marijke Veenstra,** *Norwegian Social Research;* **Astrid Syse,** *Norwegian Social Research*

Objectives: To assess five-year changes in health behaviour following chronic illness in later life. The results may inform policy and interventions to promote healthy life years in ageing populations. Methods: Data are derived from the Norwegian study on Life-course, Ageing and Generation (NorLAG), a five-year panel survey including a nation wide community sample of 1,019 respondents

aged 60 years and older. Changes in smoking, alcohol use, physical exercise and Body Mass Index (BMI) following the onset of a chronic condition/health limitation are assessed. Logistic regression models with health behaviour at T1 as control are estimated. Stability and change in health behaviour in the sample of chronically ill are compared with healthy respondents. Results: A total of 453 respondents (45 %) report at least one chronic condition and 13 % (N=133) report onset of chronic illness in the course of the past five years. Planned logistic analyses will evaluate change in health behaviour in those with recent onset of chronic illness versus those without chronic illness, controlling for age, gender, education and residence. Discussion: Results provide important information on health behaviour changes among those with chronic conditions in later life as well as on healthy ageing.

YOUNG MOTHERS AND FERTILITY TIMING

1. The importance of distinguish between correlation and causality when dealing with young motherhood – **Mette W. Kristensen,** *Aalborg University*

In Denmark today, it is most common to have children in the ages 25 to 39 years, and therefore young mothers under the age of 25 are often considered as having done an unusual choice. Both in the public debate and in different scientific studies, the young mothers are subject of critique. But the criticism does not match the opinion; the young mothers themselves have of their motherhood. Many young mothers find, that children are an enrichment in their lives, and that their engagement in their own life is increased because they want to create a good life for their children and be good role models. I will present two analyses about young mothers: one about young mothers who believes that their education incentive has increased after having children, even though most research states that they are in risk of lower education than older mothers. The other analysis shows the association between the mother's age and their children's health behavior controlled for background variables. The data used for this part of the article is taken from VestLiv – the West Jutland Cohort Study. These analyses will illustrate the importance of distinguishing between correlation and causality, which is important of (at least) three reasons. First, a negative public opinion can stigmatize the young women and their children. Second, a wrong perception from health professionals can affect their response to the young mothers. Third, the politicians can launch inadequate interventions, if they are based on a wrong basis. So: Are these women negatively influenced by the early childbirth, and therefore in greater risk for no or low education and a low-income job? Or is it more likely that the women who choose early childbirth are already a selective group, and therefore not comparable with older mothers without controlling for background factors?

2. Young expecting mothers and psychological distress in Norway – **Anne Reneflot,** *Norwegian Institute of Public Health;* **Ingri Myklestad,** *Norwegian Institute of Public Health*

Several studies have addressed the relationship between young motherhood and psychological distress with British or American data. Less is known about this relationship within more generous welfare regimes. Further, the majority of studies have focused on teenage mothers, but some studies indicate that the disadvantage of young motherhood also includes women in their early twenties. Finally, while the period after the child is born has attracted considerable research interest, little is known about whether the potential adversities may start already during pregnancy. Becoming pregnant is a major life event and to some it may involve considerable stress and in particular for young women. Therefore in this article we make use of data from the Norwegian Mother and Child Cohort Study to examine whether young expecting mothers (aged 23 years and younger) are more prone to report psychological distress than those who postpone motherhood. This study includes 100 000 pregnancies, and contains detailed information about the women's living conditions. Hence, we are also able to examine to what extent poorer mental health among young women are linked to more difficult living conditions. We also have information about the women's mental health problems prior to pregnancy and sexual abuse. Thus we can also take some important selection factors into consideration, although there are of course several other unobserved factors.

3. Infertility treatment in Denmark – Consequences for the family history – **Lene Tølbøll Blenstrup,** *Department of Sociology and Social Work, Aalborg University;* **Matthew Pirritano,** *Medical Services Initiative (MSI), Orange County California;* **Brennan Peterson,** *Chapman University, California*

Children born after fertility treatment constituted 10 per cent of children born in Denmark in 2010 and a total of 13,700 women initiated at least one round of so-called high technological treatment, while 16,200 women initiated a round of insemination. Fertility treatment thus plays a significant role in maintaining the present Danish level of total fertility of 1.8 children per woman. However, the women are affected by the invasive treatment, and the couples who undergo the treatment, may experience distress in their relationship, just as not all couples get the child, they wished for. Analyses are based on questionnaire data from the COMPI-cohort, including 2,250 men and women initiating treatment in one private and four public fertility clinics in 2000-2001. They all completed questionnaires at the initiation, after one and after five years. This presentation focus on the family histories of 1,027 couples undergoing fertility treatment in Denmark, emphasizing the course of their histories regarding childbearing and relationship dissolution in the five years subsequent to initiating treatment. Focus is placed on determining how the couples experience the infertility and which consequences the treatment has for the relationship between the partners within the couple. Analyses focus on the intensity in the wish for a child, the level of

infertility related stress, coping strategies used and the significance of the infertility on the couples' relation. The main focus of this presentation is thus to describe how and to what extent selected characteristics of couples and their relationships influence their subsequent family history.

Session 5: Friday 15:30-17:00

HEALTH AND AGEING

1. Has time to first severe disease increased in line with life expectancy in Sweden? – **Korinna Karampampa,** *Karolinska Institute;* **Sven Drefahl,** *Stockholm University Demography Unit;* **Tomas Anderson,** *Karolinska Institute;* **Anders Ahlbom,** *Karolinska Institute;* **Karin Modig,** *Karolinska Institute*

The rapid increase in the number and proportion of old and very old people is an important challenge that societies will face. It is not clear whether age specific health has remained unchanged despite the decrease in age specific mortality during the past decades, or age specific morbidity has been shifted towards higher ages in parallel with the mortality. This raises the question whether the extending life time is one of good or bad health. Usually studies of healthy life expectancy use self-reported information of health-perceptions and disability levels. Even if such data are important, subjective measures are always at target for variations in health-perceptions linked with other changes, such as tools and medical treatments, making people feel less independent. Therefore, measuring healthy life years using objective indicators would add important information to the literature. The aim of this research is to estimate the time in good health of individuals above the age of 60 years across different socioeconomic groups in Sweden using time to first hospitalization as an indicator, and if possible compare the results with estimates based on subjective measures of disability levels. The cohort, including all men and women in Sweden born between 1890 and 1950, was created by linking several national registers. Subjects were followed up retrospectively for 25 years with respect to hospitalizations for different diseases like stroke, cardiovascular diseases, cancer, and hip fractures. Hospitalizations related to child birth or episodes not likely having an impact on disability after the end of the event were excluded. Results from the preliminary analysis that is currently been conducted indicate that there is a compression in morbidity over the time for individuals between 60 and 100 years old. The time spent in good health in the older population has also increased. There was a variation in the results between men and women as well as when changing the assumptions used for the definition and calculation of the disability-free time.

2. Calculation of individual estimates of prostate cancer lifetime risk from data on polygenic susceptibility – **Michael Væth,** *University of Aarhus*

As part of a SNP-based screening program for prostate cancer a method for calculating individual risk estimates of disease was developed. The methodology utilizes a frailty-based approach to calculation of absolute risk estimates from genetic information on presence or absence of a number of risk alleles and population data on mortality and disease incidence. The approach is an example of the life-table method for heterogenous populations introduced by Vaupel, Manton & Stallard in 1979 and further developed by Hougard. Simulated genetic data together with Danish population data on prostate cancer are used to illustrate the methodology and assess the validity of simpler approximate solutions.

3. The burden of cancer in aging societies – **Astrid Syse,** *Norwegian Social Research;* **Bjarte Aagnes,** *Cancer Registry of Norway;* **Steinar Tretli,** *Cancer Registry of Norway*

Cancer is a disease closely associated with aging, and the median age of a first cancer diagnosis in Norway is close to 70 years. With increasing life expectancy and stable or increasing cancer incidence rates, cancer in the elderly will become more prevalent and result in profound public health challenges in most developed countries in the coming decades. Elderly cancer patients and survivors have distinctive needs in terms of dealing with adverse short-term, long-term and late effect of the disease itself as well as the treatment, but are nevertheless largely overlooked or excluded from studies due to challenges related to competing mortality risks or comorbidities. We thus use national registry data from the Cancer Registry of Norway to accurately describe the cancer incidence, prevalence, short- and longer-term survival among the elderly (65+ years old) and oldest old (85+ years old) in Norway, to guide various stakeholders in the acute and more long-term handling of these individuals. All Norwegian cancer patients who were diagnosed with their first cancer at age 65 years or above (range 65-107) in the period 1975-2009 were included (N=393 027). The largest groups in terms of both incidence and prevalence were colorectal, prostate, lung and breast cancer. The incidence, prevalence and crude and relative survival were assessed through descriptive statistics, life table estimates and relative survival modeling. Patients were available for follow-up through June 2011. In 1975-79, cancer patients' 85+ comprised 10% of patients 65+, whereas they today comprise 18%. As the total number of persons diagnosed has risen simultaneously, the rise in the absolute number of patients 85+ in need of diagnostic work-up, treatment and care has nearly tripled. At the same time, survival has increased over time, and cancer survivorship has become an issue also in high ages. In 2011, more than 36 000 persons 80 years or older were living with (a history) of cancer, and the oldest person was 111 years old. Crude analyses show that the median survival is around 3.6 years for those 65-74, whereas it drops to 0.9 years for those 85+. Relative survival analyses show that the survival is reduced among the oldest old patients, but to a lesser extent. The difference appears to be around 15-20

percentage points at three years (65% vs 50%). This is work in progress, and final analyses remain to be undertaken.

TIME USE AND GENDERED DIVISION OF LABOUR

1. More involved fathering? Trends in fathers' family work in Norway – **Ragni Hege Kitterød,** *Statistics Norway*

In Norway, like in many other countries, an enhanced domestic role for fathers' has been an important objective in the work-family policies for decades. Norway was the first country in the world to introduce a father's quota in the parental leave scheme in the early 1990s. The quota has been extended several times and the intention has been to boost fathers' involvement in children at a later stage. Mothers' labour force participation has risen, and contemporary men are expected to do their share at home. Hence, there is reason to believe that fathers' housework and childcare time has increased. However, there has also been a significant growth in the percentage of children in kindergarten in Norway, so that fathers' involvement may be less needed. In the paper we explore the trends in fathers' domestic work in the period 1990-2010 based on three Norwegian time use surveys. We look at routine housework and active childcare as well as total unpaid work time and examine whether trends differ between various groups of fathers. In particular we look at the role of the number and ages of children, the father's age and his educational attainment. We also explore whether trends differ between workdays and weekends.

2. Time alone or time together? The impact of employment status, parenthood and education on couples' time use in Sweden – **Jeff Neilson,** *Centre for Economic Demography, Lund University;* **Maria Stanfors,** *Centre for Economic Demography, Lund University*

Rising women's labor force participation has made work increasingly important in women's lives. This has increased the prevalence of dual-earner couples, cultivating phenomenon's such as the 'second shift', producing time constraints resulting in, especially for women, decreasing leisure, own time and time spent with family members. It is well known that parental time investments in children are important for child development (Lareau 2000). It is also suggested that time together with one's partner is important for marital quality and stability (White 1983; Amato et al. 2007). Such correlations are not straightforward and differ based on educational levels of partners. This study focuses on how couples spend their time – alone or together – a topic we actually know little about. We describe time use patterns, comparing the amount of time and the kind of activities partners undertake, considering couple employment status and family life cycle. Differences across the educational gradient are analyzed as a source of variation. We use time diary data from two waves of the Swedish Time Use Survey (1990/91 and 2000/01), studying change across the 1990s. We include in the analysis secondary activities, which are often overlooked in studies and lead to a significant underestimation of time spent with children (Gershuny, 2000).

Multivariate regression techniques are employed to investigate 1) the impact of couple employment status on time spent together 2) how the family life cycle, notably the presence of young children, affects couples' time allocation. Our results indicate that dual-earners and full-time workers spend less time together on weekdays, yet they tend to compensate on weekends more than other couples. Parents spend less time together than non-parents, alone as a couple, but compensate by spending "family time" with children. Our results also indicate that variation in the impacts of family life cycle differ considerably across the educational gradient.

3. Socioeconomic resources and division of breadwinning responsibilities in the early stages of childrearing – **Kari Skrede,** *Statistics Norway;* **Kenneth Aarskaug Wiik,** *Statistics Norway*

Using Norwegian register data comprising all married and cohabiting couples whose first common child was born in the period 1987 – 2001 we analyze the sharing of breadwinning responsibilities within the couple at three stages of the family cycle: i) the year the first common child was born, ii) two years after the birth of the child and iii) six years after the birth of the child. We use the size of mother's income relative to father's income as an indicator of the within couple sharing of economic breadwinning. We define the following four groups of breadwinning models: I: Traditional division of breadwinning responsibilities (i.e., mother's income amounts to 35% or less of father's income), II: "Equality light" division of breadwinning responsibilities (i.e., mother's income amounts to between 35 and 80% of father's income), III: Equal division of breadwinning responsibilities (i.e., mother's income amounts to between 80 and 120% of father's income) and IV: Untraditional division of breadwinning responsibilities (i.e., mother's income amounts to more than 120% of father's income, including couples where father's income = 0). We investigate to what extent the couples' distribution on breadwinning models are influenced by socioeconomic resources as couple's education (combined classification) and father's income, marital status (married or cohabiting) as well as family changes after the initial year – like additional children born and transition to marriage for cohabitants. We also include several demographic control variables, like for mother's and father's age, country of birth and region of residence.

METHODS IN POPULATION PROJECTION

1. Stochastic population forecast for Norway – **Aslaug Hurlen Foss,** *Statistics Norway*

The future population size and age structure of any population are uncertain. But some future developments are more probable than others. Therefore it is useful to compute the outcomes of a population forecast as probability distributions. The "Scaled model for error" developed by Juha Alho will be tested for Norway

for the period 2011-2060 and compared to Statistics Norway's official population forecast, which is a deterministic forecast.

2. Projecting the population of Norway by age, sex, immigration status, country background and duration of residence – **Helge Brunborg,** *Statistics Norway;* **Inger Texmon,** *Statistics Norway*

The rapidly increasing immigration to Norway in recent years has resulted in a great interest in the number of immigrants living in Norway and their background. In 2005 Statistics Norway made the first projection of the immigrant population of Norway. This, was, however, based on a model and assumptions that were separate from the ordinary population projections. In 2011 we developed a model that simultaneously projects both the immigrant and the rest of the population. The demographic behaviour of immigrants often deviates substantially from non-immigrants, depending on background characteristics like country of birth and time since the immigration. For example, both fertility rates and emigration rates are the highest during the first years of residence in Norway. Moreover, immigrants have higher emigration rates than their children born in Norway, who emigrate more frequently than the population without any immigrant background. To improve the realism of the projections we have introduced duration of stay in Norway as a separate variable, in addition to age and sex. The model also projects the number of persons born in Norway with immigrant parents. All persons with an immigration background are divided into three groups: (1) Countries in the EU/EEA/EFTA in Western Europe and USA, Canada, Australia and New Zealand; (2) EU countries in Eastern Europe, and (3) rest of the world. Another novelty of the projections is that the migration assumptions are made about the gross migration to Norway, and not, as previously, the net immigration flows. The paper will present the model, assumptions and major results.

3. Return migration by time spent in Sweden – **Christian Skarman,** *Statistics Sweden*

The purpose of the study is to determine if taking time since immigration into account would help making better projections of the emigration. The study includes all persons that immigrated to Sweden 1997-2009. For this population event history analyzes has been used in models containing the fixed variables sex, age at immigration, country of birth and reason for residence permit and the time varying variables citizenship, employment status and parenthood. The results show that the relationship between re-emigration and time in Sweden is strong among persons born in countries with a high development level and is nearly non-existent for persons born in countries with a low level of development. The results also show that the propensity to re-emigrate is much higher among work migrants than among refugees and it is more common to re-emigrate if one is male, younger, childless, unemployed and if that person does not have Swedish citizenship.

4. The consistency between international migration figures produced by selected European countries – **Kåre Vassenden,** *Statistics Norway*

A move from one country to another involves both countries. They both must relate to the move – at first in registration agencies, and then when the move possibly shall be counted and turned into statistics. Two statistical offices independent of each other produces each a figure for the same migration flow. This situation with the same thing counted twice has always been in the forefront for the international work on migration statistics. Unfortunately, countries mostly have very different figures for the same flows between them. Such differing statistics is confusing and unpractical for users of statistics on international migration. The paper will present updated statistics showing the correspondence between migration statistics between all the Nordic countries and some few other European countries. These statistics include time series that demonstrate how the correspondences have developed between pairs or within groups of countries. The correspondence between the Nordic statistics was at its best just after the turn of the century, but has later deteriorated somewhat. Some possible reasons for the increasing discrepancy will be discussed, and similarly some effects will be studied. In order to understand the situation in Nordic statistics it is necessary to go through the functioning of the Nordic agreement on population registration and the modern system for exchanging data on migration events. The latest development in this field in Europe is the EU regulation on migration statistics that now has worked for three years. One implication of this regulation is that some countries have to produce a special set of statistics based on the definitions found in the regulation. A question is if this new statistics provide more coherence between the migration figures, and what happens when EU-statistics meet pre-harmonized statistics based on the Nordic data exchange system.

Session 6: Saturday 09:30-11:00

ECONOMIC CONDITIONS, PENSIONS AND MORTALITY

1. Pro-cyclical mortality: What can we learn from Norwegian registry data? – **Venke F. Haaland,** *University of Stavanger*; **Kjetil Telle,** *Statistics Norway*

It is well-documented that state-level death rates are pro-cyclical in the US. We use regional Norwegian data and replicate the pro-cyclical findings of recent US studies. Moreover, we find similar age-specific patterns as in the US. Recent US studies have argued that the pro-cyclicality is largely related to "external factors" like less reliable health care or hazardeous working conditions during economic upturns. We use individual level registry data for all Norwegian residents 1977 – 2008, and in line with the recent US studies we also find lower pro-cyclicality for the employed than the unemployed. However, this does not seem to suggest less reliable health care as we find less pro-cyclicality for

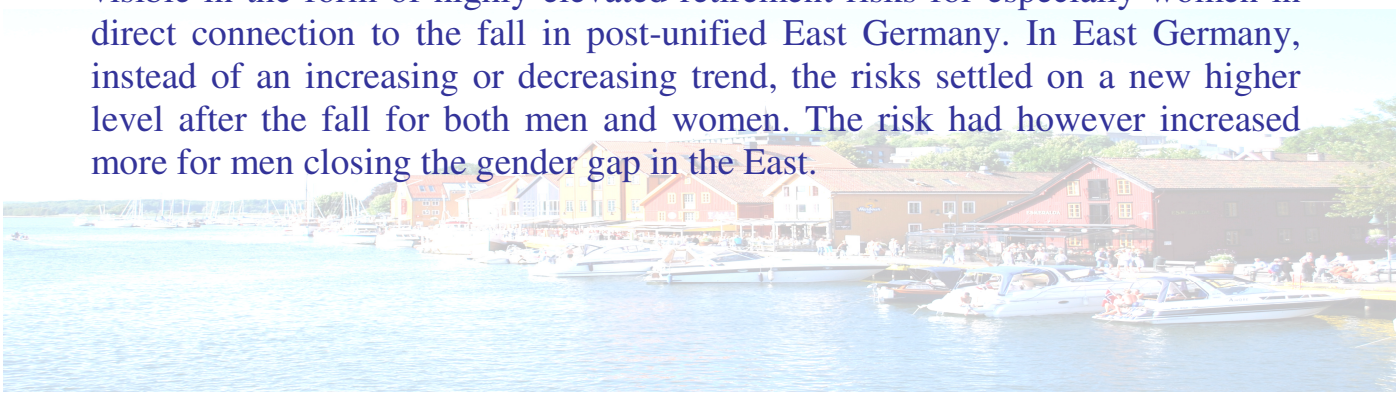
disability claimants than non-claimants. In Norway, the pro-cyclicality seems to stem from the mortality of well-educated, young men with high IQ. While previous studies have been focusing on associations between current unemployment and mortality, we intend to also look for possible associations between past unemployment and mortality.

2. Disability pensioners and relative mortality trends in Norway – **Erik Nymoen,** *Statistics Norway;* **Vegard Skirbekk,** *IIASA;* **Kjetil Telle,** *Statistics Norway*

Norwegian mortality levels have been declining during the last decades. Simultaneously the proportion of the population receiving disability pension has been increasing. Several previous studies have demonstrated a higher mortality of disability pensioners relative to the rest of the population. We investigate how the relative mortality level changes over time by applying population registry data for cohort analysis. We observe mortality over the period 1971-2010. Several sub-groups are examined. Preliminary results show that relative mortality levels for disability pensioners have changed less than might be expected.

3. Gendered trends of retirement risks in East and West Germany – **Kim Jansson,** *Stockholm University Department of Sociology*

Objective: This paper examines the risk of transition into retirement in East and West Germany before and after the unification. The aim is to explain the period-trends in the risk of retirement in East and West Germany with special attention on gender. Method & Data: Event history analysis is applied using a multivariate piece-wise constant hazard model. The data comes from the first wave of the German Generations and Gender Survey conducted in the year 2005. The sample size consists of 3698 individuals which produced 2070 events. Results: The risk to retire was found to be higher in the East than in the West. In West Germany, before the unification, the results indicate that men in comparison to women were under a marginally but lower risk to retire. After the unification it was the opposite with women having the slightly lower risk to retire. If any trend is to be depicted it would be that for men in West Germany the retirement risks increased over time but turned down in the end of the observed period, whereas for women the trend was more stable and turned up in the end of the observed period. In East Germany, during both pre and post-unification, women were compared to men under the greater risk to retire. The fall of the Berlin Wall in the year 1989 and the following unification is clearly visible in the form of highly elevated retirement risks for especially women in direct connection to the fall in post-unified East Germany. In East Germany, instead of an increasing or decreasing trend, the risks settled on a new higher level after the fall for both men and women. The risk had however increased more for men closing the gender gap in the East.



GRANDPARENTHOOD AND GENDER PREFERENCES

1. The transition to grandparenthood in Norway: Recent changes and social differences – **Lars Dommermuth,** *Statistics Norway;* **Turid Noack,** *Statistics Norway;* **Jan Lyngstad,** *Statistics Norway*

From a historical perspective it is a rather new phenomenon that the majority of the population in industrialized countries can expect to become grandparents. This change is primarily caused by a decrease in child mortality and increase in life expectancy. Postponement of first births and increasing childlessness may however diminish this trend and lead to a later transition to grandparenthood or even fewer grandparents. In this paper we analyse the development of the proportion of grandparents and the transition to grandparenthood in Norway. We use data from the Norwegian population register, including all residents born 1935 to 1959. We compare the different cohort groups, show how many of them are grandparents, when they got their first grandchild and point out differences between women and men. As expected, the results show that women become earlier grandparents then men. For both sexes we find an increase in the median age at first grandchild since cohorts born around 1940. The population register allows us also to include the highest level of education of the grandparent generations. First we describe the fertility patterns by education. As know from earlier studies, we find that those with lower education become earlier parents than those with a higher education. In a second step we analyse how these differences affect the transition process to grandparenthood. In general the patterns are the same, but the differences are even greater. The median age at first grandchild for women born between 1935-39 varies strongly by education. For those with a primary education the median age is below 48 years, for those with secondary school the age is 52 years, for those with a tertiary education up to bachelor level the age is 57 years and for those with a higher university education the age is 61 years.

2. Gender preferences among native born and foreign born in Sweden – **Lotta Persson,** *Statistics Sweden*

Previous studies have shown that parents in Sweden, as in many other countries, prefer at least one child of each sex. There is a clear pattern, where parents with only daughters or only sons are more likely to proceed and have one more child than parents with children of both sexes. Previous research has also found evidence of a “new” sex preference in Sweden. During the 1980’s a shift towards a preference for having a daughter was observed. In the present study these results are confirmed showing that a preference for girls persists also in the new millennium. The study also examines differences and similarities in sex preferences of native and foreign born parents. This is achieved by comparing how third birth risks of two-child-mothers by sex of previous children develops over time for the different groups. Results show that immigrants from Norway and USA have the same sex preference as the Swedish native born. Immigrants from Denmark, Germany and Poland seem to have a small preference for boys

whereas immigrants from Finland and Chile don't appear to be in favour of either sex. A distinct preference for boys is found among immigrants from former Yugoslavia, Turkey, Iran and Iraq. For the latter group, born in Iraq, the significance of time in Sweden is analyzed.

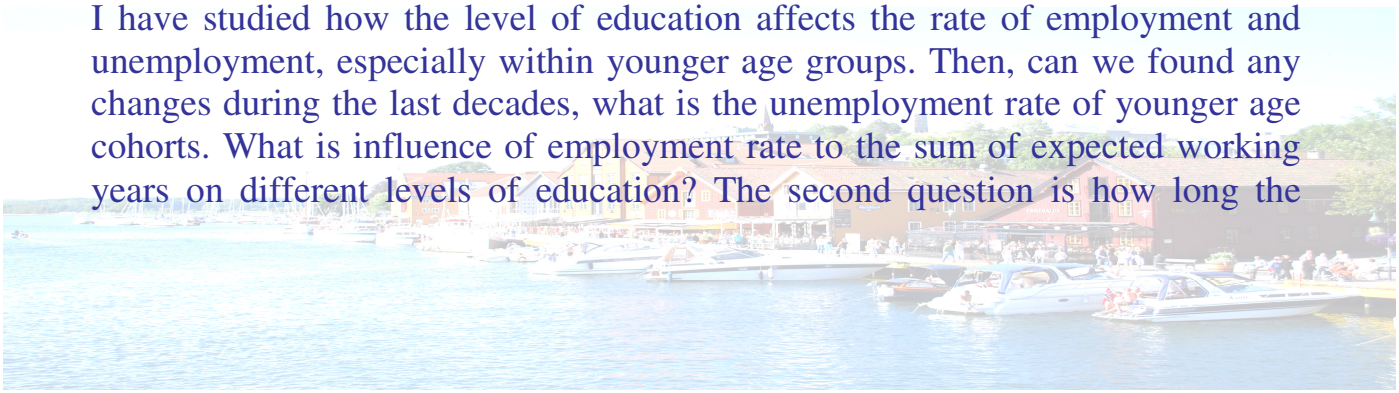
3. Similarities and differences in demographic development of the Baltic Sea Regions – **Peteris Zvidrins,** *Centre of Demography, University of Latvia*

The paper deals with characterization of main demographic processes (fertility, mortality and international migration) in the Baltic Sea Region (BSR). According to the Union of Baltic cities (UBS) Charter, 10 countries around the Baltic Sea are included in the UBS. These the Baltic coastal countries, 8 of them are members of the EU, are treated as BSR countries in this presentation. The current demographic situation in the BSR is characterised by significant difference. The population of the Nordic countries is increasing consistently whereas in the former Soviet Union republics (Estonia, Latvia, Lithuania, Russia) and in Poland a characteristic feature of the demographic development is decrease of the population (depopulation) due to very low fertility, comparatively high mortality and emigration of working population. The level of depopulation is very high in Latvia, Lithuania and Russia, including Northwest Russia. In Germany (also in northern states), in the first decade of the 21st century the population was already declining nevertheless positive net migration. The role of the Nordic countries in the Region is rising. The study shows that the BSR is among most ageing in the world. According to the calculations of the author, the rank of Germany by three ageing indicators (median age, percentage of older population and ageing index) is the 2nd the highest in the world. Very high level of ageing is observed also in Finland and Sweden, the lowest –in Russia and Poland. All governments of the Region considered population ageing as a major concern. Eurostat's and national demographic projections show that population increase will occur in the Nordic countries, whereas will decrease in the Eastern BSR and Germany. The strongest population growth is projected for Norway and Sweden and the sharpest declines – for Latvia and Lithuania.

DEMOGRAPHIC CHANGES AND INTERNATIONAL LABOUR FORCE

1. The employment rate and the level of education – **Pekka Myrskylä,** *Statistics Finland*

I have studied how the level of education affects the rate of employment and unemployment, especially within younger age groups. Then, can we found any changes during the last decades, what is the unemployment rate of younger age cohorts. What is influence of employment rate to the sum of expected working years on different levels of education? The second question is how long the



older age groups will stay on the labour market. I have studied also this according to the level of education.

2. Labor force attachment of second generation Turkish and majority young adults in Europe: The role of gender, family formation and country context – **Jennifer Holland,** *Netherlands Interdisciplinary Demographic Institute;* **Helga A.G. De Valk,** *Netherlands Interdisciplinary Demographic Institute*

The labor force entry and attachment is a central event in the transition to adulthood and has implication for career trajectories, skill development and maintenance, and future socioeconomic status and well-being. Using data from "The Integration of the European Second-Generation" (TIES) survey (2007-08; N = 3,339), a cross-national survey of second generation and majority young adults, we consider variation in labor force participation across three dimensions: family status, Turkish immigrant background, and country context. We are particularly interested in the ways in which men and women of migrant and majority origin negotiate labor force participation within the context of union formation and childbearing. We further explore how this relationship varies across four European countries (France, Germany, the Netherlands and Sweden) in order to assess how policy and norms differentially shape employment behaviors among majority and second generation groups. Results are consistent with previous work demonstrating variation in patterns of employment by family status: partnership is positively associated with men's employment and parenthood is negatively associated with women's employment. We find no evidence that this association varied by second generation status. There is, however, a gendered direct relationship between second generation status and employment: we find evidence of lower odds of employment among second generation Turkish women as compared with majority women, but no statistical difference between second generation and majority men's employment. We find clear evidence for variation in employment across countries, on aggregate. So too does the relationship between parenthood status and employment vary across countries for women, consistent with our hypotheses regarding country-specific work-family regimes. However, the experience of second generation Turkish and majority men and women did not vary across countries, suggesting that institutional contexts may uniformly shape young adults labor force outcomes, irrespective of parental origins.

3. Estimating the date the population of Norway would pass five million – **Helge Brunborg,** *Statistics Norway*

Media are often very interested when a population is passing a round number, such as the world passing 7 billion in October 2011. In Norway, it has been known for several years that the population would probably pass five million in the first part of 2012. During 2011 there was an increasing media attention on this, especially on the date that this would happen and who person number five

million would be. Statistics Norway decided to publish an estimate of the five-million date well ahead of the likely date, to give the media ample opportunity to plan the coverage of the event. Consequently, since the beginning of 2012 a daily count of the number of residents of Norway was made in Central Population Register was made. Based on time series of such counts, regression analysis was used to estimate the most likely date of passing 5 million. On 15 February 2012 it was announced that this was likely to happen on 19 March. It was also announced that there was a probability of 85 per cent that it would happen in March. There were several challenges in making this estimate: First, due to irregular reporting of births, deaths, immigrations and emigrations, the population size fluctuates significantly from day to day, some times even declining due to more registrations of deaths end emigrations than births an immigrations. Second, there are often long delays in the registration of vital events, especially of emigrations, that some times are registered several years after the emigration actually happened. The paper also discusses some other related issues, such as who are included and who are not included in the population count, and the possible identification of number 5 million.

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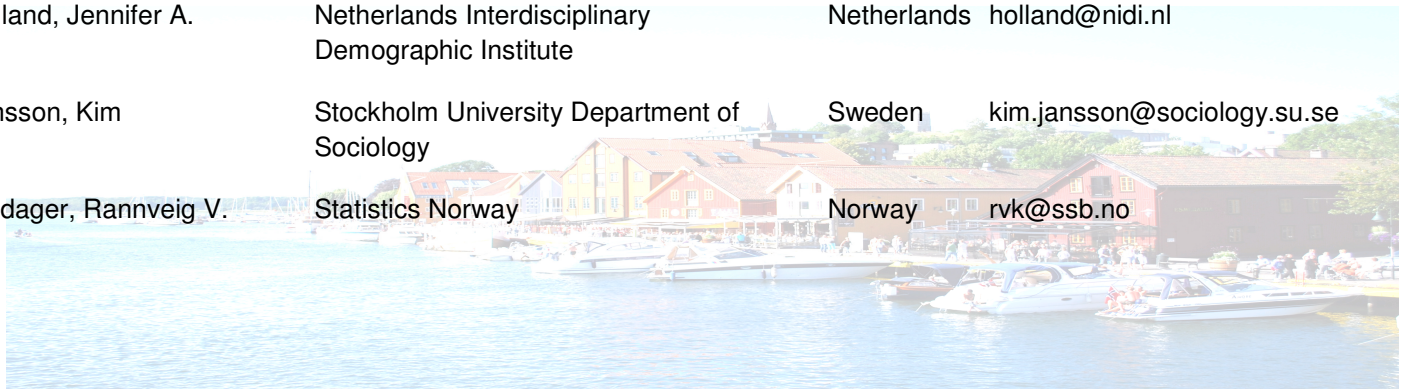

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