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## **Cohort Fertility Patterns in the Nordic Countries**

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# Cohort Fertility Patterns in the Nordic Countries

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## Abstract

Previous analyses of period fertility suggest that the trends of the Nordic countries are sufficiently similar to speak of a common "Nordic fertility regime". We investigate whether this assumption can be corroborated by comparing cohort fertility patterns in the Nordic countries. We study cumulated and completed fertility of Nordic birth cohorts based on the childbearing histories of women born in 1935 and later derived from the population registers of Denmark, Finland, Norway, and Sweden. We further explore childbearing behaviour by women's educational attainment. The results show remarkable similarities in postponement and recuperation between the countries and very small differences in completed fertility across educational groups. Median childbearing age is about 2–3 years higher in the 1960–64 cohort than in the 1950–54 cohort, but the younger cohort recuperates the fertility level of the older cohort at ages 30 and above. A similar pattern of recuperation can be observed for highly educated women as compared to women with less education. An interesting finding is that of a positive relationship between educational level and the final number of children when women who become mothers at similar ages are compared. Country differences in fertility outcome are generally rather low. Childlessness is highest in Finland and lowest in Norway, and the educational differentials are largest in Norway. Despite such differences, the cohort analyses in many ways support the notion of a common Nordic fertility regime.

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# 1 Introduction

Very low fertility in many parts of Europe and other industrialised societies has increasingly put issues of reproduction and population development high on the agenda of politicians, researchers and the media alike. The Nordic countries are often in focus in this discussion, as their fertility levels have remained close to the reproduction level and at the same time female participation in the labour market, in politics and in public life is high. Since the Nordic countries also have a long history of relatively generous social policies, the possible pro-natalistic effects of the 'Nordic model of family welfare' have received considerable attention (UN 2000; Demeny 2003).

The family policy regimes of the Nordic countries have many common characteristics. Following Esping-Andersen's seminal work (Esping-Andersen 1990), comparative analyses of welfare states usually place the Nordic countries under the common denominator 'The Nordic Social Democratic welfare regime'. However, as several authors have pointed out, there are considerable differences between these countries with regard to the historical development of their family policy regimes, and in the extent to which present family policies also integrate gender equality as an explicit political goal (Leira 1992, 1993; Borchorst 1994; Bergqvist 1999; Skrede 1999; Kjeldstad 2001; Sainsbury 2001). Yet, these differences should not lead us to overlook the many similarities that the Nordic countries share in the general political, economic and social developments in the post-Second World War period, being reflected in areas such as educational expansion, female labour-force participation, as well as the general goals of welfare policies.

At first glance the developments in period fertility of the Nordic countries also seem fairly similar. One characteristic that deviates is the greater fluctuations of period fertility rates in Sweden in the 1980s and 1990s, see Andersson (2004), Neyer et al. (2006). An interesting question is therefore whether there really is a common Nordic fertility regime. How similar are the fertility patterns of the Nordic countries on closer inspection, and to what extent can similarities and differences in childbearing behaviour between the countries be explained by similarities or differences in family and welfare-state policies?

These are questions that are at the core of a comparative research project on "Family policies, fertility trends and family changes in the Nordic countries: How sustainable is 'the Nordic model of family welfare'?" supported by the Nordic Council of Ministers, the Max Planck Institute for Demographic Research and Statistics Norway. The project is based on data that have been harmonized for the first time to allow comparative analyses of Denmark, Finland, Norway, and Sweden. In order to assess whether there exists a Nordic fertility regime, fertility patterns of women born in 1935 and later have been analysed from two perspectives: (i) trends in period fertility rates in 1970–2000, and (ii) developments of cohort fertility – cumulated by age and completed at the end of reproductive life. The reproductive years of these birth cohorts overlap with the calendar period we study, and their completed fertility may to a large extent be regarded as the outcome of the observed period patterns. Furthermore, the female cohorts in our analyses have entered their reproductive life at different calendar periods with different social and cultural surroundings, including different political discourses concerning family policy and gender equality. Analysing fertility development both from a period and a cohort perspective thus provides better insights into potential linkages between the Nordic model of social welfare and fertility development.

Analyses of period fertility trends have been presented elsewhere (see Andersson 2004; Neyer et al. 2006). In this paper we present the corresponding cohort analyses, in which we study fertility differentials along three dimensions: (i) between birth cohorts, (ii) between social groups according to women's attained educational level, and (iii) between Nordic countries. The educational dimension is important, since a bulk of analyses have shown that

childbearing tends to be correlated with various dimensions of education, both as regards timing of births and the final number of children ever born (see, e.g., Blossfeld and Huinink 1991; Knudsen 1993; Liefbroer and Corijn 1999; Lappegård 2000; Lappegård and Rønsen 2005; Kreyenfeld 2006; Hoem, Neyer and Andersson 2006a,b). Cross-country comparative analyses of the relationship between educational attainment and fertility are harder to find, but two recent contributions are provided by Rendall et al. (2005) and Neyer and Hoem (2008). Previous research reveals that reported associations between education and childbearing depend very much on how and when educational characteristics and fertility are measured (Hoem 1996; Kreyenfeld 2002; Kravdal 2001, 2007). A cohort approach like ours has the advantage of involving relatively straightforward measures of fertility in terms of cumulated and ultimate number of children born.

Our analyses are based on genuine birth cohorts of women, and this is a novelty of our study. We observe the birth histories of women born in each of the four Nordic countries under study, and calculate cohort fertility measures from age-specific parity-progression rates over women's reproductive years. This approach is different from that of, e.g., published statistics on cohort fertility in national and international sources, which are normally based on data on the resident female populations of fertile ages in specific calendar years. Our approach reflects the logics of a true cohort analysis in that we follow each woman's life course, while official statistics normally are based on a rearrangement of period fertility data in order to describe the fertility of some imagined cohorts of the resident population. It thus differs from previous analyses of cohort fertility in the Nordic countries where cohort data have been constructed from period statistics (Frejka and Calot 2001, Frejka and Sardon 2006, Björklund 2006). Furthermore, we have access to longitudinal information on education, and are able to condition on past educational attainment when analysing subsequent cumulated fertility.

In the following, we first give a closer presentation of the data and methods we have used, including a discussion of the comparability of educational classifications across countries. We then take a brief look at the overall fertility trends, before moving on to more in-depth analyses of the two key fertility developments among women born after WWII: postponement of childbearing at young ages and recuperation of births at higher ages. As documentation, in an Annex to our paper, we also provide the data for all the diagrams we present in our study.

## **2 Data and methods**

Our analyses are based on individual-level data stemming from the population-register and educational-register systems of Denmark, Finland, Norway, and Sweden. The population-register systems have been computerised since the end of the 1960s and early 1970s and have a long history of full and reliable coverage of the resident populations and their vital events. In particular, each resident has a unique identifying code, which makes it possible to link information from different data sources to each other. We have access to demographic and educational data on the whole female populations of Denmark, Norway and Sweden, and a ten per cent sample of that of Finland. Efforts have been made to also include Iceland, but so far a lack of comparable data has prevented this. Our analyses are based on data on native-born women.

The data contain longitudinal information on each date of recorded childbearing of every woman who has ever lived in the respective country from 1960 (Norway and Sweden), 1970 (Finland), or 1980 (Denmark) onward. The longitudinal databases originate from the censuses held in these years, or in the case of Denmark from the registered resident population in 1980. Co-residing children who were born before the censuses are included in the childbearing histories of women registered in the census. The data for Denmark also

include non-coresident children residing in Denmark when the database was created. Individuals who were born subsequently in the respective countries have been added to the databases, and vital events of these individuals have been recorded as well. Children and mothers who died or emigrated (without a subsequent re-entry) prior to the census years do not appear in our calculations. This means that the fertility rates for the oldest cohorts have been computed conditional on survival and non-migration until the census year. Earlier investigations by e.g. Andersson and Sobolev (2001) and Brunborg and Kravdal (1986) have shown that this has only a negligible effect on our fertility measures. We have access to fertility histories up to 1999 for Finland, 2000 for Sweden, 2001 for Denmark, and 2002 for Norway.

Our study is based on calculations of age-specific fertility rates of the populations of native female cohorts born in 1935 (Finland, Norway, Sweden) or 1945 (Denmark) or later, cumulated over their reproductive period (ages 15–49). Age is defined as age by the end of a calendar year (calendar year minus birth year). Women who die or emigrate before age 49 are censored at the time of death or emigration.

Individual data on childbearing histories have been linked to individual data on educational histories. These data are available for cohorts born in 1945 and later. Using longitudinal information on education, we avoid the common problem of seeking to explain fertility behaviour at a certain age by the educational level reported and possibly attained at a later stage, which is a form of anticipatory analysis that can produce misleading results on the interrelationship between education and fertility (see e.g. Hoem and Kreyenfeld 2006a,b). In our analyses we concentrate on educational level attained at age 30, when most women have finished their educational activity, and study the cumulated fertility outcome beyond that age. When we study the relationship between age at first motherhood and final number of children for different educational categories, we use educational level attained by the birth of the first child.

The definitions of attained educational level have been harmonised in order to secure maximum comparability across countries using the 1997 International Standard Classification of Education (ISCED97). The groups are as follows:

Low education (primary and lower secondary)	ISCED codes 0–2
Medium education (upper secondary)	ISCED codes 3–4
High education (tertiary)	ISCED codes 5–6

There are clear international definitions as to which type of education each ISCED level should comprise, but due to different educational systems in different countries and changes over time it is difficult to obtain complete comparability. One advantage of the Nordic countries is that their educational systems are fairly similar, but different development over time and different practices in the ranking of certain educations may still impair comparability. This especially concerns educations at secondary and tertiary levels. For example, in our data there are minor differences between Norway and Sweden as regards the extent to which brief courses at the tertiary level (university or college education) produces an educational attainment at that level. In recent revisions of coding praxis, it has been required that students must have completed at least two years of education at the tertiary level to be classified in the category for “high education” (Statistics Sweden 2000; Jørgensen 2006). However, this does not apply for the cohorts we follow; the group with tertiary education is defined somewhat more broadly. Likewise, the practice in Norway has led to a larger proportion of the population at the secondary level, since also shorter vocational courses are included and not only a full secondary education (which normally takes three years). These

practices have been revised later, see Jørgensen (2006), but the revised definitions have not been used in our analyses.<sup>1</sup>

People with missing information on educational attainment have been excluded from our analyses, but they are a very small group in each country. In the Finnish raw data, missing education had instead been set to primary level, which implies that this category may also contain some misclassified individuals.

### **3 The Nordic setting: Educational developments**

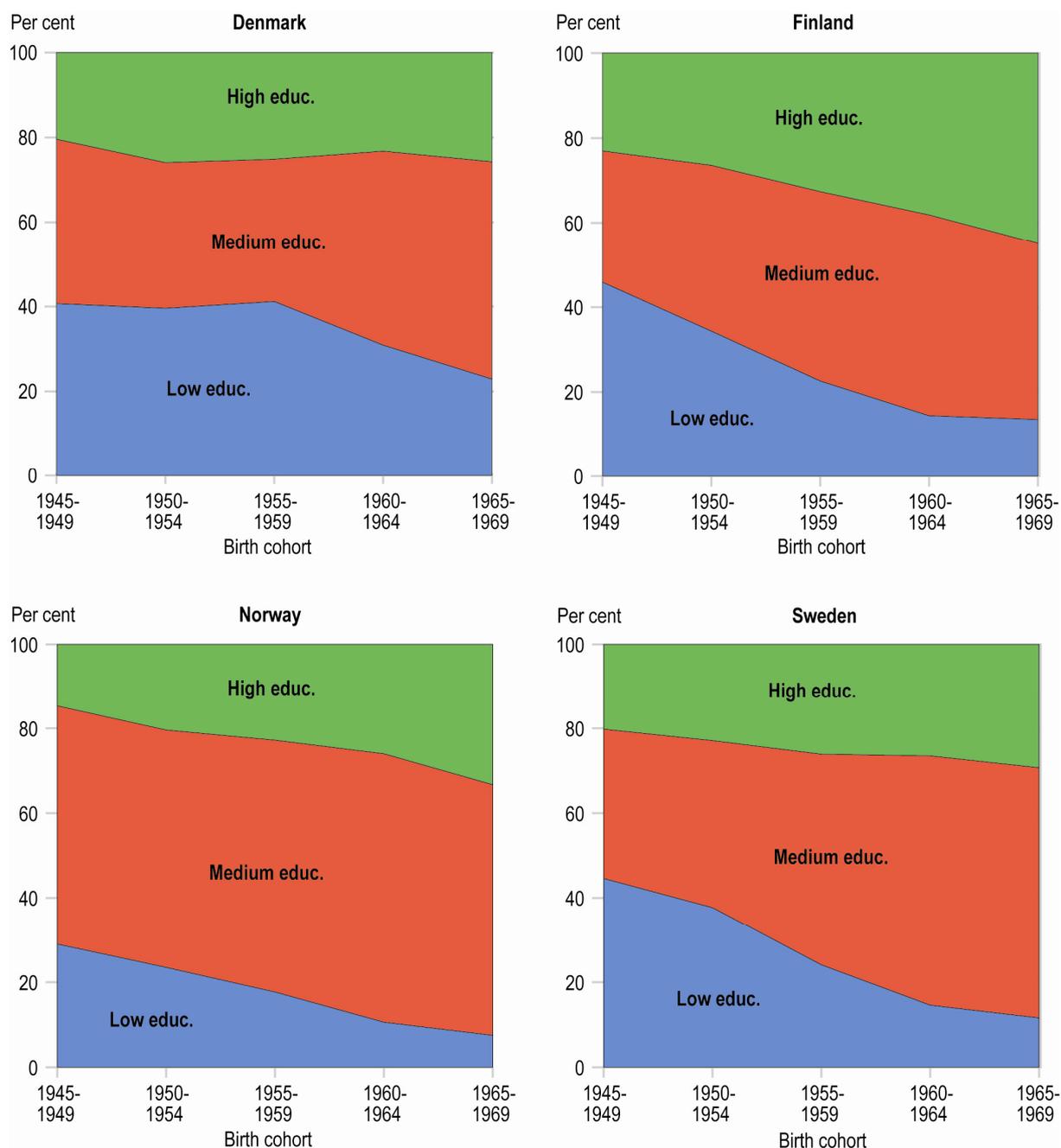
During recent decades there has been a rapid educational expansion in all Nordic countries, and the proportions of women with more than compulsory education and with a university or college degree has increased substantially across cohorts (Figure 1). From women born just after WWII to women born twenty years later, the proportion with high education has about doubled in Finland and Norway, and increased by between 25 and 50 per cent in Denmark and Sweden. In all cohorts, Finland has the largest proportion with ‘high education’, and the difference compared to the other countries has increased over time. In the 1965–69 cohort, 45 per cent of Finnish women had attained tertiary education by age 30, while the corresponding proportions in Norway, Sweden and Denmark were 33, 29 and 26 per cent, respectively. The proportion with secondary education has increased in Denmark, Finland and Sweden, but remained fairly stable in Norway. The increase in Sweden has been particularly large, from 35 per cent in the 1945–49 cohort to almost 60 per cent in the cohorts born in the 1960s. This is about the same proportion as in Norway, while the proportions in Denmark and Finland are lower, 51 and 42 per cent, respectively, in the 1965–69 cohort. The group with low education has declined rapidly in all countries. In Norway, the share of low educated women has been smaller than in the other countries in all cohorts. In the youngest cohorts, the gap to Finland and Sweden has dwindled with proportions in the three countries ranging from 8 to 14 per cent, while the proportions with primary education in Denmark in those cohorts still exceed 20 per cent.

The main picture is thus that there has been a fairly uniform and rapid expansion of female education in all countries, but with some noticeable differences in levels. For example, in each cohort Finland has had higher proportions of women with tertiary education and Norway has had lower proportions with just primary education. However, as discussed above, we cannot exclude the possibility that some of the differences in educational level between the countries may be due to different classification procedures, even if ISCED is used as basis for all countries. The fairly broad definition of secondary education in Norway may, for instance, imply that the group with low education is a more select group in this country than in the other countries.

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<sup>1</sup> Due to several changes in the school system since the early 1970s, the new definitions assign courses to different categories dependent on the calendar period they were completed. For example, in the new definitions courses of upper secondary education completed before the mid-1970s are still classified as prior to the latest revision, while courses completed between the mid 1970s and 1994 must last at least two years to be included, and courses completed after 1994 must last at least for three years to be assigned to the upper secondary level. This makes it difficult to use the new definitions in analyses of the development of educational level over time (across calendar periods or cohorts), as in our present study.

Figure 1. Educational level at age 30 for five-year cohorts of women born in 1945–1969

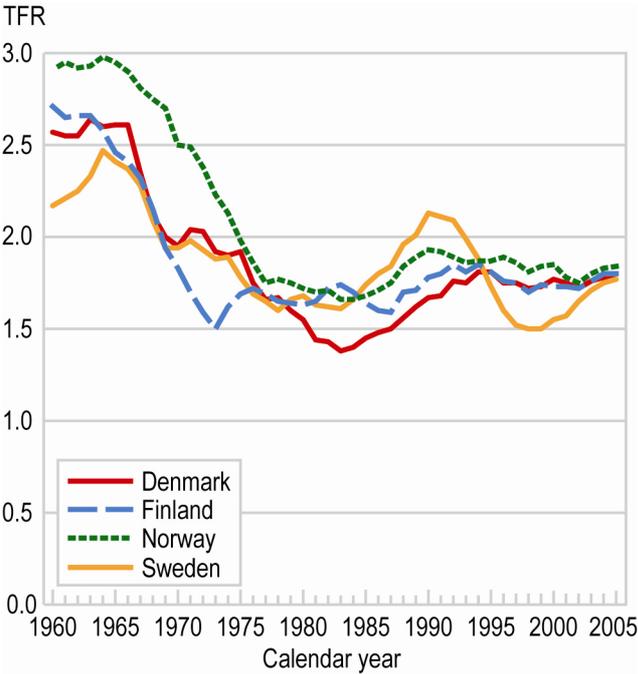


#### 4 Fertility developments in the Nordic countries

As an introduction to our fertility study, we first take a brief look at the period Total Fertility Rate (TFR) from the early 1960s onwards, i.e., during the period where most of our female cohorts spent their reproductive lives (Figure 2). As we mentioned earlier, the trends of our four Nordic countries have developed fairly similarly, except for Sweden, which has had stronger fluctuations since the 1980s. During the 1970s fertility declined throughout most of the region. In the early 1980s, the TFR in Norway and Sweden had stabilised at around 1.6–1.7 children per woman, with a so far all-time low in 1983 for both countries. In

Denmark, fertility continued to decline into the early 1980s, and hit a historic low in the same year as in Norway and Sweden, with a TFR just below 1.4. In contrast to the other Nordic countries, Finland reached a low TFR level (at 1.5) already in the early 1970s. From around the mid-1980s fertility started to rise in all countries, but the rise was much stronger in Sweden than in the other countries. Likewise, while trends in Denmark, Finland and Norway stabilised or fell slightly in the 1990s, Sweden exhibited a roller-coaster pattern with sharply falling rates during most of the decade followed by a new up-turn towards the end of the 1990s. By 2005, the Swedish TFR had again converged with the levels of the other Nordic countries at levels around 1.8.

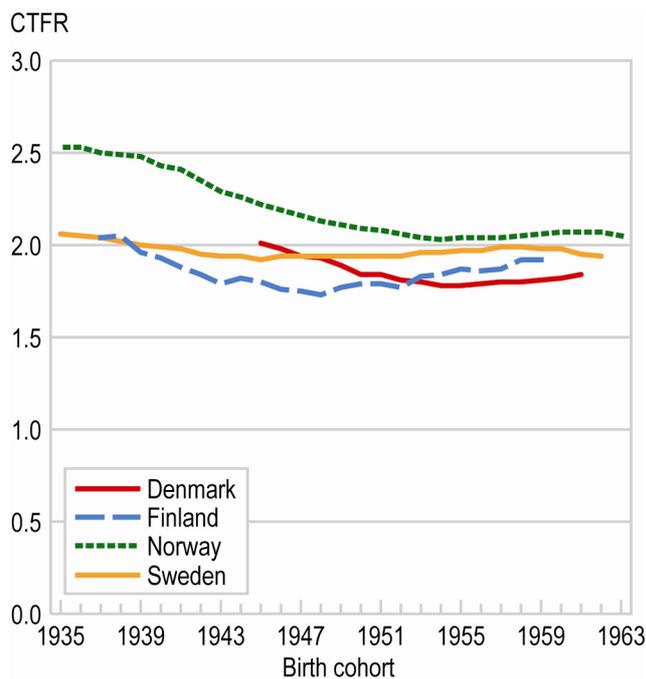
Figure 2. Total Fertility Rate of the Nordic countries, 1960–2005



While Figure 2 displays changes in aggregate fertility over calendar periods, our main concern in this study is to detect and document developments in cumulated and ultimate fertility across birth cohorts of Nordic women. In Figure 3, we present our calculations of the completed fertility of these birth cohorts. It presents the Cohort Total Fertility Rates (CTFR) as of age 40 for the single-year cohorts born in 1935–1963. Except for a falling trend across the early cohorts of Denmark, Finland and Norway, completed fertility (cohort fertility) has been quite stable. For the later cohorts, we observe no decline at all in the ultimate number of children born and even an increase in the case of Finland. There is some variation between countries as to when we can observe any early decrease in completed fertility across the cohorts we study. In Finland and Sweden, the pre-war cohorts already had a fertility level just above 2 children per woman, while in Norway the CTFR was at a much higher level, about 2.5 children per woman. For Denmark, cohort data are not available for women born before 1945, but published statistics based on cumulated cross-sectional birth rates show that cumulated fertility in Denmark in cohorts before 1945 was relatively high as well, implying a later onset than in Finland and Sweden of the decline to below-replacement fertility in Denmark too (Statistics Denmark 1973).

An interesting observation is that the country with the most fluctuations in period trends, Sweden, is the country with the most stable cohort trend. Among women born after the war, the final number of children has varied between about 1.9 and 2.0. Cohort fertility among the post-war cohorts in Finland has showed an upward trend, from about 1.7 in the late 1940s cohorts to about 1.9 in the late 1950s cohorts. Norwegian women still have the highest cohort fertility, around 2.05 children in cohorts born since the mid-1950s. By comparison, completed fertility in the youngest cohorts in the other countries was just above 1.9 in Finland and Sweden and just above 1.8 in Denmark. Thus, recent cohorts of Nordic women have given birth to a number of children that are not very far from replacement level.

Figure 3. Cohort Total Fertility at age 40, female single-year cohorts born in 1935–1963



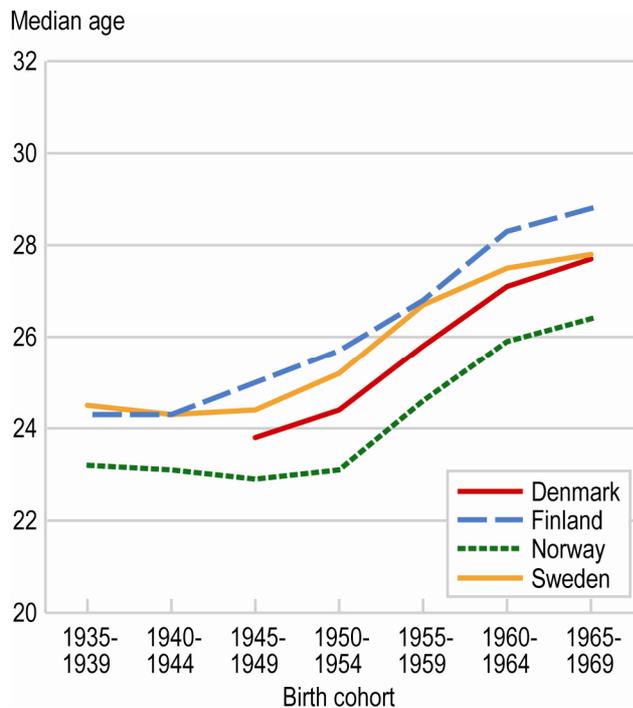
## 5 Postponement of fertility

### 5.1 General patterns of fertility postponement

Postponement of first motherhood is an ongoing and persistent process in most developed countries. Previous analyses of female birth cohorts have confirmed this trend for the Nordic countries as well (Frejka and Calot 2001; Frejka and Sardon 2006; Björklund 2006). A good indicator of this development is the median age at first birth, defined as the age at which 50 per cent of a birth cohort have become mothers. The median age defined in this way is depicted in Figure 4 for Nordic women born between 1935 and 1969. There is a more or less parallel process of increasing median age at first birth from the 1935–39 to the 1965–69 cohorts in all countries, but there are some differences as to *when* the process of postponement started (see later). Further, there are relatively large variations in the levels of

median first-birth age between the countries. In most cohorts, Finnish women have the highest median age, followed by Swedish and Danish women, while Norwegian women have the lowest median age. In the 1965–69 cohort, the median age at first birth was 28.8 years in Finland, 27.8 in Sweden, 27.7 in Denmark, and 26.4 in Norway.

Figure 4. Age at which 50 per cent of women have become mothers, female cohorts born in 1935–1969

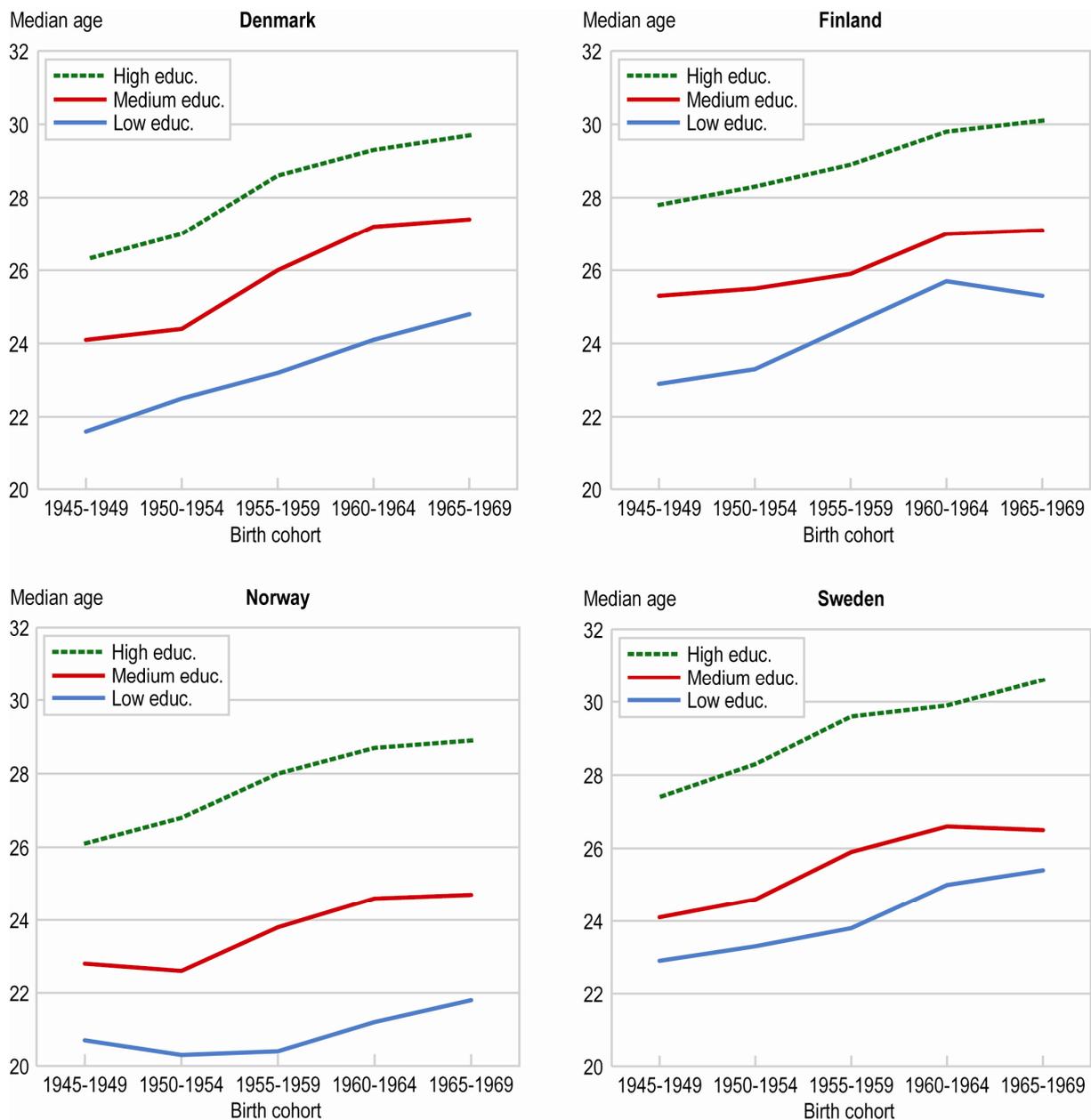


The difference between the country with the highest and the lowest median age at first birth has increased from 1.3 years in the 1935–39 cohort to 2.5 years in the 1965–69 cohort. This is related to when the process of postponement started. In Finland, the median age at first birth began to rise already in the 1945–49 cohort, while in Norway it started among those who were born 10 years later. Sweden is a case in between, with a rise in the median age since the 1950–54 cohort. For the Danish cohorts for which we have data, the early trend seems to be in line with that of Sweden. In Finland, Sweden and Denmark, the median age rose relatively slowly at first, but from the 1955–59 cohort there was a more rapid increase in all the Nordic countries, including Norway. The 1965–69 cohort, on the other hand, does not seem to postpone parenthood as rapidly as the preceding cohorts. If this means that the increase in median age has stagnated and probably will not increase as much for future cohorts, one could view the observed development as a completed transition leading to a situation where women have children at higher ages than what they had before. We do not have data to compute median ages for cohorts born after 1969 for all countries. However, the median age for the 1970–74 cohort in Norway increased further to 27.6 years, which could indicate that Norway is still in the transition phase. Furthermore, recent Nordic period data indicate that the postponement of childbearing has not yet come to a halt elsewhere in the region either (see, e.g., Billari et al. 2007).

## 5.2 Education and fertility postponement

There is a strong relationship between educational level and age at first motherhood in all the Nordic countries, as shown in Figure 5. Women with high education have the highest median age and women with low education have the lowest median age at first birth. From the 1945–49 cohort, which is the earliest cohort for which we have educational data, the median age has increased in all educational groups in each country, but not as rapidly as for all women taken together. For the aggregate population, the median age rose between 3.4 and 3.9 years from the 1945–49 to the 1965–69 cohort (Figure 4). The reason why the median age has increased more among all women than within each educational group is the changing educational composition over cohorts where a larger proportion in younger cohorts have long education.

Figure 5. Age at which 50 per cent of women have become mothers, by educational level at age 30, female cohorts born in 1945–1969



There is some variation between educational groups in how rapid the increase in the median age has been. The largest rise is observed in the group with high education. The median age for the high educated increased by 2.8 years in Norway and 3.8 years in Finland, with Denmark and Sweden with intermediate values. However, the largest variation in the pace of change between countries is among women with low education. The median age for the low educated increased by 1.1 years in Norway and 3.2 years in Denmark. When we compare the countries, we further notice that the educational groups exhibit slightly different patterns of postponement and of tempo of increasing median age at first birth. Among women in Sweden, Denmark and Finland there has been a parallel process of postponement in the three educational groups, starting in the same cohort as for all women considered together. In Norway, on the other hand, the process started among the high educated (in the 1950–54 cohort), followed by women with medium education (in the 1955–59 cohort) and, lastly, by women with low education (in the 1960–64 cohort).

Educational differences in median ages at first birth have not diminished across the cohorts. In Norway and Sweden, the median age differs by approximately 7.1 and 5.2 years, respectively, between women with a high and a low educational level in the 1965–69 cohort, which is an increase of approximately 1.9 and 0.7 years from the 1945–49 cohort. In Denmark and Finland, the median age differs by approximately 4.9 and 4.8 years between women with a high and a low educational level in the 1965–69 cohort, which is practically the same as in the 1945–1949 cohort. In Sweden, Finland and Norway, women with medium education are more equal to women with low education, while in Denmark, women with medium education are more equal to women with high education.

If we compare Nordic women with similar educational attainment there are some interesting details. Women with high education have the most parallel postponement process and equal median ages across the countries, while the most diverse pattern is found for women with low education. Within each educational group, Norwegian women start childbearing earlier than in the other Nordic countries. For the 1965–69 cohort, the difference between Norway and the country with the highest median age is 1.7 years among women with high education, 2.7 years among those with medium education, and 3.6 years among women with low education. Sweden was the country with the highest median age in the high and low educational groups, 30.6 and 25.4 years, respectively, while Denmark had the highest median age among women with medium education, 27.4 years. Among Norwegian women, the median age among women with high, medium and low education was 28.9, 24.7 and 21.8 years, respectively.

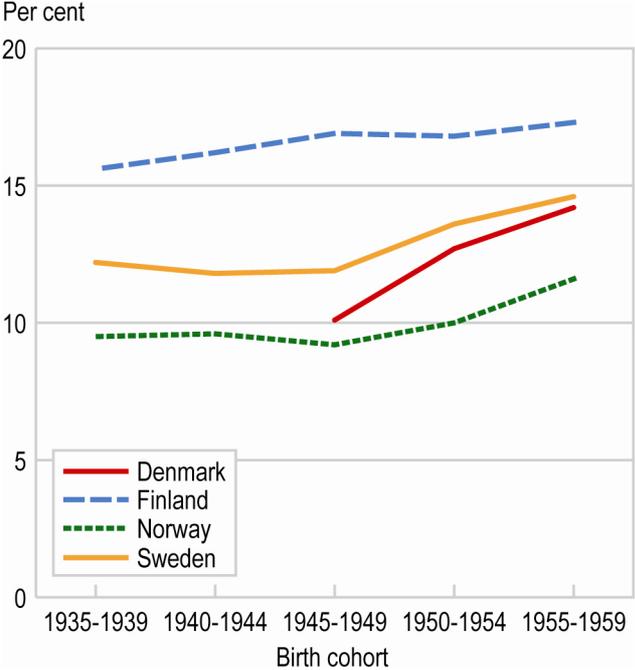
## **6 Childlessness**

### **6.1 Ultimate childlessness in the Nordic countries**

When more women postpone motherhood towards the end of their reproductive period, it is likely that more women will end up without having children at all. Generally, we can therefore expect increasing median ages at first childbearing (Figure 4) to result in higher levels of ultimate childlessness. As regards this latter outcome, we find that there are striking differences in observed levels between the Nordic countries (Figure 6). Over all the cohorts, the proportion of women remaining childless was highest in Finland and lowest in Norway. The difference in level of childlessness between the two countries was rather stable over the cohorts (at about 6 percentage points). Among Finnish women born in 1955–59, which is the latest five-year cohort that we can observe at age 40, 17.3 per cent had no child at that age; among Norwegian women of the same cohort, the share was 11.6 per cent. In all countries,

there is a trend towards slightly increasing levels of childlessness among women born since 1950. Denmark has had a more rapid increase in recent cohorts than the other countries, resulting in Denmark closing in on Sweden. For Finland, ultimate childlessness increased already among the early cohorts. In the other countries, increasing childlessness is a relatively recent development.

Figure 6. Childlessness at age 40, female cohorts born in 1935–1959

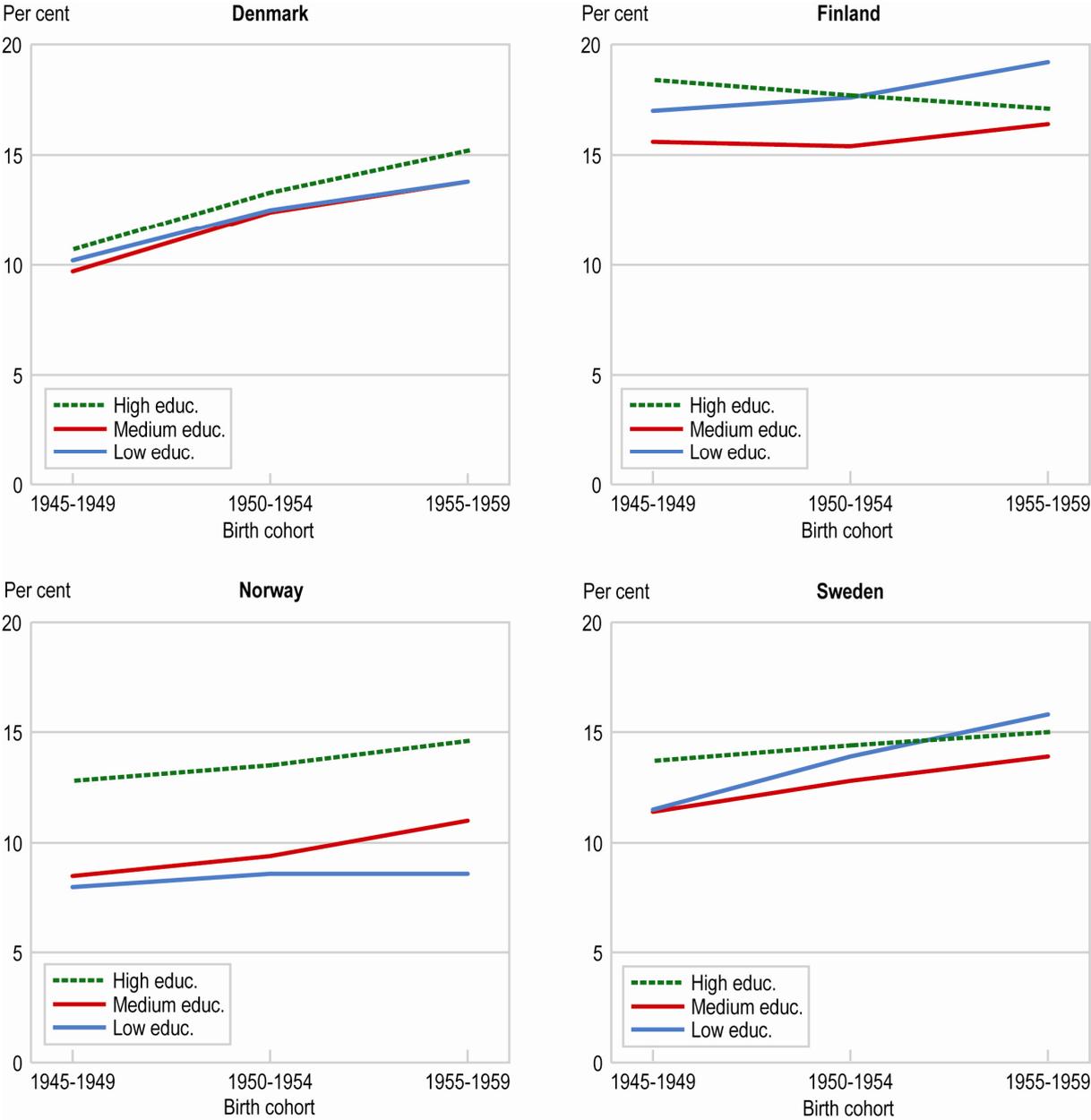


### 6.2 Education and childlessness

As different educational groups start childbearing at different ages, one would expect differences in levels of childlessness by educational level, with more childlessness among highly educated women than among their less educated peers. Such an assumption would be based on the notion among demographers that a later onset of childbearing is related to lower fertility. It would also be supported by much theory on the role of women’s educational attainment in fertility decisions. However, as depicted in Figure 7, the relationship between educational level (as measured at age 30) and ultimate childlessness varies across countries as well as across cohorts. In the Nordic countries, there seems to be no straightforward relationship between women’s educational level and childlessness that is stable over cohorts or across countries.

The levels of childlessness among highly educated women in the younger cohorts are very similar across the Nordic countries. For the 1955–59 cohort there is just a difference of 2.5 percentage points between the two countries that are the furthest apart, Finland (17.1 per cent) and Norway (14.6 per cent). Childlessness differs most among women with low education: between Finland with 19.2 per cent and Norway with 8.6 per cent, the gap in the latest cohort is 10.6 percentage points.

Figure 7. Childlessness at age 40, by educational level at age 30, female cohorts born in 1945–1959



The largest educational differences within countries are found in Norway and the smallest in Denmark with a difference in the 1955–59 cohort from the highest to the lowest level of childlessness of approximately 6.0 and 1.4 percentage points, respectively. In Sweden and Finland, women with medium education have lower childlessness than women with either high or low education. For the latter two groups we observe an interesting cross-over in patterns in both countries over the cohorts: while it is the highly educated women who more often remained childless in the early cohorts it is women with low education that more often remained childless in the latest cohorts. This is due to a larger increase in childlessness among the low educated than in the other educational groups, but in Finland it also results from a remarkable fall in the proportion of women with no children among the highly educated. In Norway and Denmark, the highest level of childlessness is found among women with high education. In Denmark there has been a parallel process of increasing childlessness in all

educational groups, with a slightly steeper increase among women with high education. In Norway there has also been a fairly parallel rise among women with high and medium education, but almost no rise in childlessness among women with low education. Norway is the only Nordic country where higher educational attainment is clearly related to a higher level of ultimate childlessness.

Evidently, highly educated women start childbearing at later ages than women with lower education (Figure 5), but in many cases they still become mothers to more or less the same extent as the low educated do (Figure 7). Further insight into this process of recuperation can be gained by looking at the levels of childlessness among highly, medium and lowly educated women at different ages.

Figure 8. Childlessness at age 30 and above, by educational level at age 30, Nordic women born in 1955–59

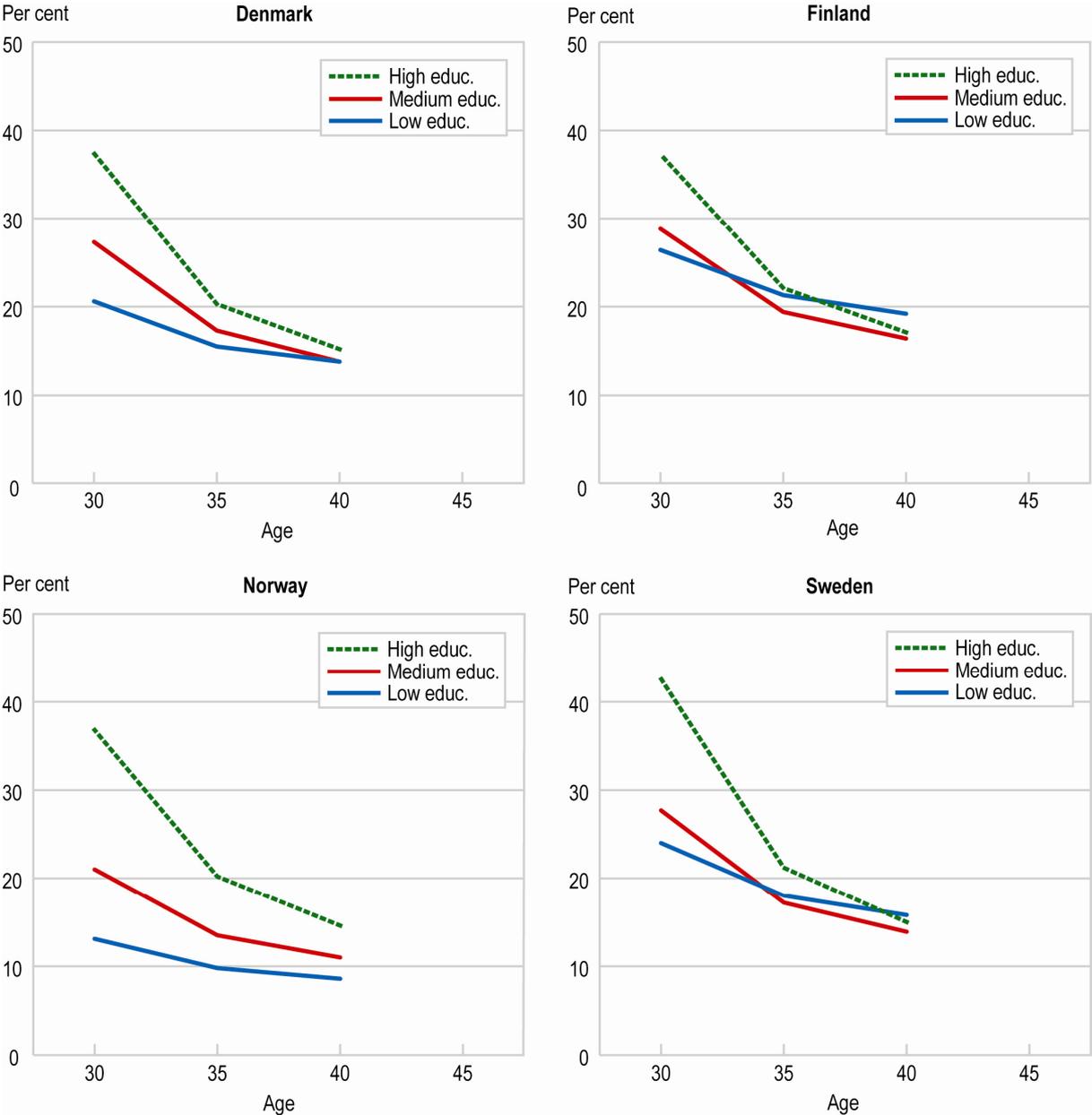


Figure 8 displays the proportion of childless women at ages 30, 35, and 40 of the cohort born in 1955–59, by educational attainment at age 30. The respective figures for the other cohorts are given in Appendix 1. These figures reveal that very clear differences in childlessness by educational level at age 30 vanish as the women reach the end of their reproductive lives. At age 30, between about 37 per cent (Denmark, Finland, Norway) and 42 per cent (Sweden) of the highly educated women of this cohort had no children; this is much more than for women with low education. At age 40 the share of childless among the highly educated had dropped to about 15–17 per cent. The figures for earlier cohorts show a similar pattern of recuperation (Appendix 1). In our next section, we provide further evidence of fertility recuperation past age 30 and the ultimate number of children born to Nordic women.

## **7 Recuperation of fertility and ultimate fertility**

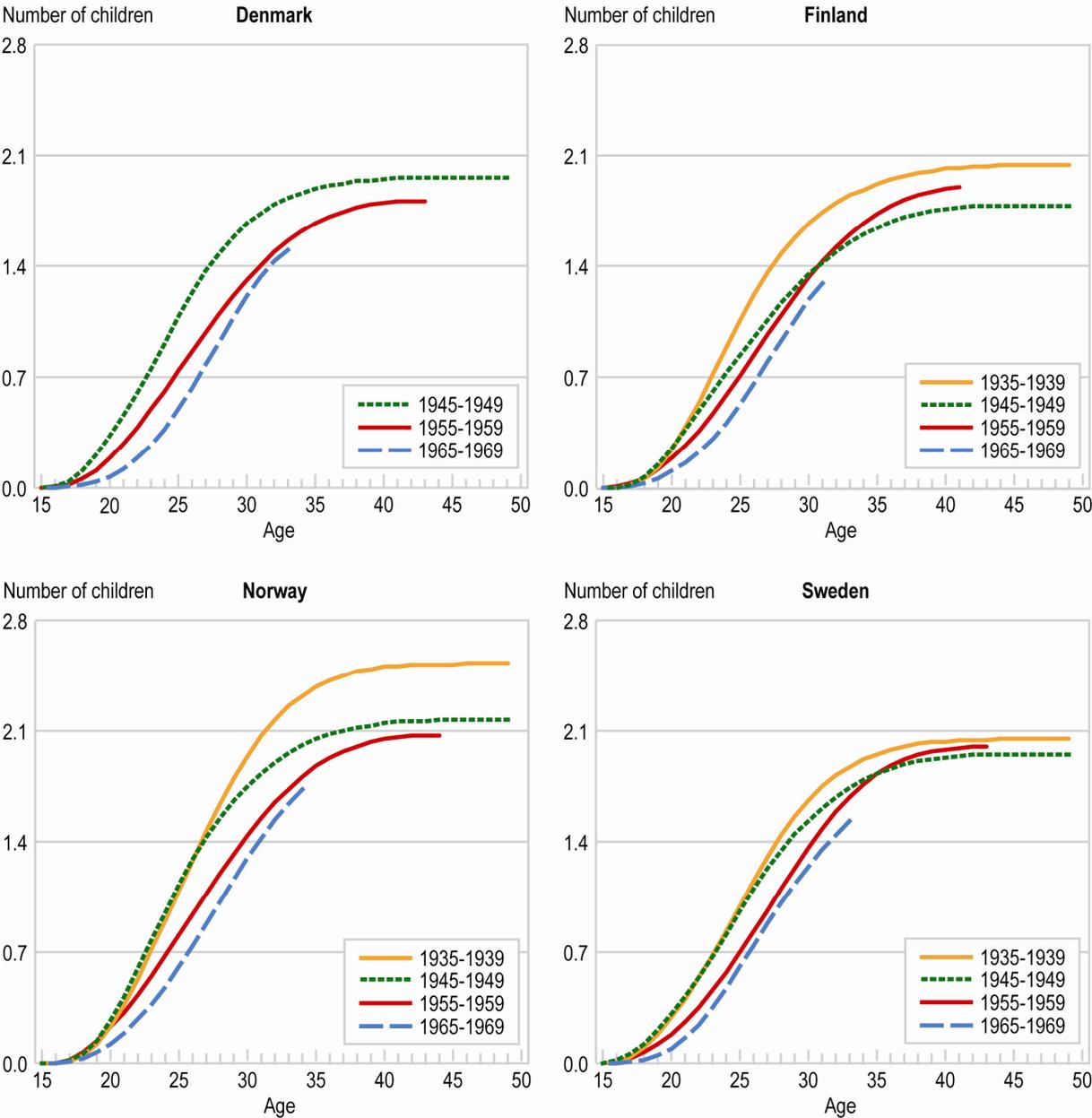
### **7.1 Fertility recuperation in the Nordic countries**

One important issue when childbearing is delayed to ever higher ages is whether this pattern of change will result in lower ultimate cohort fertility. In other words: Will women, who have their first child at higher ages end up with fewer children than women who began childbearing earlier in life? Since fecundity declines with age, one may expect that they will, but on the other hand previous studies suggest that in spite of the continued postponement of first births, the fertility recuperation in the Nordic countries is quite remarkable (Frejka and Calot 2001).

In our previous sections, we have demonstrated that the total number of children born to cohorts (CTFR) tended to decrease for our early cohorts and stabilize for later cohorts (Figure 3), while cohort levels of ultimate childlessness tended to increase in our more recent cohorts (Figure 6). The two developments do not seem to be particularly well synchronized with each other. Evidently, increasing levels of childlessness can be compensated for by increasing numbers of children born to those who do become mothers. In addition, we demonstrated that there is no straightforward relationship between ages at onset of childbearing (Figure 5) and the fractions ultimate childless for different educational categories of women (Figure 7).

To provide a more detailed illustration of the relationship between the timing of childbirths and the final number of children, we have plotted the cumulated number of live births by single years of age for selected cohorts in each country (Figure 9). Comparing the 1945–49 and the 1965–69 cohorts, the oldest and the youngest cohorts for which we have data for all countries, we observe a reduction in the number of children born at each age before age 30 in the youngest cohort throughout the region. In the 1965–69 cohort, cumulated fertility at age 20 amounts to 0.04–0.06 children per woman, and at age 30 the curves for all countries lie below 1.4 children. The cumulated fertility up to age 30 is very similar across countries in the youngest cohort, and more similar than in the oldest cohort. Furthermore, the number of children by age 25 has diminished from approximately 1.0 to 0.5 children in the 20 years passing between the cohorts. However, in all the four countries, the younger cohorts almost recuperate or even overtake the CTFR reached by the somewhat older cohorts at ages past 30. This reflects the fertility postponement mentioned earlier. Women of the younger cohorts got their children later in life than what women of the older cohorts did, but they did not have fewer children on average.

Figure 9. Cumulated mean number of live births, by single years of age, for selected cohorts of Nordic women

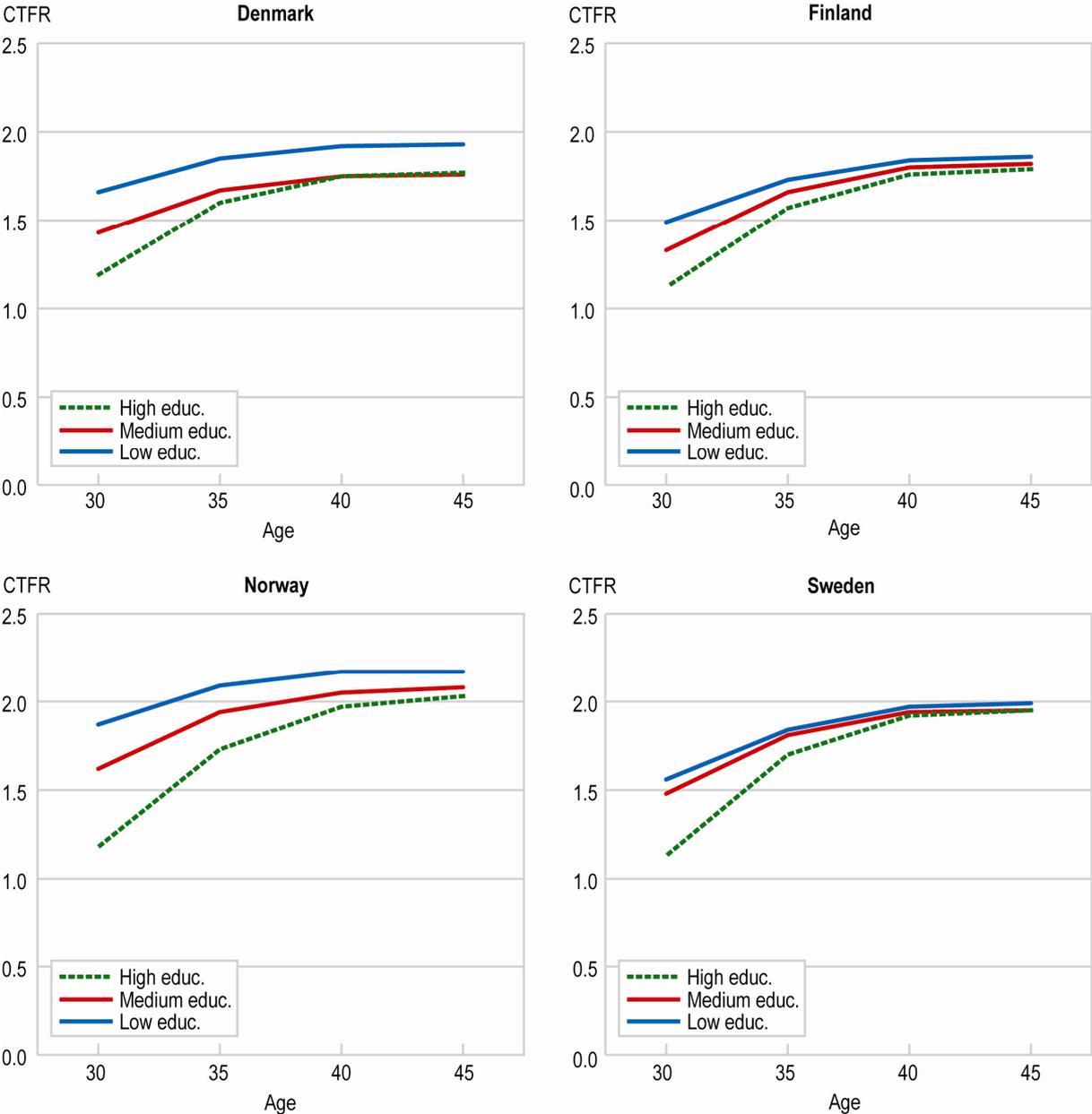


**7.2 Education, fertility recuperation, and ultimate fertility**

In Figure 10 (for cohorts born in 1950–54) and our Appendix 2 (for all cohorts of 1945–59), we provide further insight into patterns of fertility recuperation past age 30 and how these patterns differ by country, cohort, and educational level. As for our data on childlessness in Figure 8 and Appendix 1, we can see that initial differences in cumulated fertility by educational level at age 30 diminish as the cohorts reach the end of their reproductive careers. In all Nordic countries, there are no or relatively small differences in the ultimate number of

children born to women in the 1950–54 cohort with different levels of education<sup>2</sup>. In Finland and Sweden, educational differences in the number of children ever born almost disappear at the higher ages, while in Denmark and Norway, women with low education still have had more children than the other educational groups when they reach the end of their childbearing years.

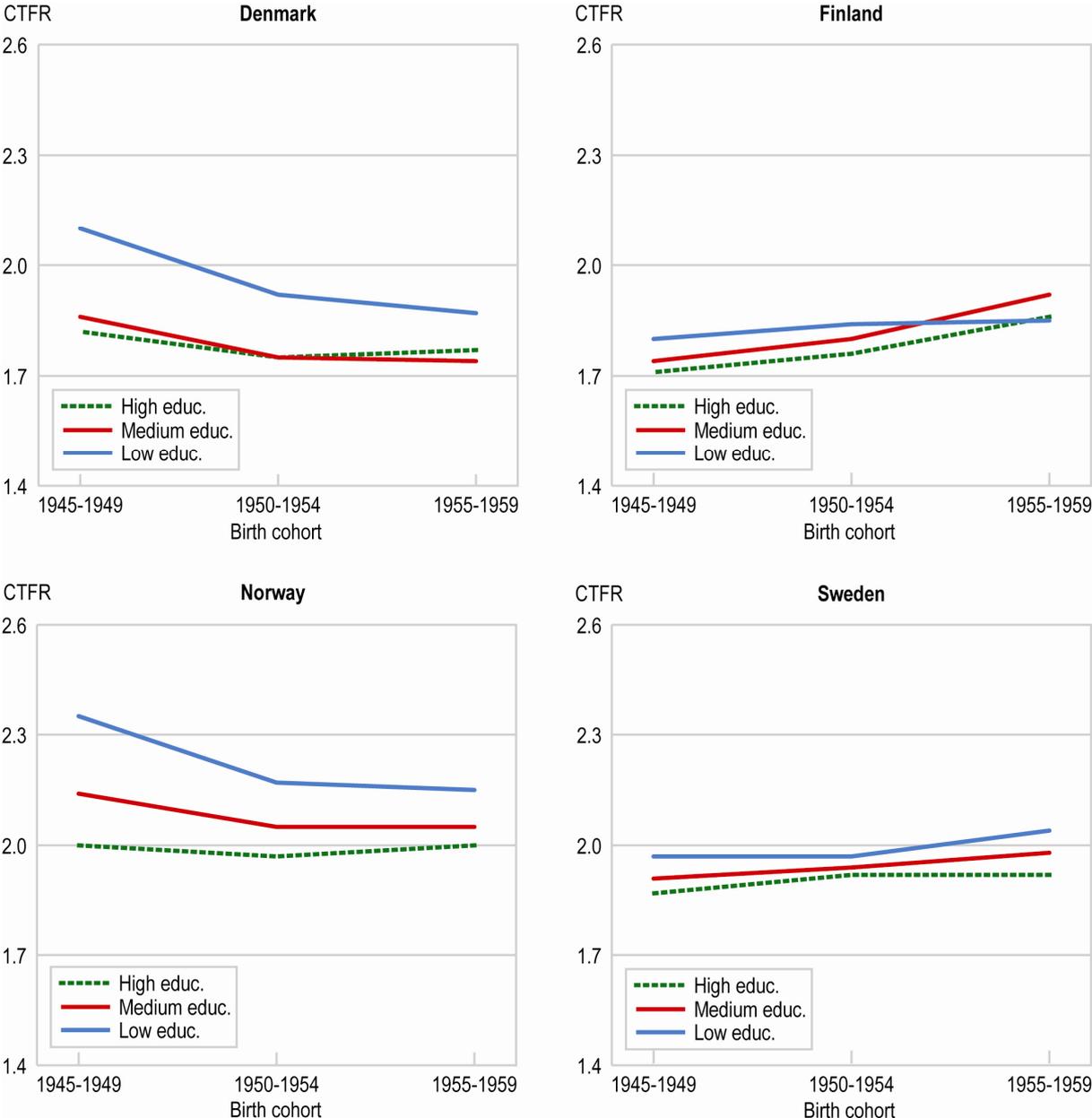
Figure 10. Cumulated fertility at age 30 and above, by educational level at age 30, Nordic women born in 1950–54



<sup>2</sup> Our data allow us to follow women born in 1950–54 up to an age of 45 years. In practice, ultimate fertility can be measured already at age 40: the childbearing beyond that age is not important for levels of ultimate fertility. For further information on late and very late fertility, see Billari et al. (2007).

Figure 11 presents the fertility outcome by means of ultimate fertility (CTFR) at age 40 for female cohorts born in 1945–49 to 1955–59 in each country, by their educational level at age 30. Even though the graphs only include information for cohorts born within a ten to fifteen year period interval, they illustrate the rather homogenous pattern of ultimate fertility across cohorts and educational groups in Finland and Sweden and a converging pattern in Denmark and Norway.

Figure 11. Cohort total fertility at age 40, by educational level at age 30, female cohorts born in 1945–1959



The largest educational differences are seen in Denmark and Norway, though they have diminished over time as women with low education have reduced their fertility across the cohorts. Norway has the clearest pattern of a lower (higher) educational level being associated

with a higher (lower) ultimate number of children. In Denmark, the CTFRs of women with high and medium education are very close to each other. In Finland and Sweden, we observe some minor increases in ultimate fertility within each educational category over the cohorts. For Finland, we also observe an interesting cross-over in patterns as women with low education in the youngest cohort have lower rather than higher ultimate fertility than women at the higher educational levels have.

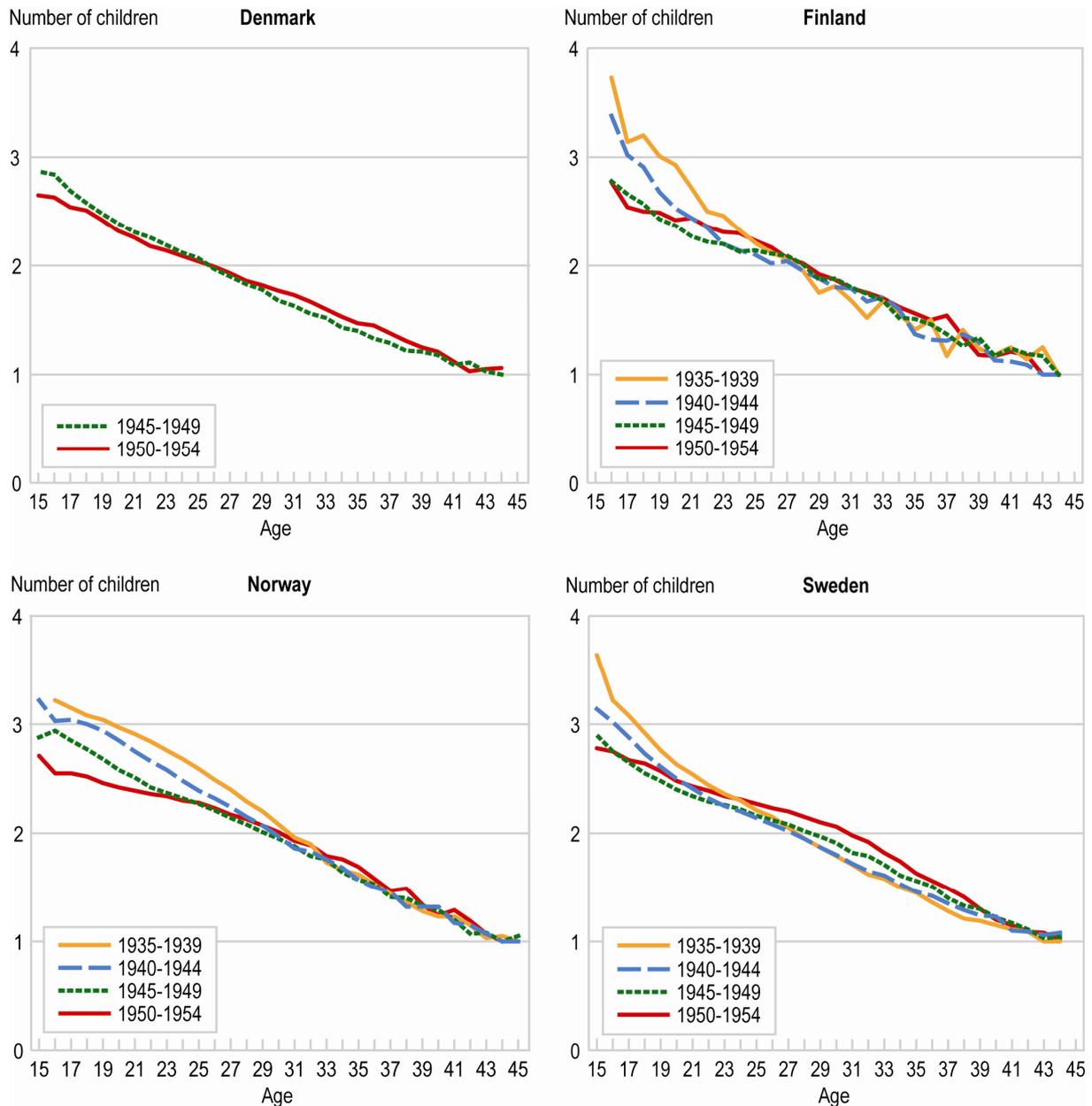
The CTFRs for the various educational levels must be seen in relation to the different fertility trends and levels in aggregate cohort fertility across countries (Figure 3). These, in turn, are also affected by the compositional changes of women over the educational groups (Figure 2). In sum, we note that as in the case of ultimate childlessness, we find no strong or universal relationship of higher educational level being related to lower ultimate fertility. The direction of association is clearer than what it is for childlessness, but differences are sometimes small, diminishing or even changing direction across our cohorts. Nevertheless, in most cases a higher educational attainment indeed is related to somewhat fewer children. In the next section, we shall shed further light on the association of the age of onset of childbearing with ultimate fertility and, subsequently, how this association is modified by women's educational attainment.

## **8 Later means fewer?**

It is generally assumed that postponement of first births will eventually lead to a decline in ultimate fertility. In Figure 12, we present the ultimate number of children born to mothers as of age 45 in relation to the age when the woman had her first child, for each of our five-year cohorts. Overall, an early onset of childbearing is related to a much higher number of children than a later onset is. The relationship is strongest for the oldest cohorts in all countries. In Norway and Sweden the gradient has weakened very clearly across cohorts and in Denmark and Finland the weakening is clear but less strong.

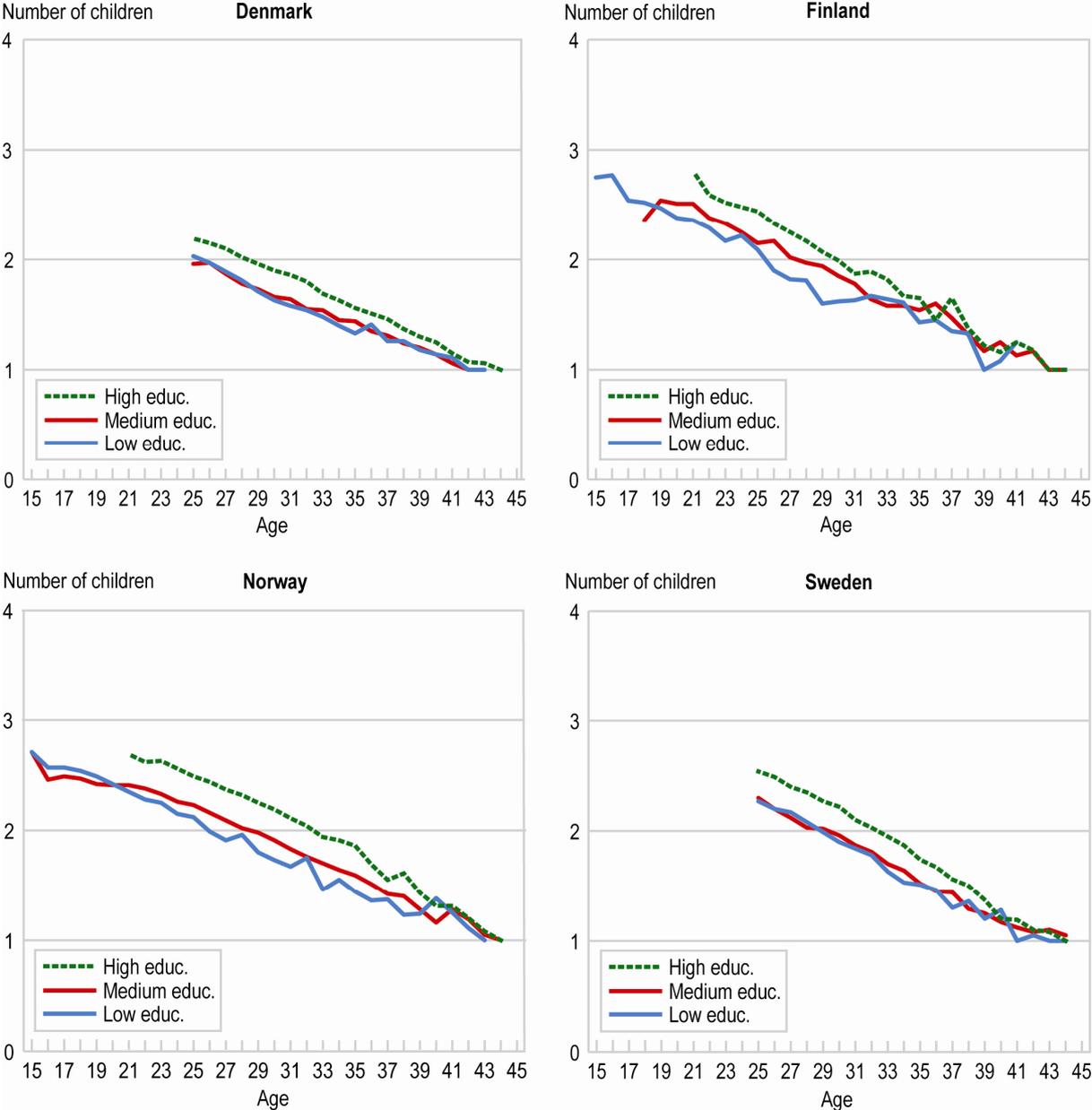
Considering the issue of childbearing behaviour and recuperation, it can be seen that in most cases, the younger cohorts have changed their patterns of behaviour. The early starters in the young cohorts have fewer children than the early starters in the older cohorts had, while the late starters in the young cohorts end up with slightly more children at age 45 than what the late starters in the previous cohorts did. This indicates that fertility postponement does not always imply fewer children.

Figure 12. Number of children born at age 45 for mothers in the Nordic countries, by age at first childbirth



Previously, we demonstrated how median age at first childbirth in each country increased across the studied cohorts and further, that the longer the education the higher was the median age (cfr. Figures 4 and 5). Figures 7 and 11, which portrayed childlessness and ultimate fertility at age 40, added a somewhat more complex pattern to the picture. Neither of these reproductive characteristics displayed the same clear-cut relationship with educational attainment, as did median age at first childbirth. Our Figures 8 and 10 showed how this is related to the recuperation of fertility past age 30 of women at the higher educational levels. To elucidate further variations between the timing of first birth and lifetime fertility of mothers, Figure 13 shows the relationship of Figure 12 for each educational level separately, with education measured at the time of the first birth, for women born in 1950–54. Our Appendix 3 displays the corresponding relationship for the other cohorts of our study.

Figure 13. Number of children born at age 45 for mothers in the Nordic countries, by age and educational level at first childbirth, female cohorts born in 1950–54



Within each educational group of mothers, we note that a later onset of childbearing is related to a lower number of children finally born. More interesting, however, is that for all four countries we observe that women who become mothers at a given age while having a long education have higher lifetime fertility than women with medium or low education who have their first child *at the same age*. In Finland and Norway, there are also visible differences between mothers at the low and the medium educational levels, with the medium educated having higher lifetime fertility for a given age at first birth. Our findings point to the role of “relative age” in higher-order childbearing (cf. Hoem 1996): A highly educated woman who has her first birth at the same age as some group of less educated women can be considered an early starter of childbearing within her own educational group. Early starters have more

children than late starters (Figure 12), but there are differences across educational groups in what can be considered a late or early onset of childbearing. Figure 13 demonstrates that highly educated mothers will exhibit higher second- and third-birth rates than women with shorter education in any fertility model that involves a control for woman's age. Elevated birth rates of highly educated mothers indeed is a standard finding in event-history analyses of the second- and third-birth behaviour of women in the Nordic countries (Hoem and Hoem 1989; Vikat 2004; Kravdal 2007; Gerster et al. 2007; Andersson et al. 2008). In Figure 11, we demonstrated that women with high education nevertheless have a completed fertility that is slightly lower than that of women with shorter education. This is not surprising as the highly educated on average start their childbearing later than the less educated (Figure 5) and the age of first birth is so strongly related with ultimate fertility (Figures 12–13).

Summing up, our data demonstrate that highly educated women have their first births later than other women but in most countries and cohorts have a lifetime fertility that is not much lower than that of the other educational groups. Fertility recuperation at the higher ages makes educational differences in completed fertility in the Nordic countries become fairly small.

## 9 Summary and conclusion

This study is the first to analyse cohort fertility patterns based on the real life courses of women in Nordic countries along three dimensions: (i) across birth cohorts, (ii) across groups according to women's educational level, and (iii) across countries. The general picture is that of remarkable similarities between the countries both in the timing of motherhood and recuperation of births at higher ages, but there are noticeable differences in patterns across cohorts and educational groups.

The similarities between the countries especially concern the processes of increasing postponement of first birth, increasing childlessness among the more recent cohorts of our study, and a slightly increasing final number of children among the “late starters” of mothers. Other common characteristics are (i) the stability in the Cohort Total Fertility Rate (CTFR) despite an increasing level of childlessness among the more recent cohorts, and (ii) the positive relationship between the educational level and the final number of children when women who become mothers at similar ages are compared. The dissimilarities between countries in cohort fertility patterns primarily concern details in the median age at first birth, the timing of the onset of the fertility postponement, the level of ultimate childlessness, and the associations of educational level with childlessness and final number of children. Our results also show that the Nordic countries have become more similar over time in that differences in cohort fertility patterns seem to have diminished.

As in the case of our related study on period fertility in the Nordic countries (Andersson 2004; Neyer et al. 2006), one may therefore conclude that there is a common Nordic cohort fertility regime. In line with other Western countries there is an ongoing postponement of parenthood, but what distinguishes the Nordic countries from many other countries is a stronger recuperation of fertility at the older ages and a weak role of educational attainment in completed fertility. It is common to argue that these patterns may be attributed to the impact of Nordic social policies that enhance fertility recuperation and make social differences in fertility behaviour small. Since the 1960s, the Nordic countries have geared their social policies, labour-market policies and gender policies towards reducing social differences and increasing social and gender equity. They have largely attuned their family and child-care policies to support this aim and have created a Nordic social model of equality and universal welfare. Clearly, the Nordic societies have a lot in common today in their social policies, labour-market institutions, gender equity, and culture in general – and as we have

demonstrated in our study, in ultimate fertility patterns as well. It remains for future research to establish whether and to what extent the development towards common patterns in completed fertility in the Nordic countries and the weak role of educational attainment for ultimate fertility may in fact be attributed to similarities and differences in the institutional context of the Nordic societies.

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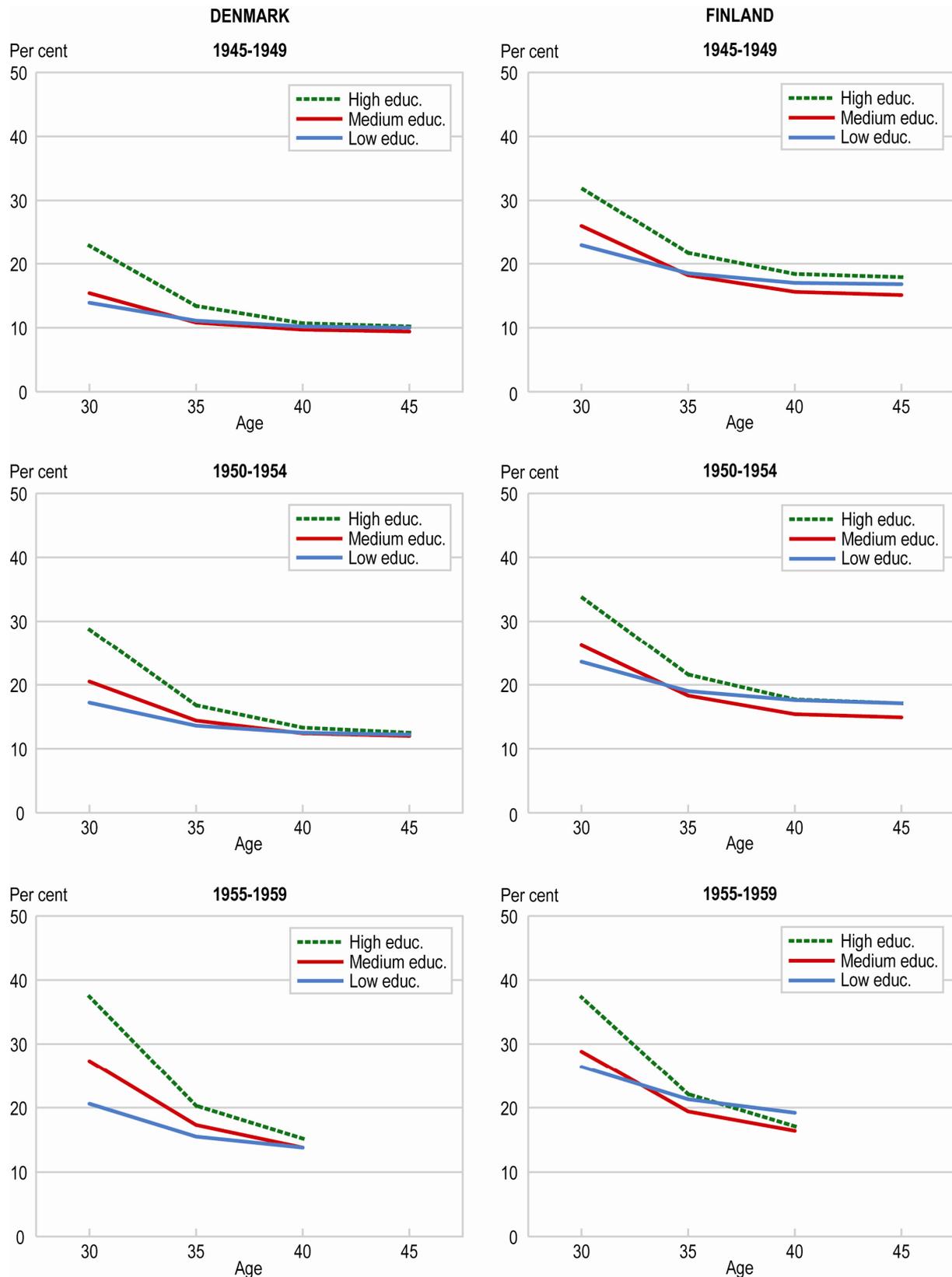
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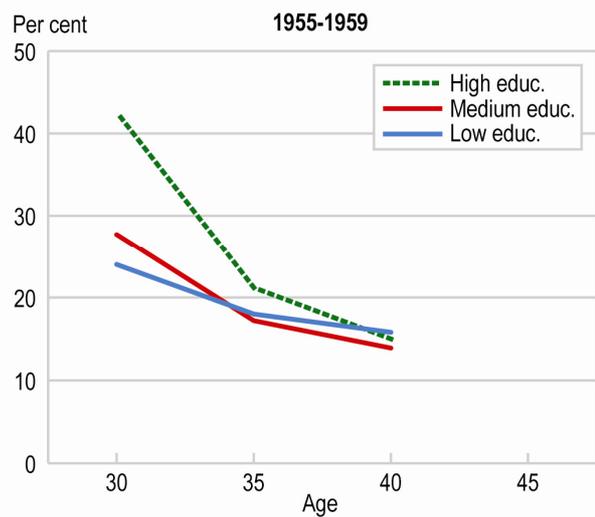
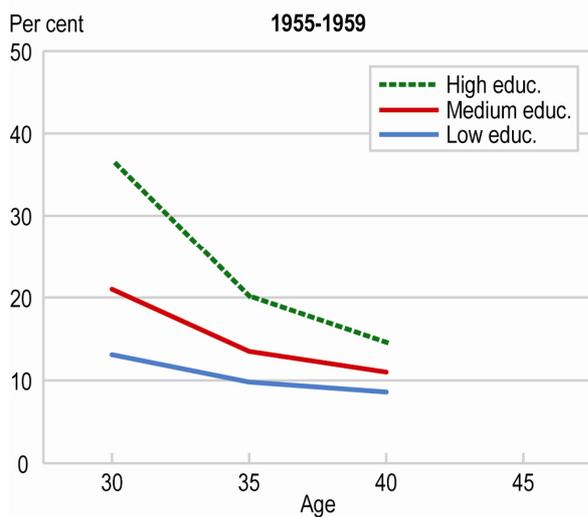
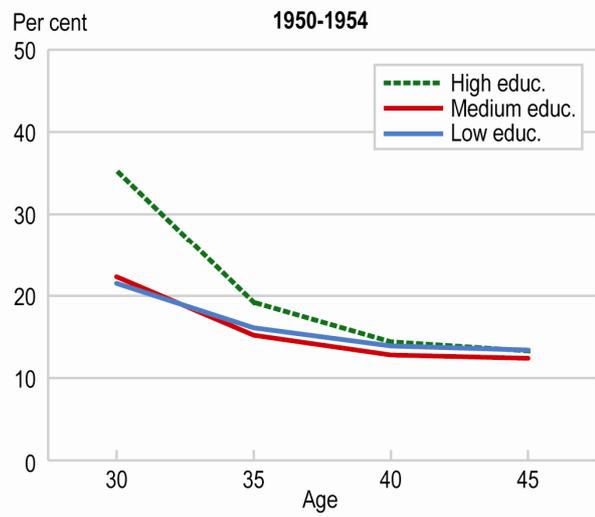
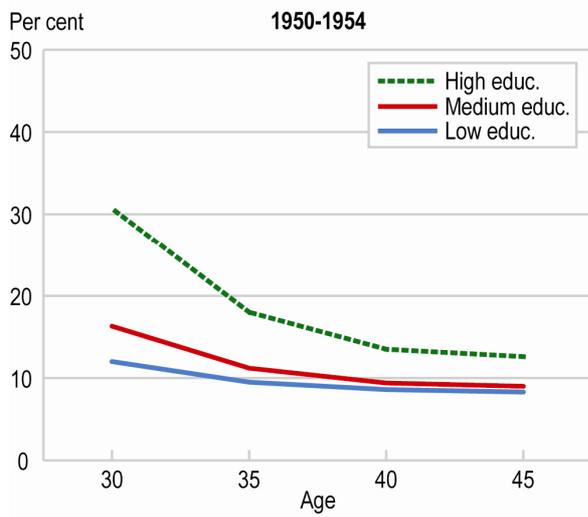
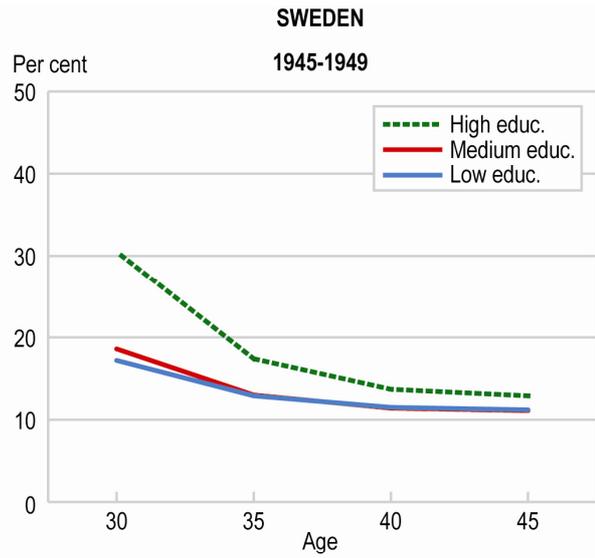
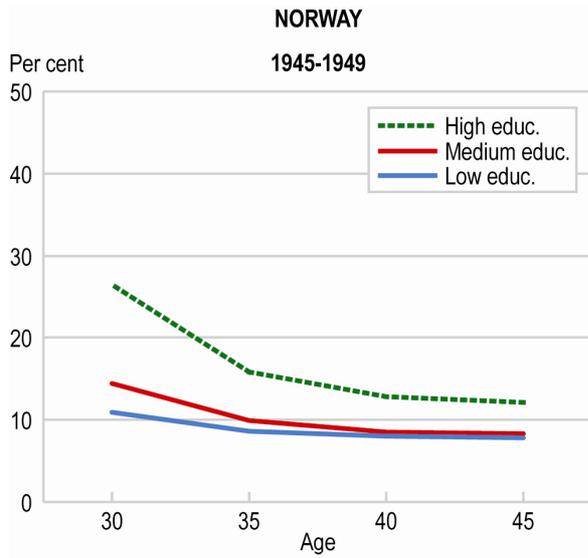
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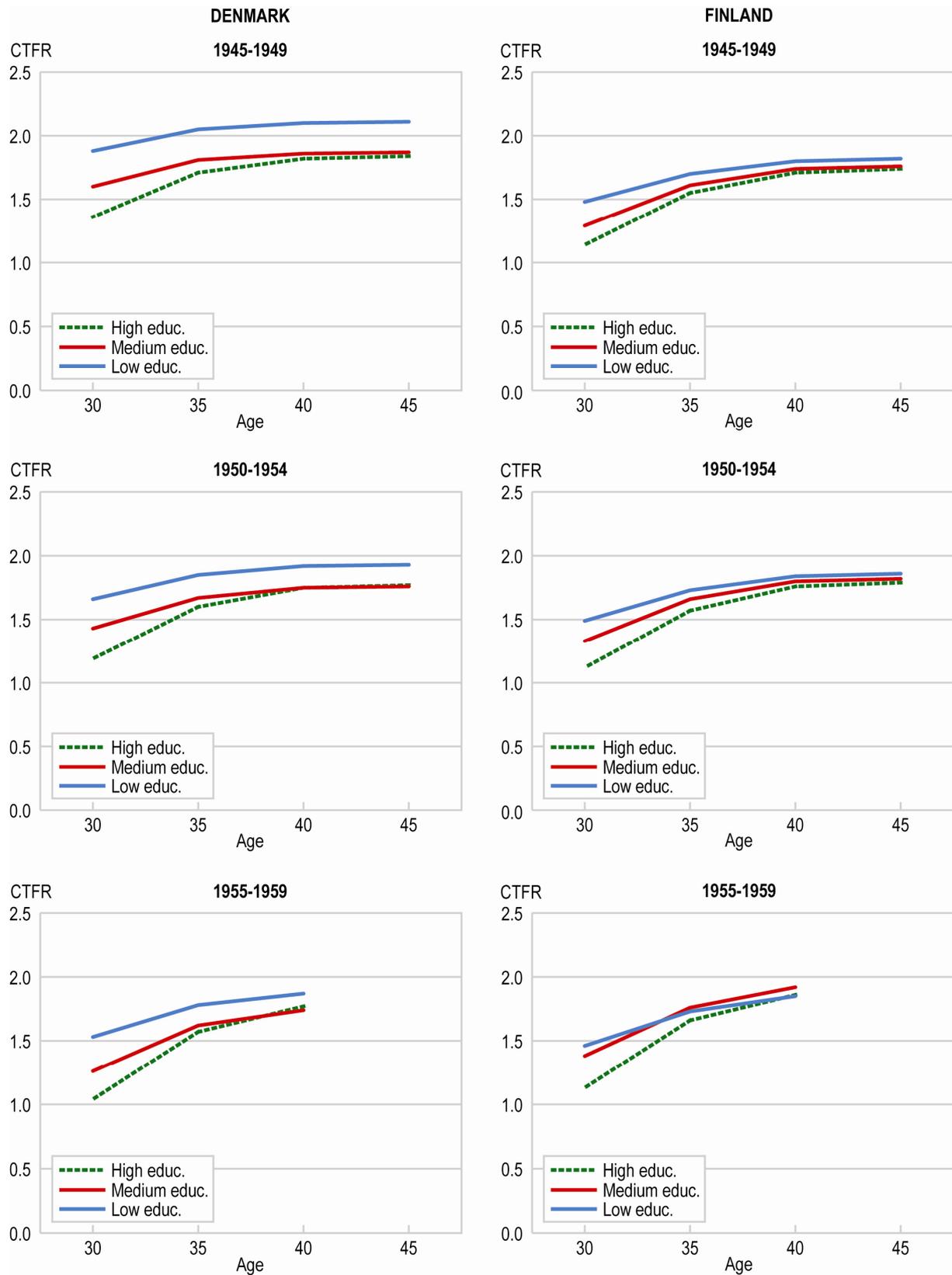
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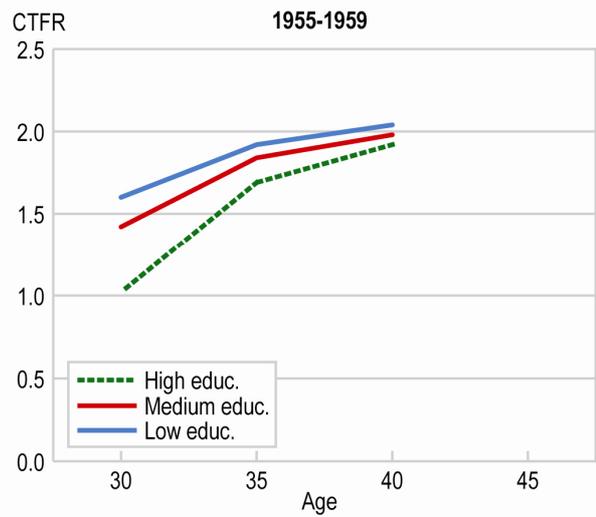
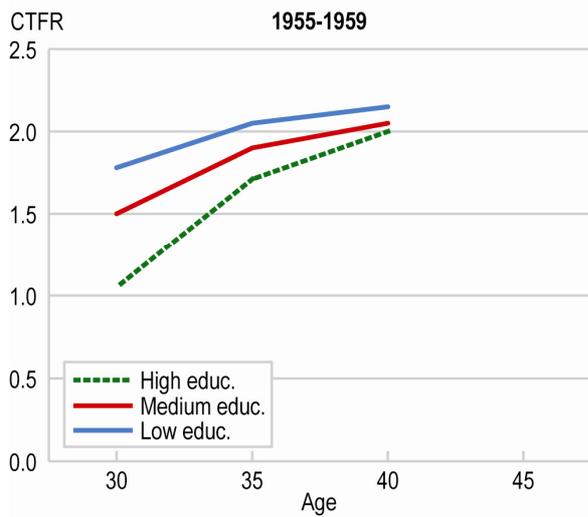
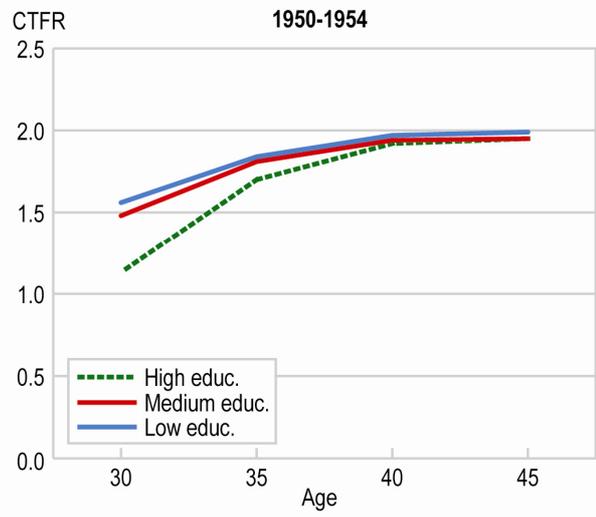
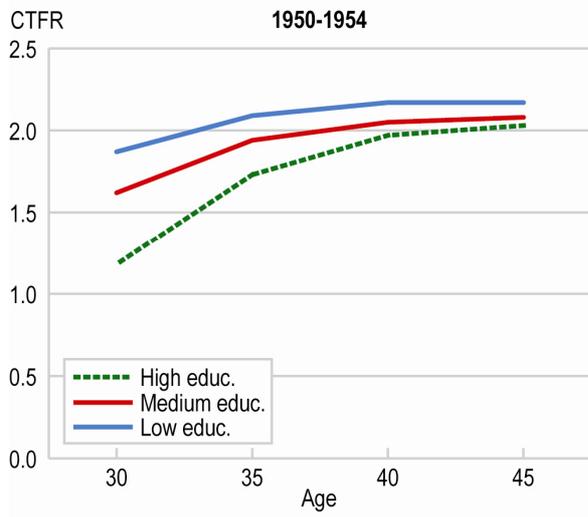
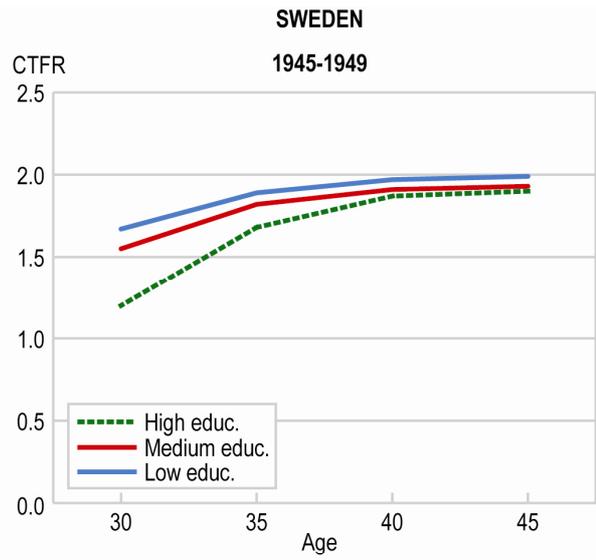
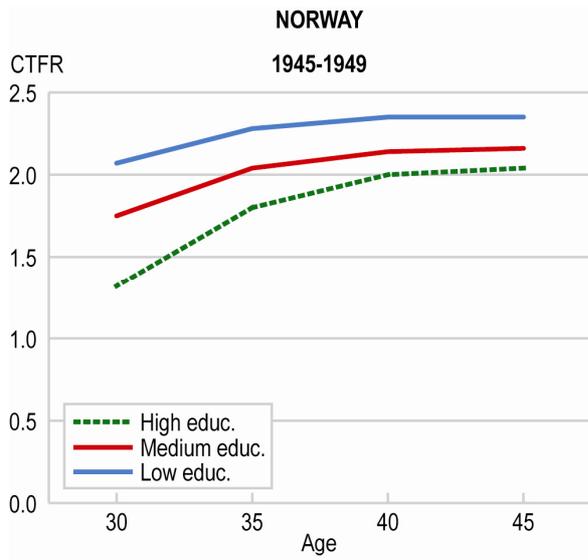
*Appendix 1. Childlessness at age 30 and above, by educational level at age 30, female cohorts of Nordic women*



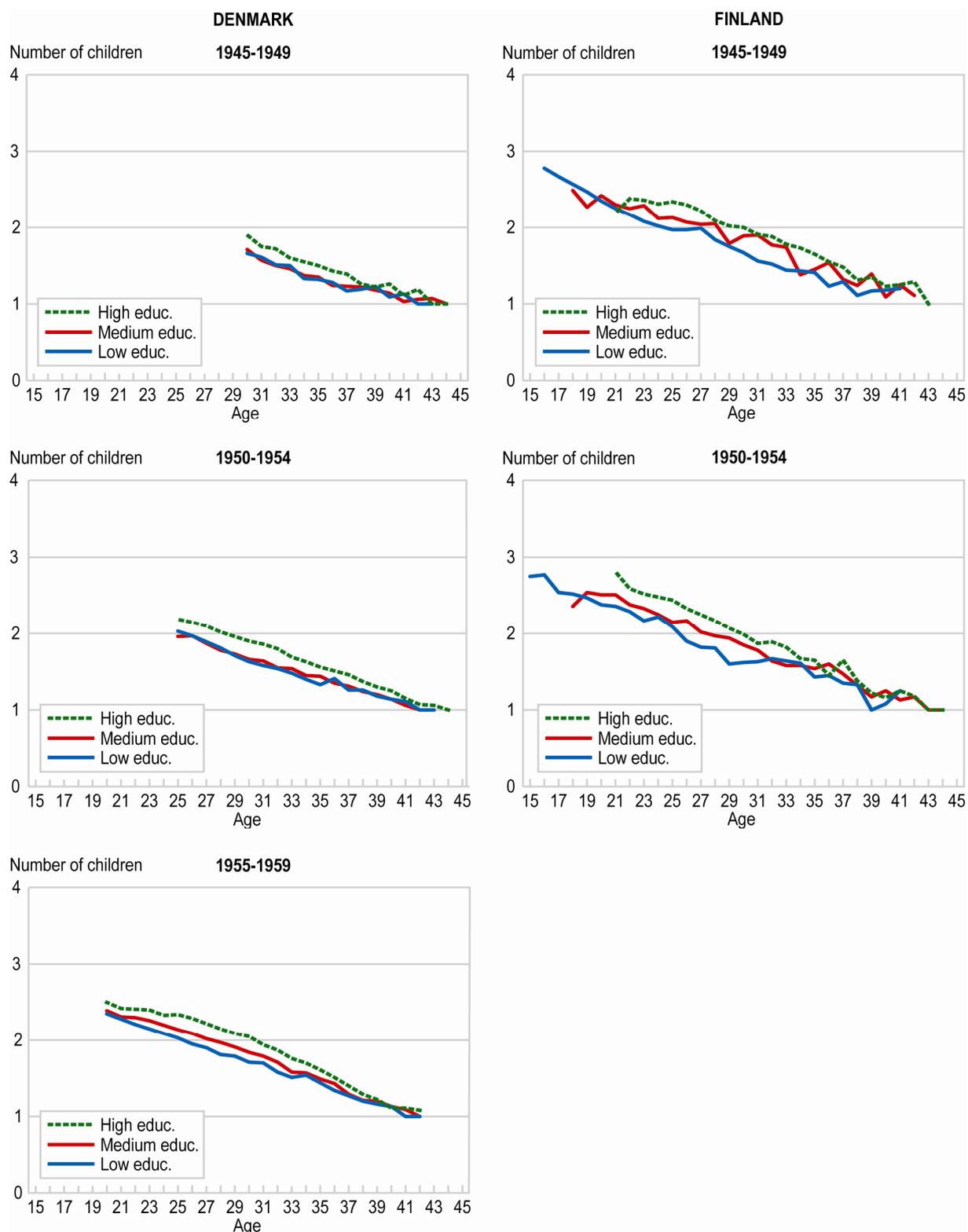


Appendix 2. Cumulated fertility at age 30 and above, by educational level at age 30, female cohorts of Nordic women

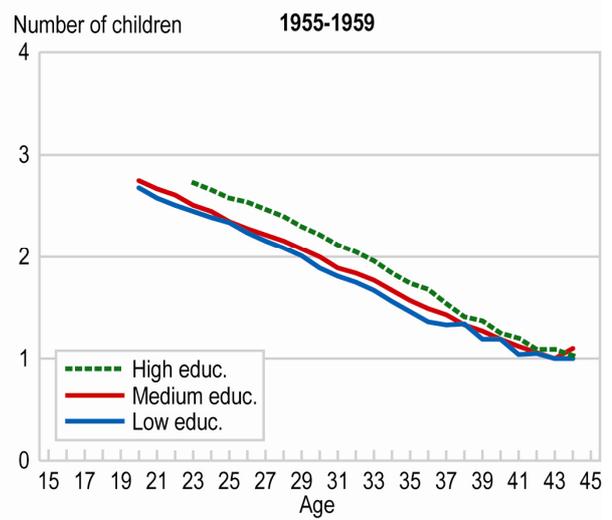
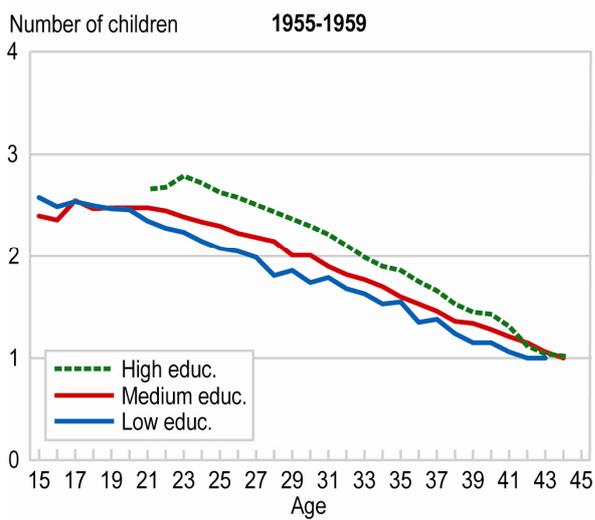
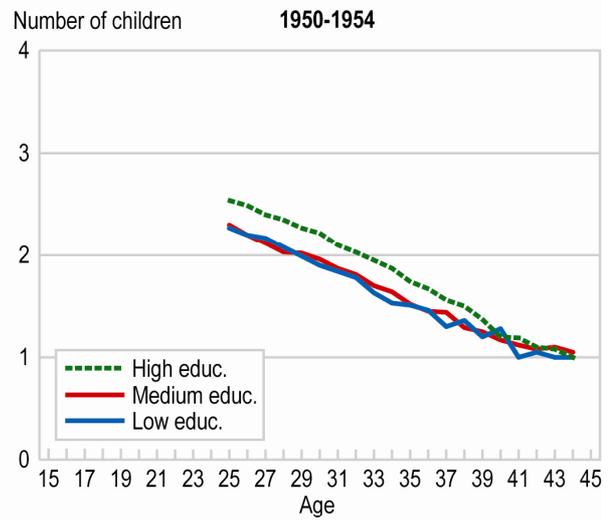
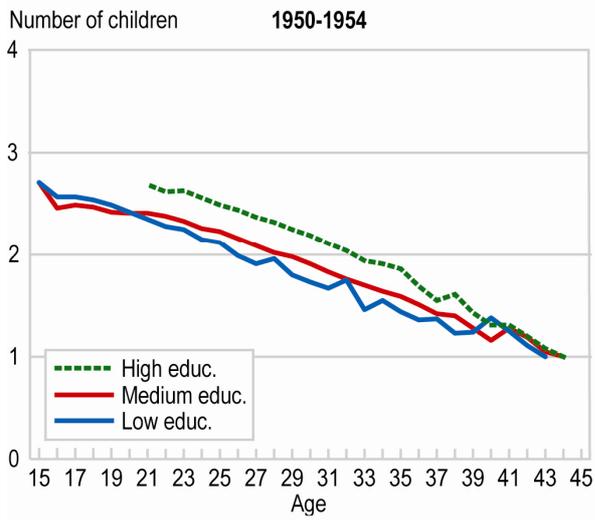
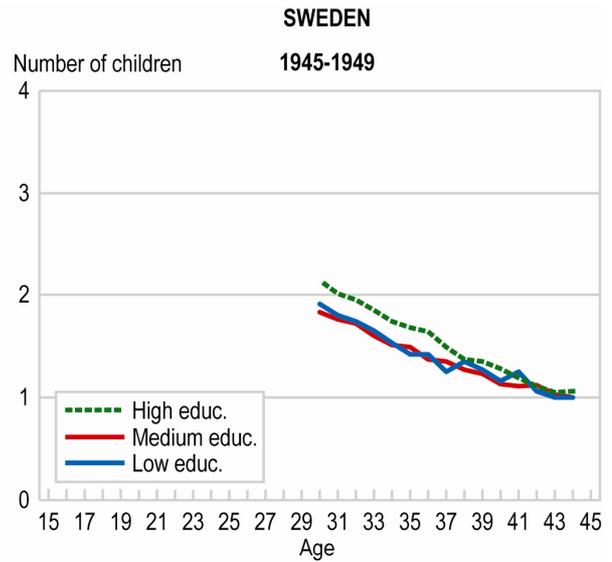
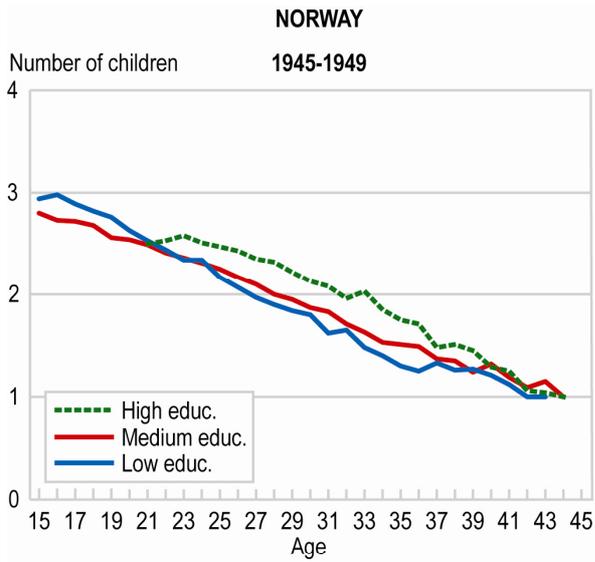




Appendix 3. Number of children born at age 45 for mothers, by age and educational level at first childbirth, female cohorts of Nordic women<sup>3</sup>



<sup>3</sup> For Denmark and Sweden, educational data are only available from 1980 and onwards. This makes the figures for these countries left truncated as regards the earliest age for which we can apply data on education at first birth. In addition, for the same countries, we can only follow women of the 1955–59 cohort up to a maximum age of 43 years. For Finland, we can follow them up to age 41, thus we omit the figure for this Finnish cohort from our presentation.



**Table 1. Educational level at age 30 for five-year cohorts of women born in 1945–1969. Per cent**

Birth cohort	Low education	Medium education	High education
<b>Denmark</b>			
1945–1949	40.7	38.9	20.4
1950–1954	39.6	34.5	25.9
1955–1959	41.2	33.7	25.1
1960–1964	30.9	45.9	23.2
1965–1969	22.9	51.4	25.7
<b>Finland</b>			
1945–1949	45.9	31.1	23.0
1950–1954	34.4	39.3	26.4
1955–1959	22.6	44.8	32.6
1960–1964	14.4	47.5	38.1
1965–1969	13.5	41.6	44.9
<b>Norway</b>			
1945–1949	29.0	56.3	14.7
1950–1954	23.5	56.1	20.4
1955–1959	17.7	59.5	22.8
1960–1964	10.6	63.4	26.0
1965–1969	7.5	59.2	33.3
<b>Sweden</b>			
1945–1949	44.6	35.2	20.2
1950–1954	37.7	39.4	22.9
1955–1959	24.1	49.8	26.1
1960–1964	14.6	58.9	26.5
1965–1969	11.6	59.1	29.3

**Table 2. Period Total Fertility Rate, 1960–2005**

Calendar year	Denmark	Finland	Norway	Sweden
1960	2.57	2.71	2.91	2.17
1961	2.55	2.65	2.95	2.21
1962	2.55	2.66	2.92	2.25
1963	2.64	2.66	2.93	2.33
1964	2.60	2.58	2.98	2.47
1965	2.61	2.46	2.95	2.41
1966	2.61	2.41	2.90	2.37
1967	2.35	2.32	2.81	2.28
1968	2.12	2.15	2.75	2.09
1969	2.00	1.94	2.70	1.94
1970	1.95	1.83	2.50	1.94
1971	2.04	1.70	2.49	1.98
1972	2.03	1.59	2.38	1.93
1973	1.92	1.50	2.23	1.88
1974	1.90	1.62	2.13	1.89
1975	1.92	1.69	1.98	1.78
1976	1.75	1.72	1.86	1.69
1977	1.66	1.69	1.75	1.65
1978	1.67	1.65	1.77	1.60
1979	1.60	1.64	1.75	1.66
1980	1.55	1.63	1.72	1.68
1981	1.44	1.65	1.70	1.63
1982	1.43	1.72	1.71	1.62
1983	1.38	1.74	1.66	1.61
1984	1.40	1.70	1.66	1.66
1985	1.45	1.64	1.68	1.74
1986	1.48	1.60	1.71	1.80
1987	1.50	1.59	1.75	1.84
1988	1.56	1.70	1.84	1.96
1989	1.62	1.71	1.89	2.01
1990	1.67	1.78	1.93	2.13
1991	1.68	1.80	1.92	2.11
1992	1.76	1.85	1.89	2.09
1993	1.75	1.81	1.86	1.99
1994	1.81	1.85	1.87	1.88
1995	1.81	1.81	1.87	1.73
1996	1.75	1.76	1.89	1.60
1997	1.75	1.75	1.86	1.52
1998	1.72	1.70	1.81	1.50
1999	1.73	1.74	1.84	1.50
2000	1.77	1.73	1.85	1.55
2001	1.75	1.73	1.78	1.57
2002	1.72	1.72	1.75	1.65
2003	1.76	1.76	1.80	1.71
2004	1.78	1.80	1.83	1.75
2005	1.80	1.80	1.84	1.77

**Table 3. Cohort Total Fertility at age 40, female single-year cohorts born in 1935–1963**

Birth cohort	Denmark	Finland	Norway	Sweden
1935			2.53	2.06
1936			2.53	2.05
1937		2.04	2.50	2.04
1938		2.05	2.49	2.02
1939		1.96	2.48	2.00
1940		1.93	2.43	1.99
1941		1.88	2.41	1.98
1942		1.84	2.35	1.95
1943		1.79	2.29	1.94
1944		1.82	2.26	1.94
1945	2.01	1.80	2.22	1.92
1946	1.98	1.76	2.19	1.94
1947	1.94	1.75	2.16	1.94
1948	1.93	1.73	2.13	1.94
1949	1.89	1.77	2.11	1.94
1950	1.84	1.79	2.09	1.94
1951	1.84	1.79	2.08	1.94
1952	1.81	1.77	2.06	1.94
1953	1.80	1.83	2.04	1.96
1954	1.78	1.84	2.03	1.96
1955	1.78	1.87	2.04	1.97
1956	1.79	1.86	2.04	1.97
1957	1.80	1.87	2.04	1.99
1958	1.80	1.92	2.05	1.99
1959	1.81	1.92	2.06	1.98
1960	1.82		2.07	1.98
1961	1.84		2.07	1.95
1962			2.07	1.94
1963			2.05	

**Table 4. Age at which 50 per cent of women have become mothers, female cohorts born in 1935–1969**

Birth cohort	Denmark	Finland	Norway	Sweden
1935–1939		24.3	23.2	24.5
1940–1944		24.3	23.1	24.3
1945–1949	23.8	25.0	22.9	24.4
1950–1954	24.4	25.7	23.1	25.2
1955–1959	25.8	26.8	24.6	26.7
1960–1964	27.1	28.3	25.9	27.5
1965–1969	27.7	28.8	26.4	27.8

**Table 5. Age at which 50 per cent of women have become mothers, by educational level at age 30, female cohorts born in 1945–1969**

Birth cohort	Low education	Medium education	High education
<b>Denmark</b>			
1945–1949	21.6	24.1	26.3
1950–1954	22.5	24.4	27.0
1955–1959	23.2	26.0	28.6
1960–1964	24.1	27.2	29.3
1965–1969	24.8	27.4	29.7
<b>Finland</b>			
1945–1949	22.9	25.3	27.8
1950–1954	23.3	25.5	28.3
1955–1959	24.5	25.9	28.9
1960–1964	25.7	27.0	29.8
1965–1969	25.3	27.1	30.1
<b>Norway</b>			
1945–1949	20.7	22.8	26.1
1950–1954	20.3	22.6	26.8
1955–1959	20.4	23.8	28.0
1960–1964	21.2	24.6	28.7
1965–1969	21.8	24.7	28.9
<b>Sweden</b>			
1945–1949	22.9	24.1	27.4
1950–1954	23.3	24.6	28.3
1955–1959	23.8	25.9	29.6
1960–1964	25.0	26.6	29.9
1965–1969	25.4	26.5	30.6

**Table 6. Childlessness at age 40, female cohorts born in 1935–1959. Per cent**

Birth cohort	Denmark	Finland	Norway	Sweden
1935–1939		15.6	9.5	12.2
1940–1944		16.2	9.6	11.8
1945–1949	10.1	16.9	9.2	11.9
1950–1954	12.7	16.8	10.0	13.6
1955–1959	14.2	17.3	11.6	14.6

**Table 7. Childlessness at age 40, by educational level at age 30, female cohorts born in 1945–1959. Per cent**

Birth cohort	Low education	Medium education	High education
<b>Denmark</b>			
1945–1949	10.2	9.7	10.7
1950–1954	12.5	12.4	13.3
1955–1959	13.8	13.8	15.2
<b>Finland</b>			
1945–1949	17.0	15.6	18.4
1950–1954	17.6	15.4	17.7
1955–1959	19.2	16.4	17.1
<b>Norway</b>			
1945–1949	8.0	8.5	12.8
1950–1954	8.6	9.4	13.5
1955–1959	8.6	11.0	14.6
<b>Sweden</b>			
1945–1949	11.5	11.4	13.7
1950–1954	13.9	12.8	14.4
1955–1959	15.8	13.9	15.0

**Table 8 (and Appendix 1). Childlessness at age 30 and above, by educational level at age 30, female cohorts of Nordic women. Per cent**

<b>8a) Denmark</b>			
Cohort and Age	Low education	Medium education	High education
<b>1945–1949</b>			
30 years	13.9	15.4	22.8
35 years	11.1	10.8	13.4
40 years	10.2	9.7	10.7
45 years	10.0	9.4	10.2
<b>1950–1954</b>			
30 years	17.2	20.5	28.7
35 years	13.6	14.4	16.8
40 years	12.5	12.4	13.3
45 years	12.2	12.0	12.5
<b>1955–1959</b>			
30 years	20.6	27.3	37.4
35 years	15.5	17.3	20.3
40 years	13.8	13.8	15.2
45 years	-	-	-
<b>8b) Finland</b>			
Cohort and Age	Low education	Medium education	High education
<b>1945–1949</b>			
30 years	22.9	25.9	31.9
35 years	18.5	18.2	21.7
40 years	17.0	15.6	18.4
45 years	16.8	15.1	17.9
<b>1950–1954</b>			
30 years	23.6	26.2	33.8
35 years	19.0	18.3	21.6
40 years	17.6	15.4	17.7
45 years	17.1	14.9	17.1
<b>1955–1959</b>			
30 years	26.4	28.8	37.3
35 years	21.3	19.4	22.1
40 years	19.2	16.4	17.1
45 years	-	-	-

**8c) Norway**

Cohort and Age	Low education	Medium education	High education
<b>1945–1949</b>			
30 years	10.9	14.4	26.4
35 years	8.6	9.9	15.8
40 years	8.0	8.5	12.8
45 years	7.8	8.3	12.1
<b>1950–1954</b>			
30 years	12.0	16.3	30.7
35 years	9.5	11.2	18.0
40 years	8.6	9.4	13.5
45 years	8.3	9.0	12.6
<b>1955–1959</b>			
30 years	13.1	21.0	36.8
35 years	9.8	13.5	20.2
40 years	8.6	11.0	14.6
45 years	-	-	-

**8d) Sweden**

Cohort and Age	Low education	Medium education	High education
<b>1945–1949</b>			
30 years	17.2	18.6	30.5
35 years	12.9	13.0	17.4
40 years	11.5	11.4	13.7
45 years	11.2	11.1	12.9
<b>1950–1954</b>			
30 years	21.5	22.3	35.3
35 years	16.1	15.2	19.2
40 years	13.9	12.8	14.4
45 years	13.4	12.4	13.3
<b>1955–1959</b>			
30 years	24.0	27.7	42.6
35 years	18.0	17.2	21.2
40 years	15.8	13.9	15.0
45 years	-	-	-

**Table 9. Cumulated mean number of live births, by single-year age, for selected cohorts of Nordic women**

**9a) Denmark**

Age	1935–39	1940–44	1945–49	1950–54	1955–59	1960–64	1965–69	1970–74
15			0.00	0.00	0.00	0.00	0.00	0.00
16			0.01	0.01	0.01	0.00	0.00	0.00
17			0.04	0.04	0.02	0.01	0.01	0.01
18			0.11	0.08	0.06	0.03	0.02	0.02
19			0.21	0.15	0.11	0.07	0.04	0.03
20			0.33	0.24	0.19	0.12	0.07	0.06
21			0.46	0.35	0.28	0.18	0.12	0.10
22			0.60	0.49	0.38	0.26	0.19	0.16
23			0.75	0.63	0.50	0.35	0.27	0.23
24			0.91	0.78	0.61	0.46	0.37	0.31
25			1.08	0.92	0.74	0.58	0.50	0.41
26			1.23	1.06	0.86	0.71	0.63	0.53
27			1.37	1.18	0.98	0.85	0.78	0.66
28			1.48	1.29	1.10	0.99	0.92	
29			1.58	1.38	1.21	1.13	1.07	
30			1.67	1.46	1.31	1.26	1.21	
31			1.73	1.53	1.40	1.37	1.33	
32			1.79	1.59	1.49	1.48	1.43	
33			1.83	1.64	1.56	1.56	1.50	
34			1.86	1.69	1.62	1.64		
35			1.89	1.72	1.67	1.70		
36			1.91	1.75	1.71	1.75		
37			1.92	1.78	1.74	1.78		
38			1.94	1.79	1.77	1.80		
39			1.94	1.81	1.79			
40			1.95	1.82	1.80			
41			1.96	1.82	1.81			
42			1.96	1.83	1.81			
43			1.96	1.83	1.81			
44			1.96	1.83				
45			1.96	1.83				
46			1.96	1.83				
47			1.96	1.83				
48			1.96	1.83				
49			1.96					

**9b) Finland**

Age	1935-39	1940-44	1945-49	1950-54	1955-59	1960-64	1965-69	1970-74
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00
17	0.02	0.02	0.02	0.03	0.03	0.02	0.01	0.01
18	0.06	0.06	0.07	0.07	0.06	0.04	0.03	0.03
19	0.13	0.14	0.15	0.14	0.12	0.08	0.06	0.06
20	0.24	0.25	0.25	0.22	0.19	0.14	0.11	0.10
21	0.39	0.39	0.37	0.31	0.27	0.21	0.16	0.15
22	0.54	0.55	0.49	0.41	0.36	0.28	0.23	0.21
23	0.72	0.70	0.61	0.53	0.47	0.37	0.31	0.29
24	0.89	0.85	0.73	0.65	0.59	0.47	0.41	0.38
25	1.06	0.99	0.84	0.78	0.71	0.59	0.53	0.48
26	1.22	1.12	0.95	0.90	0.84	0.71	0.66	0.58
27	1.36	1.23	1.06	1.02	0.97	0.85	0.80	
28	1.48	1.33	1.17	1.13	1.09	0.99	0.93	
29	1.58	1.41	1.26	1.24	1.21	1.13	1.06	
30	1.67	1.49	1.35	1.34	1.33	1.26	1.19	
31	1.74	1.55	1.42	1.42	1.43	1.37	1.29	
32	1.80	1.61	1.49	1.49	1.52	1.48		
33	1.85	1.66	1.55	1.56	1.60	1.57		
34	1.88	1.70	1.60	1.62	1.67	1.64		
35	1.92	1.74	1.64	1.66	1.73	1.71		
36	1.95	1.77	1.68	1.71	1.78	1.76		
37	1.97	1.80	1.71	1.74	1.82			
38	1.99	1.82	1.73	1.77	1.85			
39	2.00	1.84	1.75	1.79	1.87			
40	2.02	1.85	1.76	1.81	1.89			
41	2.02	1.86	1.77	1.81	1.90			
42	2.03	1.86	1.78	1.82				
43	2.03	1.87	1.78	1.83				
44	2.04	1.87	1.78	1.83				
45	2.04	1.87	1.78	1.83				
46	2.04	1.87	1.78	1.83				
47	2.04	1.87	1.78					
48	2.04	1.87	1.78					
49	2.04	1.87	1.78					

**9c) Norway**

Age	1935-39	1940-44	1945-49	1950-54	1955-59	1960-64	1965-69	1970-74
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.01
18	0.05	0.06	0.06	0.08	0.07	0.05	0.03	0.03
19	0.12	0.13	0.14	0.17	0.14	0.09	0.07	0.06
20	0.23	0.25	0.27	0.29	0.23	0.16	0.12	0.10
21	0.37	0.40	0.42	0.42	0.32	0.23	0.19	0.16
22	0.53	0.57	0.60	0.56	0.43	0.32	0.28	0.23
23	0.72	0.77	0.78	0.71	0.55	0.43	0.37	0.31
24	0.90	0.97	0.95	0.85	0.68	0.54	0.48	0.40
25	1.09	1.17	1.13	0.99	0.81	0.67	0.61	0.51
26	1.28	1.36	1.29	1.13	0.94	0.81	0.74	0.62
27	1.47	1.53	1.43	1.26	1.07	0.96	0.88	0.75
28	1.64	1.68	1.55	1.38	1.20	1.10	1.02	0.87
29	1.80	1.82	1.66	1.49	1.32	1.24	1.16	1.03
30	1.94	1.93	1.75	1.59	1.44	1.37	1.30	
31	2.07	2.02	1.83	1.68	1.55	1.50	1.42	
32	2.17	2.10	1.90	1.75	1.65	1.61	1.54	
33	2.26	2.16	1.96	1.82	1.73	1.70	1.64	
34	2.32	2.20	2.01	1.88	1.81	1.79	1.73	
35	2.38	2.24	2.05	1.92	1.88	1.86		
36	2.42	2.27	2.08	1.96	1.93	1.92		
37	2.45	2.30	2.10	2.00	1.97	1.97		
38	2.48	2.31	2.12	2.02	2.00	2.01		
39	2.49	2.33	2.13	2.04	2.03	2.04		
40	2.51	2.34	2.15	2.06	2.05			
41	2.51	2.35	2.16	2.07	2.06			
42	2.52	2.35	2.16	2.08	2.07			
43	2.52	2.35	2.16	2.08	2.07			
44	2.52	2.36	2.17	2.08	2.07			
45	2.52	2.36	2.17	2.09				
46	2.53	2.36	2.17	2.09				
47	2.53	2.36	2.17	2.09				
48	2.53	2.36	2.17	2.09				
49	2.53	2.36	2.17	2.09				

**9d) Sweden**

Age	1935-39	1940-44	1945-49	1950-54	1955-59	1960-64	1965-69	1970-74
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.01	0.01	0.02	0.01	0.01	0.00	0.00	0.00
17	0.04	0.04	0.06	0.04	0.03	0.01	0.01	0.01
18	0.10	0.10	0.12	0.09	0.07	0.03	0.02	0.02
19	0.18	0.19	0.21	0.16	0.12	0.07	0.05	0.05
20	0.29	0.29	0.31	0.24	0.18	0.11	0.09	0.09
21	0.40	0.42	0.42	0.34	0.26	0.18	0.16	0.14
22	0.54	0.56	0.54	0.46	0.35	0.26	0.24	0.20
23	0.68	0.70	0.67	0.58	0.46	0.35	0.35	0.27
24	0.83	0.86	0.81	0.71	0.57	0.47	0.47	0.35
25	0.99	1.01	0.96	0.84	0.70	0.61	0.61	0.44
26	1.15	1.15	1.10	0.97	0.83	0.76	0.74	0.54
27	1.30	1.29	1.23	1.10	0.96	0.91	0.88	0.64
28	1.44	1.41	1.34	1.22	1.10	1.07	1.01	0.75
29	1.56	1.52	1.45	1.33	1.23	1.22	1.13	
30	1.66	1.61	1.53	1.43	1.36	1.35	1.24	
31	1.75	1.69	1.61	1.53	1.48	1.47	1.35	
32	1.82	1.75	1.68	1.61	1.59	1.57	1.44	
33	1.87	1.80	1.74	1.68	1.68	1.66	1.53	
34	1.92	1.84	1.79	1.74	1.76	1.73		
35	1.95	1.87	1.83	1.80	1.83	1.79		
36	1.98	1.90	1.86	1.85	1.88	1.84		
37	2.00	1.92	1.89	1.88	1.92	1.87		
38	2.02	1.94	1.91	1.91	1.95	1.90		
39	2.03	1.95	1.92	1.93	1.97			
40	2.03	1.96	1.93	1.95	1.98			
41	2.04	1.97	1.94	1.96	1.99			
42	2.04	1.97	1.95	1.96	2.00			
43	2.04	1.97	1.95	1.97	2.00			
44	2.05	1.97	1.95	1.97				
45	2.05	1.97	1.95	1.97				
46	2.05	1.97	1.95	1.97				
47	2.05	1.97	1.95	1.97				
48	2.05	1.97	1.95	1.97				
49	2.05	1.97	1.95					

**Table 10 (and Appendix 2). Cumulated fertility at age 30 and above, by educational level at age 30, female cohorts of Nordic women**

<b>10a) Denmark</b>			
Cohort and Age	Low education	Medium education	High education
<b>1945–1949</b>			
30 years	1.88	1.60	1.36
35 years	2.05	1.81	1.71
40 years	2.10	1.86	1.82
45 years	2.11	1.87	1.84
<b>1950–1954</b>			
30 years	1.66	1.43	1.19
35 years	1.85	1.67	1.60
40 years	1.92	1.75	1.75
45 years	1.93	1.76	1.77
<b>1955–1959</b>			
30 years	1.53	1.26	1.04
35 years	1.78	1.62	1.57
40 years	1.87	1.74	1.77
45 years	-	-	-
<b>10b) Finland</b>			
Cohort and Age	Low education	Medium education	High education
<b>1945–1949</b>			
30 years	1.48	1.29	1.14
35 years	1.70	1.61	1.55
40 years	1.80	1.74	1.71
45 years	1.82	1.76	1.74
<b>1950–1954</b>			
30 years	1.49	1.33	1.12
35 years	1.73	1.66	1.57
40 years	1.84	1.80	1.76
45 years	1.86	1.82	1.79
<b>1955–1959</b>			
30 years	1.46	1.38	1.13
35 years	1.73	1.76	1.66
40 years	1.85	1.92	1.86
45 years	-	-	-

**10c) Norway**

Cohort and Age	Low education	Medium education	High education
<b>1945–1949</b>			
30 years	2.07	1.75	1.32
35 years	2.27	2.03	1.83
40 years	2.34	2.12	2.02
45 years	2.35	2.13	2.06
<b>1950–1954</b>			
30 years	1.87	1.62	1.18
35 years	2.08	1.93	1.74
40 years	2.17	2.04	1.99
45 years	2.19	2.06	2.03
<b>1955–1959</b>			
30 years	1.78	1.49	1.05
35 years	2.05	1.88	1.72
40 years	2.16	2.03	2.01
45 years	-	-	-

**10d) Sweden**

Cohort and Age	Low education	Medium education	High education
<b>1945–1949</b>			
30 years	1.67	1.55	1.20
35 years	1.89	1.82	1.68
40 years	1.97	1.91	1.87
45 years	1.99	1.93	1.90
<b>1950–1954</b>			
30 years	1.56	1.48	1.13
35 years	1.84	1.81	1.70
40 years	1.97	1.94	1.92
45 years	1.99	1.95	1.95
<b>1955–1959</b>			
30 years	1.60	1.42	1.02
35 years	1.92	1.84	1.69
40 years	2.04	1.98	1.92
45 years	-	-	-

**Table 11. Cohort total fertility at age 40, by educational level at age 30, female cohorts born in 1945–1959**

Birth cohort	Low education	Medium education	High education
<b>Denmark</b>			
1945–1949	2.1	1.9	1.8
1950–1954	1.9	1.8	1.8
1955–1959	1.9	1.7	1.8
<b>Finland</b>			
1945–1949	1.8	1.7	1.7
1950–1954	1.8	1.8	1.8
1955–1959	1.9	1.9	1.9
<b>Norway</b>			
1945–1949	2.4	2.1	2.0
1950–1954	2.2	2.1	2.0
1955–1959	2.2	2.1	2.0
<b>Sweden</b>			
1945–1949	2.0	1.9	1.9
1950–1954	2.0	1.9	1.9
1955–1959	2.0	2.0	1.9

**Table 12. Number of children born at age 45 for mothers in the Nordic countries, by age at first childbirth**

<b>12a) Denmark</b>				
Age	1935–1939	1940–1944	1945–1949	1950–1954
15			2.87	2.65
16			2.84	2.63
17			2.69	2.54
18			2.58	2.51
19			2.48	2.42
20			2.39	2.32
21			2.31	2.26
22			2.26	2.18
23			2.19	2.14
24			2.12	2.09
25			2.07	2.04
26			1.97	1.99
27			1.90	1.93
28			1.83	1.86
29			1.78	1.82
30			1.68	1.77
31			1.63	1.73
32			1.56	1.67
33			1.52	1.60
34			1.43	1.53
35			1.40	1.47
36			1.33	1.45
37			1.29	1.38
38			1.22	1.31
39			1.21	1.25
40			1.18	1.21
41			1.09	1.12
42			1.11	1.03
43			1.03	1.05
44			1.00	1.06
45				

**12b) Finland**

Age	1935–1939	1940–1944	1945–1949	1950–1954
15				
16	3.73	3.38	2.78	2.77
17	3.14	3.02	2.66	2.54
18	3.20	2.91	2.57	2.50
19	3.01	2.68	2.43	2.49
20	2.93	2.53	2.37	2.42
21	2.72	2.44	2.27	2.44
22	2.50	2.35	2.22	2.36
23	2.46	2.20	2.20	2.31
24	2.33	2.14	2.13	2.30
25	2.21	2.10	2.14	2.23
26	2.12	2.02	2.11	2.17
27	2.06	2.04	2.09	2.07
28	1.95	1.95	2.01	2.02
29	1.75	1.88	1.87	1.92
30	1.81	1.80	1.88	1.87
31	1.68	1.79	1.80	1.79
32	1.52	1.67	1.74	1.75
33	1.67	1.71	1.68	1.70
34	1.57	1.60	1.52	1.62
35	1.41	1.37	1.51	1.56
36	1.50	1.32	1.46	1.50
37	1.17	1.31	1.37	1.54
38	1.41	1.37	1.26	1.35
39	1.24	1.30	1.34	1.18
40	1.18	1.13	1.17	1.17
41	1.25	1.12	1.24	1.21
42	1.14	1.09	1.19	1.18
43	1.25	1.00	1.17	1.00
44	1.00	1.00	1.00	1.00
45				

**12c) Norway**

Age	1935–1939	1940–1944	1945–1949	1950–1954
15		3.22	2.88	2.71
16	3.22	3.03	2.94	2.55
17	3.15	3.04	2.85	2.55
18	3.08	3.00	2.77	2.52
19	3.04	2.94	2.68	2.46
20	2.97	2.85	2.58	2.42
21	2.91	2.75	2.51	2.39
22	2.84	2.66	2.42	2.36
23	2.76	2.58	2.37	2.34
24	2.68	2.48	2.32	2.30
25	2.59	2.39	2.27	2.28
26	2.49	2.32	2.21	2.23
27	2.40	2.24	2.14	2.17
28	2.29	2.15	2.08	2.13
29	2.20	2.07	2.01	2.07
30	2.08	1.97	1.95	2.01
31	1.96	1.86	1.88	1.93
32	1.90	1.83	1.79	1.89
33	1.73	1.76	1.76	1.79
34	1.66	1.68	1.64	1.76
35	1.62	1.57	1.57	1.69
36	1.53	1.50	1.53	1.58
37	1.44	1.46	1.41	1.47
38	1.36	1.32	1.40	1.49
39	1.28	1.32	1.33	1.34
40	1.23	1.32	1.29	1.24
41	1.23	1.17	1.20	1.29
42	1.15	1.15	1.07	1.19
43	1.03	1.07	1.08	1.07
44	1.05	1.00	1.00	1.00
45	1.00	1.00	1.05	1.00

**12d) Sweden**

Age	1935–1939	1940–1944	1945–1949	1950–1954
15	3.64	3.14	2.90	2.78
16	3.22	3.02	2.75	2.75
17	3.08	2.88	2.65	2.67
18	2.92	2.73	2.55	2.64
19	2.76	2.61	2.48	2.57
20	2.63	2.50	2.40	2.48
21	2.54	2.41	2.34	2.43
22	2.44	2.32	2.29	2.39
23	2.36	2.25	2.26	2.34
24	2.30	2.20	2.22	2.31
25	2.21	2.14	2.16	2.27
26	2.15	2.08	2.12	2.23
27	2.05	2.02	2.08	2.20
28	1.95	1.95	2.02	2.15
29	1.87	1.87	1.97	2.10
30	1.79	1.80	1.91	2.06
31	1.71	1.72	1.82	1.98
32	1.62	1.65	1.79	1.92
33	1.58	1.61	1.71	1.82
34	1.50	1.53	1.61	1.74
35	1.45	1.46	1.56	1.63
36	1.36	1.42	1.51	1.56
37	1.28	1.35	1.40	1.49
38	1.21	1.29	1.33	1.41
39	1.19	1.24	1.30	1.30
40	1.15	1.23	1.22	1.20
41	1.11	1.10	1.17	1.15
42	1.09	1.09	1.11	1.09
43	1.00	1.06	1.03	1.08
44	1.00	1.08	1.04	1.01
45				

**Table 13 (and Appendix 3). Number of children born at age 45 for mothers, by age and educational level at first childbirth, female cohorts of Nordic women**

**13a) Denmark**

Age	1945–1949			1950–1954			1955–1959		
	Low educ.	Medium educ.	High educ.	Low educ.	Medium educ.	High educ.	Low educ.	Medium educ.	High educ.
15									
16									
17									
18									
19									
20							2.35	2.39	2.50
21							2.28	2.31	2.42
22							2.21	2.30	2.41
23							2.15	2.26	2.40
24							2.09	2.20	2.33
25				2.03	1.96	2.19	2.03	2.14	2.34
26				1.97	1.97	2.15	1.95	2.09	2.29
27				1.89	1.87	2.10	1.90	2.02	2.22
28				1.81	1.78	2.02	1.81	1.97	2.15
29				1.71	1.73	1.96	1.79	1.91	2.09
30	1.66	1.71	1.90	1.63	1.66	1.90	1.71	1.84	2.05
31	1.61	1.57	1.75	1.58	1.64	1.86	1.70	1.79	1.94
32	1.51	1.50	1.72	1.54	1.55	1.80	1.58	1.71	1.87
33	1.50	1.46	1.60	1.48	1.54	1.69	1.51	1.58	1.76
34	1.33	1.37	1.55	1.40	1.45	1.63	1.54	1.57	1.70
35	1.32	1.35	1.50	1.33	1.44	1.56	1.44	1.49	1.61
36	1.28	1.24	1.43	1.41	1.35	1.51	1.34	1.43	1.51
37	1.17	1.23	1.39	1.26	1.31	1.46	1.27	1.29	1.40
38	1.19	1.22	1.26	1.26	1.24	1.37	1.20	1.21	1.29
39	1.23	1.18	1.22	1.18	1.20	1.30	1.16	1.20	1.22
40	1.09	1.14	1.26	1.14	1.14	1.25	1.13	1.13	1.11
41	1.13	1.03	1.11	1.11	1.06	1.15	1.00	1.09	1.11
42	1.00	1.06	1.19	1.00	1.00	1.07	1.00	1.00	1.08
43	1.00	1.07	1.00	1.00	1.00	1.06			
44	1.00	1.00	1.00			1.00			

**13b) Finland**

Age	1945–1949			1950–1954			1955–1959		
	Low educ.	Medium educ.	High educ.	Low educ.	Medium educ.	High educ.	Low educ.	Medium educ.	High educ.
15				2.75					
16	2.78			2.77					
17	2.67			2.54					
18	2.57	2.49		2.52	2.36				
19	2.47	2.27		2.47	2.54				
20	2.35	2.42		2.38	2.51				
21	2.25	2.30	2.19	2.36	2.51	2.81			
22	2.17	2.25	2.38	2.29	2.38	2.59			
23	2.08	2.29	2.36	2.17	2.33	2.52			
24	2.02	2.12	2.31	2.22	2.25	2.48			
25	1.97	2.13	2.34	2.09	2.15	2.44			
26	1.97	2.07	2.30	1.90	2.17	2.33			
27	1.99	2.04	2.22	1.82	2.02	2.25			
28	1.84	2.05	2.09	1.81	1.97	2.17			
29	1.75	1.79	2.02	1.60	1.94	2.07			
30	1.67	1.89	2.00	1.62	1.85	1.99			
31	1.56	1.90	1.91	1.63	1.78	1.87			
32	1.52	1.77	1.88	1.67	1.64	1.89			
33	1.44	1.74	1.78	1.64	1.58	1.82			
34	1.43	1.38	1.73	1.61	1.58	1.67			
35	1.41	1.45	1.65	1.43	1.54	1.65			
36	1.23	1.54	1.55	1.45	1.60	1.45			
37	1.29	1.32	1.48	1.35	1.47	1.65			
38	1.11	1.24	1.31	1.33	1.32	1.38			
39	1.17	1.39	1.35	1.00	1.17	1.22			
40	1.18	1.09	1.23	1.08	1.25	1.16			
41	1.20	1.25	1.25	1.25	1.13	1.25			
42		1.11	1.29		1.17	1.18			
43			1.00		1.00	1.00			
44					1.00	1.00			

**13c) Norway**

Age	1945–1949			1950–1954			1955–1959		
	Low educ.	Medium educ.	High educ.	Low educ.	Medium educ.	High educ.	Low educ.	Medium educ.	High educ.
15	2.94	2.80		2.71	2.71		2.58	2.40	
16	2.98	2.73		2.57	2.46		2.49	2.36	
17	2.89	2.72		2.57	2.49		2.54	2.55	
18	2.82	2.68		2.54	2.47		2.50	2.47	
19	2.76	2.56		2.49	2.42		2.47	2.48	
20	2.63	2.54		2.42	2.41		2.46	2.48	
21	2.53	2.49	2.50	2.35	2.41	2.69	2.35	2.48	2.66
22	2.44	2.41	2.53	2.28	2.38	2.62	2.28	2.45	2.68
23	2.34	2.36	2.58	2.25	2.33	2.63	2.24	2.39	2.79
24	2.34	2.31	2.51	2.15	2.26	2.56	2.15	2.34	2.72
25	2.17	2.25	2.47	2.12	2.23	2.49	2.08	2.30	2.63
26	2.07	2.17	2.43	1.99	2.16	2.44	2.05	2.23	2.58
27	1.97	2.10	2.35	1.91	2.09	2.37	1.99	2.19	2.51
28	1.90	2.00	2.32	1.96	2.02	2.32	1.81	2.15	2.44
29	1.84	1.95	2.22	1.80	1.98	2.25	1.86	2.01	2.37
30	1.80	1.87	2.13	1.73	1.91	2.19	1.74	2.01	2.30
31	1.62	1.83	2.08	1.67	1.83	2.11	1.79	1.90	2.22
32	1.65	1.71	1.96	1.75	1.76	2.04	1.68	1.82	2.11
33	1.48	1.63	2.03	1.46	1.70	1.94	1.63	1.77	1.99
34	1.40	1.53	1.85	1.55	1.64	1.91	1.53	1.70	1.90
35	1.30	1.51	1.75	1.44	1.59	1.86	1.55	1.60	1.86
36	1.25	1.49	1.71	1.36	1.51	1.69	1.35	1.53	1.75
37	1.33	1.37	1.48	1.37	1.42	1.55	1.38	1.46	1.66
38	1.26	1.35	1.51	1.23	1.40	1.61	1.24	1.36	1.53
39	1.27	1.24	1.45	1.24	1.28	1.43	1.15	1.34	1.45
40	1.21	1.32	1.29	1.38	1.16	1.31	1.15	1.28	1.43
41	1.12	1.19	1.25	1.25	1.28	1.31	1.06	1.21	1.31
42	1.00	1.09	1.06	1.11	1.19	1.20	1.00	1.15	1.12
43	1.00	1.15	1.04	1.00	1.05	1.08	1.00	1.06	1.04
44	1.00	1.00	1.00		1.00	1.00		1.00	1.02

### 13d) Sweden

Age	1945–1949			1950–1954			1955–1959		
	Low educ.	Medium educ.	High educ.	Low educ.	Medium educ.	High educ.	Low educ.	Medium educ.	High educ.
15									
16									
17									
18									
19									
20							2.68	2.75	
21							2.58	2.67	
22							2.51	2.61	
23							2.45	2.51	2.73
24							2.39	2.45	2.66
25				2.27	2.30	2.54	2.34	2.35	2.58
26				2.20	2.20	2.49	2.24	2.28	2.54
27				2.17	2.12	2.40	2.16	2.22	2.47
28				2.08	2.03	2.35	2.09	2.16	2.40
29				1.99	2.02	2.27	2.01	2.08	2.30
30	1.91	1.83	2.14	1.90	1.96	2.22	1.89	2.00	2.22
31	1.80	1.76	2.01	1.84	1.87	2.10	1.81	1.89	2.12
32	1.74	1.72	1.95	1.78	1.81	2.03	1.75	1.84	2.05
33	1.65	1.60	1.85	1.63	1.70	1.95	1.67	1.77	1.96
34	1.53	1.51	1.74	1.53	1.64	1.87	1.56	1.67	1.84
35	1.42	1.49	1.68	1.51	1.52	1.74	1.46	1.57	1.74
36	1.42	1.37	1.64	1.46	1.45	1.67	1.36	1.49	1.68
37	1.25	1.35	1.49	1.30	1.44	1.56	1.33	1.43	1.54
38	1.35	1.27	1.37	1.36	1.29	1.50	1.34	1.33	1.41
39	1.27	1.23	1.35	1.20	1.25	1.37	1.19	1.27	1.37
40	1.16	1.13	1.28	1.28	1.17	1.20	1.19	1.19	1.25
41	1.25	1.11	1.19	1.00	1.12	1.19	1.04	1.12	1.20
42	1.06	1.12	1.11	1.05	1.08	1.10	1.05	1.06	1.09
43	1.00	1.03	1.05	1.00	1.10	1.08	1.00	1.00	1.09
44	1.00	1.00	1.06	1.00	1.05	1.00	1.00	1.10	1.03