

## Future childbearing in Sweden – Extended abstract

### Background

In the calculations of the future fertility rates for Swedish born women in the Swedish official population projection a cohort approach is used. Fertility trends for cohorts are more stable than the annual fertility rate. Estimations are made for every year on the probability that women will give birth in that year to their first, second, third or fourth (or more) child. The estimations for each cohort and parity occur with what is known as incidence rates (the number of occurrences divided by the average population of women in each cohort): The total of the cohort's incidence rates (for the first, second, third and fourth or more child) is the same as the cohort's age-specific fertility rate.

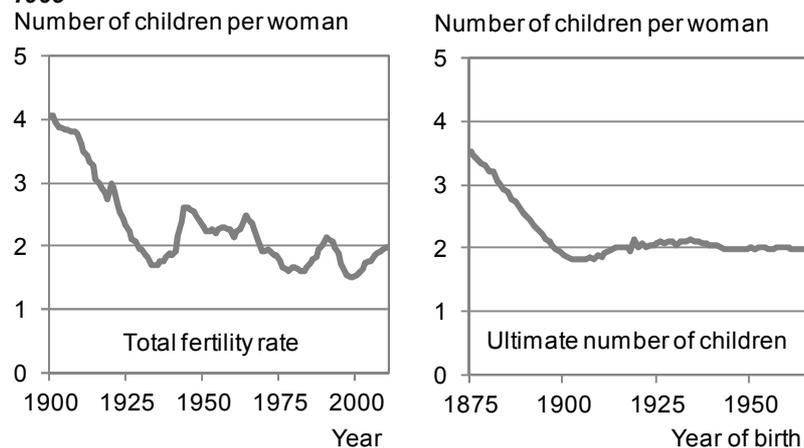
The method for producing the assumptions for foreign-born is more simple than the one used for Swedish-born. No parity-specific assumptions are made for foreign-born, but the age specific fertility rate is projected forward.

### Aim of study

In this study the development of cohort fertility of Swedish-born women is in focus. The purpose of the study is to provide better understanding of how cohort fertility for Swedish-born women will develop in the future. The results of the study will be used when doing the “new” fertility assumption in the population projection for Sweden that will be published in May 2012.

Figure 1 presents the total annual fertility rate and the ultimate number of children per birth cohort. Despite the considerable variations in annual fertility, women born in the 1900s have generally given birth to an average of two children. How will cohort fertility develop in the future?

**Figure 1**  
**Total fertility rate 1900-2010 and ultimate number of children per birth cohort 1876-1965**



### Data and method

The analysis is based on register data containing information on Swedish-born women from 1969–2010. For each woman there is annual data on age and childbearing by birth order.

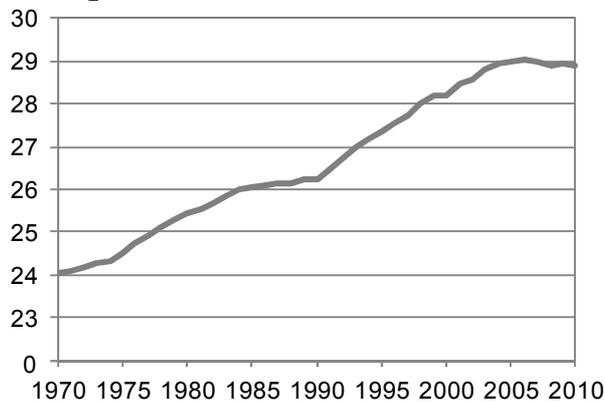
A cohort approach is applied and the percent which have given birth to at least one child, at least two children, at least three children and at least four children is calculated for ages 15–45.

So far, when doing fertility assumptions, Statistics Sweden have estimated the proportion who do go on to give birth to a second child, a third child and a fourth (+) child with transition probabilities. The probabilities depend on the age of the mother when giving birth to the previous child and age of previous child. It has long been said that the continuation of childbirth, that is, having the second, the third and the fourth (+) child, is a relatively stable process. But how stable are the transition probabilities? In this study the development between cohorts is studied. In time for the conference the results of this will be available.

**Results**

As in many other countries there has been a continuous postponement in childbearing. In 1970, the average age for women to have the first child was 24. Today the average age is 29. The upward shift accelerated during the 1990s because of the economic recession at that time. The recession led to greater difficulties for women and men to get established on the labour market. That was particularly true for younger men and women. So in the 1990s an increasing number of young women and men instead went on to higher education and postponed having children. This pattern has remained in the 2000s.

**Figure 2**  
*Mean age at first child for women in Sweden 1970–2010*



The postponement in childbearing has been believed to result in a decrease in cohort fertility from two children per woman to a little more than 1.8 children per women. Since fecundity declines with age one may expect such a development.

Data from recent years, though, suggest a quite remarkable fertility recuperation. In figure 3 the share of women who have given birth to at least on child in different ages is presented for cohorts 1940, 1950, 1960, 1970, 1975 and 1980. We can see that cohorts born in the 1970s have not only managed to catch up with the first birth fertility levels of the 1960s cohort, but also passed them, and we are now seeing a trend reversal in childlessness.

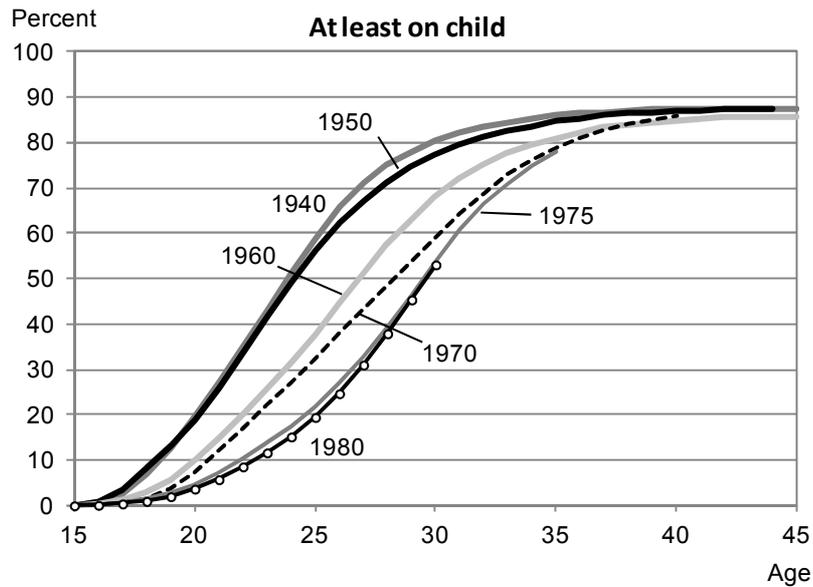
In figure 4 we can see the share of women who have given birth to at least two children. Also regarding the second child there has been a recuperation for younger cohorts in older ages. The results suggest that a decrease in the share that will have at least two children is not to be expected.

Among women born in 1960, 32 percent have ended up with at least three children. This is a cohort that has had a large propensity to have a third child, larger than, for example, women born ten years earlier had. The share that will end up with at least three children will most probably decrease. But we can also see a small recuperation among later born cohorts, especially in ages 35–39, so the decrease might be smaller than has earlier been thought in previous assumptions of third birth fertility.

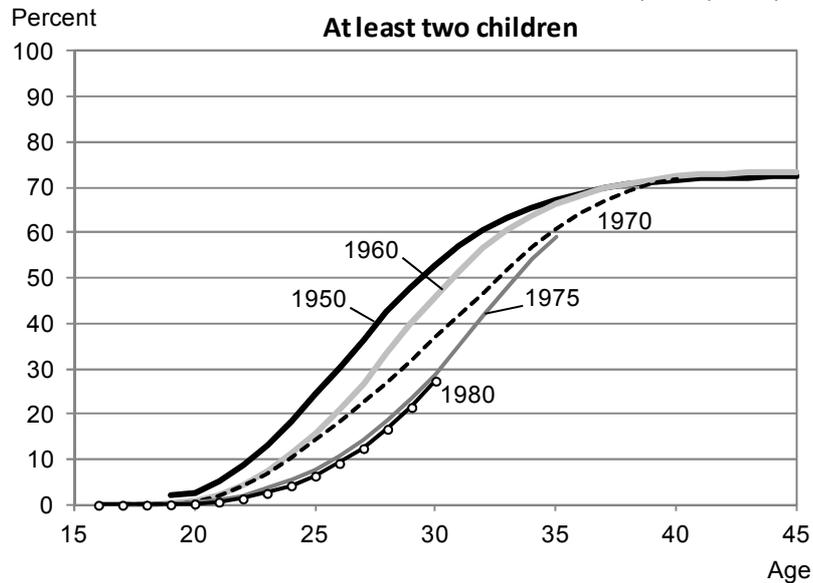
Only a small share have a fourth (+) child. Among women born in 1960, 9 percent ended up with at least four children. The fourth-birth fertility development suggests that the share that will end up with at least four children will decrease with a few percent units.

One can conclude that cohort fertility in the future will decrease from the today's level, two children per women, but the decline will probably be relatively small.

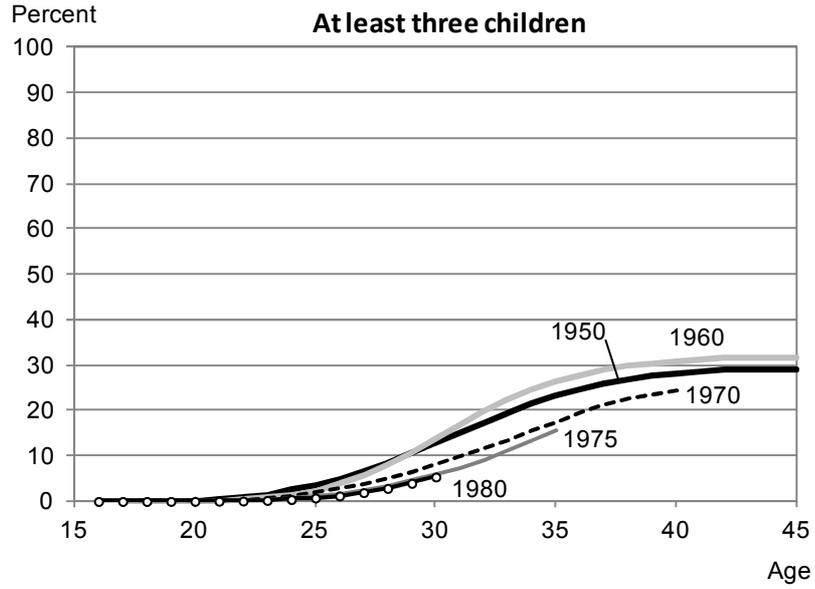
**Figure 3**  
Share of women with at least one child. Cohort 1940, 1950, 1960, 1970, 1975 and 1980



**Figure 4**  
Share of women with at least two children. Cohort 1950, 1960, 1970, 1975 and 1980



**Figure 5**  
**Share of women with at least three children. Cohort 1950, 1960, 1970, 1975 and 1980**



**Figure 6**  
**Share of women with at least four children. Cohort 1950, 1960, 1970 and 1975**

