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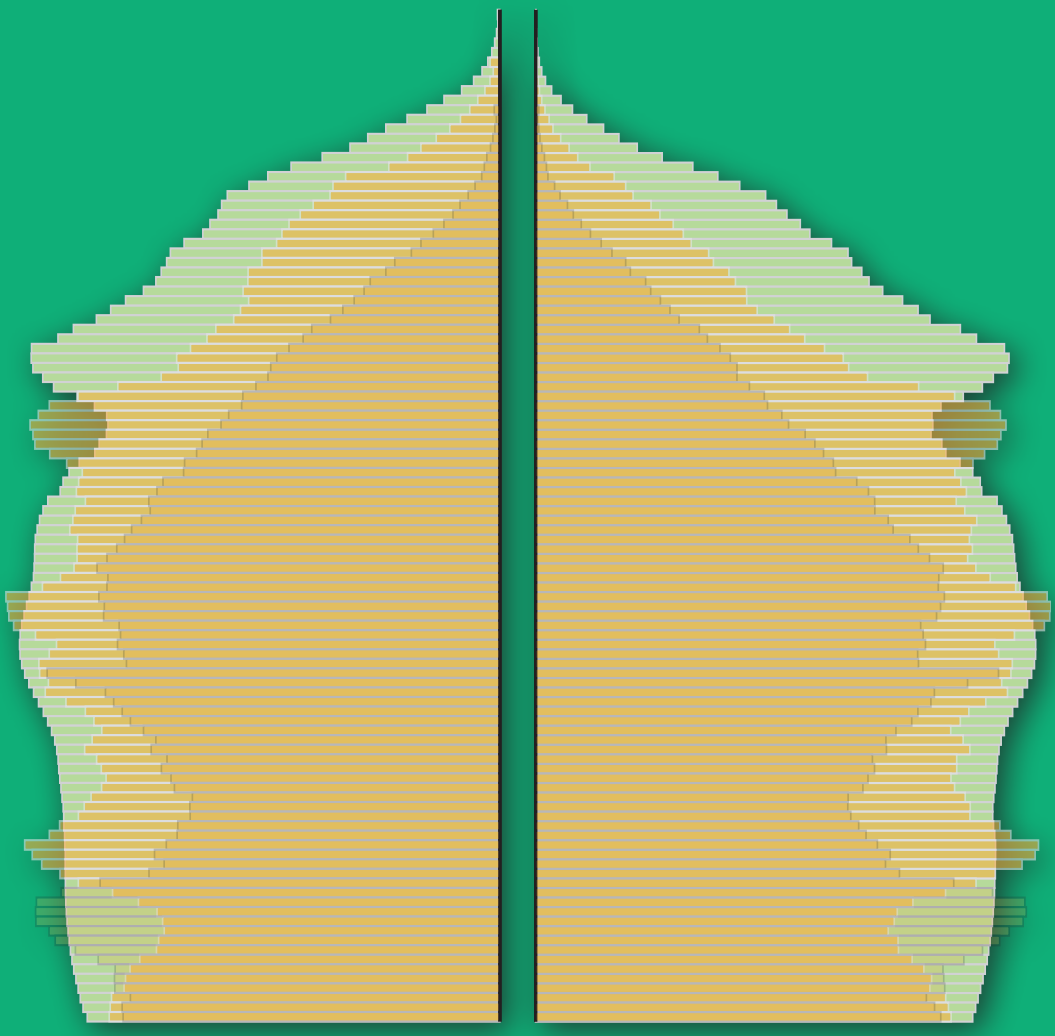

The future population of Sweden 2009–2060

Cover:
Population pyramids for 1956, 2008 and 2060
The figures are printed separately in the publication.

DEMOGRAPHIC REPORTS

The future population of Sweden 2009–2060

Statistics Sweden
2009

Demographic reports

The future population of Sweden 2009–2060

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Foreword

This report presents a projection of the population of Sweden for the period 2009-2060. In addition to a breakdown by sex and age, the population is also broken down by those born in Sweden and those born abroad. Aside from the main alternative, there are other alternatives describing the development if future fertility were higher or lower than what is assumed in the main alternative. Likewise, the consequences of deviations from mortality and migration trends are presented. The forecast is also complemented by a stochastic forecast illustrating projection uncertainty.

In addition to this report, the results are presented in tables of Statistics Sweden's statistical database. These are trends projected up to 2110 in the statistical database and the population is divided into seven groups of countries of origin.

Statistics Sweden presents reports of this kind every three years. The last such report came out in spring 2006. During the interim years the population projection is updated and is reported in a series of Statistical Reports.

A considerable number of people have contributed to this report. Lotta Persson was responsible for assumptions about fertility, Christian Skarman for assumptions about migration and Hans Lundström for assumptions about mortality. The stochastic projections have been calculated with a model developed by Gustaf Strandell. Lena Lundkvist has been responsible for overseeing the work in its entirety.

Statistics Sweden, May 2009

Anna Wilén

Anders Ljungberg

Statistics Sweden would like to thank
the respondents – private individuals, enterprises, authorities and organisations –, who make it possible for Statistics Sweden to produce reliable and timely statistics that meet the demands for information from society.

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Around the middle of the last century Sweden had a population of slightly more than seven million people. Sweden's population exceeded eight million at the end of the 1960s and 9 million in 2004. In 2024 the 10 million mark will be passed and at the end of the projection period Sweden is estimated to have a population of 10.7 million.

Average life expectancy for women in the projection is predicted to rise from 83 years in 2008 to 87 years in 2060. For men, the corresponding expected increase in average life expectancy for the same period is from 79 to 85 years. Fertility is expected to fall from today's 1.9 children per woman to 1.8 children per woman in the long term. Net immigration in recent years has been record high, with more than 50 000 persons annually. Sweden is assumed in the long term to have an immigration of 76 000 and an emigration of 57 000. This leaves a net immigration of over 19 000 persons.

More elderly

Average life expectancy increases all the more and the fact that we live longer also has consequences for the age structure of the population, resulting in increased growth in the number of elderly. Today there are 1.6 million people older than 65. This is 18 percent of the Swedish population. The elderly part of the population has increased both in *number* and *percentage* and will continue to do so. By the end of the projection period the number of persons older than 65 is calculated to be 2.7 million or 25 percent of the population. If pension age remains at 65 then every fourth person would become a pensioner in 50 years.

By 2060 the *percentage* of children and young persons is expected to decrease by 2 percentage points to 22 percent, while their *number* is estimated to remain at today's level of more than two million. It is predicted that in the future the *percentage* of persons aged 20-64 will decrease at the same time as their *number* increases somewhat.

More born abroad

Sweden is a land of immigration. With the exception of only a few years in the early 1970s, Sweden has had an immigration surplus since the end of the 1930s. At the turn of the century in 1900, less than 1 percent of the population of Sweden was born abroad. In 2008 the proportion of the Swedish population born in another country amounted to 13.8 percent. This proportion has doubled since the beginning of the 1970s and is expected in the forecast to amount to slightly more than 18 percent by 2060.

Deficit of women

There are somewhat more boys born than girls and more men immigrate than women. According to the forecast, the relation between the number of women and men will change somewhat compared to today. There will be a greater deficit of women of the ages when couple relationships are formed than there is today. By 2060 it is estimated that there will be nearly 78 000 more men aged 25-40 than in the corresponding age group of women. In contrast, among the higher ages women are dominant both today and in the future, but the female surplus among the oldest of the elderly will decrease due to men's mortality decreasing more quickly than women's mortality.

Population 2008 and forecast 2010-2060 by sex, age groups and country of birth, thousands

Year	Total	Sex		Age			Country of birth	
		Women	Men	0–19	20–64	65–	Sweden	A-broad
2008	9 256	4 653	4 604	2 184	5 427	1 645	7 975	1 282
2010	9 385	4 711	4 675	2 169	5 482	1 735	8 016	1 369
2020	9 863	4 916	4 947	2 244	5 545	2 074	8 270	1 593
2030	10 219	5 074	5 145	2 304	5 580	2 336	8 483	1 737
2040	10 398	5 146	5 252	2 262	5 630	2 506	8 560	1 839
2050	10 578	5 216	5 362	2 284	5 757	2 537	8 677	1 901
2060	10 721	5 271	5 450	2 334	5 698	2 689	8 789	1 932

1. Introduction

In this report Statistics Sweden presents the results of the forecast on changes in Sweden's population for the period 2009-2060. The word "forecast" in this text is used in its broad sense. Given a 50 year perspective, it is not possible to speak of forecasts in their true sense. Given a longer time perspective, a forecast is more like a projection or a scenario based on assumptions about the future rather than a prediction of what is most likely to occur.

Some general characteristics of population change can be predicted with relatively good precision while others remain more uncertain. The reliability of the results depends both on the time horizon and the age brackets being considered. Thus this year's population projection is complemented by a stochastic projection describing uncertain results. Future fertility changes are uncertain, and erroneous assumptions quickly gain in significance when used as a basis for determining the future number of children. It is even more difficult to predict the size of immigration and emigration. Immigration to and emigration from Sweden has varied sharply over the years, partly due to economic conditions, the globalisation of the economy, international concerns and Swedish immigration policy. Migration to and from Sweden is also due to the economies and social conditions of other countries and the immigration policies conducted by other countries. Mortality is a relatively stable process and is independent of fluctuations in the economic cycle. Thus, assumptions about mortality have a relative degree of short-term certainty. Uncertainty is greater in the long term. To what extent can medical advances and life style changes affect mortality?

Aside from the main alternative, there are also alternatives describing the development if future fertility were higher or lower than what is assumed in the main alternative. Likewise, the consequences of deviations from mortality and migration trends are presented.

Chapter 2 gives an account of population changes according to the forecast's main alternative. This chapter closes with a section on uncertainty in the projection. Chapter 3 describes the assumptions with respect to fertility, mortality and migration which form the basis of the forecast. Reference groups have been consulted for

input in support of this work. A list of the members of the reference groups is found in Appendix 1.

Chapter 6 reports calculations based on the alternative assumptions about future developments for fertility, mortality and migration. The chapter *Facts about statistics* describes the models used in this work.

The projection distinguished between the native born and foreign born as well as by age and sex. The foreign born are divided into six different country groups in the analyses based on countries of birth. Europe is divided into three parts: The Nordic countries (except Sweden), the EU (except the Nordic countries), and the rest of Europe. Countries outside Europe are divided into three groups based on their levels of development as measured by the Human Development Index (HDI). This is an index taken annually by the United Nations that takes into account a country's Gross Domestic Product (GDP), population life expectancy and level of education. A more detailed description of which of the different groups the countries belong to is in Appendix 2.

The results and assumptions according to the main alternative are reported in a table appendix and are also available, together with the alternative projections, at Statistics Sweden's statistical database. If not otherwise specified, the information source is Statistics Sweden's Population Statistics.

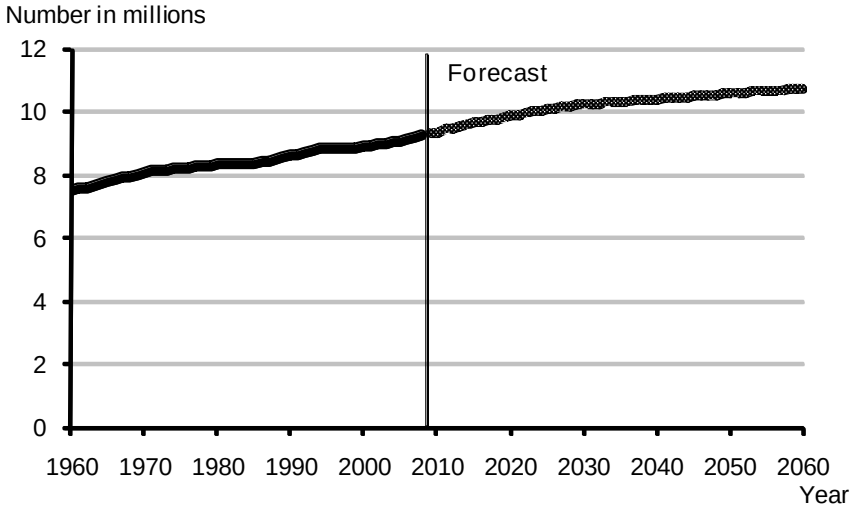
2. The future population

This chapter presents the population's development in accordance with the assumptions of the main alternative for fertility, migration and mortality.

Sweden's population is growing

Around the middle of the last century Sweden had a population of slightly more than 7 million people. Sweden's population exceeded 8 million at the end of the 1960s and 9 million in 2004. By 2024 the 10 million mark will be passed and at the end of the projection period Sweden is estimated to have a population of 10.7 million. Figure 2.1 shows the population of Sweden 1960-2008 and the forecast period 2009–2060.

Figure 2.1
Population 1960-2008 and forecast 2009-2060. Millions

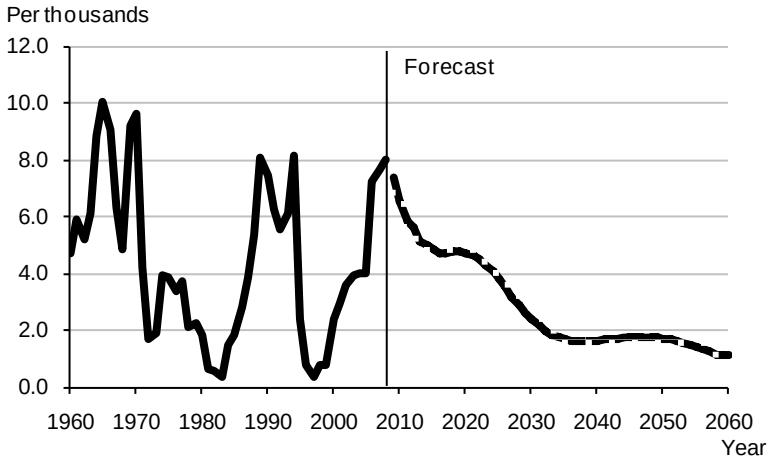


The population's growth rates have varied over the years and reflect differences in the number of immigrants and the number of new births from year to year (see Figure 2.2). Immigration from Finland was greater at the end of the 1960s while the start of the 1990s had large immigration from the former Yugoslavia. At the end of the 1990s the population's growth rate was low, which resulted in part

from reduced childbearing. In recent years the growth rate has been large, partly as a result of extensive immigration from Iraq and Poland. Relatively speaking, there have also been a lot of children born.

The population's growth rate has been 4.4 per thousand on average for the period of 1960-2008. The growth rate will decrease according to the main alternative. The average growth rate for the entire projection period 2009-2060 is 2.8 per thousand.

Figure 2.1
Annual population growth rate 1960–2008 and projection 2009–2060. Per thousand



Without immigration, a shrinking population

The population increase is due to both the birth surplus and to a positive net immigration. A birth surplus means that children born minus deaths; net immigration means the difference between immigrants and emigrants.

Table 2.1 presents the population increase and the development of the different factors for change (children born, deaths, immigration and emigration). Net immigration has been largely positive since the 1930s (Statistics Sweden, 2004). The record high immigration in recent years has also brought about record high net immigration of nearly 47 000 on average over the last four years. In the long term, an annual net immigration of nearly 19 000 persons is assumed. It is clear that immigration accounts for a large part of the population increase during the projection period.

Otherwise, there is no estimate for any natural population increase for the long term. A natural population increase means that the number of births is greater than the number of deaths. After 2030, it is the assumption of an immigration surplus that yields the continuing population increase. Then it is estimated that the number of deaths will exceed the number of births. Calculations about the number of children to be born so far forward in time are very uncertain.

Table 2.1
Summary of vital events 1960–2008 and forecast 2009–2060. Thousands

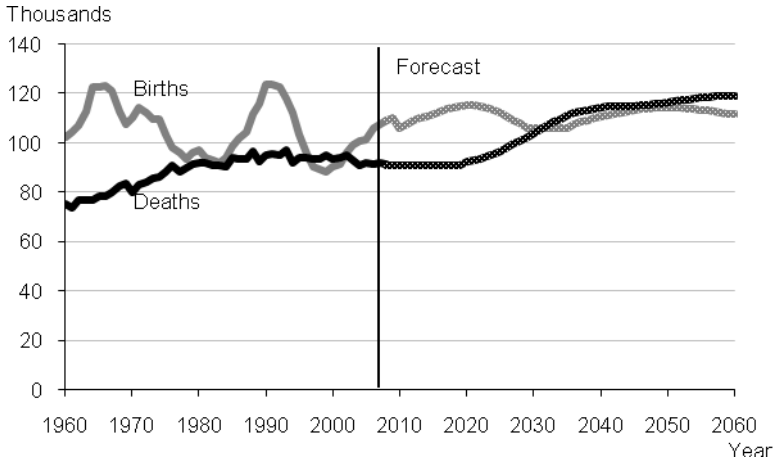
Year	Births	Deaths	Birth surplus	Immi-gration	Emi-gration	Net migration	Population increase
1960-64	109.9	75.7	34.2	29.2	15.2	14.0	48.2
1965-69	117.6	80.4	37.2	45.4	19.8	25.6	62.8
1970-74	111.3	83.8	27.5	43.3	35.7	7.6	35.2
1975-79	97.5	89.6	7.9	41.4	23.9	17.5	25.4
1980-84	93.9	91.2	2.8	32.2	27.2	5.1	7.8
1985-89	106.6	93.9	12.7	46.4	22.0	24.4	37.2
1990-95	120.2	94.8	25.4	60.1	27.6	32.5	57.8
1995-99	93.3	93.9	-0.6	46.0	36.1	9.8	9.2
2000-04	95.6	93.1	2.4	61.9	34.2	27.7	30.1
2005-08	106.0	91.5	14.5	90.4	43.4	47.0	61.5
Forecast							
2009	110.1	91.0	19.1	93.1	44.1	49.0	68.0
2010-14	109.0	91.2	17.8	81.7	46.7	35.0	52.8
2015-19	113.7	91.6	22.2	72.6	49.0	23.6	45.7
2020-24	114.9	93.8	21.1	72.9	50.3	22.6	43.7
2025-29	109.6	99.7	9.9	73.4	51.3	22.1	32.0
2030-34	106.2	107.2	-1.0	73.9	52.5	21.5	20.5
2035-39	108.7	112.8	-4.1	74.4	53.6	20.8	16.8
2040-44	112.0	114.9	-2.9	75.1	54.8	20.3	17.4
2045-49	114.0	115.5	-1.5	75.7	55.8	19.9	18.4
2050-54	114.4	117.3	-3.0	76.2	56.5	19,6	16.7
2055-59	112.8	118.9	-6.1	76.3	57.0	19.3	13.2
2060	111.7	118.9	-7.2	76.4	57.3	19.0	11.8

The numbers of children born and deaths from year to year are shown in Figure 2.3. We have seen a natural population increase in most years. The exception was during a period at the end of the 1990s and the beginning of the 2000s when there more deaths than childbirths for a few years. As a result of the population's age structure, the number of births is expected to be large around the year 2020. Then it will be time for the many people born in the 1990s to begin to have children. The number of births in the future will probably vary from what is assumed in the projection. We certainly expect to have a "baby boom" during some years in the

future. In the long term, we cannot predict temporary upswings and downturns due to economic cycle fluctuations.

The reason that the number of deaths is expected to increase in the future is due to the increase in the number of the elderly. The years around 2040 are estimated to be the years when many born in the 1940s will be of the age when many die.

Figure 2.3
Number of births and deaths 1960–2008 and forecast 2009–2060. Thousands



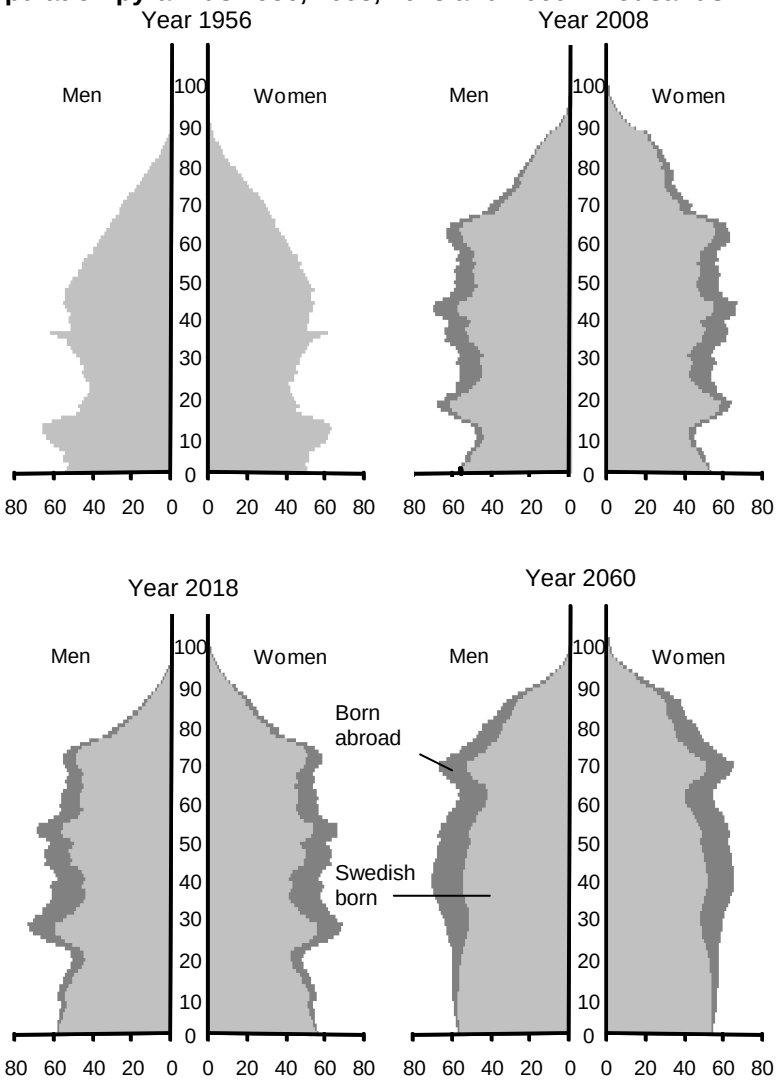
More people born abroad and more elderly persons

Figure 2.4 shows the development according to four population pyramids. One shows the population as it was 52 years ago, another shows the present day population. One shows the population in ten year's time and finally one shows how the population is estimated to appear in 52 years. For the years 2008, 2018 and 2060 the population is divided into the Swedish-born and the foreign-born. This information is not available for the year 1956. The number of foreign-born persons is estimated to increase due to immigration. In 2008 the share of foreign born amounted to nearly 14 percent and is assumed in the projection to amount to approximately 18 percent by the year 2060.

The population's growth rate differs for different age groups. This is mainly due to varying birth patterns over the years, which results in variations of numbers of persons in different age groups. Comparatively many children were born in 1990, or 124 000, while 1999 exemplified a low birth count year with only 88 000 children

born. Immigration is most common among persons aged 20-35 and the immigrant population is important for the increase in persons of actively working ages. Average life expectancy increases all the more and the fact that we live longer also has consequences for the age structure of the population, resulting in increased growth in the number of elderly.

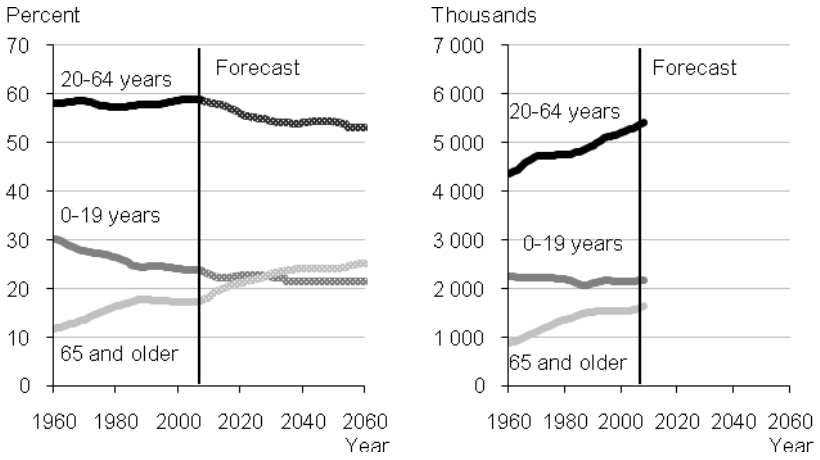
Figure 2.4
Population pyramids 1956, 2008, 2018 and 2060. Thousands



There is no information about the foreign born by age for the year 1956. The population pyramid for 2060 shows the age distribution evening off among younger ages. This is due to the projection being based on mean values. No consideration is given to variations in the number of childbirths or to migration.

The population pyramids clearly show that the percentage of elderly is growing and the percentage of younger persons is decreasing. Figure 2.5 shows the development of the *percentage* and the *number* of persons aged 0-19, 20-64 and 65 and older. The elderly part of the population has increased in both number and percentage. If pension age remains at 65 then every fourth person would become a pensioner in 50 years.

Figure 2.5
Population in age groups 0–19, 20–64 and 65 years and older 1960–2008 and forecast 2009–2060. Percent and thousands



The *number* of children and young people has been constant, but the *percentage* has decreased in relation to the other parts of the population and is estimated to continue to decrease somewhat. By 2060 the percentage of children and young persons is estimated to amount to 22 percent while the number is estimated to remain at the level of today - at over 2 million.

The *number* of persons in the working-age population has increased while the *percentage* has remained constant since the 1960s. This is due to the number of elderly people increasing much more than the persons in the actively working age group. It is estimated that in the future the percentage of persons aged 20-64 will decrease at the same time as the number increases slightly.

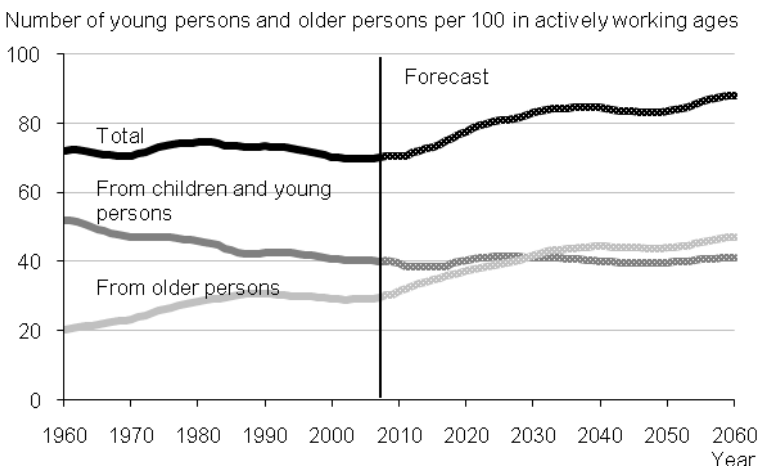
Greater dependency ratio

The trend towards an aging society brings on an increased dependency ratio for the working part of the population. The dependency ratio is calculated as the relation between the number of persons in the actively working ages of 20-64 and the total population outside of this age interval. This measure is often used when assessing the economic consequences of population change.

Figure 2.6 shows the total dependency ratio and the shares of young persons and elderly. The total dependency ratio has been relatively constant since the 1980s. The share attributable to children and young persons has decreased while the share for the elderly has increased slightly.

We presently have a dependency ratio of 70 persons per 100 in the actively working ages. This level is assumed to increase to a level near to 88 persons per 100 in actively working ages by 2060. More simply put, this means that 100 people need to provide for 88 young and elderly persons. The dependency ratio attributable to young persons is assumed to remain constant during the projection period. The dependency ratio attributable to the elderly is increasing and is estimated to cost more than the young by the year 2030. This stands in bold contrast to the situation in the 1960s when the young "cost" much more than the elderly.

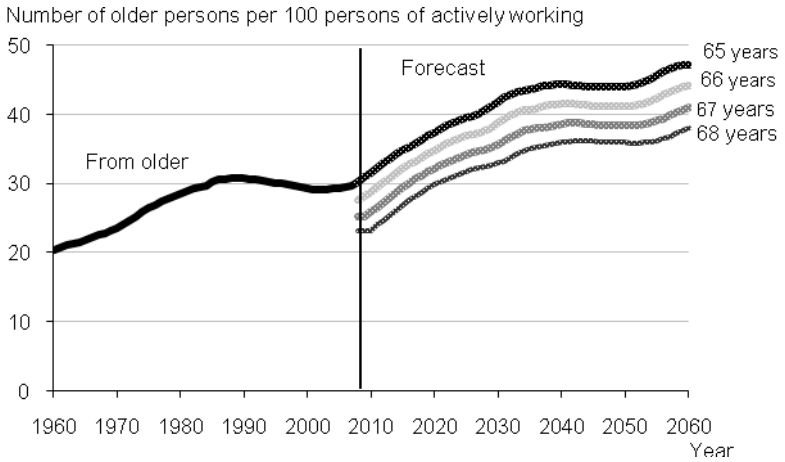
Figure 2.6
Dependency ratio 1960–2008 and forecast 2009–2060



The total dependency ratio is calculated as the total number of persons age 0-19 and the number of persons aged 65 and older divided by the number of persons aged 20-64 multiplied by 100.

There has been an ongoing debate for some time now about whether to raise the pension age in order to render the dependency ratio more sustainable. Figure 2.7 shows the effect of raising the pension age on the dependency ratio arising from costs for the elderly. The lower limit (age 20) is held constant in these calculations. If pension age was 65 then 100 persons of actively working age need to provide for 47 pensioners by 2060. If the pension age were raised to 68 then the corresponding figure of dependents would be 38. This is a higher elderly dependency ratio than we have today. To maintain the present dependency ratio the pension age would have to be significantly raised. In the 2008 Long-Term Survey (SOU, 2008:105) measures were discussed about how to bring about a later exit from the labour market. An example of such a measure would be the adaptation of age limits in the pensions system to average life expectancy.

Figure 2.7
Dependency ratio from elderly 1960–2008 and forecast 2009–2060 for some different pension ages



The dependency ratio for elderly persons with a pension age of 65 is estimated as the total number of persons aged 65 and above divided by the number of persons aged 20-64 multiplied by 100. Calculations of the dependency ratio at a pension age of 66 estimate the total number of persons aged 66 and older divided by the number of persons aged 20-65 multiplied by 100.

A decreased dependency ratio would also be reachable with an earlier entry into the labour force. Young persons' entry into the labour market has been postponed to later ages. The big change came in connection with the crisis in the 1990s, but the pattern

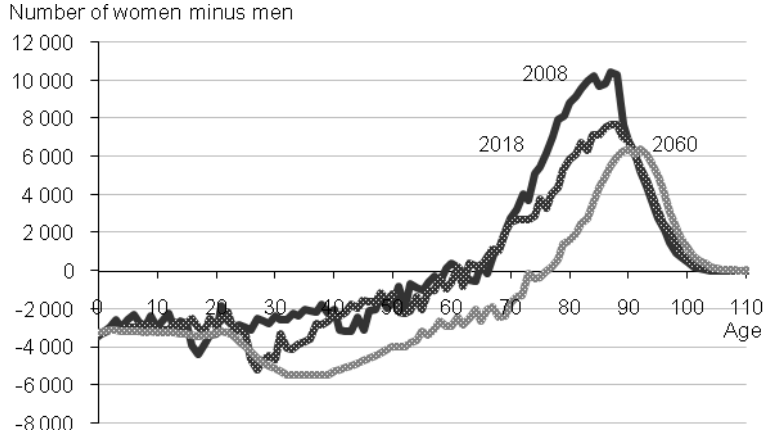
remains. Today's increased demands on education can make it difficult to achieve an entry into the labour market at younger ages. However, The Long-Term Survey (SOU, 2008:105) argues for measures that would lead to a quicker graduation rate in the educational system.

Distribution by sex

There are more boys than girls born. Thus, we have more boys in younger ages. Figure 2.8 shows the surplus of women for the years 2008, 2018 and 2060. According to the projection, the relation between the number of women and men thus comes to change somewhat compared to today. There will be a greater deficit of women in the ages common to form relationships than there is today. By 2060 it is estimated that there will be nearly 78 000 more men aged 25-40 than in the corresponding age group of women. The increased deficit of women is due to future immigrants coming for work to a greater extent than immigrant family members. Labour force immigrants are more often men while immigrant family members are more often women.

Women are dominant among the older ages. The surplus of women in these age groups will decrease because the reduction in mortality of men has a quicker rate than that of women.

Figure 2.8
Surplus of women 2008 and forecast 2018 and 2060. Number of women minus number of men



Trends among different age groups

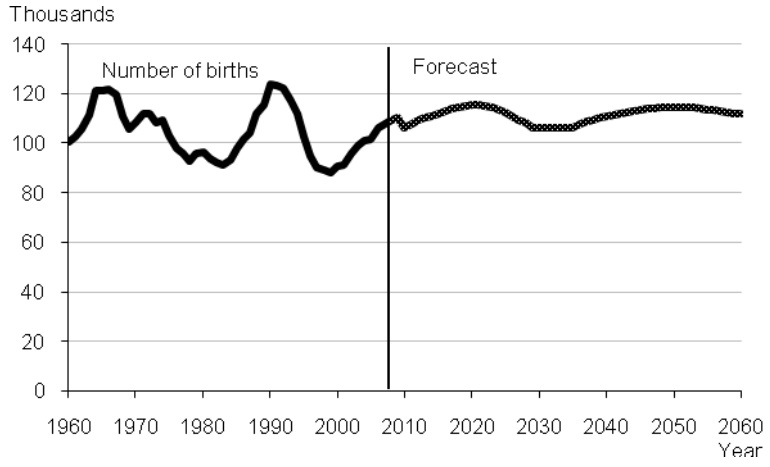
The next section shows results from the projection's main alternative for different age groups. Birth patterns have varied greatly and resulted different conditions for persons born in different years. Birth pattern variations require social planning and most of all child care and school policy planning.

Number of children born

Sweden has long shown a strong relation between childbearing and the economic cycle. This means that we can expect to see a reduction in childbearing as a result of the present economic crisis. However, the decrease is not expected to reach the level seen in the 1990s. No decrease was estimated for 2009 but the number of children was expected to be roughly the same number as in 2008, approximately 110 000 children. According to the projection, slightly fewer children born will be born over the next two years, or 107 000-108 000 children. After that the number of children born will increase and is estimated to peak around 2020, when those born in the 1990s come into their childbearing years.

The number of children born in the future will vary more than is assumed in the projection. This number is more of a mean value than an assumption about the most probable level in a given year. Attempts to estimate the "economic cycle" in relation to childbearing were only done for the first few years of the projection.

Figure 2.9
Number of children born 1960–2008 and forecast 2009–2060. Thousands



Number of preschool children increase slightly over the next three years

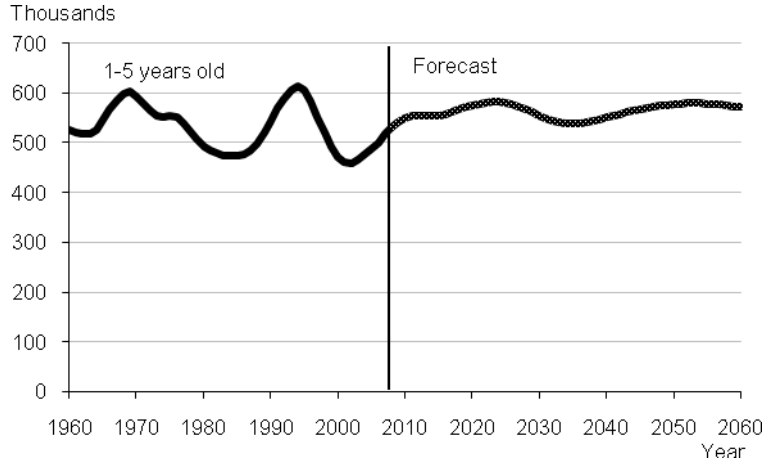
Childcare has spread throughout Sweden quite quickly. In 2007, 85 percent of all children aged 1-5 were in preschool or home daycare centres[1]. Since 1995 municipalities have been obligated to offer children places in childcare programmes without further delay, which normally occurs three to four months after the parents have reported their need, according to the National Agency for Education (National Agency for Education, 2009).

This puts great demands on municipalities' planning for the number of preschool places. The number of children aged 1-5 is expected to increase in the next three years. This is expected to peak some time in the beginning of the 2020s when the children of those born in the 1990s reach preschool age.

Uncertainty in terms of the future number of preschool children is great even in the short term. The number of preschool children quickly becomes entirely dependent on whether the forecast provides correct estimates of future fertility. The entire group of preschool children in the forecast period will have already been born by 2014.

[1] According to statistics from the National Agency for Education.

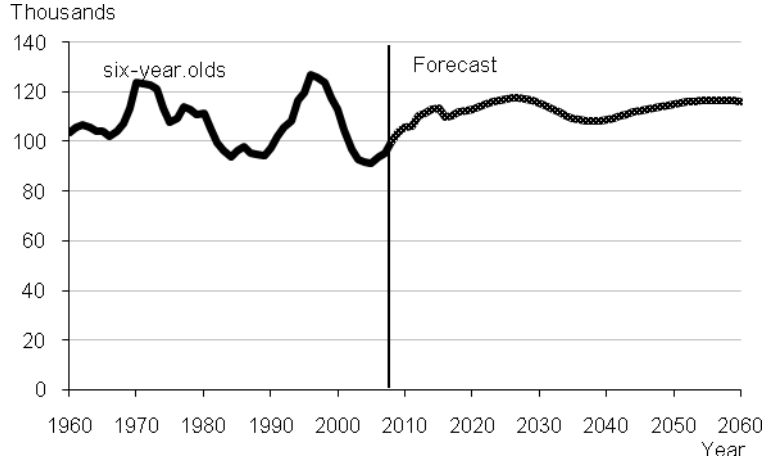
Figure 2.10
Number of children 1–5 years old 1960–2008 and forecast 2009–2060. Thousands



Number of six-year-olds will increase in next few years

In 1998 the preschool class was introduced, which is a voluntary school form aiming to prepare children for the obligatory primary school education. The percentage of six-year-olds in preschool class is 96 percent, according to the statistics from the National Agency for Education. Municipalities can expect an increased number of six year olds up to the middle of the 2010s.

Figure 2.11
Number of children born 1960–2008 and forecast 2009–2060. Thousands



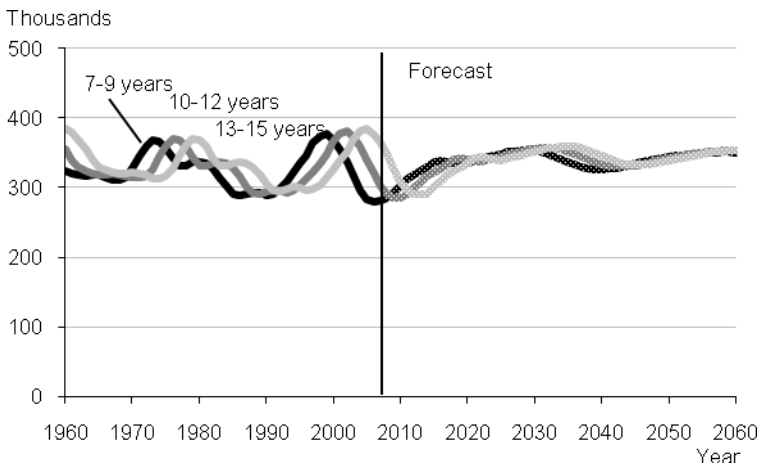
Children in compulsory school

Previously, compulsory school was divided into three stages: School years 1-3, years 4-6, and years 7-9. These divisions are not as strict nowadays, in part due to variations in the number of children born. Even though changes have taken place, we still use the three-year periods for our presentation.

The presentation illustrates how those born during the large baby boom around 1990 gradually pass through the different "stages of schooling". These large numbers of children have now left compulsory school. The number of pupils in years 7-9 will decrease in the next few years when the smaller birth patterns from the end of the 1990s come of age. The number of pupils in years 4-6 will reach its bottom in 2009 and then will start to increase. The youngest lower level school children in years 1-3 will increase in number in the coming years.

Within a decade the number of pupils of a certain age group can change substantially. For example, the number of students at the "upper level" (years 7-9) was 385 000 students at its highest in 2005. Seven years later, in 2012, the number is estimated to decrease to about 290 000 students. Variations in size still make continued demands on the flexibility of the education system.

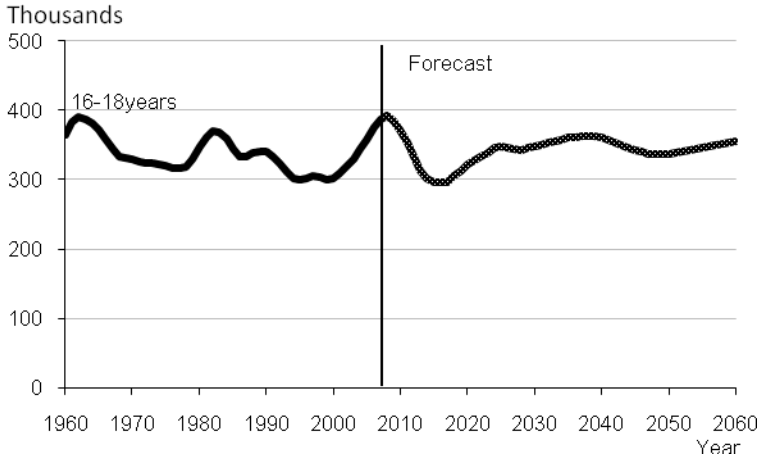
Figure 2.12
Number of children in age-group 7–9 years, 10–12 years and 13–15 years 1960–2008 and forecst 2009–2060. Thousands



The number of upper secondary students may decrease by 100 000

Almost all students who finish compulsory school through grade 9 go on to upper secondary school. Upper secondary school expects to have a decreased number of students in the coming years. The peak was reached in 2008 while according to the forecast, the bottom will be reached in 2015 with a decrease in young people in the upper secondary school age group, aged 16-18, by nearly 100 000.

Figure 2.13
Number of young people aged 16-18, 1960-2008 and forecast 2009-2060 Thousands



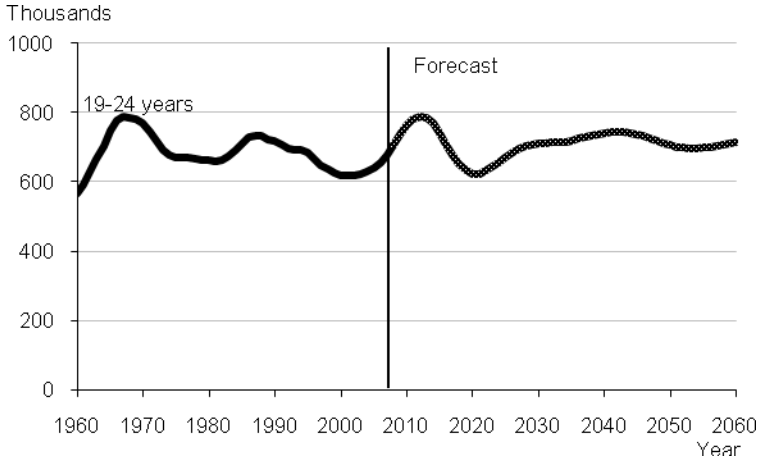
Young people aged 19–24 increase quickly

The number of young people aged 19-24 is expected to increase in the next coming years and will reach a "peak" in 2012. It is estimated that there are more than 788 000 young women and men in this age group. This is approximately 82 000 more than in 2008, and about 171 000 more than in 2001. It is once again the large number of children born around 1990 who will account for this expansion.

The large increase in these ages can place demands on the number of university places in the coming years. Many people in these ages study. In 2007, 41 percent of the women and 32 percent of the men aged 19-24 were studying.

However, the majority of the working age younger people are in the labour force. According to Statistics Sweden's labour force surveys in 2008, 60 percent of the women and 66 percent of the men aged 20-24 were working. Many work part-time combined with their studies, but half of the employed women and three out of four of the employed men worked full-time (more than 35 hours). The increase in the number of those younger people of working age in the next coming years will occur at the same time as many of those born in the 1940s are retiring. This can make it easier for young people to establish themselves on the labour market. At the same time, the current economic downturn can cause obstacles for young people entering the labour market.

Figure 2.14
Number of young people in age-group 19–24 years 1960–2008 and forecast 2009–2060. Thousands

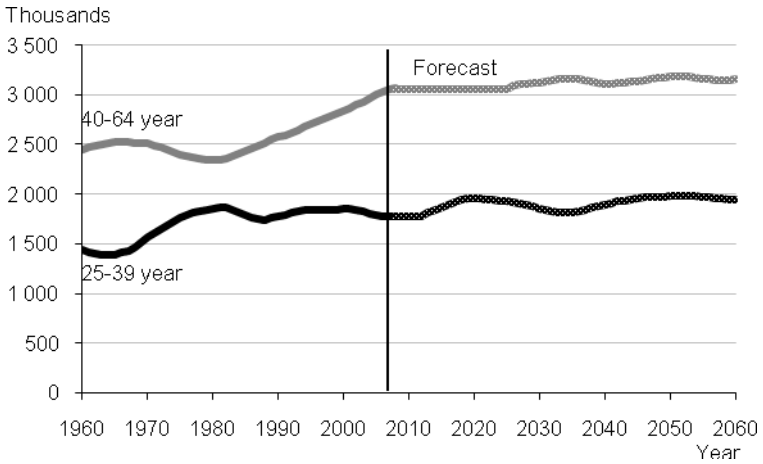


The number of those of active working age would decrease without immigration

Concerning those aged 25-39 of active working age, a slight increase is expected up till around 2020 from 1.77 million to 1.95 million. The trend is constant for the 40-64 year age group during the same time period, even though many of those born in the 1940s will be retiring soon. This is due to the assumption of a surplus of immigrants.

Statistics Sweden has made a forecast of the future supply of the labour force (Statistics Sweden, 2009). So that the population increase will not result in an unchanged supply of labour, it is assumed that the situation of certain groups on the labour market will be strengthened. It is assumed there will be an increased participation on the labour market by older persons, and that women's participation in the labour force will approach that of men. In addition, it is assumed that participation of foreign born people will approach that of Swedish born people.

Figure 2.15
Number of people in age group 25–39 years and 40–64 years 1960–2008 and projection 2009–2060. Thousands



Older persons

In 1966 the number of people age 65 and above reached one million. Since the end of the 1980s, the number has been around 1.5 million, but the number is now rising rapidly and is expected to exceed two million in 2018. By the end of the forecast period the number of those aged 65 and above is expected to be close to 2.7 million.

Up until around 2020 it is the younger group of pensioners that will increase in number. That is when persons born during the 1940s enter these ages. The state of health in this group is good as a rule and many feel they are in good health. From 1980 to 2005, more and more people aged 65-75 considered themselves to be in good health (National Board of Health and Welfare, 2009). Few need help with their personal care before the age of 80. However, from then on the proportion of those needing help rises rapidly with increasing age.

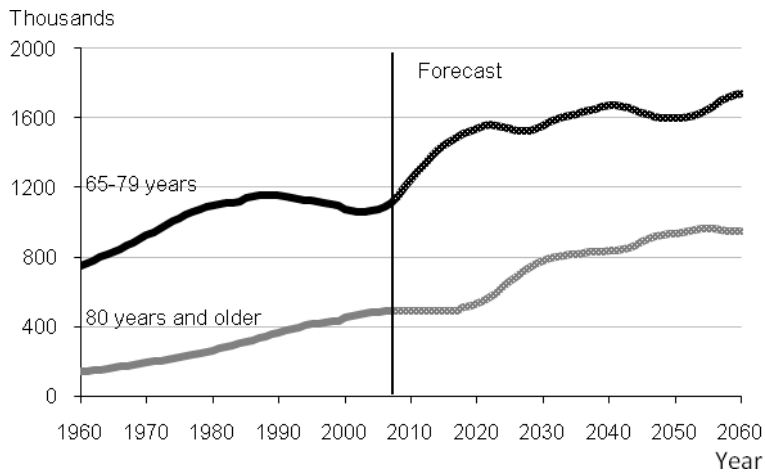
According to the Public Health Report (National Board of Health and Welfare, 2009), 44 percent of the women and 36 percent of the men age 85 and above need help with personal care. The percentage of those needing help with personal care has not changed particularly during the last two decades.

The number of those in their 80s has risen since the 1960s. Then, some 141 000 were above age 80; in 2008 the number was 493 000. Up to about 2020, the number will be relatively constant, but will then increase quickly when the many people born during the 1940s will reach these ages. At the end of the forecast period the number of those aged 80 and above will be close to one million.

The rapid decrease in mortality has been the reason that the number of people in their 80s has increased. The main reason that more and more people live longer is because fewer are stricken with heart and lung disease, and among those who are, mortality has been drastically reduces (National Board of Health and Welfare, 2009).

According to the forecast, the surplus of women over 65 will drop in the future because the mortality rate for men is dropping more rapidly than that for women.

Figure 2.16
Number of elderly people in age-group 65–79 years and 80 years and older 1960–2008 and forecast 2009–2060. Thousands

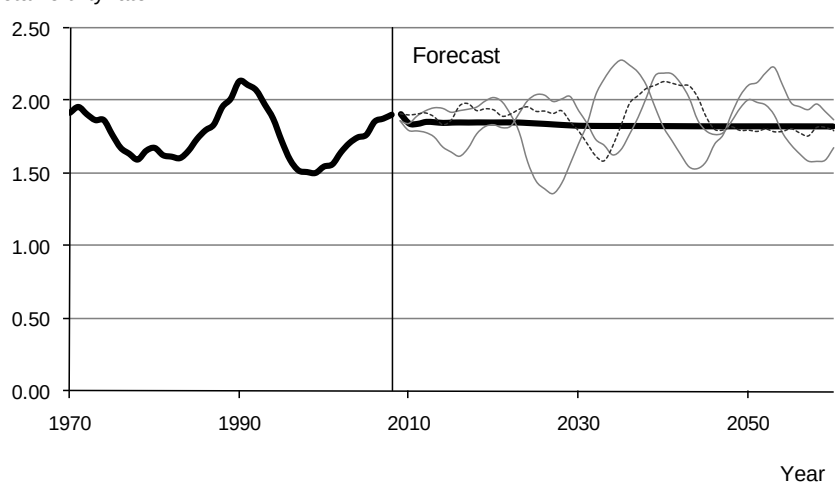


Uncertainty in the projections

To illustrate the uncertainty in the projection, the main alternative has been supplemented with a stochastic projection.

In the assumptions made about future fertility, mortality and migration, uncertainly is of course an issue. Historically, the total fertility rate has varied from year to year, and it is quite likely to continue so in the future with peaks and valleys. We cannot predict how high or low these peaks and valleys will be or when they will occur. The assumption we make on total fertility is what we think the average value of the fertility rate will be in the future.

Figure 2.17
Total fertility rate 1970-2008 and forecast 2009-2060 Example of stochastic projections



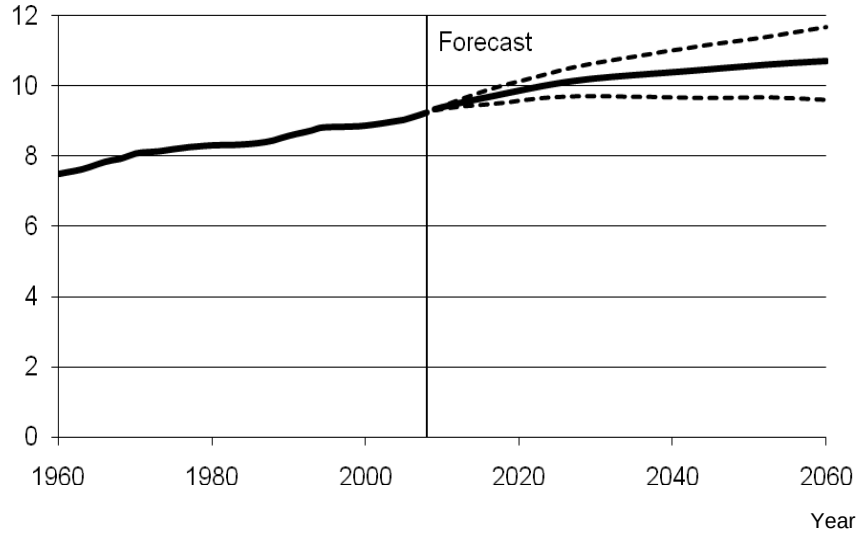
In the figure above the fertility rate of the main alternative is shown together with some stochastic projections. When we make stochastic projections we want them to have the same statistical characteristics as the fertility rate has had historically. We want the stochastic projection to reflect both the horizontal trend and the variation around the average value as in the observed time series in the figure above. Since we cannot predict the future ups and downs, we reproduce a number of possible future series of the fertility rate that all follow the same trend and have the same underlying variation. However, the scope, height and time for the different peaks and valleys are random.

With the same logic we produce several future developments of net migration and mortality. The section *Facts about the statistics* describes the statistical models we have used. In the projection model, a set of future fertility rates, net migration and mortality are then used to project the population. This gives a whole set of different population projections. These can be used to calculate the prediction interval around the result of the main alternative.

The interval should be interpreted that there is a 95 percent probability that the real observed value will be as forecasted, given that the future variation in the demographic components will be the same type and size category as they have been historically. But there are other uncertainties in the projections that are not captured in these intervals.

The figure below illustrates the population according to the forecast with a prediction interval. It is clear that uncertainty increases with time. In 2060, the population varies between 9.6 and 11.6 million.

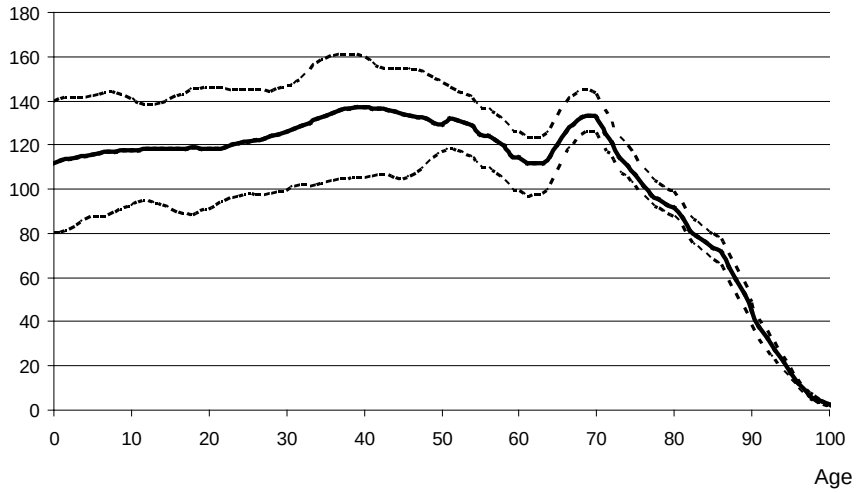
Figure 2.18
Population 1960–2008, forecast 2009–2060 with prediction interval. Millions



The figure below shows the age structure in 2060 with a prediction interval. It is clear that uncertainty is greater for the younger ages and less for the older ages. This does *not* mean that we are more uncertain about predicting mortality, which has the greatest effect

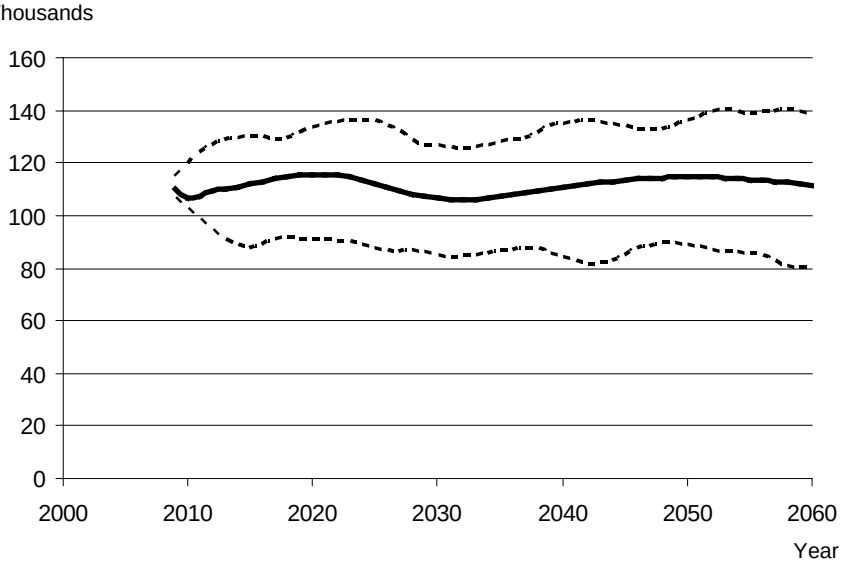
on the elderly, than about fertility, which affects the number who are born during the forecast period. The interval shows that the ups and downs have been greater in the historical fertility rate than in the historical mortality rate.

Figure 2.19
Age structure 2060 with prediction interval. Thousands



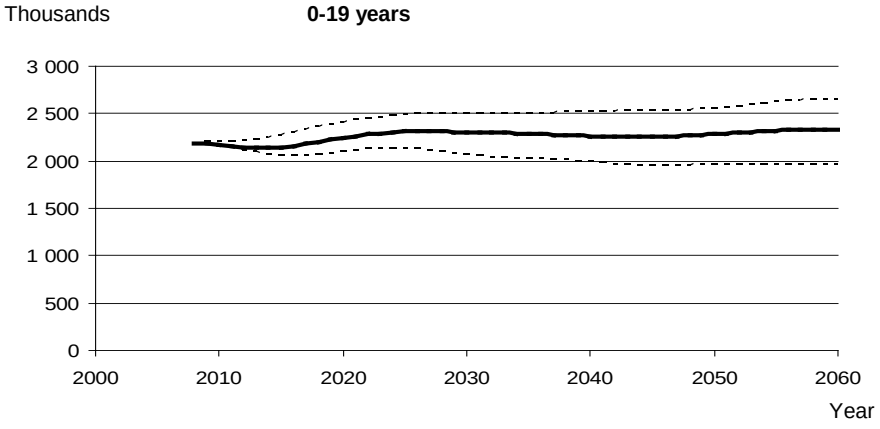
In Sweden the number of births varies sharply from one time period to another. In 1990, many children were born (124 000) while in 1999 fewer children were born (88 000). The large variation is also reflected in the uncertainty interval around the future number of births. As early as in 2010, the number of births varies between 103 000 and 120 000, and uncertainty increases with time. In 2060 we have an uncertainty interval between 80 000 and 140 000 children, if our forecasted average fertility is correct.

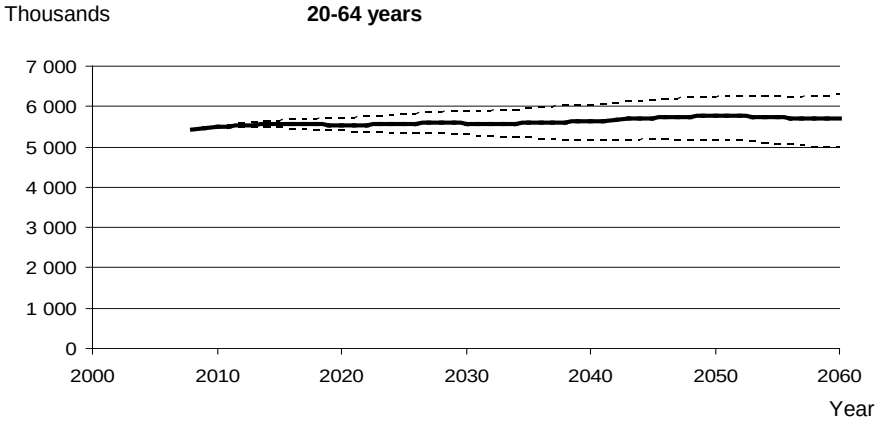
Figure 2.20
number of children born, forecast 2009–2060 with prediction interval. Thousands

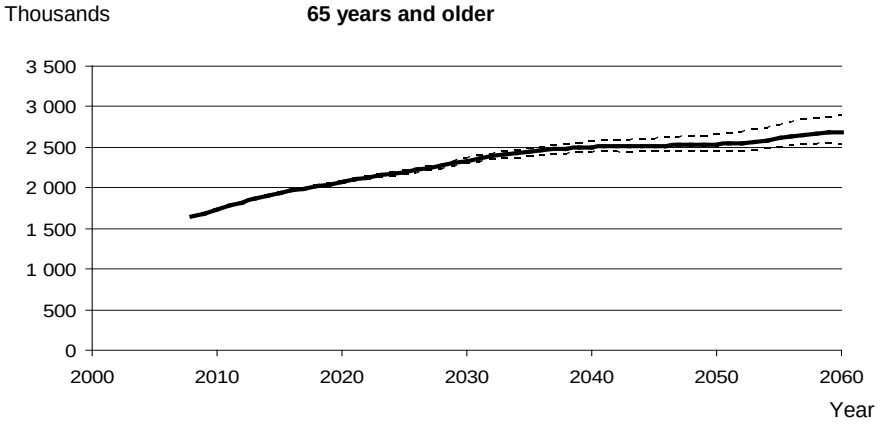


On the next page we present three figures illustrating the uncertainty in three age groups. These groups include young people (under the age of 20), people of working age (20-64), and the elderly (age 65 and above). Uncertainly in the numbers is greatest for ages 20-64, the confidence interval is 1.3 million persons in 2060.The percentage-wise deviation is largest for those aged 0-19, where the interval is nearly 700 000 persons. This is one third of the forecasted population in this age group. The older persons have the smallest interval, both in number and percentage.

Figure 2.21
Number of people aged 0-19, 20-64 and 65 years and older, forecast 2009–2060 with prediction interval. Thousands







3. Assumptions on fertility

Fertility, development and assumptions

In order to reach a situation within which the population fully replenishes itself, that is, the replacement fertility rate is achieved, then each woman must give birth to 2.1 children. In Sweden the total fertility rate in 2008 was 1.91 children per woman, which means that without immigration we would suffer a reduction in population. This situation is not unique for Sweden. Compared to many other countries, especially in Europe, Sweden nevertheless has high levels of fertility. The section *Fertility development according to the EU forecast* includes comparisons of the total fertility rate for EU countries.

What does a childbearing below the replacement fertility rate mean?

What does a fertility rate of approximately 1.9 children per woman really mean for the future population? How much will the population decrease?

If all other factors of change were constant, then in 100 years there would be a population decrease to approximately 80 percent of the original population. Such a population decrease is relatively limited compared to what it would be if the fertility rate were 1.3 children per woman. In that case less than a fourth of the population would remain after 100 years (assuming all other components remained constant).

Research shows that a fertility rate of 1.5 children per woman can be seen as a critical level. If the fertility rate is lower than 1.5 children per woman it is difficult to balance the downturn in the size of subsequent generations with migration.

Source: Mc Donald P. (2000) Gender equity, social institutions and the future of fertility.

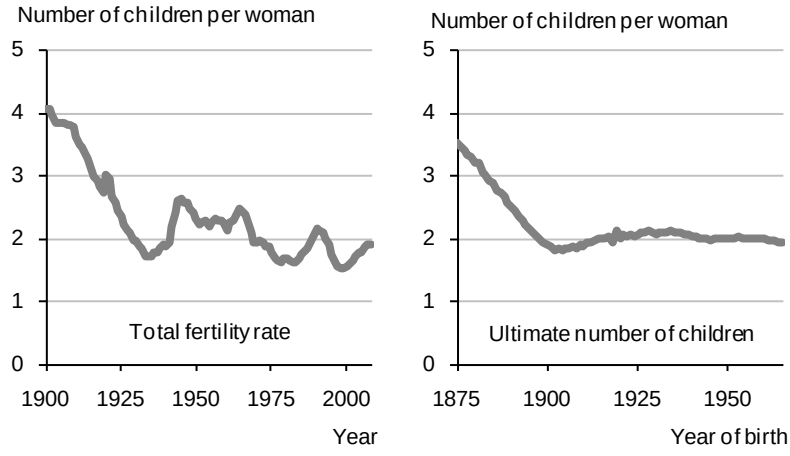
In Sweden the number of births varies sharply from one time period to another. In 1990, many children were born (124 000) while in 1999 fewer children were born (88 000.) In fact, not since the 1820s have so few children been born in Sweden as in 1999. In the 2000s, births increased and in 2008 there were 109 000 children born.

Periodical fertility is measured with the total fertility rate. The total fertility rate is a measure of the number of children a woman would have on average if fertility (the propensity to have children at different ages) was the same as during the year the calculation was made.

There are several explanations for fluctuations in fertility over time. Participation in work life, education and economic situation are some of the factors which have been shown to affect childbirth. External social factors such as family policy and the state of the economy also affect the propensity to have children.

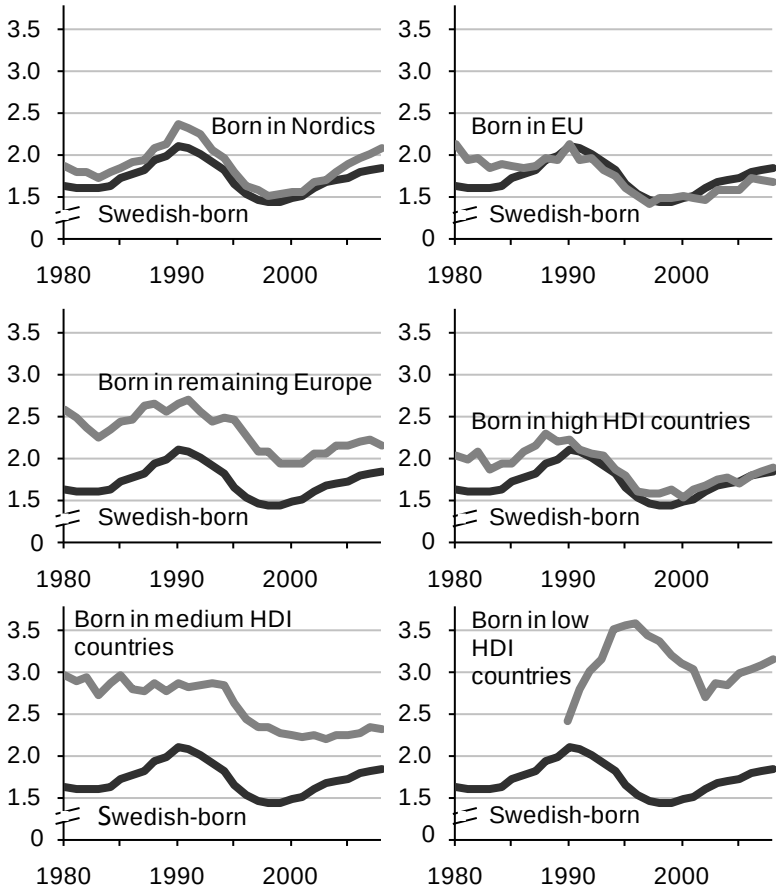
In connection with forecasting, it is advantageous to study stable processes and patterns that form the basis of future development. Fertility trends for women born a certain year (cohorts) are more stable than the annual fertility rate. That which forms the basis for assumptions on future births is therefore based largely on analyses of trends for cohort fertility. Figure 3.1 presents the total annual fertility 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.

Figure 3.1
Total fertility rate 1900–2008 and ultimate number of children per birth cohort 1875–1965. Number of children per woman



In the assumption on future births we distinguish between persons born in Sweden and persons born outside of Sweden. Persons born outside of Sweden have been divided into different groups depending on their country of birth. Separate assumptions for Swedish-born and the different groups of foreign-born have been made since 2008. The reason is because the levels of the total fertility rate differ among different groups. Figure 3.2 presents the trends for 1980-2008 for Swedish-born and the different groups of foreign-born women.

Figure 3.2
Total fertility rate for Swedish-born and different groups of foreign-born women 1980–2008. Number of children per woman



The information used as the basis for this forecast was obtained from Statistics Sweden's Multi-Generation Register (‘Flergenerationsregister') as well as the Historical Database. Fertility forecasts can be made on the basis of either women or men. But because information about fatherhood is missing slightly more often than motherhood, Statistics Sweden has chosen to base the study on women. Adopted children are not accounted for in the fertility assumptions. They are considered in the assumptions on immigration.

We begin with a summary of the assumptions concerning the main alternative. Those who would like an in-depth explanation of the underlying factors for the assumptions of the main alternative can read the next section about assumptions for Swedish-born and then the assumptions for the different groups of foreign-born. In a separate section we describe the fertility for the next few years and the assumptions that are made as a result of the current economic crisis. Then a comparison is made about fertility trends in Sweden and in the EU countries. Further, we present the assumptions of childbirths in the future that are made in the EU. Finally, we present two alternative assumptions, a high and a low alternative for fertility, and then discuss the assumptions made in forecasts of previous years.

Main alternative

Summary

The assumptions on fertility trends during the forecast period are made for seven different groups. Figure 3.3 and Table 3.1 present net results for total fertility during the forecast period, in total and broken down into those born in Sweden and those born abroad. All in all, the assumptions point to a fertility level of 1.83 children per woman in the long-term In 2009, fertility is expected to amount to 1.91 children per woman, and will then drop to 1.84 in the next two years.

The total fertility will with all certainty continue to vary as it has earlier, but we have no possibility to predict these variations in the long-term. Our assumptions ought to be interpreted as an average future level rather than as assumptions on the most likely level for any one year. In the section *Uncertainty in projections* (chapter 2), uncertainty is presented in the form of confidence intervals. These confidence intervals reflect the ups and downs we have previously had. In the section *Crisis - childbirths in the next few years*, we present analyses of the short-term effects on childbirth due to the current economic crisis.

Figure 3.3
Total Fertility Rate 1970–2008 and forecast for 2009–2060 for women born in Sweden, foreign-born women, and the total rate. Children per woman

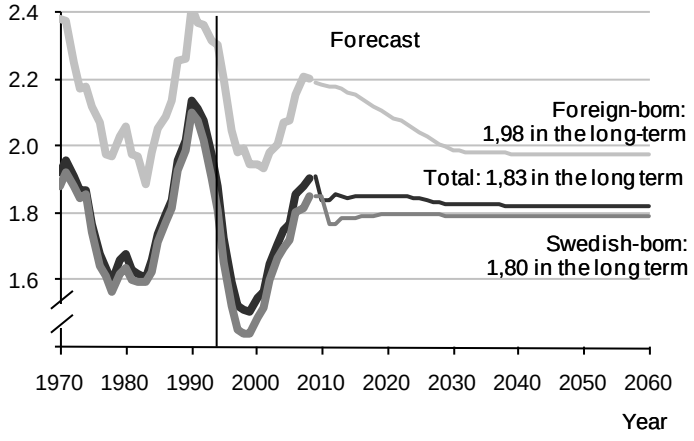


Table 3.1
Total Fertility Rate 1970–2008 and forecast for 2009–2060 for women born in Sweden, foreign-born women, and total for some forecast years. Children per woman

Year	Swedish-born		Foreign-born		Total	
	TFR	Number of births	TFR	Number of births	TFR	Number of births
2009	1.85	84 300	2.19	25 800	1.91	110 100
2010	1.77	80 100	2.18	26 800	1.84	106 900
2011	1.77	80 000	2.18	27 600	1.84	107 600
2012	1.79	81 100	2.17	28 300	1.86	109 300
2013	1.79	81 500	2.17	28 700	1.85	110 000
2014	1.79	82 000	2.16	28 900	1.85	110 900
2015	1.79	83 000	2.15	29 000	1.85	112 000
2020	1.80	87 800	2.10	27 700	1.85	115 500
2030	1.80	81 900	1.99	24 500	1.83	106 300
2040	1.80	87 700	1.98	23 100	1.83	110 900
2050	1.80	92 200	1.98	22 400	1.83	114 500
2060	1.80	89 400	1.98	22 300	1.83	111 700

The proportion of children born by a foreign-born mother will increase by 26 percent at most during the coming years. In the long-term the proportion will drop again to around 20 percent. This can

be compared to the proportion of children born by a foreign-born woman in 2008, at 22 percent.

Main alternative for Swedish-born persons

We base our calculations on the future fertility of Swedish-born women on information on cohorts. Estimations are made 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[2] occur with what is known as incidence figures that are defined as the number of occurrences divided by the average population of women in each cohort. The total of the cohort's incidence figures (for the first, second, third and fourth or more child) is the same as the cohort's age-specific fertility rate. The method is described in more detail in the chapter *Facts about the statistics* in the section *Fertility forecast.*

The section on Future fertility of Swedish-born women begins with a detailed description on the assumption concerning the first child. An account then follows for the assumptions made for the other children and its significance on the total fertility rate.

First child

The assumption of fertility for the first child is based on an assumption of the percent of childless per cohort. Then the age-specific incidence figures for the first child are estimated up to age 50, so that the cohort reaches the assumed childlessness.

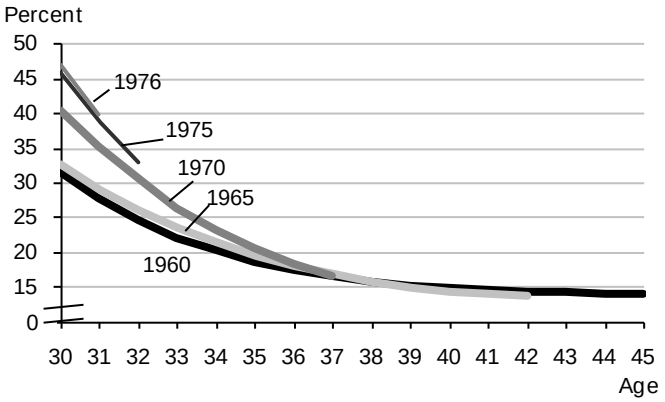
Figure 3.4 compares the percentage of childless at different ages for women born in 1960, 1965, 1970, 1975 and 1976. The percentage who have not had any children in their 30s is higher for women born in 1970, compared to women born in 1960 and 1965. However, childlessness for women born in 1970 is just as low as for the cohorts of 1960 and 1965. What happens with cohorts who are born later?

In Statistics Sweden's forecast (2006:2), a number of factors were identified that were particularly important in the assessment of future childlessness. We have followed the development of these factors (see the next section) and the overall assessment of future childlessness is an increase to 15 percent, which we believe women born around 1980 will reach. This can be compared to the

[2] The parity of a woman refers to the number of children she has given birth to.

percentage of childless women who have just finished their fertile years, around 14 percent. Previously, the assumption was that childlessness would rise to 16 percent, but cohorts born later have been able to catch up to previously born cohorts to a greater degree than what we believed in earlier forecasts.

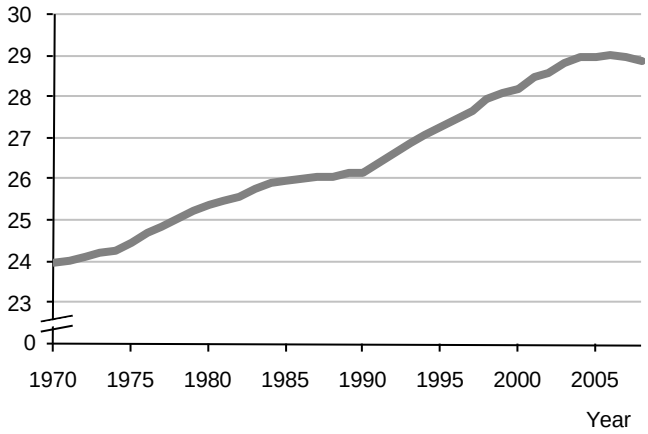
Figure 3.4
Percentage of women who at different ages not yet have given birth. Women born in 1960, 1965, 1970, 1975 and 1976.



Concerning development of the age at the birth of the first child, a continuous upward shift in age has been occurring since the end of the 1960s. In 1970, the average age for a woman to have her first child was 24. Today she is 29. This upward shift has accelerated during the 1990s. The recession resulted in, particularly for younger men and women, greater difficulties in establishing themselves on the labour market. An increasing number went on to higher education and postponed having children. This upward shift has stopped in the last five years, and the average age has even dropped somewhat in the last year (see figure 3.5).

Several studies conducted during the 1990s and later show that people first find employment and then start a family with children. Those outside the labour force are less likely to have children (Statistics Sweden, 2008:1) than those who have permanent employment. Young people's entry into the labour market has been postponed to later ages. The significant change came in connection with the crisis in the 1990s, and the pattern of an increased proportion studying in higher education has by and large remained even in the 2000s.

Figure 3.5
Mean age at birth of first child 1970–2008



The age structure for those who have their first child is an important determining factor for total childbirth. Those who have children at an earlier age have on average more children than those who start a family at a later age (Statistics Sweden, 2002). If young people were to enter the labour market earlier, age of mothers having their first child would probably drop. The Long-Term Survey (SOU 2008:105) discusses measures to speed up the graduation rate in the education system somewhat, which might speed up entry to the labour market. Certain measures have already been decided, such as a reformed acceptance procedure to higher education. While we wait for these measures to take effect, we choose to assume that the future first-time parents have a similar age structure as we have had in recent years.

Trends of factors that affect childlessness
Concerning the assumptions on childlessness, valuable advice and viewpoints have been gathered from the reference group on development of fertility[3]. As mentioned earlier, the overall assessment an increase in childlessness to 15 percent. Below we present the recent development of those factors we believe are significant for the trends of childlessness. These factors are involuntary childlessness, assisted fertility, voluntary childlessness and the development of couple relationships.

[3] A list of the representatives in the reference group for fertility trends is presented in Appendix 1.

Involuntary childlessness
Involuntary childlessness can be due to three different factors:

- Physiological factors. Age plays a determining factor here. The ability to have children declines with increasing age. The trend of having children at a later time could result in more people being childless. However, this trend of postponing childbirth has stopped in recent years.
- Lifestyle factors. Drugs, sexually transmitted diseases, being overweight or underweight, stress and sexual problems are examples of lifestyle factors that *may* affect fertility negatively. The sharp increase of chlamydia in the last ten years could influence the trend towards increased childlessness (National Board of Health and Welfare, 2009).
- Pathological factors. Illness-related infertility which is not dependent on lifestyle factors or age has not increased.

Assisted fertilisation
The number of treatments for involuntary childlessness, known as assisted fertilisation, has increased steadily since 1991. In 2005 some 13 500 IVF treatments were carried out in Sweden and about 21 percent of these led to a live birth (National Board of Health and Welfare, 2008). If IVF treatments continue to increase, involuntary childlessness can drop.

Voluntary childlessness
There are many who believe that voluntary childlessness will rise since there are more lifestyles to choose from today. However, we still have not seen research that supports this. Children still seem to be included in the future plans of most young people. A comparison of different attitude surveys from the 1980s and onwards show in contrast that more and more childless people answer "yes" to the question if they believe they will have children in the future (see table 3.2). According to surveys done in the 2000s, a large proportion of childless people aged 35-39 believe they will have children in the future. Studies show that many women and men are much too optimistic in their understanding about a woman's ability to become pregnant at an older age (Lampic, 2007).

A study on attitudes and values done by the Swedish National Board for Youth Affairs in 2007 includes questions to young people aged 16-29 on what they think is important to have achieved by the age of 35. According to the study, one of the most important things

is to have started a family. The only thing that was more important was to have obtained a place to live and permanent employment. Comparisons of the years 1997, 2002 and 2007 show no variations in attitudes towards starting a family.

Few people consider never having children. A review of attitudes from 1980 and onwards do not indicate a trend towards increased childlessness (see table 3.3).

Table 3.2
Childless women answering *yes* to the question if they think they will have children in the future. Percent

Childless women	Answer yes to question if they think they will have children in the future. According to an attitude survey conducted in:				
Age	1982[4]	1992/93[5]	1999[6]	2000[7]	2003[8]
20-24	83	93	98	98	
25-29	74	83	98	96	98
30-34	46	50	93	93	95
35-39	15	8		66	87

Table 3.3
Childless women answering *no* to the question if they think they will have children in the future. Percent

Childless women	Answer no to the question if they think they will have children in the future. According to an attitude survey conducted in:				
Age	1982	1992/93	1999	2000	2003
20-24	3	1	1	3	
25-29	8	5	2	2	2
30-34	23	17	6	8	5
35-39	63	68		35	12

[4] Statistics Sweden (1982)

[5] Statistics Sweden (1995)

[6] Based on data from the questionnaire survey from 1999 on family and working life in the 2000s on behalf of Eva Bernhart at The Centre for Gender Studies at Stockholm University. Our own processing.

[7] Statistics Sweden (2001)

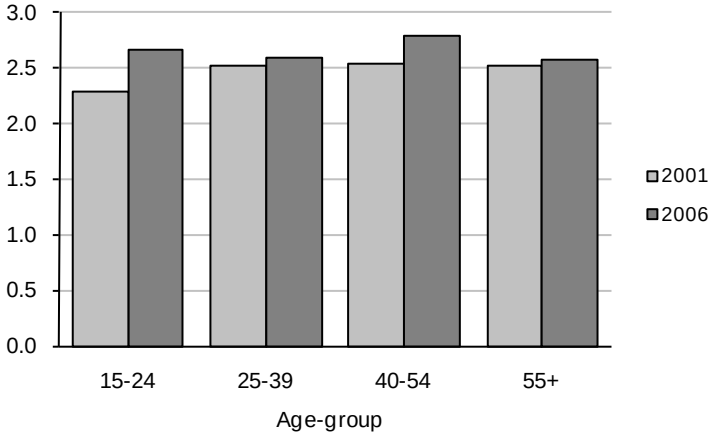
[8] Based on data from the questionnaire survey from 2003 on family and working life in the 2000s on behalf of Eva Bernhart at The Centre for Gender Studies at Stockholm University. Our own processing.

Couple relationships
The desire to have children does not seem to have dropped. However, it seems that searching for the "right person" to have children with takes more time today. The demand for the ideal partner is higher, and this can be a determining factor to postponing childbirth until later (Engwall, 2005).

Childbirth in the future
The continuation of childbirth has at least up to now been a relatively stable process, mainly depending on the age of the previous child. It is most common that the next child will be born in a time interval of around 2 to 2.5 years after the birth of the previous child. Previously this interval was longer at 2.5 to 3 years, but this changed when the interval to receive parental insurance was lowered (Ministry of Health and Social Affairs, 2001). Continued childbirth also depends on the age of the woman at the time of the previous child's birth. The older a woman is, the less likely she will give birth to more children. The incidence figures are estimated for the first, second, third and fourth (or more) child with the help of so-called transition probabilities.

The ideal to have two children has long been supported and there are no indications that this will change. Figure 3.6 shows a comparison of the ideal number of children among women according to the 2001 and 2006 Eurobarometer, a recurring attitude survey conducted in all the EU countries (Testa, 2006). The average ideal number of children is greater in 2006 for women of all ages in Sweden.

Figure 3.6
Average ideal number of children among women in Sweden by age in 2001 and 2006.



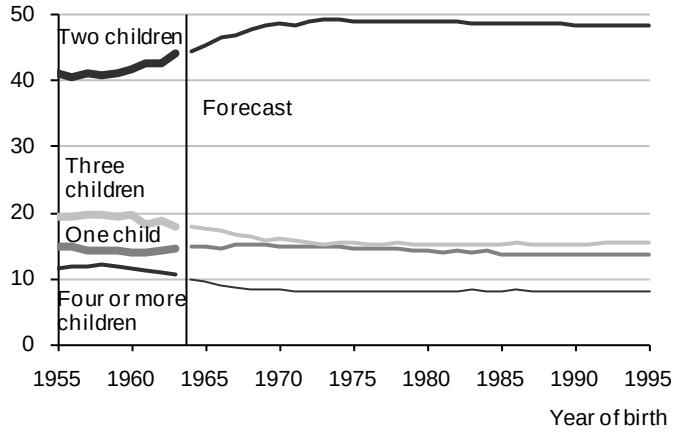
Source: Testa, Maria Rita (2006) *Childbearing preferences and family issues in Europe*

It is not so popular in Sweden to only have one child. In the 2006 Eurobarometer, only 3 percent of the Swedish women age 15 and over said they thought *one* child was the ideal family size. The corresponding figures in Austria and Italy were 17 and 13 percent respectively.

Compared to most of the other countries in Europe, more people in Sweden think three children is the ideal number. Around 30 percent feel this way. Those in Austria and Rumania who think this way only amount to 10 percent.

However, we believe that it will become somewhat less usual to have 3 or more children (see Figure 3.7). The reason for this is because we start having children in Sweden later than before. Those who have children at an earlier age have on average more children than those who start a family at a later age (Statistics Sweden, 2002). It can be difficult to have time to have a third or fourth child if the first child is born after the age of 30.

Figure 3.7
Number of children at the end of the fertile period for women born 1955–1963 and projection for women born 1964 and later. Percent

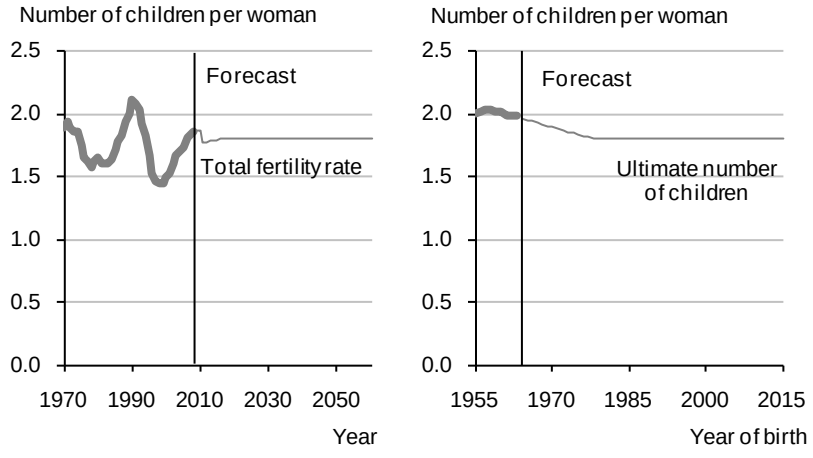


Assumptions of Swedish born in the long-term
Assumptions for Swedish-born are based on the assumed future distribution of number of children:

0 children	1 child	2 children	3 children	at least 4 children
15%	14%	48%	15%	8%

Figure 3.8 illustrates the significance of the assumptions in the long-term for women born different years. The figure also shows the annual fertility as a consequence of the assumptions for the different cohorts. The average ultimate number of children for Swedish-born women is 1.80 according to the assumptions. Women born in the period 1900-1960 gave birth to about 2 children on average. Our assumption thus yields a lower cohort fertility rate in the foreseeable future.

Figure 3.8
Total fertility rate 1970–2008 and forecast 2009–2060. Ultimate number of children per birth cohort 1955–1963 and forecast for women born 1964–2015. Swedish-born women. Number of children per woman



Main alternative for foreign-born persons

If the foreign-born are taken as a whole then they have a higher fertility rate than Swedish-born women. Sweden's foreign-born population is increasing and expected to continue increasing. This means that the foreign-born women's childbearing has an all greater impact of childbearing in Sweden as a whole. In 2008, 22 percent of the children were born unto mothers who were not born in Sweden (see table 3.4). It was most common that children born by foreign-born mothers had mothers with a country of origin outside of Europe (countries with medium HDI).

Table 3.4
Percentage of children born by Swedish-born and foreign-born women in 2008

	Percentage
Swedish-born	**78**
foreign-born	**22**
of whom born in	
the Nordic countries	2
EU countries	3
Remaining European countries	3
Countries with high HDI	2
Countries with medium HDI	10
Countries with low HDI	2
Total	**100**

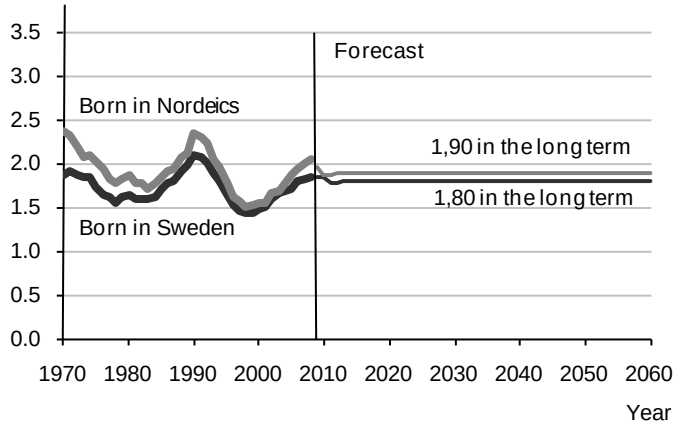
Since 2008 separate assumptions for these different groups of foreign-born are made in the forecast. The method for producing the assumptions for foreign-born is more simple than the one used for Swedish-born. No parity-specific assumptions are made for foreign-born, but the age specific fertility rate is projected forward. Statistics Sweden's report *Childbirth among Swedish-born and foreign-born women* studies the fertility trends for the different groups of foreign-born. The assumptions presented below for the different groups are based on results from this study. In general, the results show the ability to have children is greater for those who have been in Sweden for a short time. This so-called "migration effect" could be because many come to Sweden to start a family. By doing so, these new immigrants "increase" the fertility rate. Women from most of the country groups have a greater inclination to have a third and fourth child compared to Swedish-born women. This does not only apply to the newly immigrated, but also to those who have been in Sweden for some time.

Born in the Nordic countries
The total image for women born in the Nordic countries is that they have a somewhat greater inclination to have children than the Swedish born women, but the differences are relatively small.

We assume that women born in the Nordic countries will continue to have a somewhat higher fertility rate than women born in Sweden because of the so-called "migration effect" and a greater tendency to have a third and fourth child. We have assumed that

Nordic-born persons will differ from the Swedish-born persons as has been the case on average for the last ten years. This means a total fertility rate of 1.9 children per woman in the long-term (see figure 3.9).

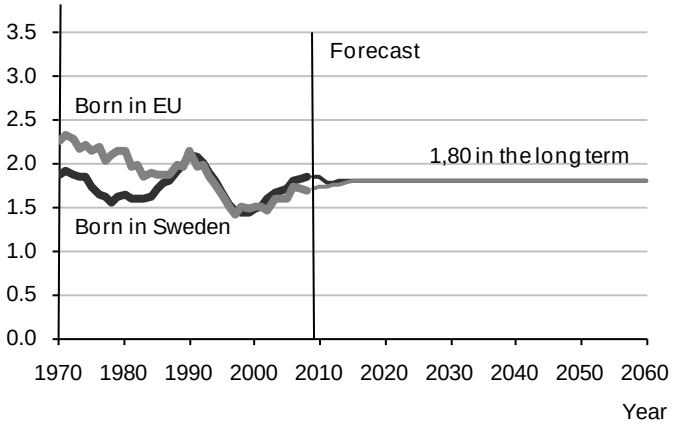
Figure 3.9
Total Fertility Rate 1970–2008 and forecast for 2009–2060 for women born in Sweden and women born in the Nordic countries. Children per woman



Born in EU countries (except the Nordic countries)
The total fertility rate has during recent years been slightly lower for women born in EU countries compared to Swedish-born women. The single largest country of origin in this group is Poland where nearly one third of the EU country group was born. The fertility rate for Polish-born women in Sweden decreased dramatically in the beginning of the 1990s, from 2.4 children per woman to a lowest point of 1.3 children per woman by the end of the 1990s. This has probably contributed to the decrease for this group on the whole.

We assume that the fertility rate for women born in EU countries residing in Sweden is near that for the Swedish-born women at about 1.80 children per woman (see figure 3.10) According to the EU's population forecast, fertility in the EU countries is assumed to head towards the Nordic levels.

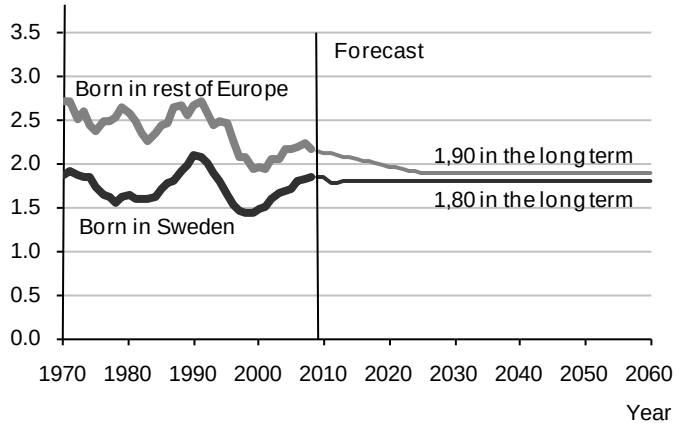
Figure 3.10
Total Fertility Rate 1970–2008 and forecast for 2009–2060 for women born in Sweden and women born in EU countries. Children per woman



Born in remaining Europe (outside Nordic countries and EU)
The total fertility rate is higher for women born in the group for the remaining countries of Europe compared to the Swedish-born women. However, the difference has decreased in recent years.

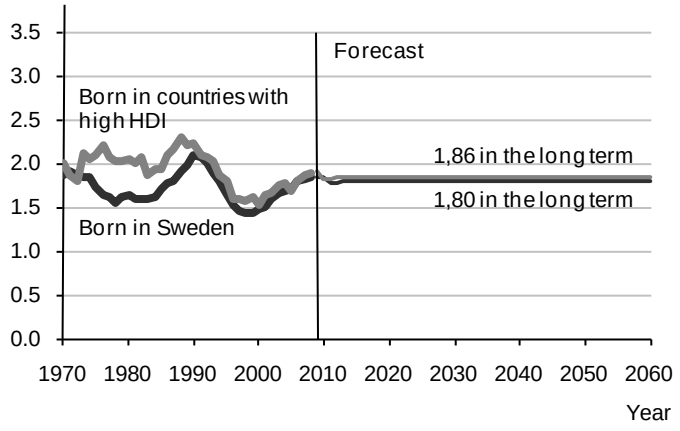
In the long-term, women born in remaining Europe will continue to have a somewhat higher total fertility rate than Swedish-born women. The "migration effect" is one reason for this, and we believe this will help "increase" the fertility rate for this group. We assume that women born in the rest of Europe will in the long-term have a similar fertility as women born in the Nordic countries, 1.90 children per woman (see table 3.11).

Figure 3.11
Total Fertility Rate 1970–2008 and forecast for 2009–2060 for women born in Sweden and women born in remaining Europe. Children per woman



Born in countries outside Europe with a high HDI
Women born outside of Europe in countries with a high level of development have had a fertility rate similar to Swedish-born women in recent years. For this group, we assume a somewhat higher fertility rate than the Swedish-born women because of the greater tendency for new immigrants to have children. Many come as family members and thus already have a partner. We assume that women born in a country with high HDI will differ from Swedish-born, as they have done on average during the last ten years. In the long-term, this means a total fertility of 1.86 children per woman (see figure 3.12).

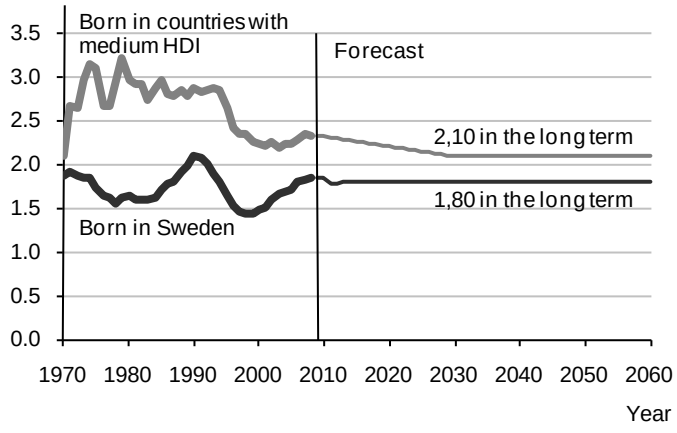
Figure 3.12
Total Fertility Rate 1970–2008 and forecast for 2009–2060 for women born in Sweden and women born in high HDI countries. Children per woman



Born in countries outside Europe with medium HDI
Previously, there was a considerable difference in total fertility rate for Swedish-born and women born in the group with medium HDI. There is still a significant difference between these groups, but the differences have decreased.

Women born in a medium developed country have an especially great tendency to have children immediately after immigrating to Sweden. This can be due to the larger extent of asylum seekers and immigrant family members who come from countries in this group. Due to the considerable "migration effect", we assume that the differences will continue to be relatively great in the future among the Swedish-born and women born in medium HDI countries. A fertility rate of 2.10 children per woman is assumed in the long-term for this group (see figure 3.13).

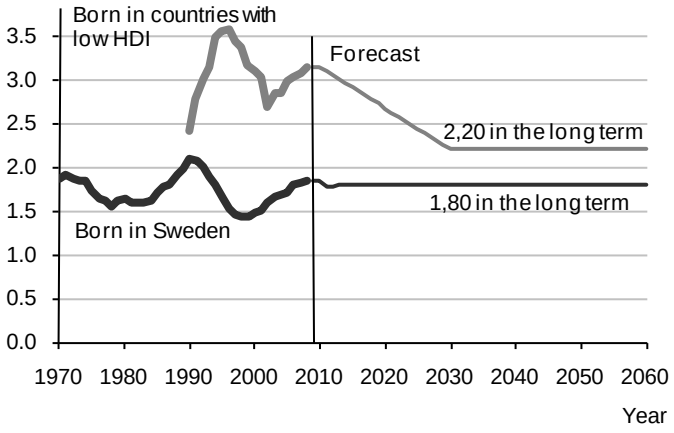
Figure 3.13
Total Fertility Rate 1970–2008 and forecast for 2009–2060 for women born in Sweden and women born in medium HDI countries. Children per woman



Born in countries outside Europe with a low HDI
Women born outside Europe in countries with a low level of development comprise a small group in Sweden. Before 1990 the number of women in childbearing years was so small that the total fertility rate could not be estimated. This group has the highest total fertility rate. Considerable differences in childbirth exist for this group compared to Swedish-born women and the differences do not seem to decrease. This could partly be due to a changed composition of the group. The group is more and more dominated by women born in Somalia, who often have many children.

We assume a decrease in the future, but believe that the group will continue to have a relatively high fertility rate. This group is also highly influenced by the "migration effect". Fertility in the future is assumed at 2.20 children per woman (see figure 3.14).

Figure 3.14
Total Fertility Rate 1970–2008 and forecast for 2009–2060 for women born in Sweden and women born in low HDI countries. Children per woman



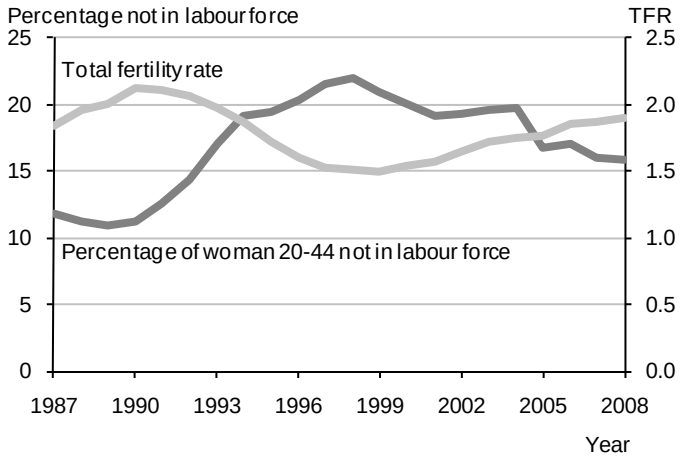
The Crisis - Childbearing in coming years

We have tried to take into consideration the impact of the economy's state on childbirth over the first few years of the forecast period. In Sweden there is a strong connection between the economy and childbirth. In this section we present the assumptions we made as a result of the economic crisis. Regarding these assumptions, we have gathered valuable advice and viewpoints from the reference group for fertility trends.

The strong connection between childbirth and the economy is often explained by the fact that the Swedish social insurance system is strongly tied to income and employment. The size of economic benefits for parental leave are based on the parents' incomes. Those without an income from work receive a lower amount.

Figure 3.15 shows the fertility trends in relation to the percentage of people who are not in the labour force. On the right axis we see development of total fertility. On the left, we see the development of the percentage of women who are outside of the labour force. This group often consists mainly of students. It is clear that fertility decreases when the percentage outside of the labour force increases and vice versa.

Figure 3.15
Total Fertility Rate and share of women 20–44 years not in the labour force 1987–2008.



Studies show that those outside of the labour force have their first child to a lesser degree than those who are employed (Statistics Sweden, 2008:1) This connection applies to both Swedish-born and foreign-born women and men. People who are neither employed nor unemployed belong to the group not in the labour force. However, there are no studies that indicate that the unemployed would have a particularly low fertility rate. Some studies show that the tendency to have children is about equal as for those who are employed (Statistics Sweden, 2008:1). In other studies where differentiations of different types of unemployed exist, the unemployed with higher benefit levels even have a greater tendency than everyone else to have their first child (National Social Insurance Board, 2001).

The group that has the greatest "lowering" effect on childbirth is thus the one outside of the labour market. We have tried to predict the effect of the economic crisis by thinking about what will happen to this group. Will the percentage of those studying increase? During the crisis in the 1990s many turned to education for further studies. The percentage of those studying increased for most ages and reached a peak in 2004. Since then the percentage of those studying dropped but the percentage is still considerably higher than before the crisis years of the 1990s. We believe that the percentage of those studying will increase as a result of the crisis, but we do not believe that there will be the same expansion of education as during the 1990s crisis. Therefore we also do not

believe that childbirth will decrease to the same degree as during the last decade.

It is mainly the first-child fertility rate at younger ages that is sensitive to the economy. Because of this, we have lowered the first-child fertility rate for Swedish-born aged 21-28 to the lowest levels that were measured for each age during the 2000s.

The third-child fertility rate is also sensitive to the economy to a certain degree. Thus we expect a certain downturn for third-born children for 2010 and 2011.

We assume a corresponding downturn for births for most of the groups of foreign-born. Two exceptions exist for women born in medium and low developed countries. The reason we have not lowered the birth rate for these groups is because we have had a sharp increase of immigration for these groups in recent years; we expect the "migration effect" to increase the fertility rate for these groups.

Table 3.5 presents the total fertility rate for the coming years for all groups. In 2010 and 2011, fertility is predicted to drop to 1.84 children per woman.

In 2009 we assume the same high level of 1.91 children per woman as was so in 2008, since clear tendencies to a downturn are lacking. We studied maternity forecasts (Stockholm County Council Public Health Department) and statistics on the number of monthly births in order to examine the development of trends.

Table 3.5
Assumption for immediate years (2009–2016) in total for all women. Number of children per woman

Year	Total fertility rate (number of children per woman)
2009	1.91
2010	1.84
2011	1.84
2012	1.86
2013	1.85
2014	1.85
2015	1.85
2016	1.85

Fertility development according to the EU forecast

Many countries in Europe have a lower fertility rate than Sweden. Among EU countries in 2006, only France and Ireland had a higher fertility rate. Table 3.6 shows the fertility rates in EU member countries in 2006, and the assumption for 2060 according to the EU's most recent population forecast. The EU forecast is based on a scenario of harmonisation among today's member countries. The differences are assumed to completely disappear in the long-term (up until 2150) and the countries are then assumed to have reached the fertility level of the Nordic countries today. According to this scenario, the terms of family policies will improve so that it will be easier to combine having a family and working (Eurostat, 2007).

Table 3.6
Total Fertility Rate in EU countries 2006 and forecast 2060. Forecast EU 2008. Children per woman

Country	2006	2060
France	2.00	1.93
Ireland	1.90	1.88
Sweden	1.85	1.85
Finland	1.84	1.84
United Kingdom	1.84	1.84
Denmark	1.83	1.85
Netherlands	1.70	1.77
Luxembourg	1.65	1.72
Belgium	1.64	1.79
Estonia	1.55	1.66
Cyprus	1.47	1.60
Malta	1.41	1.55
Austria	1.40	1.57
Greece	1.39	1.57
Spain	1.38	1.56
Bulgaria	1.37	1.55
Latvia	1.35	1.54
Portugal	1.35	1.54
Hungary	1.34	1.53
Czech Republic	1.33	1.52
Germany	1.32	1.53
Italy	1.32	1.55
Lithuania	1.31	1.54
Romania	1.31	1.52
Slovenia	1.31	1.52
Poland	1.27	1.49
Slovakia	1.24	1.47

Source: Eurostat

Alternative assumptions

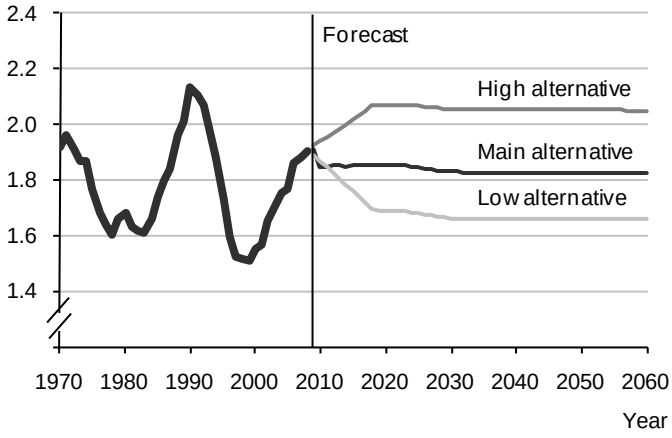
It is possible that fertility will develop differently than how we have predicted. To understand how the future population is affected by the number of children born, two alternative scenarios to the main alternative are presented in Statistics Sweden's population forecast. The low alternative comprises an alternative with a lower fertility rate and the high alternative has a higher fertility. The low and high alternative are made for each of the different groups of countries, in table 3.7 and figure 3.17 we present the net results for all the groups together.

Table 3.7
Total fertility rate (TFR) and number of children born according to the main assumption and according to alternative assumptions for different forecast years . Children per woman and number

Year	Alternative					
	Low fertility		Main assumption		High fertility	
	TFR	Number of children	TFR	Number of children	TFR	Number of children
2009	1.89	108 700	1.91	110 100	1.93	110 900
2013	1.80	106 900	1.85	110 200	1.99	118 400
2018	1.69	104 800	1.85	114 600	2.07	127 800
2030	1.66	97 200	1.83	106 300	2.06	119 600
2040	1.66	99 800	1.83	110 900	2.05	128 900
2050	1.66	99 300	1.83	114 500	2.05	137 800
2060	1.66	95 800	1.83	111 700	2.05	136 400

The difference between the high and the low alternative is about 0.40 children per woman in the long-term. Concerning the number of children, the difference increases with time between the high and the low alternative.

Figure 3.17
Total Fertility Rate 1970–2008 and forecast for 2009–2060 according to the main alternative, high alternative and low alternative. Children per woman



The low alternative implies lower fertility

In our low alternative we have assumed that in the future we will reach a level of 1.66 children per woman. Compared with the main alternative, this assumption implies having children at a later age and an increased childlessness. Having children later means that fewer will give birth to child number two, three and four. Having children later is thus not compensated by an increased intensity at older ages. Our assumptions regarding low levels of fertility are based on the following assumed future distribution of the number of children for Swedish-born:

0 children	1 child	2 children	3 children	at least 4 children
17%	24%	43%	11%	5%

No parity-specific assumptions are made for foreign-born women. Total fertility rate for foreign born decreases so that the difference between Swedish-born is the same as in the main alternative. Table 3.8 shows the assumption in total for Swedish-born and the different groups of foreign-born.

Several phenomena could result in lower fertility according to the low alternative. One such scenario could be a worsening of family policy terms, which ought to result in fewer childbirths. Another development could be a change in people's attitudes. If fewer

people want to have children at all and if the two-child norm weakens, these factors could lead to fewer children being born.

Table 3.8
Total fertility rate according to the low assumption for Swedish-born and the different groups of foreign born for some selected forecast years. Children per woman

	Total fertility rate according to the assumption on low fertility for women born in:							Total
	Sweden	the Nordic countries	EU countries	Remaining European countries	High HDI	Medium HDI	Low HDI	
2009	1.83	1.93	1.68	2.14	1.89	2.30	3.09	1.89
2018	1.63	1.73	1.63	1.91	1.69	2.14	2.63	1.69
2025	1.63	1.73	1.63	1.73	1.69	2.02	2.28	1.68
2030	1.63	1.73	1.63	1.73	1.69	1.93	2.03	1.66
2060	1.63	1.73	1.63	1.73	1.69	1.93	2.03	1.66

The high alternative implies higher fertility

In our high fertility scenario we have assumed that women will continue to bear just over 2 children on average. Compared to the main alternative, the assumption implies a return to somewhat younger parents and a reduced childlessness. This situation of having children earlier means that more people would have time to have child number two, three and four. The assumption of high fertility is based on the assumed distribution of the number of children for Swedish-born:

0 children	1 child	2 children	3 children	at least 4 children
13%	12%	45%	19%	11%

As mentioned before, no parity-specific assumptions are made for foreign-born. Total fertility rate for foreign-born increases so that the difference from Swedish-born is the same as in the main alternative. Table 3.9 shows the assumption in total for Swedish-born and the different groups of foreign-born.

Fertility could increase according to the high assumption if family policy terms were to improve. One example of such an improvement might be making it easier for students to have children. Another possible development are changes in people's attitudes towards even more positive views on childbirth and large families.

Table 3.8
Total Fertility Rate according to the high assumption for Swedish-born and the different groups of foreign-born for some selected forecast years. Children per woman

	Total fertility according to the assumption of high fertility for women born in:							Total
	Sweden	Nordic countries	EU countries	Remaining European countries	High HDI	Medium HDI	Low HDI	
2009	1.87	2.07	1.72	2.16	1.93	2.32	3.11	1.93
2018	2.03	2.13	2.03	2.14	2.09	2.32	2.82	2.07
2025	2.03	2.13	2.03	2.13	2.09	2.33	2.59	2.07
2030	2.03	2.13	2.03	2.13	2.09	2.33	2.43	2.06
2060	2.03	2.13	2.03	2.13	2.09	2.33	2.43	2.05

Assumptions about fertility from earlier projections

Table 3.10 presents the fertility assumptions for a selection of forecast years. According to the table, the difference between the forecast periods is relatively small. The lowest assumption for the future was made in the forecast year of 2000. Then total fertility was assumed at 1.80 children per woman in the future. The year 2000 measured the lowest fertility in history in Sweden with 1.50 children per woman. Trends of the most recent years tend to influence the making of forecasts.

Compared to the latest forecast in 2008, fertility has been lowered somewhat. However, the adjustments are marginal.

Table 3.10
Comparison between assumptions on the total fertility rate in forecasts produced in 2000, 2003, 2006, 2008 and 2009. Children per woman

	Projection 2000	Projection 2003	Projection 2006	Projection 2008	Projection 2009
2009	1.79	1.85	1.84	1.91	1.91
2010	1.80	1.86	1.85	1.91	1.84
2020	1.80	1.85	1.85	1.88	1.85
2030	1.80	1.85	1.85	1.86	1.83
2050	1.80	1.85	1.85	1.87	1.83

4. Assumptions about migration

This chapter presents the assumptions that the migration forecasts are based on. Firstly, migration is described in broad terms, and then a more detailed description follows of immigration and emigration for each group of countries.

Migration contributes significantly to the population of Sweden. Ever since the 1930s, Sweden has had an immigration surplus, except for a few years in the beginning of the 1970s. That is to say, there have been more immigrants than emigrants. In 2008 the proportion of the Swedish population born in another country amounted to 13.8 percent. This proportion has doubled since the beginning of the 1970s and is expected in the forecast to amount to slightly more than 18 percent by 2060.

From an international perspective the proportion of foreign-born in Sweden is high, as shown in Table 4.1. Few industrialized countries have a higher proportion of foreign-born than Sweden. Many well-known immigration countries such as France, the Netherlands and Great Britain have a lower proportion of foreign-born. Note that immigrants without a residence permit are not included in these figures.

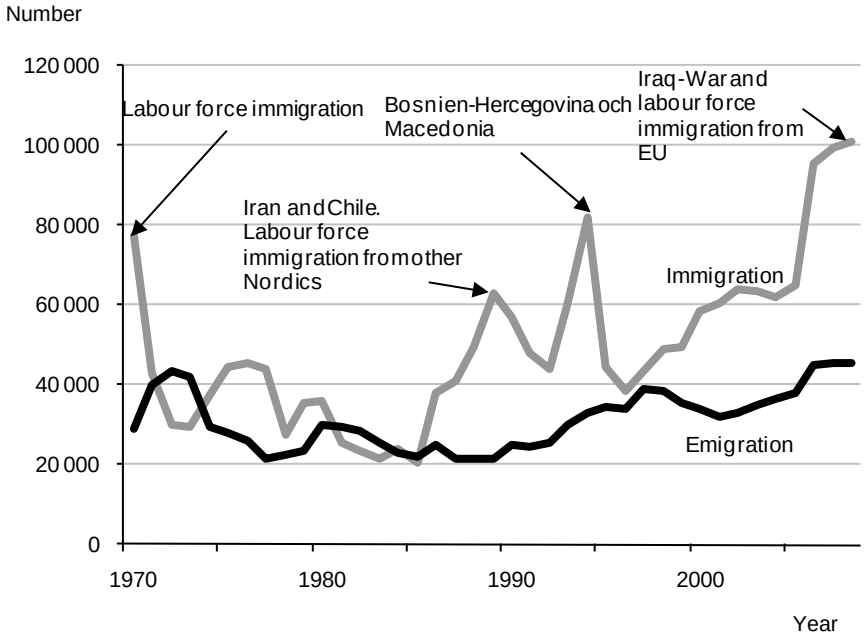
Table 4.1
Proportion foreign-born[9] in a selection of countries. Percent

Country	Proportion of foreign-born	The statistics refer to the year	Source
Austria	14.9	2007	Eurostat
Sweden	13.8	2008	Statistics Sweden
USA	11.8	2004	US Census Bureau
United Kingdom	11.8	2007	Office for National Statistics
Netherlands	10.6	2007	Eurostat
Germany	8.8	2007	Eurostat
Denmark	8.4	2008	Statistics Denmark
Norway	8.1	2008	Statistics Norway
France	7.4	1999	Statistics France
Finland	1.7	2008	Statistics Finland

Fluctuations in immigration and emigration to and from Sweden have been large in recent decades. As long as labour force immigration was dominant, before the 1980s, upswings and downturns in migration varied with the business cycle. Since the 1980s, labour force immigration has been insignificant until the EU expansion of 2004. When the labour force immigration decreased, the variations of immigration of refugees and family members have instead dominated. There was extensive immigration from Iran, Chile, Lebanon, Poland and Turkey during the end of the 1980s. In 1989 the process time for decisions on residence permits was shortened. At the same time, about 6 000 persons received permits largely due to the long wait for these applications to be processed(SCB 2004). In December 1989 the requirements for residence permits were made more stringent temporarily. As a result, immigration decreased during the early 1990s.

[9] Information on country of birth is lacking for Germany. Instead, the percentage of foreign citizens is presented. The assessment is that the proportion of foreign-born is 2-3 percentage points higher for Germany than the figures presented in the table.

Figure 4.1
Immigration and emigration 1970–2008. Number

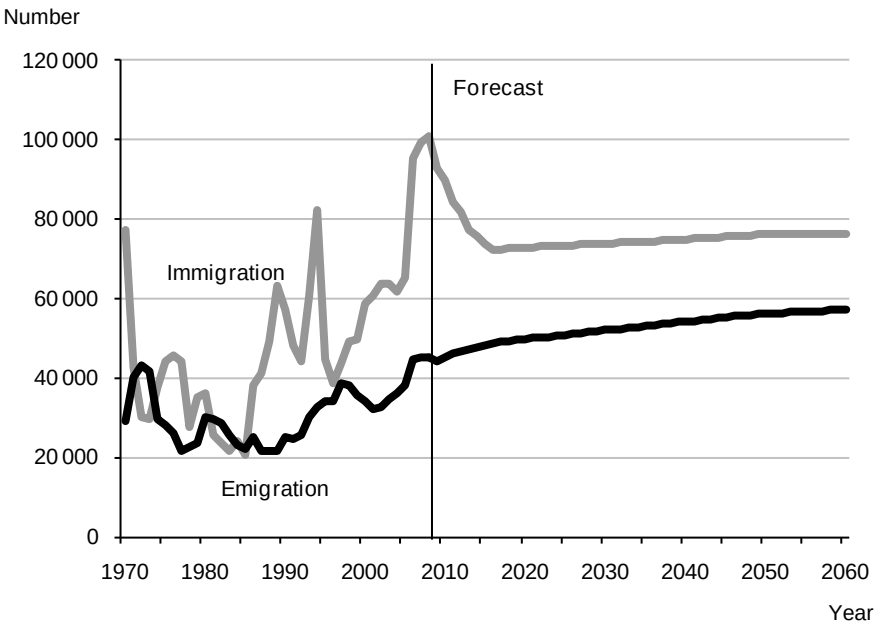


The serious conflict in the Balkans in the beginning of the 1990s resulted in a large number of people seeking refuge in Sweden. The war in Iraq has led to a relatively large number of asylum seekers and family members who have received residence permits in Sweden in recent years. The economic boom a few years ago has resulted in a rise of labour force immigration from other EU countries outside the Nordic countries. On 9 November 2005, the Swedish Parliament decided that temporary legislation for residence permits would apply up until the time the new Aliens Act would be enacted on 31 March 2006. The temporary legislation was mainly directed towards families with children who had lived in Sweden for a long time and to people from countries where deportation is not an option. Roughly 31 000 matters were handled according to the temporary legislation, and about 17 000 residence permits were granted.

Immigration is currently at record high levels and is expected to drop in the coming years. A more stable situation in Iraq results in fewer asylum seekers obtaining residence permits; at the same time, labour force immigration is expected to drop as a consequence of

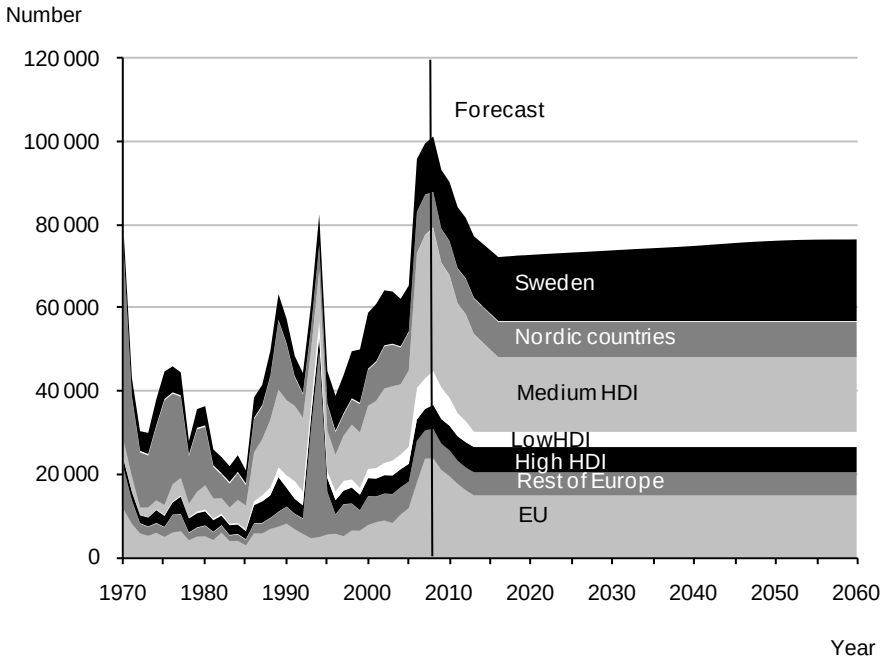
the economic downturn. Re-immigration of Swedish-born is expected to increase, resulting in an increase of immigration in the long-term. Emigration is expected to increase because the number of persons is increasing in those groups where the tendency to move is great. The surplus of immigrants is expected to change from about 49 000 in 2009 to about 19 000 in 2060.

Figure 4.2
Immigration and emigration1970–2008 and forecast 2009–2060. Number



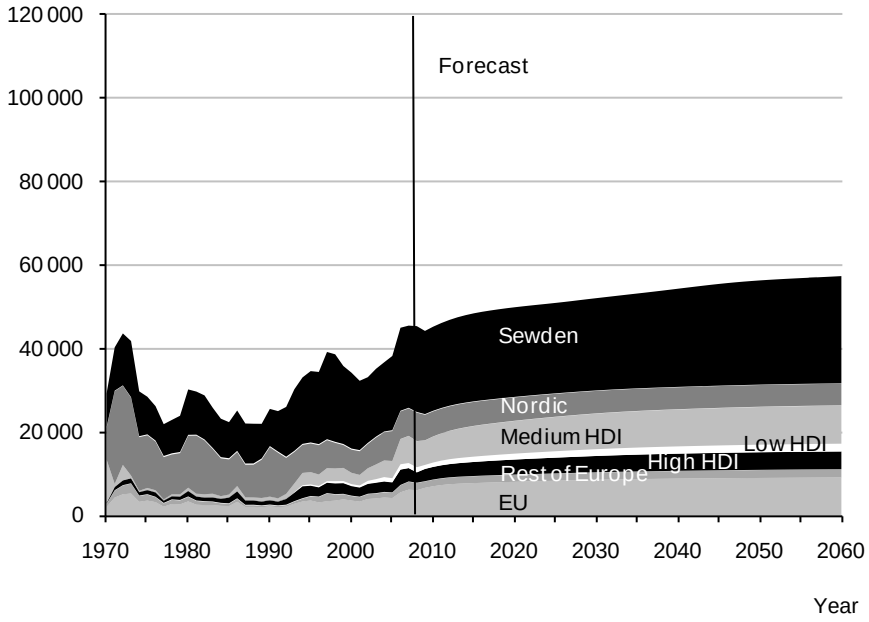
As shown in figure 4.3, it is assumed that most immigrants will come from countries with medium HDI and from EU countries outside of the Nordic countries. Re-immigration of Swedish-born is expected to increase during the entire forecast period; at the end of the forecast period re-immigration is nearly as great as immigration of persons born in medium HDI countries.

Figure 4.3
Immigration by country group 1970–2008 and forecast 2009–2060. Number



Emigration from Sweden is predicted to increase in the future. Persons born in Sweden comprise a large part of emigrants (see figure 4.4). The tendency to emigrate is small when considering the number of Swedish-born persons living in the country, but since the number of these persons is great, a significant number of them still emigrate. The Nordic-born group living in Sweden will decrease in number and the number of emigrants born in the Nordic countries is thus expected to decrease in the long-term. In the other groups, the number of those living in Sweden and emigration by these groups is therefore expected to increase in the future.

Figure 4.4
Emigration by country group1970–2008 and forecast 2009–2060. Number
Number



Forecasting migration

Changes in migration are difficult to foresee and may occur without warning. Migration to and from Sweden depends on conditions within the country as well as conditions outside of the country. Commotion, war and economic hardship in different parts of the world are what foremostly affect immigration to Sweden today. Swedish migration policy also determines the number who will be allowed to immigrate. Relatively detailed assumptions are made for the coming 5-10 years. Following that time, uncertainty is so considerable that it is not meaningful to try to capture annual variations; migration is held at a constant level instead. As previously indicated, migration may vary significantly over time. Assumptions should be considered as average values.

The assessment of and making of assumptions related to future migration are truly uncertain. The evaluation of previous forecasts shows that assumptions based on long-term trends yield better projections than assumptions based on observations made over a couple of years It is the observed immigration and emigration of

Swedish-born and foreign-born people over the latest three decades which provides the basis for the assumptions made in this forecast. In the analysis of migration trends and in the projections of future migration, the different country groups are analysed separately.

Emigration
Emigration is determined by so-called emigration rates that are based on observed emigration by sex, age and country of birth group. See the section on migration in the chapter *Facts about the statistics* for a more detailed description.

Immigration
Immigration is determined mostly by laws and policies - factors that make it pointless to construct a purely mathematical model for immigration. Therefore immigration has been determined based on a comprehensive monitoring of the global situation. However, the forecast for Swedish-born is an exception. Because this forecast seems to be relatively stable, it has been possible to construct a risk-based model.

Over the last decade, a precise analysis has been done on immigrants' reasons for settling in Sweden. These reasons are grouped to studies, asylum, family ties, work, and a group where the reasons for settling are unknown. The group with the unknown reasons also includes persons who do not need a residence permit in Sweden, such as Swedish citizens or other Nordic citizens. By differentiating immigrants in this way, a more in-depth reasoning can be conveyed around the factors that can be assumed to influence immigration. We can also see how changes in reasons for immigration can make an impact on the structure of age and sex. A reference group has been tied to the assumption on immigration and emigration (see appendix 1) On the basis of monitoring world events and reference group discussions, we have drawn up assumptions on how immigration from the different regions (country groupings) will develop over the next few years.

Because of the temporary change in the asylum law, the year 2006 is considered too abnormal to remain as a basis for a long-term assessment of immigration. Therefore this year has been removed for most of the country groupings.

The age structure for the foreign-born immigrants looks different for immigrants depending on their reason for settling in Sweden. A model has been used in the forecast where sex and age structure

have been estimated by reason for settling. The age structure in the forecast changes proportionally based on the assumptions of how the different reasons for settling change over the years (see the section on migration in the chapter *Facts about the statistics*).

The forecast refers to those entered in the population register
Statistics Sweden's Total Population Register has been used as a basis for the analysis. Information on immigrants' reasons for settling and socioeconomic information is taken from the STATIV database. STATIV is a database on individuals that was originally created by Statistics Sweden on behalf of the Swedish Integration Board. As of today, there is no information on reasons for immigrating for 2007 and 2008. Therefore, information for 2007 and 2008 has been gathered from Statistics Sweden's database SIV. Both STATIV and SIV collect information on reasons for settling from The Swedish Migration Board.

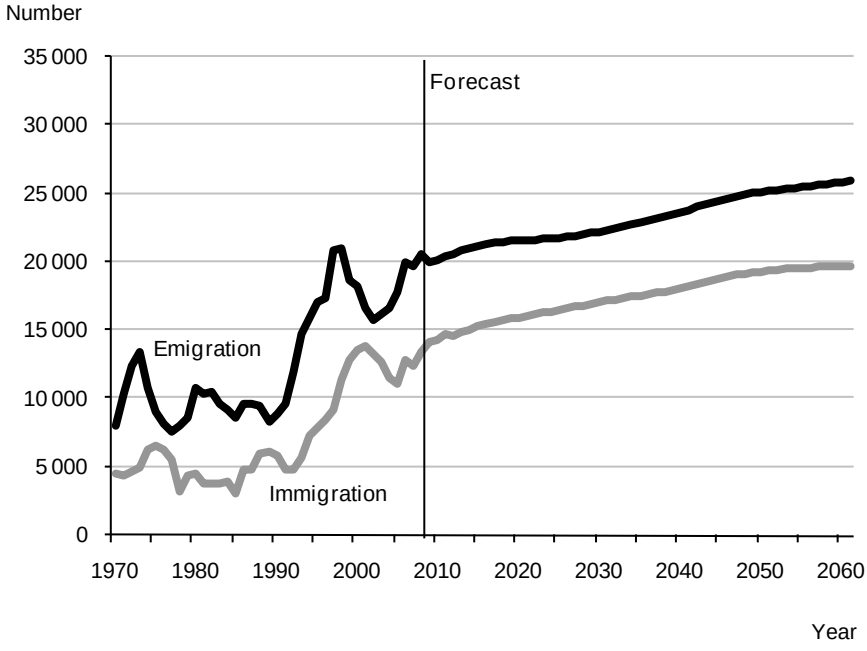
It should be noted that there is both overcoverage and undercoverage in the Population Register as a result of unreported moves to and from Sweden. Overcoverage means that the register includes people who no longer reside in the country. This occurs when people emigrate without reporting it. The converse is under-coverage which means that the register includes people residing in the country without beeing registered here. For example, this is the case with hidden refugees. In the forecast we disregard measurement errors of this type and the population forecast is thus a projection of the *registered* population.

If future population statistics are improved in terms of moves to and from Sweden via reporting procedures or control routines, then significant changes in the number of immigrants and emigrants may arise. In connection with the launching of the register of apartments, perhaps new control routines will have a certain effect. Such types of changes have not been considered in the forecast work because the extent is difficult to predict.

Swedish-born persons

Both emigration and re-immigration of Swedish-born is expected to increase in the future. During the forecast period, it is assumed that every year about 5 000 more persons will emigrate than immigrate.

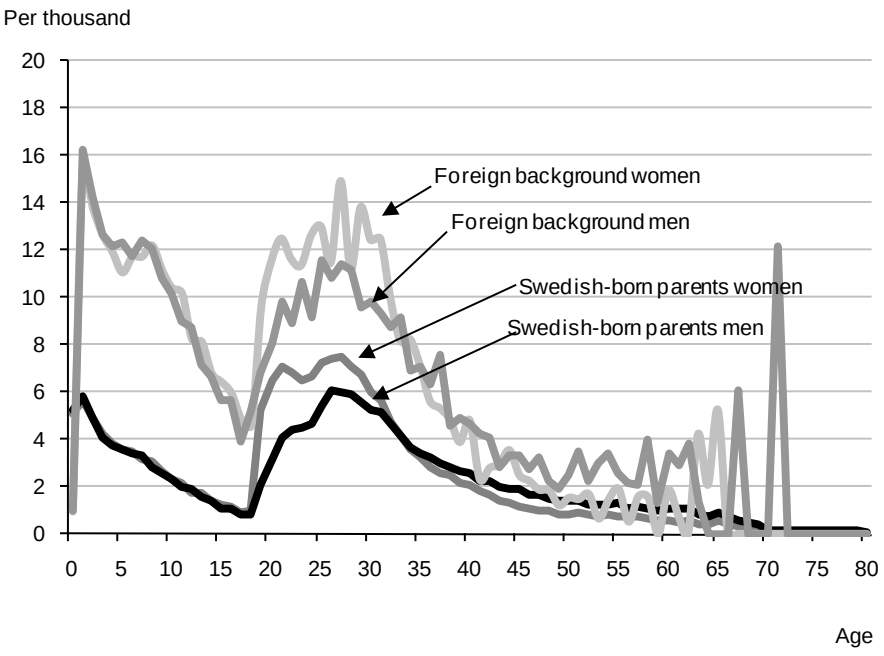
Figure 4.5
Immigration and emigration of Swedish-born1970–2008 and projection 2009– 2060. Number



Emigration

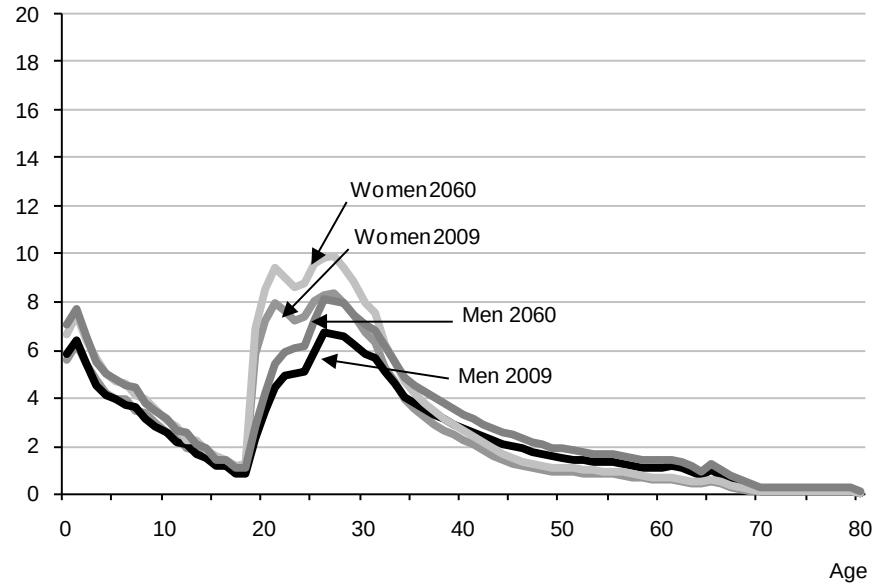
During the 1990s, emigration of Swedish-born doubled, from around 10 000 persons per year in the 1970s and 1980s to more than 20 000 persons in 1998. Emigration then decreased for a couple of years, but has recently again accelerated. In 2008 the number of Swedes who took up residence abroad amounted to almost 21 000 people. The tendency to emigrate is greater among Swedish-born who have a parent who is born abroad. Persons born in Sweden with two foreign-born parents have a particularly greater tendency, as illustrated in figure 4.6.

Figure 4.6
Emigration rates for Swedish-born with two Swedish-born parents and Swedish-born with two foreign-born parents, average for the years 1999-2008, by sex. Per thousand



The percentage of Swedish-born with foreign backgrounds is expected to continue to increase during the forecast period. Gradually, this is expected to result in an increased tendency on the whole for the Swedish-born group to emigrate. Emigration rates for the years 2009 and 2060 are illustrated in figure 4.7.

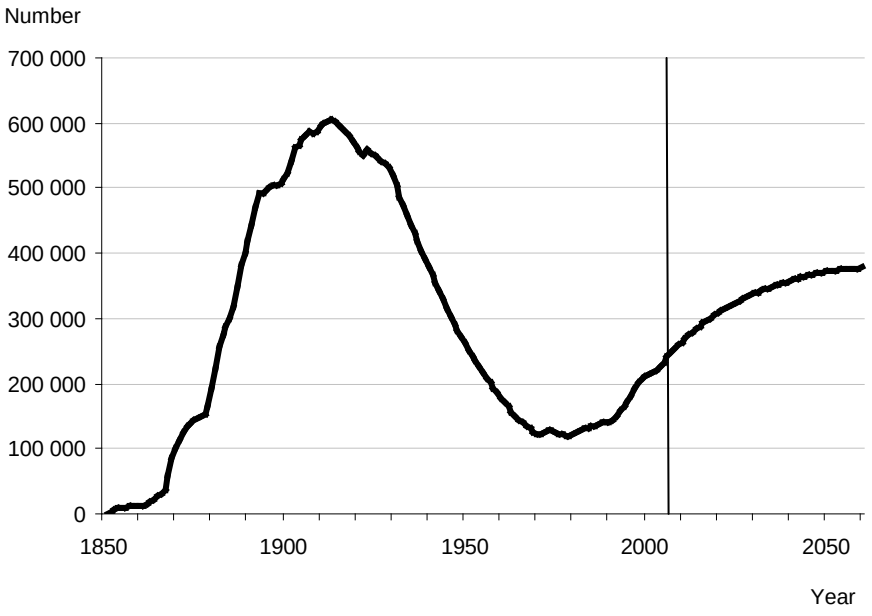
Figure 4.7
Emigration rates for persons born in Sweden, per thousand inhabitants[10]
Per thousand



Immigration
To estimate re-immigration of Swedish-born, a new model has been developed. See *Facts about the statistics* for more details. In connection with this, the Swedish population abroad has been estimated (see figure 4.8). According to these estimates, more than 600 000 Swedish-born-persons lived abroad in the beginning of the 1900s. This figure then dropped up until the 1980s, when the number of Swedes living abroad again began to increase. Re-immigration of Swedish-born has been calculated based on this estimated information, combined with information on emigration of Swedish-born three years before.

[10] Note that the scale in the figure is one-tenth lower than in the coming figures for foreign-born. The emigration rate is so much lower for the Swedish-born that it would not have been possible to interpret if a consistent scale were to be used in all the figures.

Figure 4.8
Estimated number of Swedes living abroad 1851-2007 and projection 2008–2060



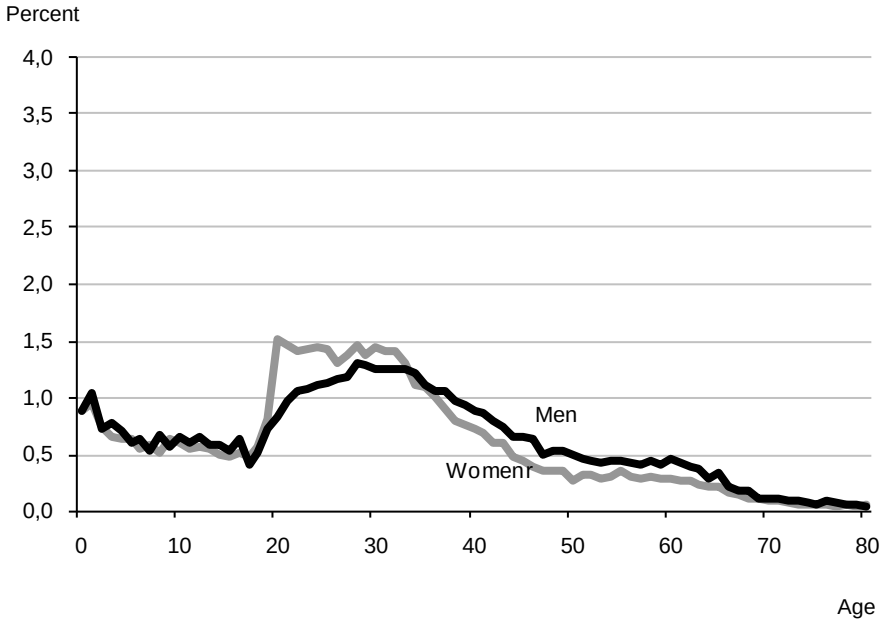
At the beginning of the forecast period, it is assumed that the number of Swedish-born abroad increases rather sharply, and then stabilises at a level just under 400 000 at the end of the forecast period. The slower rate of increase of Swedish-born persons abroad is because those who emigrated in the beginning of the 2000s are reaching the age where the mortality risks are high. The long-term increase of the estimated number of those re-immigrating during the forecast period is because the number of Swedish-born who are abroad is increasing. However, the annual variations are largely due to the size of emigration three years earlier. This in turn depends on how many Swedish-born living in Sweden were of the age when the tendency to emigrate is great.

The age structure of those who re-immigrate is based on the observed distribution for the years 2003-2005 and 2007-2008[11]. Among the Swedish-born immigrants, the numbers of men and women are about equal. The women are somewhat younger than

[11] During the temporary change in the asylum law in 2006, many children born in Sweden with foreign parents received residence permits. This has influenced the age structure for this year and 2006 has therefore been excluded.

the men when they leave Sweden, which also reflects itself in the immigration.

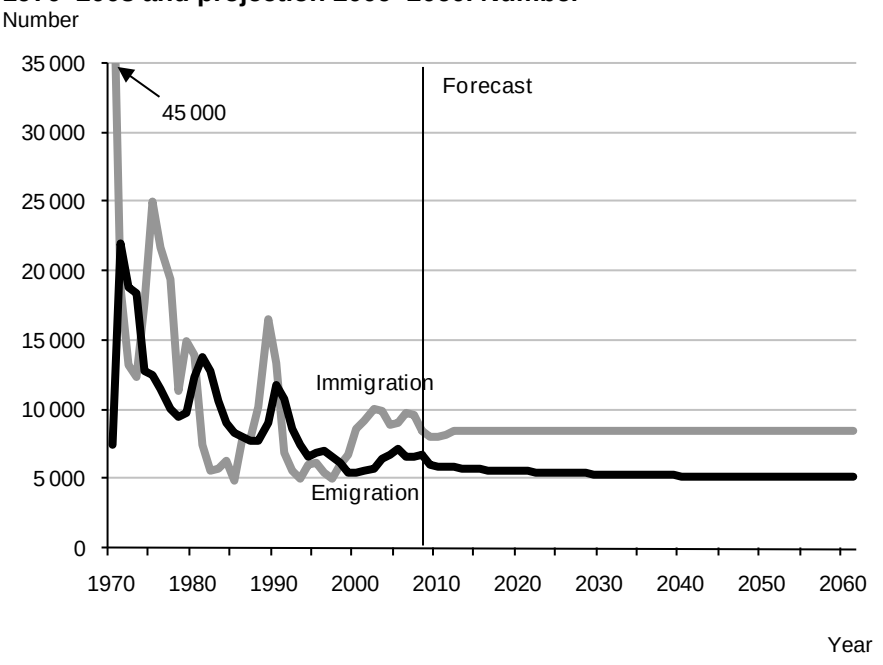
Figure 4.9
Age and sex structure for Swedish-born immigrants 2009–2060. Percent



Born in the Nordic countries

Immigration and emigration from the Nordic countries except Sweden is assumed to remain at the same low level as today. The net migration is expected to drop somewhat during the next coming years, and will then increase slightly during the forecast period.

Figure 4.10
Immigration and emigration of persons born in t he Nordic countries 1970–2008 and projection 2009–2060. Number



Immigration

Since the completion of the Öresund Bridge in 2002, immigration of persons born in Denmark has nearly quadrupled. Lower housing costs and a generally lower cost of living are the main attractions for Danes moving over the sound (City of Malmö and others, 2006). In 2008 the number of Danes moving to Skåne decreased, which could be in connection with falling housing prices in Copenhagen, reducing the desire to move to the other side of the sound.

Immigration of Finns and Norwegians has dropped since 2002, resulting in a lower rate of increase of total immigration for persons born in the rest of the Nordic countries than for Danes.

Immigration of persons born in the neighbouring Nordic countries is assumed to decrease somewhat in the coming years as a result of the economic downturn. It will then stabilise at a level corresponding to the average for the last five years. There is considerable uncertainty about how the economy influences migration, since migration is not as work-related today as it was during the 1970s. Therefore only a minor downward adjustment has been made for the immigration. Other factors may be influential

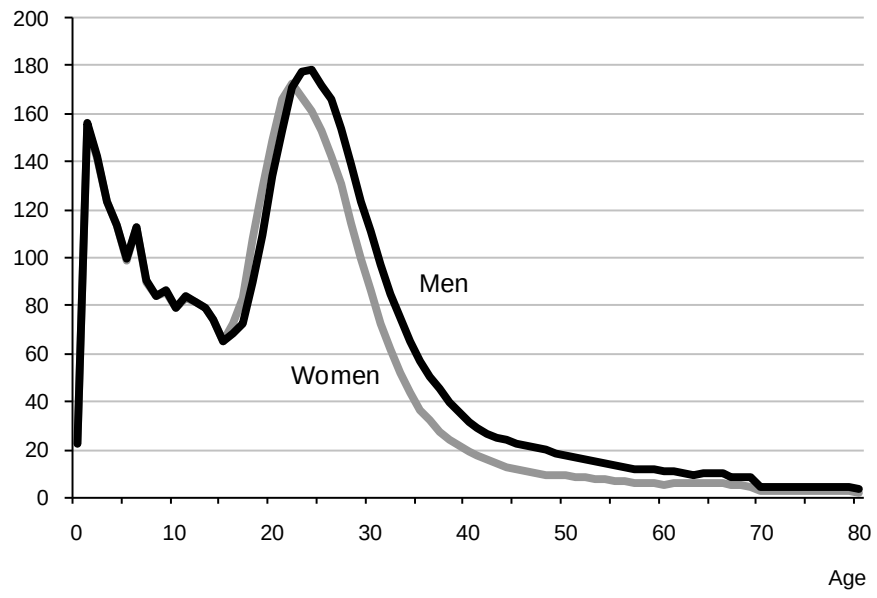
towards immigration from the neighbouring Nordic countries in a positive direction during an economic downturn. For example, Danes may choose to settle to a greater extent in Skåne because currency differences increase the incentive to live in Sweden and commute to Denmark. The same scenario is probable near the borders of Norway and Finland,eventhough the effects there in number of persons would probably be smaller.

The age structure is based on immigration 1999-2008 and the distribution is expected to be the same during the entire forecast period.

Figure 4.11
Age structure for immigrants born in the Nordic countries 2009–2060. Percent

Emigration
The tendency to emigrate is considerable among persons born in the other Nordic countries (Figure 4.12). The emigration figures are mean values for the years when the Öresund Bridge was being completed, i.e. 2002-2008. These emigration figures are held constant during the entire forecast period. As a result, emigration is reduced because the number of persons in Sweden who are born in the other Nordic countries drops.

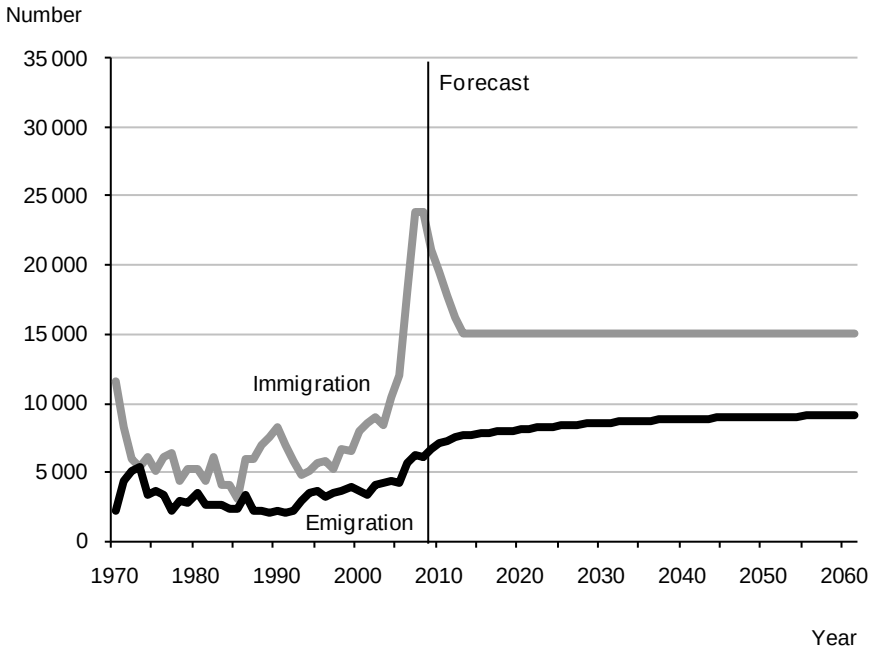
Figure 4.12
Emigration rates for persons born in t he Nordic countries . Per thousand



Born in EU countries

Immigration from EU countries outside of the Nordic countries is assumed to drop and stabilise at a lower level than that of today. The immigrant surplus is assumed to drop from today's nearly 18 000 to close to 6 000 in 2060. This is a considerably lower level compared to recent years, but seen historically it is a somewhat high net immigration.

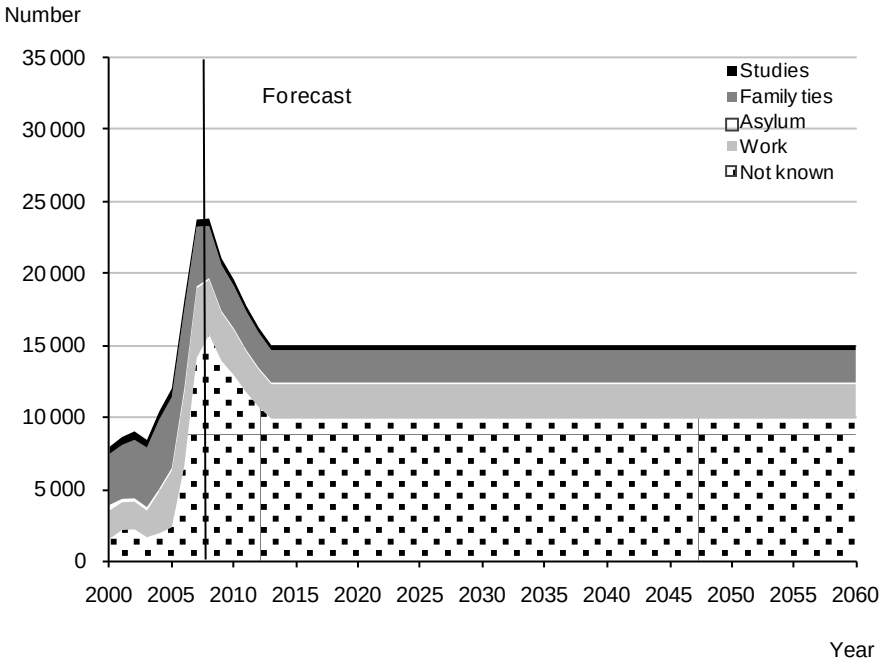
Figure 4.13
Immigration and emigration of persons born in EU-countries 1970–2008 and a projection 2009 –2060. Number



Immigration

Labour force immigration to Sweden has increased in line with the EU expansion. Poland, Germany, and Romania are the top three countries of origin for EU immigrants. More and more persons do not have reasons for settling (figure 4.14), because many of the immigrants from the EU only register with the tax authorities without informing the Swedish Migration Board (Swedish Migration Board 2008). As a result, no reasons for settling are registered in STATIV, that collects its information from the Swedish Migration Board.

Figure 4.14
Immigrants born in EU countries by reason for residence permit 2000-2008 and assumptions 2009-2060 Number



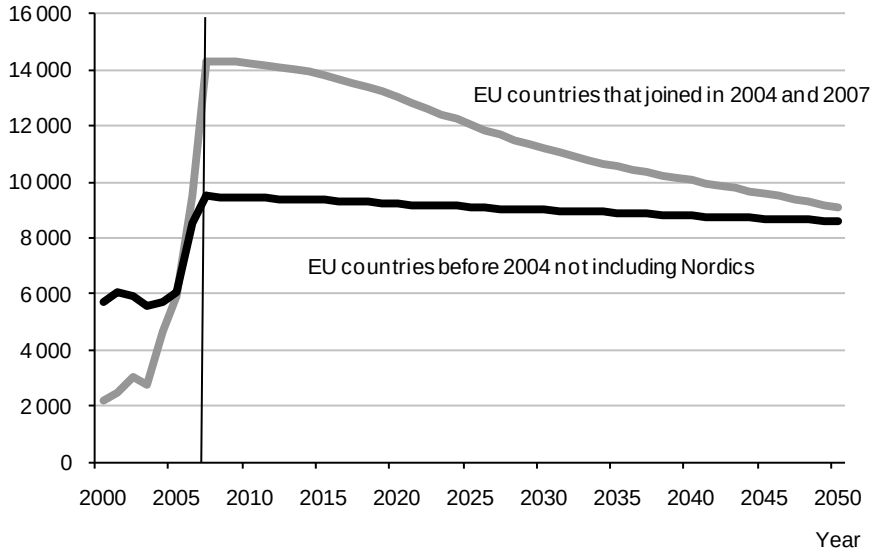
The increased immigration from EU countries has mainly comprised labour force immigration. Labour force immigration can vary sharply over time and is sensitive to changes on the labour market - both in the country of origin and Sweden (Wadensjö, 2007). During 2006 and 2007 employment rose sharply in Sweden. The increase in the number of employed persons slowed down during 2008. Unemployment is assumed to increase sharply in the next two years and the number of employed persons is expected to decrease by about 250 000 persons, according to a forecast from the National Institute of Economic Research (National Institute of Economic Research, 2009).

Immigration from EU countries comprises largely of persons who are between the ages of 20 and 40. Today more countries in the EU have a large population of people in these ages, but several years of low childbirth figures indicate that the number of people in these ages where migration is likely will drop in the coming decades. This is especially the case for the new EU countries.

Based on information of immigration to Sweden and information on the population of each country, we can create "risks" to migrate from these countries to Sweden. These "risks" can then be applied to forecasts of the future population of the countries. By doing so, we obtain a hint about how a change in demographics in the rest of Europe could reflect itself in immigration to Sweden. Figure 4.16 shows the effect of risks created by migration in 2007 by country, sex and age in one-year categories of age groups. These risks have since been applied to the EU forecast on population development.

Even if the age structure speaks for a rather sharp decrease in immigration from the EU countries in the long-term, there are forces that can be working in other directions. Increased contact concerning employment, studies and not least tourism can lead to a more comprehensive migration within a more and more integrated EU. However, it is very difficult to find reliable information that describes migration trends among EU countries.

Figure 4.15
Immigration to Sweden calculated with emigration risks applied on EU 2008 forecast, by new[12] and old EU countries[13].
Number



[12] New EU countries include Bulgaria, Cyprus, Estonia, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia, Czech Republic, Hungary.

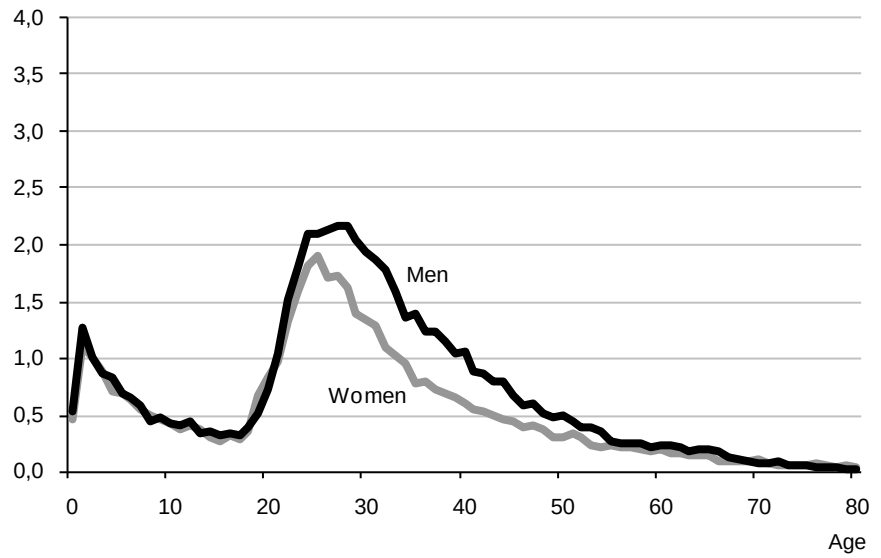
[13] EU 15, excluding Nordic countries

The future relation between EU countries' reduced population of ages were migration is common and an increased tendency to migrate have not been used to construct a model for immigration. This is due to a lack of reliable information on the increase of mobility, something that is assumed to work in the opposite direction. However, the calculations can be used as an argument that immigration from the EU countries (except for the Nordic countries) probably will not remain at the high level of the last two years.

In the forecast it is assumed that immigration from the EU will be around a mean value for 2004-2007. This level lies somewhat below that which was observed for the years 2006-2008, based on the assessment of the National Institute of Economic Research of a negative employment growth in the next coming years. From 2013 onwards, immigration from EU countries (except the Nordic countries) is expected to remain at 15 000 immigrants yearly.

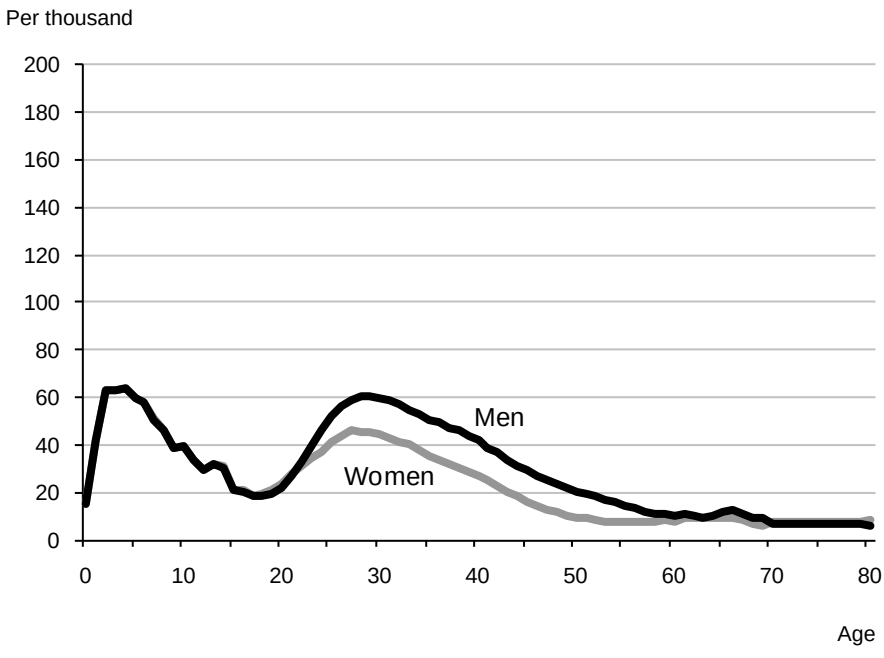
Immigration from the EU countries is assumed to have the same sex and age distribution during the entire period. The age structure is based on immigration 1999-2008.

Figure 4.16
Age structure for immigrants born in EU-countries 2009–2060. Percent



Emigration
During the forecast period, emigration is assumed to increase at a rate with the increase of Swedish-born persons born in EU countries (except for the Nordic countries). Emigration rates are average values for 2002-2008.

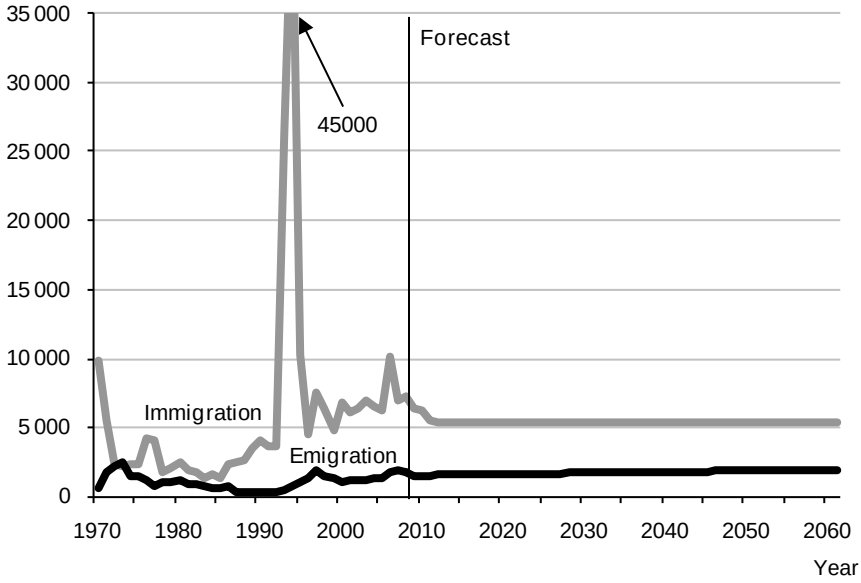
Figure 4.17
Emigration rates for persons born in EU countries. Per thousand



Born in the rest of Europe

Immigration from the rest of Europe (except the Nordic countries) is expected to decrease slightly in the next few years. Emigration will increase weakly in pace with the increase in the number of persons born in these countries. The net migration is assumed to decrease from today's 5 500 to 3 700 in 2060.

Figure 4.18
Immigration and emigration of persons born in the rest of Europe 1970-2008 and forecast 2009-2060. Number



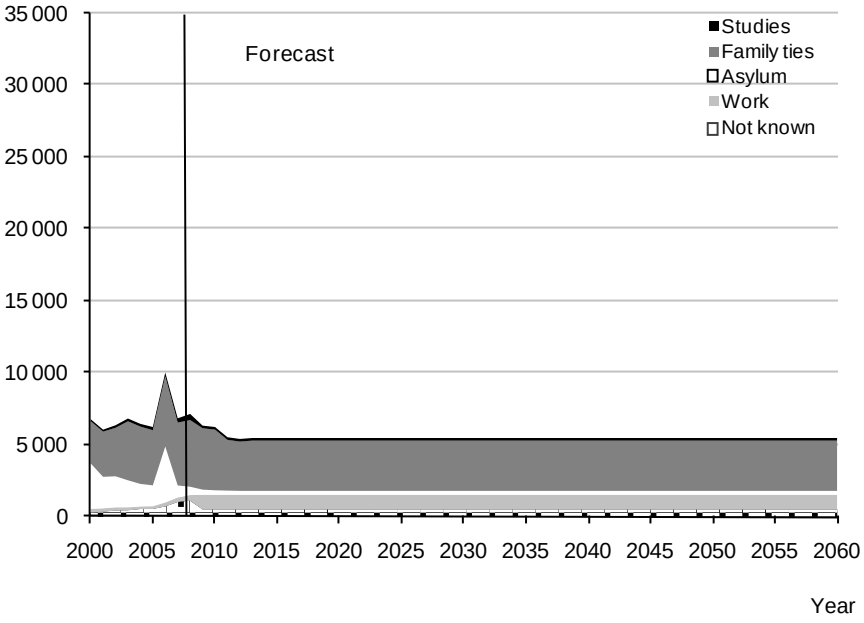
Immigration
With the exception of 2006, immigration of persons born in European countries other than the Nordics and the EU has been around 6 500 migrants during the last decade. The most common countries of birth are countries in the former Yugoslavia, Turkey and Russia. In recent years, immigrants from these countries have mainly been family members of persons living in Sweden.

Since there are large groups in Sweden who have these countries of origin, immigration of family members from there is expected to continue to be relatively large. Persons receiving asylum has dropped steadily in recent years, with the exception of 2006.

During the forecast period, it is assumed that persons from Europe receiving asylum will be very few. The new law on labour force immigration[14] is expected to have a certain effect for this group, since there are many countrymen in Sweden.

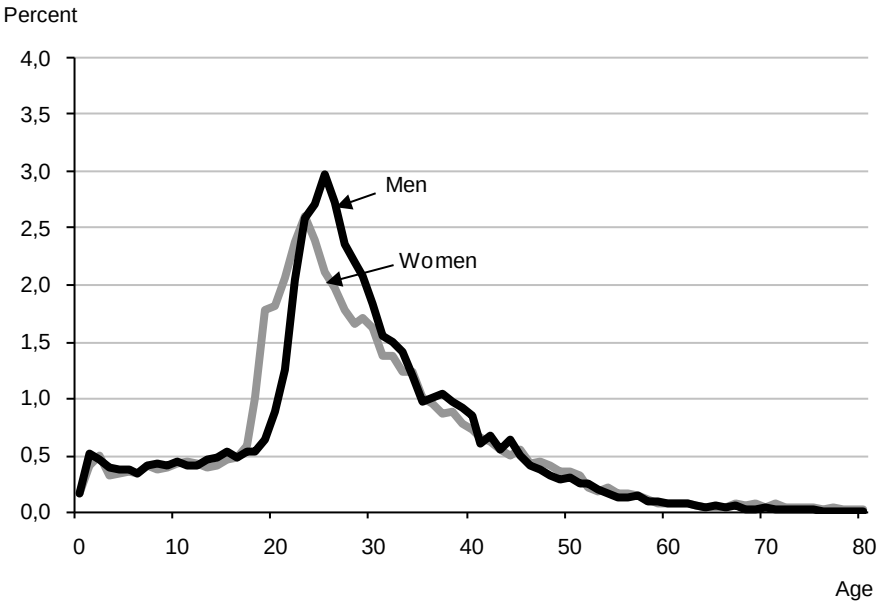
[14] On 15 December 2008, the new law on labour force immigration was enacted. The largest change was that employers, and not the authorities, decide the need to employ someone from a country outside of the EU.

Figure 4.19
Immigrants born in the rest of Europe by reason for residence permit 2000-2008 and assumptions 2009-2060. Number



Labour force immigration is expected to comprise a somewhat larger percentage of immigration from countries in Europe except for the Nordics and the EU. However, those changes in the age structure which result from this during the forecast period will be so small that interpretation is not possible in a figure and is therefore only presented as a breakdown in figure 4.20. The number of women and men from the rest of Europe will be about equal, but the women will be somewhat younger than the men.

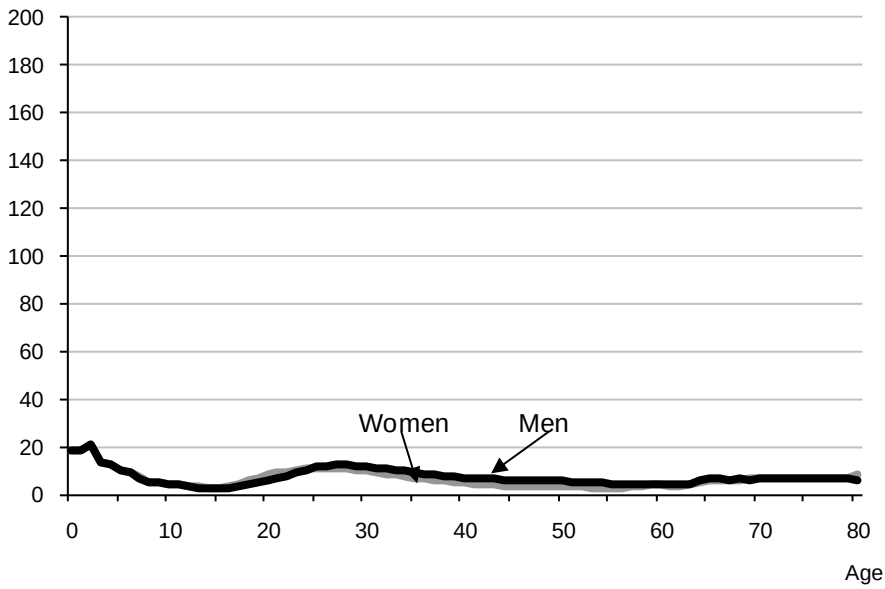
Figure 4.20
Age structure for immigrants born in the remaining Europe 2009–2060. Percent



Emigration
As shown in figure 4.21, the tendency to emigrate is very small among persons born in the rest of Europe. During the forecast period, the emigration rate is constant and emigration only increases because the number of persons in Sweden who are born in the rest of Europe increases.

Figure 4.21

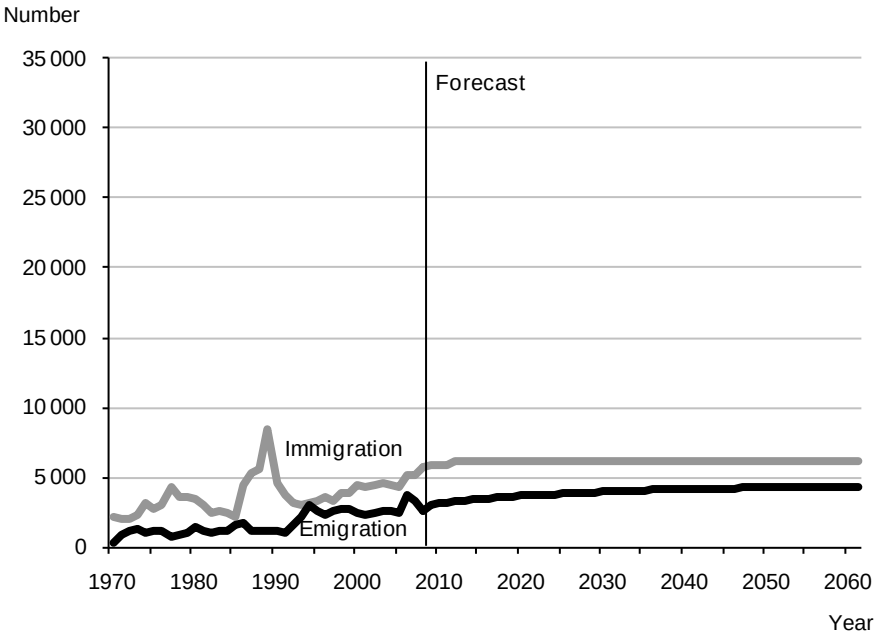
Emigration rates for persons born in the rest of Europe. Per thousand



Born in countries with high HDI

Immigration from countries with high HDI outside of Europe is expected to increase somewhat in the next few years, and will then remain at a relatively high level. Emigration will increase slowly in pace with the increase in the number of persons born in these countries. The net migration is expected to change from 3 200 today to 1 800 in 2060.

Figure 4.22
Immigration and emigration of persons born in countries with high HDI 1 970–2008 and projection 2009– 2060. Number

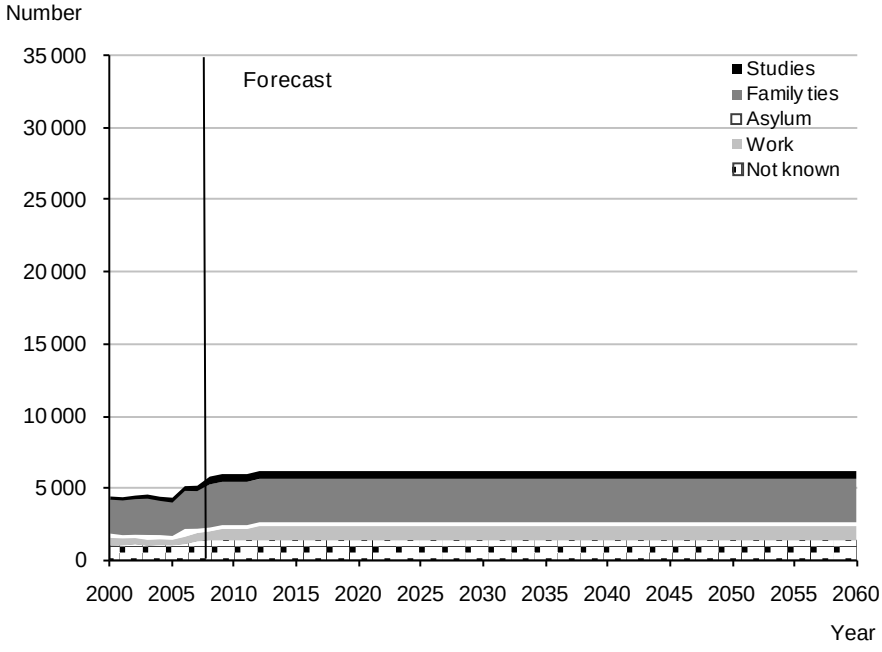


Immigration
Immigration of persons born in countries with high HDI has increased slightly over the years, but still comprises a very little part of Sweden's total immigration. This group has mainly consisted of people who immigrate due to family reasons. The US, Brazil and Chile are the main countries of birth for this group.

The new rules that ease labour force immigration will probably lead to a certain increase of immigration for this group. The size of immigration depends on the situation on the Swedish labour market and the ability of Swedish companies to attract labour from these countries.

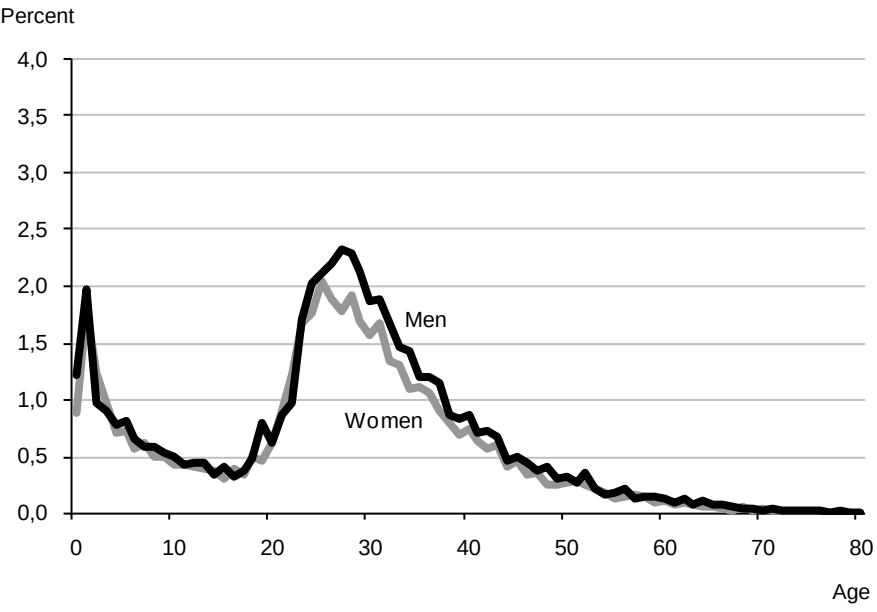
As a result of the increase of immigrants from these countries that has been going on for many years, the starting point is set at the level for 2008. In 2009 labour force immigration is expected to increase. It is expected to increase further when the economy turns upwards around 2012 (The National Institute of Economic Research, 2009).

Figure 4.23
Immigrants born in countries with high HDI by reason for residence permit 2000-2008 and assumptions 2009-2060. Number



Immigration from countries with high HDI is largely expected to have an unchanged composition concerning reasons for settling in Sweden. Thus the age structure will not change more than marginally in the forecast. The age structure is based on the immigration 1999-2008.

Figure 4.24
Age and sex structure for immigrants born in countries with high HDI 2009–2060. Percent



Emigration

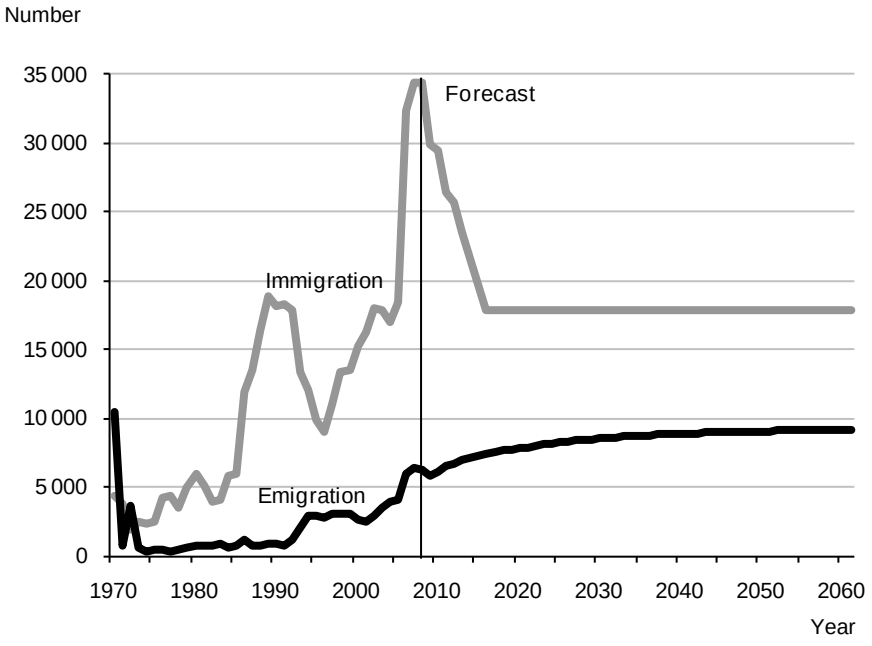
The tendency to emigrate is about the same for people born in countries with high HDI as for persons born in the EU (except the Nordics). During the forecast period, emigration rates remain constant and emigration increases in pace with the increase in the number of persons in Sweden born in countries with high HDI.

Figure 4.25
Emigration rates for persons born in countries with high HDI. Per thousand

Born in countries with medium HDI

Persons born in a country outside of Europe with medium HDI have comprised the largest group of immigrants during the 2000s. The net migration is expected to go from the level of 2008 at 28 000 to around 9 000 in 2060.

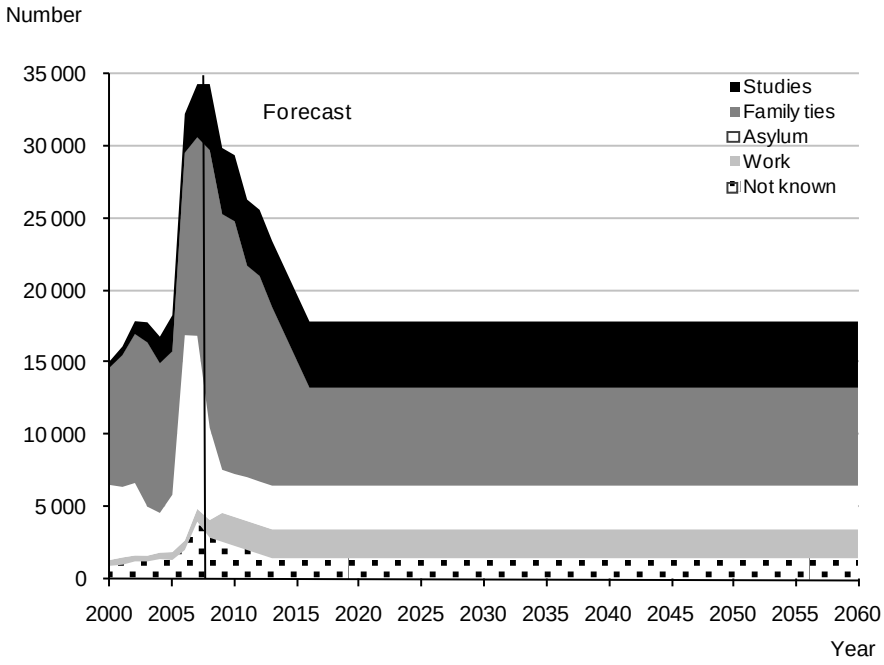
Figure 4.26
Immigration and emigration of persons born in countries with medium HDI 1970–2008 and projection 2009–2060. Number



Immigration
The most common countries in the group with medium HDI are Iraq, Thailand, China, Iran and India. With the exception of 2006, persons from countries with medium HDI have mainly come as family members of someone who has a residence permit in Sweden. (figure 4.27). Family-related immigration has had a relatively even development up to and including 2007. However, last year family-related immigration increased sharply while the number of those receiving asylum decreased. Family-related immigration from Iraq increased from 4 100 to 7 900, and from Thailand from 2 300 to 2 900. In this category, children that are adopted from China for example are also included. Immigration of refugees has varied more over the years, and increased sharply in 2006, partly as a consequence of the temporary change in the asylum law and partly as a result of the situation in Iraq.

Those coming to Sweden to study have increased steadily during the 2000s. Students from Asia comprise the largest group. Two-thirds of all visiting students in 2008 were born in China, Pakistan or India.

Figure 4.27
Immigrants born in countries with medium HDI by reason for residence permit 2000-2008 and assumptions 2009-2060



In 2007 and 2008, the number receiving residence permits dropped sharply among asylum seekers from Iraq. The number of asylum seekers from Iraq has dropped recently and the number receiving residence permits is expected to stabilise at a lower level than what was previously assumed (Swedish Migration Board, 2009). This assessment has been made mainly because Sweden is no longer seen as the first choice for asylum seekers from Iraq, and because the security situation in the country has improved.

The first four years of the forecast are based on asylum and family related immigration based on a forecast from the Swedish Board of Migration. That forecast does not present the countries of birth, but is broken down by groups of countries based on a distribution observed in recent years. The forecast gives the average figures for

asylum seekers for 1997-2008, not including 2006. Family-related immigration is moving down towards an average for the years just before the Iraq war.

The assessment of how immigration of students will develop in the future is very uncertain, and the number of students is held constant at today's level for the forecast period. In an economic downturn it is probable that more Swedes begin to study in higher education and competition for places will increase for basic courses. At the same time, the large cohorts from the end of the 1980s and the beginning of the 1990s are reaching the age for higher education, which also contributes to an increased number of students at the entry levels. But since most of the foreign students study at the masters level or the doctorate level (National Agency for Higher Education 2009), it is assumed that these students are not affected by the downturn in the economy firstly. Many foreign students are in the technical areas where it has been difficult to recruit domestic students. Therefore it is not completely certain that competition for higher education places will affect the number of students who apply for the entry level courses.

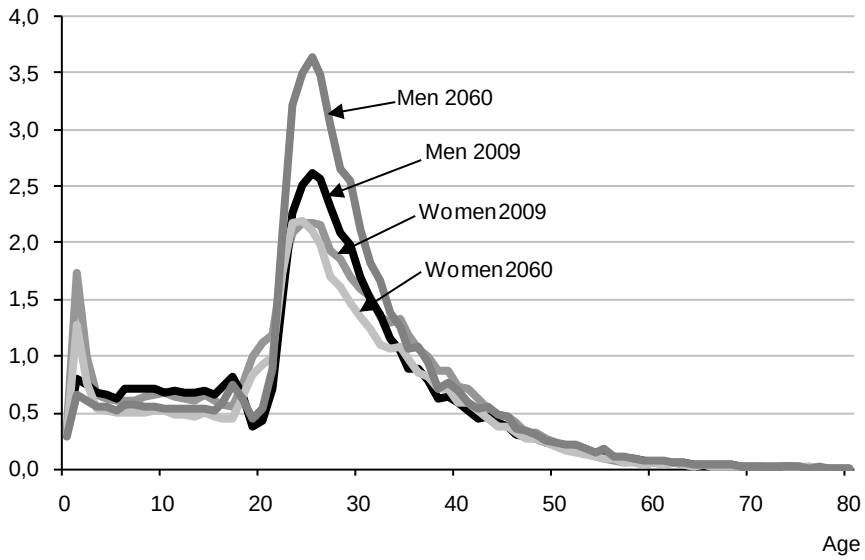
The new legislation that eases labour force immigration from countries outside the EU and the Nordics is assumed to have a certain impact on this group of countries, since there are many countrymen in Sweden who can help with contacts etc. It is still very uncertain on how great the effect will be and how it will be influenced by the economy in the next few years.

In the forecast, asylum and family related immigration is expected to drop; at the same time, labour force immigration will increase and the number of students will remain unchanged. This results in a greater concentration of persons in the ages around 22-26 and a greater percentage of men. This is mainly because the students are expected to comprise a higher proportion of the immigrants and thus leave their mark on the age structure. But labour force immigration will also be concentrated to these ages.

The possibility to adopt children has decreased in recent years (Selman 2006). One reason is a greater demand for adopted children in southern European countries such as Italy, Spain and France. The US has also increased their numbers of international adoptions. As a result, the number of children who are available for adoption to Sweden has dropped in recent years. Economic and social changes in the traditional donor countries also result in fewer children being

adopted internationally; it has become easier for single women to keep their children and domestic adoption has grown. Compared to recent years, the number of adopted children is expected to decrease somewhat during the forecast period.

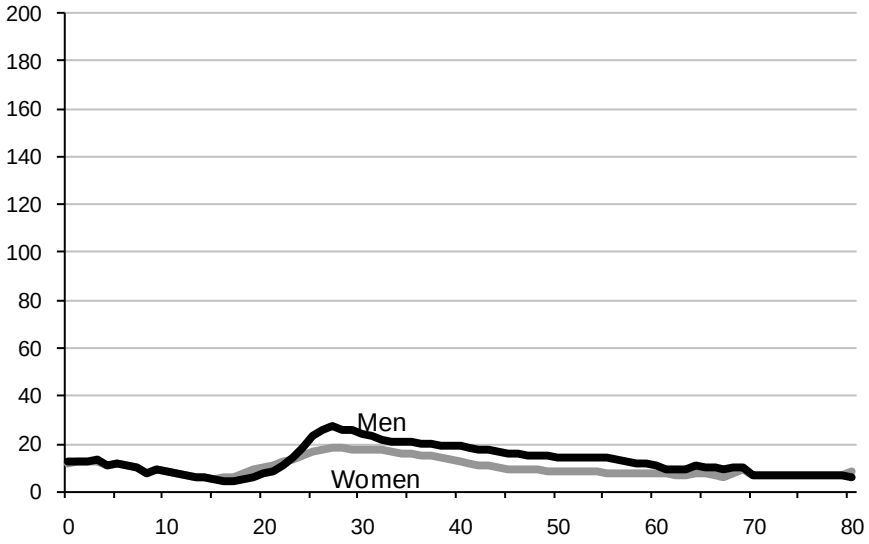
Figure 4.28
Age structure for immigrants born in countries with medium HDI 2009 and 2060. Percent
Percent



Emigration
The tendency to emigrate is relatively low among persons who are born in countries with medium HDI. During the forecast period, emigration rates are held constant and emigration increases at the same rate of increase as the number of persons in Sweden.

The tendency to emigrate is higher in times of significant immigration of refugees. However, persons who come to Sweden for family reasons stay to a greater degree. Emigration figures are based on information for 1999-2008. In contrast to the group of Swedish-born, the ten-year mean values have not reached the latest level as the group from medium HDI countries, since immigration of asylum seekers is expected to decrease in the future, thus resulting in lower emigration figures.

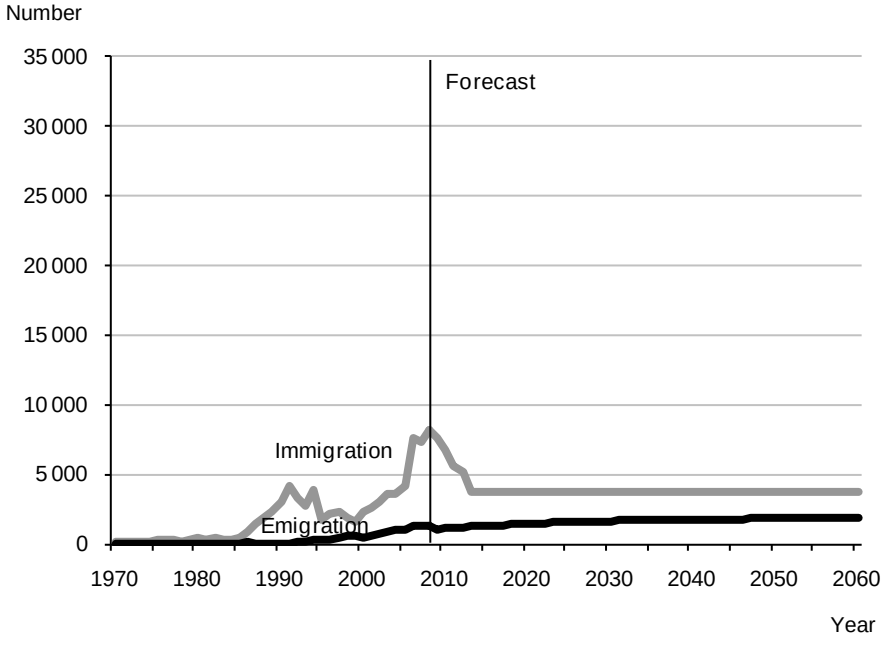
Figure 4.29
Emigration rates for persons born in countries with medium HDI. Per thousand
Per thousand



Born in countries with low HDI

Immigration from countries with low HDI outside of Europe is expected to remain at a rather high level the next few years and will then drop. Emigration will increase slightly at the same rate as the increase of the number of people born in those countries. The net migration is expected to go from today's 6 900 to 1 800 in 2060.

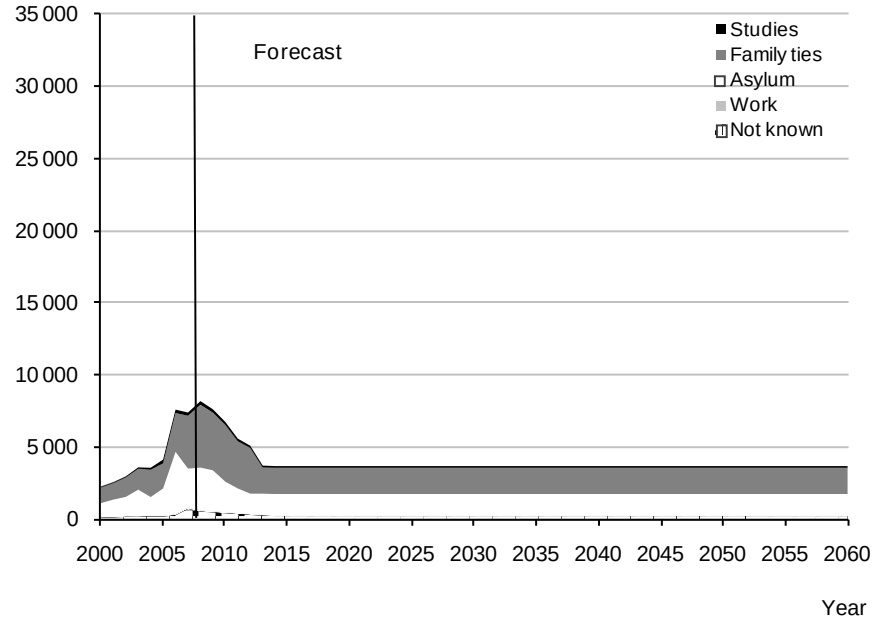
Figure 4.30
Immigration and emigration of persons born in countries with low HDI 1970–2008 and projection 2009–2060. Number



Immigration

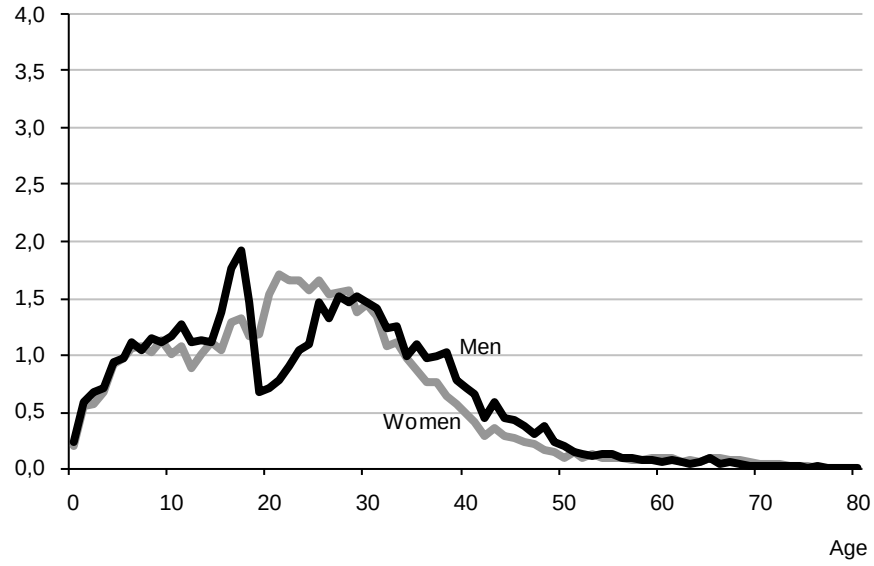
During the 2000s immigration from these countries has been dominated by persons born in Somalia, Afghanistan and Ethiopia. In 2008 about half of all those who received residence permits were from Somalia. The number of asylum seekers from Somalia, Afghanistan and Eritrea has increased in recent years. In the latest forecast from the Swedish Migration Board (Swedish Migration Board, 2009), it is assumed that the relatively high levels reached in 2008 will remain for these countries in the next few years, but the number is not expected to increase. According to this forecast, immigration from countries with low HDI is expected to remain at the relatively high level in 2009, and will then move down to an average for the years 1997-2008 (not including 2006).

Figure 4.31
Immigrants born in countries with low HDI by reason for residence permit 2000-2008 and assumptions 2009–2060.
Number



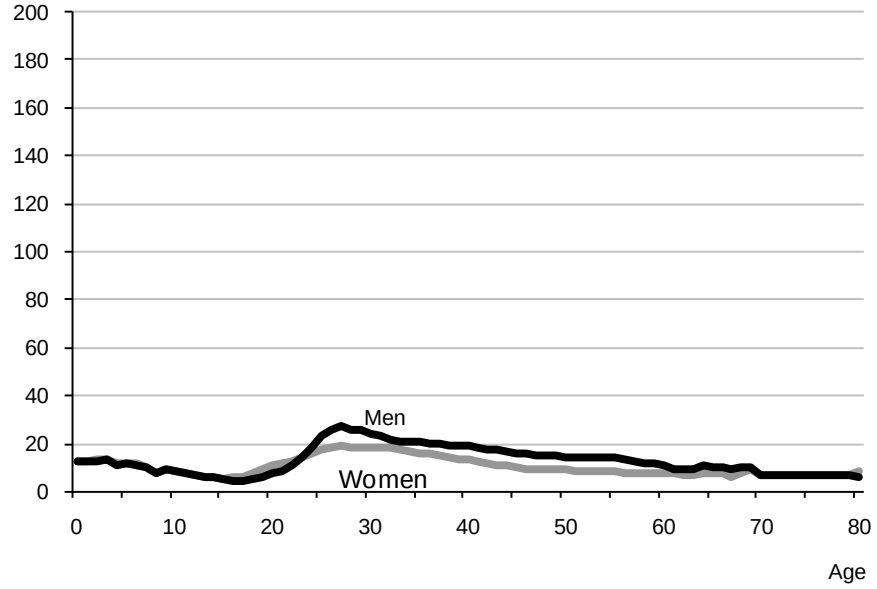
Age structure
Immigration from countries with low HDI is assumed to have the same composition on the whole concerning reasons for settling in Sweden. Thus the age structure in the forecast is not changed more than marginally. The age structure is based on immigration 1999-2008.

Figure 4.32
Age and sex structure for immigrants born in countries with low HDI 2009–2060.
Percent



Emigration
Too few people move in the low HDI group to be able to calculate an emigration rate that is satisfactorily stable. Therefore the same rates for moving for the medium HDI group are also used for the low HDI group.

Figure 4.33
Emigration rates for persons born in countries with low HDI.
Per thousand



Alternative assumptions

It is very possible that immigration and emigration will develop differently than how we have predicted. In order to gain an idea of how the future population will be affected by the size of migration flows, two alternatives to the main alternative in Statistics Sweden's population forecast are presented. These alternatives are named the low alternative and the high alternative. The low alternative has low net immigration (immigration minus emigration) and the high alternative has high annual net immigration. The alternatives are presented in table 4.2.

Table 4.2
Assumptions of migration in low, high and medium alternatives. Number in thousands

Year	Immigration			Emigration			Net		
	Low	Main	High	Low	Main	High	Low	Main	High
Swedish-born persons									
2009	13.5	14.2	14.2	20.0	20.0	20.0	-6.5	-5.8	-5.8
2010	13.5	14.2	14.2	20.2	20.2	20.2	-6.7	-6.0	-6.0
2015	14.5	15.3	15.3	21.1	21.2	21.2	-6.6	-5.9	-5.9
2020	15.2	16.0	16.0	21.5	21.6	21.6	-6.3	-5.6	-5.6
2030	16.2	17.0	17.0	21.9	22.2	22.3	-5.7	-5.2	-5.3
2060	18.7	19.7	19.7	24.2	25.8	26.5	-5.5	-6.1	-6.9
Foreign-born									
2009	75.0	79.0	80.7	24.1	24.1	24.2	50.8	54.8	56.5
2010	69.6	76.0	78.0	24.8	24.9	25.0	44.8	51.0	53.0
2015	49.5	58.5	66.0	26.6	27.2	28.1	22.9	31.3	37.8
2020	43.1	56.7	68.5	26.9	28.3	30.5	16.2	28.4	38.0
2030	43.1	56.7	74.3	26.9	29.8	35.1	16.2	26.8	39.2
2060	43.1	56.7	75.5	25.8	31.5	40.9	17.3	25.1	34.6
Total									
2009	88.4	93.1	94.8	44.1	44.1	44.2	44.3	49.0	50.6
2010	83.1	90.2	92.2	45.1	45.2	45.3	38.1	45.0	46.9
2015	64.0	73.8	81.2	47.7	48.4	49.3	16.3	25.4	31.9
2020	58.2	72.6	84.5	48.3	49.8	52.1	9.9	22.8	32.4
2030	59.3	73.7	91.3	48.8	52.0	57.4	10.5	21.7	33.9
2060	61.8	76.4	95.2	50.0	57.3	67.4	11.8	19.0	27.7

The low alternative implies a lower net migration

In several countries, it has become much harder to receive a residence permit as a refugee or family member immigrant. If Sweden were to introduce a more restrictive immigration policy, it is reasonable to assume that immigration to Sweden from countries outside the Nordics and the EU would decrease. In the low alternative we have assumed that immigration from countries with low HDI and medium HDI decreases. Total immigration would then decrease from 101 000 to 88 000 in 2009. The differences between the main and the low alternative then increase successively.

In this alternative, we have kept immigration from country groups with high HDI, the Nordic countries and the EU unchanged. This is because we think that membership of the EU and the Nordic cooperation agreement will make it hard to limit immigration from these countries. Very few refugees are from countries with high HDI, and a restrictive policy would probably not affect immigration for this group to the same extent as for those from countries with low or medium HDI.

With a decrease in immigration also comes a decrease in re-emigration. Reduced refugee and family member immigration would however result in the composition of the foreign-born population changing over time from refugee and family member immigration to labour immigration, primarily from the Nordics and the EU. In the low alternative, the same emigration rates are used as in the main alternative, but emigration becomes lower because a lower immigration results in fewer people in the different groups of countries of birth.

We assume that a fewer number of Swedish-born emigrants will return to Sweden in the low alternative. The number who return is 5 percent lower in this alternative compared to the main alternative.

In total the assumptions in the low alternative result in a reduction of the net migration from around 19 000 immigrants per year in the main alternative to around 12 000 immigrants per year.

High alternative implies high net migration

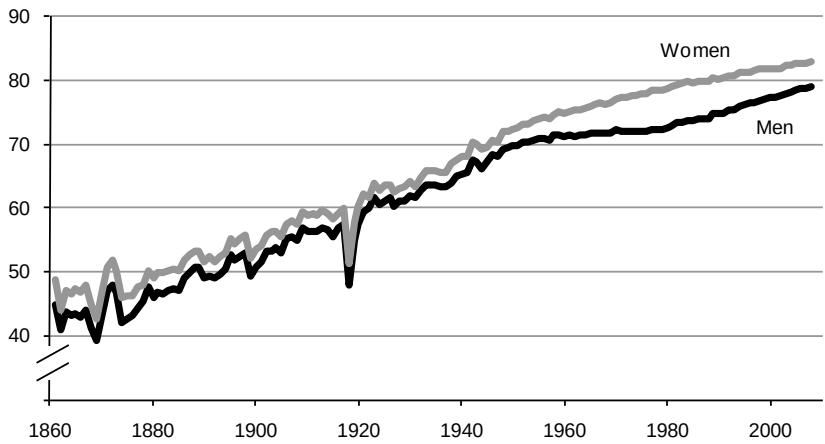
The high alternative can be seen as a scenario with gradually increasing labour force immigration. At the same time, immigration of students, refugees and family members remains on the same level as the main alternative. Labour force immigration is expected to increase up until 2030 and will then lie on a constant level. The net migration will, in this alternative, amount in the long-term to roughly 28 000 people in total per year. Emigration increases as a consequence that the number of persons increases in the different groups for countries of birth. Since labour force immigration increases, emigration will also be significant because of more people of the ages where emigration rates are high. This applies especially to men. The flows thus increase but even so, net migration is still higher than in the main alternative.

5. Assumptions about mortality

Average life expectancy

The rise in average life expectancy since the middle of the 1800s has been significant. In 1861 the average life expectancy for women was 49 years, while in 2008 the figure increased to 83 years. Average life expectancy for men during the same period was from age 45 to age 79. Up until 1950, average life expectancy increased at the same rate for women and men, and women had between two to three years' higher average life expectancy. However, after 1950 trends have been somewhat different between the sexes. Average life expectancy for women increased at a nearly unchanged rate, while we note that average life expectancy for men has increased more slowly. During the 1970s average life expectancy for men increased very slowly. As a result, the difference of average life expectancy between women and men began to increase, and the difference was as high as six years at the end of the 1970s. This trend changed in the 1980s. Average life expectancy again began to increase for men while the same for women began to increase at a slower rate.

Figure 5.1
Life expectancy by sex in Sweden 1861–2008
Age



In recent years, average life expectancy for men has increased quicker than for women. As a result, the difference in average life expectancy between women and men has again begun to decrease.

Before the 1950s, it is primarily the reduction in the risk of death due to infectious, respiratory or deficiency disease which lies behind the increase in average life expectancy. It was mainly a question of falling numbers of deaths among children and younger people. This trend is called phase 2 in the epidemiologic transition[15]. Development since around 1950 has also implied a decrease of death from chronic illnesses. This development can firstly be observed among women, but around 1980 it has also been observed among men (epidemiologic transition, phase 4).

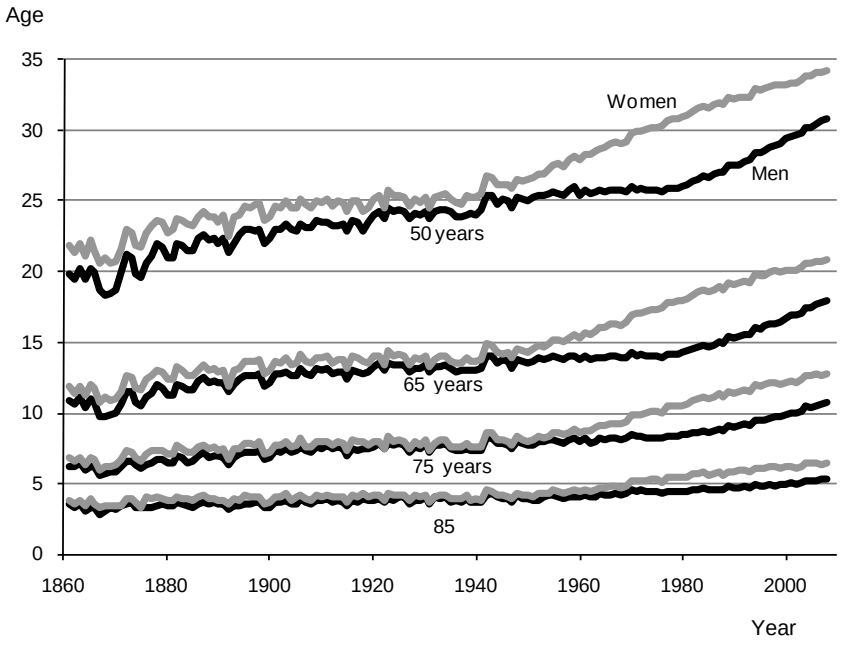
Figure 5.2 illustrates the remaining life expectancy for people who have reached ages 50, 65, 75 and 85. For those who have reached the age of 50, no changes to speak of were observed during the first half of the 1900s. It is during the latter part of the 1900s that substantial increases in average life expectancy occurred.

Future mortality trends

Improved living conditions and medical treatments are behind the downturn in mortality in recent decades. A more detailed presentation is available in the previous forecast round *Sweden's future population 2006-2050*, (Statistics Sweden, 2006) and the publication *Life expectancy in Sweden 2001-2005* (Statistics Sweden, 2007). The assumptions we make on the future in this forecast are in line with the assessments in the forecasts 2003-2050 and 2006-2050.

[15] The theory about the epidemiological transition is a general way of describing development of the most common causes of death during different periods in history. The first phase is characterised by high mortality from infectious and deficiency diseases. Better hygiene and a higher standard of living led to a sharp reduction of deaths from these types of diseases. This change is called phase two and mainly affected children and young people. In phase three it is the chronic diseases such as heart/lung disease and cancer, the dominating causes of death and mortality is relatively stable, but at a low level. Since the 1970s, when the theory of epidemiological transition was first published, death from the chronic diseases has sharply decreased. This has led to the creation of a fourth phase by the researchers, with a decrease in deaths from chronic diseases and among the elderly (Olshansky & Ault, 2002).

Figure 5.2
Remaining life expectancies at ages 50, 65, 75 and 85 years 1861–2008



There are many development tendencies which affect mortality whether positively or negatively. However, the overall picture is that mortality for the foreseeable future should drop in varying degrees for the different age groups. In terms of the negative factors, the future lifestyle choices made by young people will be important.

The initial input death risks for the first forecast year 2009 have been adjusted forward in time with the aid of the Lee-Carter model. As seen in figure 5.3, the mortality rate for ages up until 40 is small, and thus has only a slight effect on the results of the forecast. As with earlier forecast rounds, the mortality rate for these years has been reduced annually by two percent.

Figure 5.3
Mortality rate for first forecast year 2009 by age and sex
Mortality rate

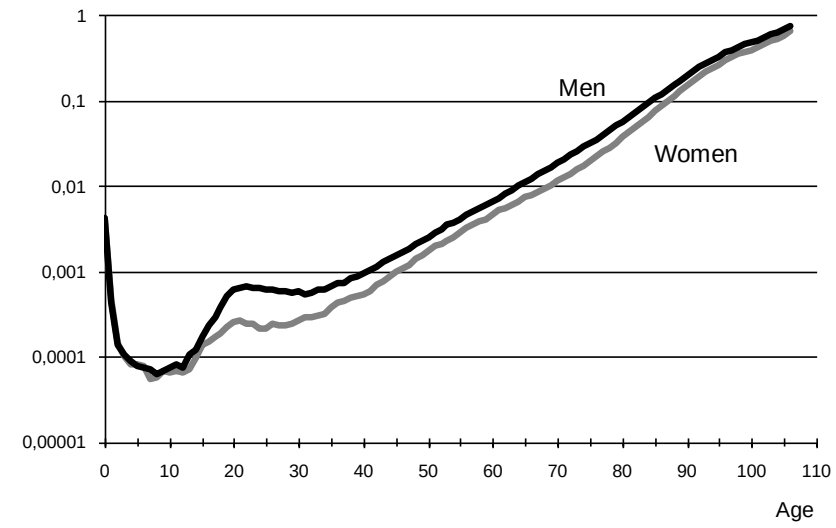
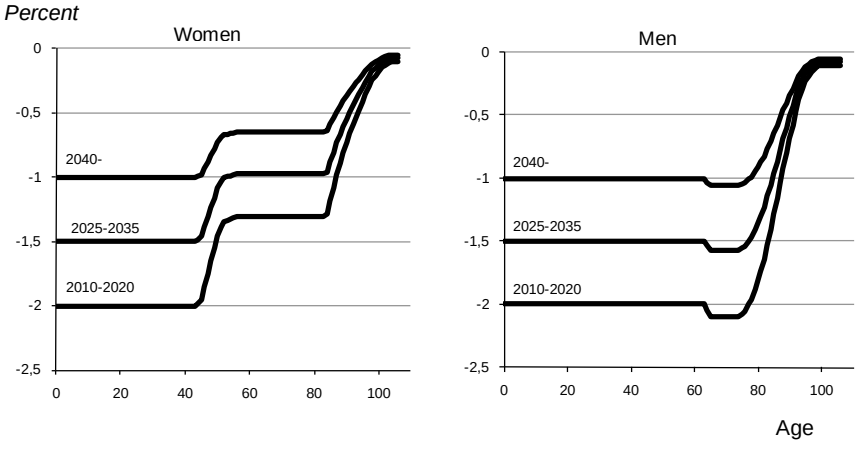


Figure 5.4
Predicted yearly reduction of mortality rates for men and women by age for different periods. Percent



The relative drop in mortality for higher ages has been based on calculations with the Lee-Carter model (see *Facts about the statistics*). The results are largely in agreement with what was received in earlier forecast rounds.

The mortality rate is assumed to annually be reduced according to the pattern in figure 5.4. For men aged 63 and under, the mortality rates are presumed to fall by 2 percent yearly[16] during the period 2010-2020, while the reduction in mortality annually is expected to be somewhat larger for those aged 65-74 (2.10 percent). The reduction in the morality rate is assumed to continue unchanged up until 2020 for those who are at higher ages.

The mortality rate for women under the age of 44 is assumed to drop by 2 percent annually. For those aged 55-83, the mortality rate is reduced by 1.3 percent annually, and at higher ages the reduction in the mortality rate is expected to gradually drop. This reduction of the mortality rate is predicted to continue up until 2020.

In the long term, the drop in the mortality rate is expected to continue but will slow down somewhat as a result of changes in the cause of death panorama. The annual reduction is assumed to amount to 75 percent of the original rate of the downturn during the period 2025-2035. Then the reduction will gradually decline over a four-year period until it reaches 50 percent of the original level of the downturn during 2040 and the following years.

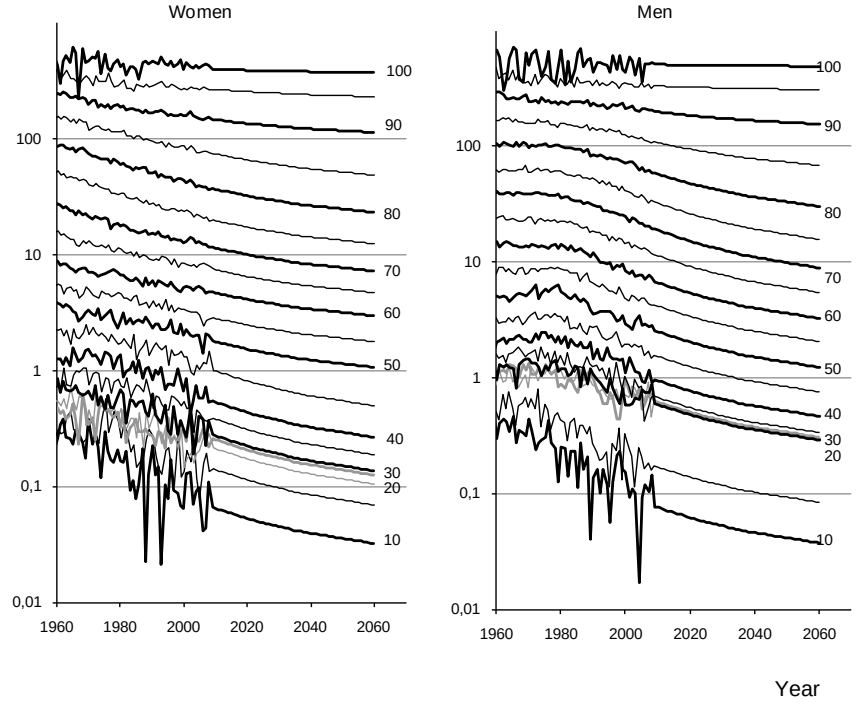
The above assumptions are based on calculations with the Lee-Carter method, but applied with the four groups of causes of death (cancer, heart-lung disease, accidents/suicide and other illnesses). The calculations are made for ages 40-79 during the period 1978-2000. Since no considerable changes in the cause of death panorama can be seen for later years, the reduction in the mortality rate is expected to decline in the same way here as for earlier forecasts (For more information see the forecast 2006-2050 and the description of methods in the section *Mortality rate forecast* in the chapter *Facts about the statistics).*

Summary of the mortality development

Figure 5.5 summarises the mortality development ever since 1960 and up until 2060. A logarithmic scale has been used. The rate of changes in mortality can thus be compared for different ages. The same inclination of the curves illustrates that the percentage decline in the death risk has been the same.

[16] Based on an average.

Figure 5.5
Mortality rates (deaths per 1000) by age and sex 1960–2008 and assumptions for 2009–2060
Logarithmic scale



Higher average life expectancy

Given the assumed changes in mortality rates, average life expectancy for men is calculated to rise from 79 years in 2008 to 85 years in 2060 while the corresponding figures for women are, respectively, 83 years and 87 years. As can be seen from the figures below, the increase in average life expectancy during the coming 50 years is expected to be slower than that observed during the last 50 years. This is particularly so for women. The remaining life expectancy at 65 years of age is expected to increase from 18 years to 22 years for men and from 21 years to 24 years for women during the period 2009–2060.

Figure 5.6
Life expectancy at birth 1960–2008 and forecast for 2009–2060
Age

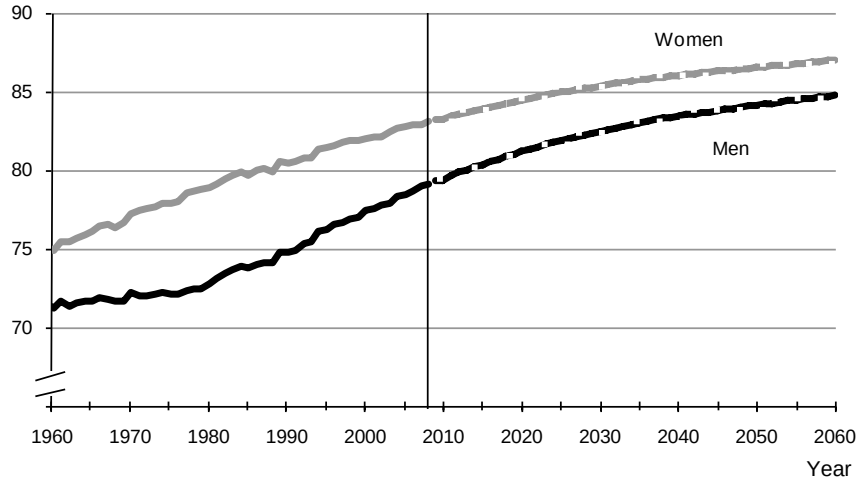
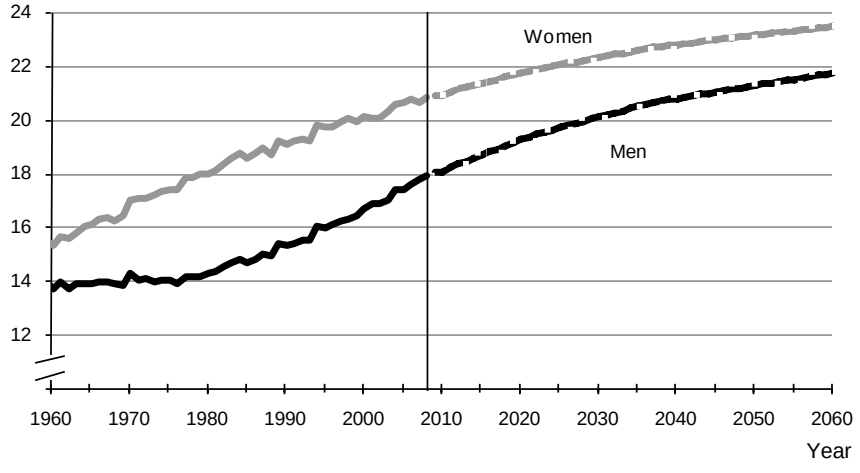


Figure 5.7
Remaining life expectancy at age 65, 1960-2008 and forecast for 2006-2060
Age



Mortality development according to an EU forecast

The latest population forecast from the EU is based on a scenario of harmonisation with the members of today. Presently, the differences in life expectancy and mortality are considerable, for example, between France and Romania. These differences are predicted to completely disappear in the long-term (up to 2150).

Table 5.1 Life expectancy for women and men 2008 and 2060. EU forecast 2008

Women			Men		
	2008	2060		2008	2060
France	84.3	90.1	Italy	78.5	85.5
Italy	84.2	90.0	Sweden	79.0	85.4
Spain	83.9	89.6	Ireland	77.5	85.2
Finland	83.0	89.3	Cyprus	78.2	85.2
Sweden	83.1	89.3	France	77.5	85.1
Ireland	81.9	89.2	United Kingdom	77.4	85.0
Austria	82.9	89.2	Germany	77.3	84.9
Germany	82.6	89.1	Spain	77.4	84.9
Belgium	82.3	88.9	Netherlands	77.9	84.9
Netherlands	82.2	88.9	Austria	77.4	84.9
United Kingdom	81.5	88.9	Greece	77.4	84.8
Portugal	82.4	88.8	Luxembourg	76.3	84.5
Slovenia	81.9	88.8	Belgium	76.7	84.4
Greece	82.6	88.7	Denmark	76.4	84.3
Cyprus	81.7	88.7	Malta	76.0	84.3
Malta	81.1	88.6	Finland	76.1	84.3
Luxembourg	81.2	88.5	Portugal	75.8	84.1
Denmark	81.0	88.4	Slovenia	74.7	83.7
Poland	79.9	88.0	Czech Republic	73.9	83.2
Czech Republic	80.2	87.8	Poland	71.4	82.5
Estonia	78.7	87.5	Slovakia	70.9	82.0
Slovakia	78.7	87.4	Hungary	69.7	81.9
Hungary	78.1	87.3	Romania	69.8	81.9
Lithuania	77.4	86.9	Bulgaria	69.7	81.6
Latvia	76.7	86.8	Estonia	68.0	80.8
Romania	76.6	86.6	Latvia	66.0	80.5
Bulgaria	76.7	86.5	Lithuania	65.9	80.4

Source: Eurostat. Baseline scenario 2008–2060

Statistics Sweden's current forecast:			
	2060		2060
Women	86.8	Men	84.7

Mortality for 2150 has been calculated with the help of the Lee-Carter method based on the mortality rate for a group of EU countries with a high life expectancy today. No adjustments have been made so that the rate of reduction in mortality can be changed in the future, as we could observe in Sweden in recent years. The calculated reduction rate of the mortality rate via the Lee-Carter method has instead been able to operate at an unchanged rate up until the year 2150. The assumption of a harmonisation of mortality in the long term will result in the assumption of a very rapid increase in the coming years of the EU countries which today have a low life expectancy. As an example, the average life expectancy for women from 2008 to 2060 is expected to increase 6 years in France and 10 years in Bulgaria.

Alternative assumptions

Through the use of alternative assumptions we try, to some extent, to capture the uncertainty in the previously presented main alternative. In an alternative with a lower mortality, the trend for a decrease in mortality is assumed to be quicker than the main alternative. At the same time, it will continue to be uninterrupted during the entire forecast period up until 2060. Moreover, mortality decreases annually for the oldest people somewhat more than in the main alternative. This is a probable scenario if considerable medical progress is made and if lifestyle factors are more improved than what has been assumed in the main alternative.

In a another alternative with greater mortality, no changes in mortality are presumed to occur in the future. We assume here that positive and negative factors of lifestyle balance each other. This alternative depicts the base level and how assumptions regarding changes in mortality affect population, that is, a kind of sensitivity analysis.

Life expectancy in the first alternative increases from 79 years in 2009 to 86 years in 2060 for men and from 83 years to 91 years for women. In the second alternative, mortality remains constant throughout the period at the 2009 levels.

Table 5.2
Life expectancy for women and men according to the main assumption and according to alternative assumptions.

Year	Low mortality		Main alternative		High mortality	
	Women	Men	Women	Men	Women	Men
2008			83.1	79.1		
2010	83.4	79.6	83.4	79.5	83.2	79.4
2020	85.1	81.4	84.4	81.2	83.2	79.4
2030	86.7	83.3	85.3	82.4	83.2	79.4
2040	88.3	85.0	85.9	83.4	83.2	79.4
2050	89.7	86.6	86.4	84.1	83.2	79.4
2060	91.0	88.2	86.8	84.7	83.2	79.4

6. Alternative projections

Introduction

It is of course possible that fertility, mortality and migration develop differently to what we have assumed in the main alternative of the forecast. In this chapter, we therefore illustrate how Sweden's future population will be affected if development differs significantly from what we have previously assumed.

Below we show calculations of the development of the future population with alternative assumptions for fertility, mortality and migration. For each component: fertility, mortality and migration, the main alternative has been supplemented with a low and a high alternative (the alternatives are described in more detail in Chapter 3-5). We have chosen to examine how the size of the population is affected when we vary one factor at a time. This means, for example, that we assume a high and low alternative for the future fertility rate, while the assumptions for mortality and migration remain as in the main alternative.

The three factors of fertility, mortality and foreign migration affect the age categories in different ways and at different points of time in the future. An adjusted fertility rate directly affects the number of children born, although the number of older people is only affected by an adjusted fertility rate in the very long-term.

Different developments in mortality have, on the other hand, only a marginal significance for the future number of children and young people. This is because of the very low mortality risks in general of people of younger ages. However, in the long-term a different mortality rate affects the number of people to older ages.

Besides including the different levels of net immigration, the migration alternative also includes different compositions of immigrants' reasons for settling. In the alternative with high immigration, immigration of refugees and family members continues to be high, while in the low alternative, there is an increased percentage of labour force immigration. This results in different sex and age structures of immigrants who are in Sweden. Above all, the

low alternative results in relatively few women who immigrate, and this has a direct effect on the number of children born.

Alternative assumptions on the future fertility rate, mortality and foreign migration

A summary is given below of the different alternatives for fertility, mortality and foreign migration. The different alternatives are discussed in chapters 3-5.

Table 6.1
Fertility rate (children per woman) Alternative assumptions

Year	Low fertility	Main alternative	High fertility
2008		1.91	
2010	1.87	1.84	1.94
2020	1.69	1.85	2.07
2030	1.66	1.83	2.06
2040	1.66	1.83	2.05
2050	1.66	1.83	2.05
2060	1.66	1.83	2.05

Table 6.2
Mortality (average life expectancy in years). Alternative assumptions

Year	Low mortality		Main alternative		High mortality	
	Women	Men	Women	Men	Women	Men
2008			83.1	79.1		
2010	83.4	79.6	83.4	79.5	83.2	79.4
2020	85.1	81.4	84.4	81.2	83.2	79.4
2030	86.7	83.3	85.3	82.4	83.2	79.4
2040	88.3	85.0	85.9	83.4	83.2	79.4
2050	89.7	86.6	86.4	84.1	83.2	79.4
2060	91.0	88.2	86.8	84.7	83.2	79.4

Table 6.3
Migration in thousands. Alternative assumptions

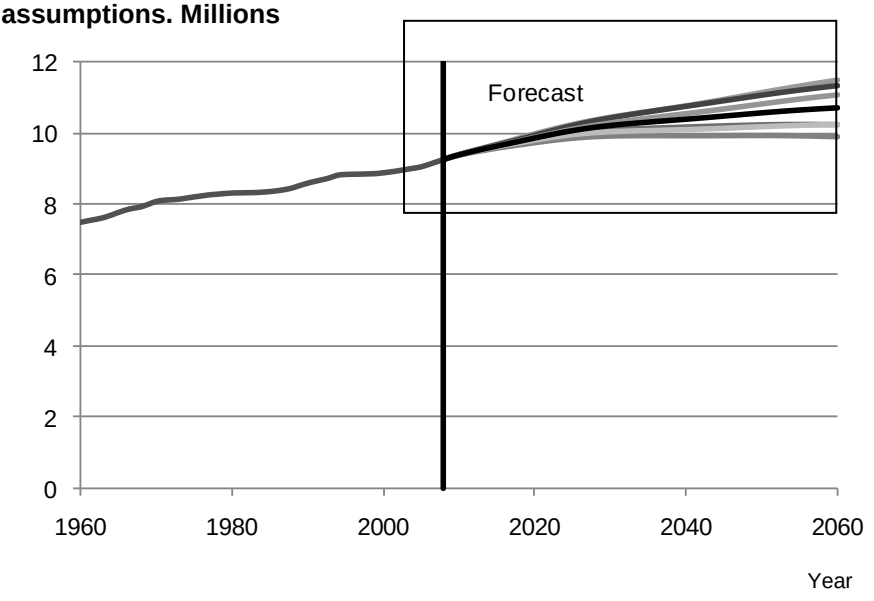
Year	Low net migration			Main alternative			High net migration		
	Imm.	Emi.	Net	Imm.	Emi.	Net	Imm.	Emi.	Net
2008				101.2	45.3	55.9			
2010	83.1	45.1	38.1	90.2	45.2	45.0	92.2	45.3	46.9
2020	58.2	48.3	9.9	72.6	49.8	22.8	84.5	52.1	32.4
2030	59.3	48.8	10.5	73.7	52.0	21.7	91.3	57.4	33.9
2040	60.3	49.5	10.8	74.8	54.3	20.5	93.6	62.1	31.5
2050	61.5	50.1	11.3	76.0	56.3	19.7	94.8	65.4	29.4
2060	61.8	50.0	11.8	76.4	57.3	19.0	95.2	67.4	27.7

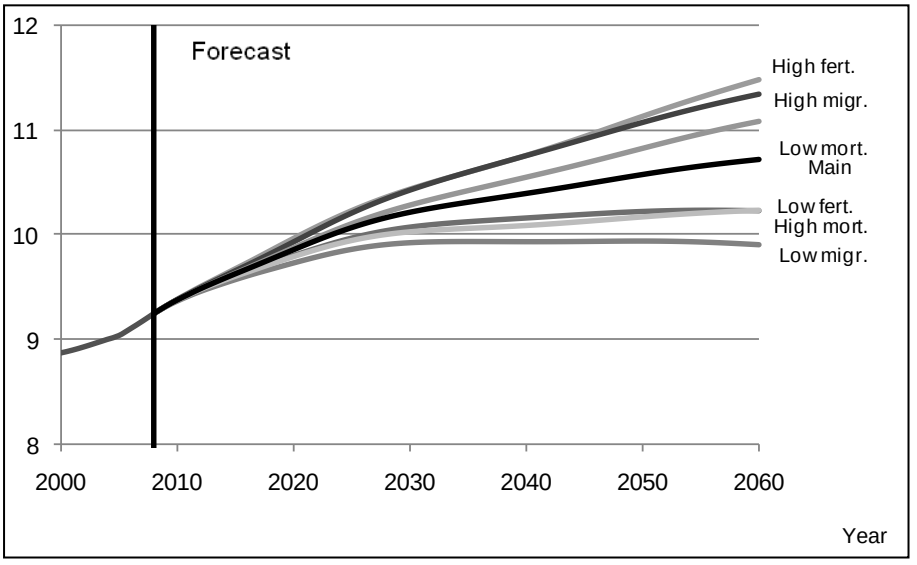
Development of the total population

The difference in the total population between the main alternative and the other alternatives increases over time. The two alternative assumptions on migration give the greatest deviation: in 2018 the total population is about 100 000 fewer persons or 56 000 more persons than in the main alternative. In 2060, the deviation from the main alternative amounts to about 820 000 fewer persons or 630 000 more persons. The alternative assumption with high fertility gives nearly the same deviation as the migration assumption, or 84 000 more in 2018 and over 760 000 more in 2060. The alternative with low fertility results in a deviation of nearly a half million fewer persons in 2060 and the same applies to the alternative with high mortality.

In all alternatives except that for low migration, Sweden's population will reach 10 million between 2021 and 2028. In the alternative with low migration, the population will not reach the 10 million mark during the forecast period. In fact, from 2036 onwards, the alternative with low migration would result in a population decrease. In the alternative with high immigration and high fertility, the 11 million mark would be reached at the end of the 2040s. Even in the alternative with low mortality, the 11 million mark would be met just before the end of the forecast period.

Figure 6.1
Total population size 1960–2008 and trends up to 2060 by alternative assumptions. Millions

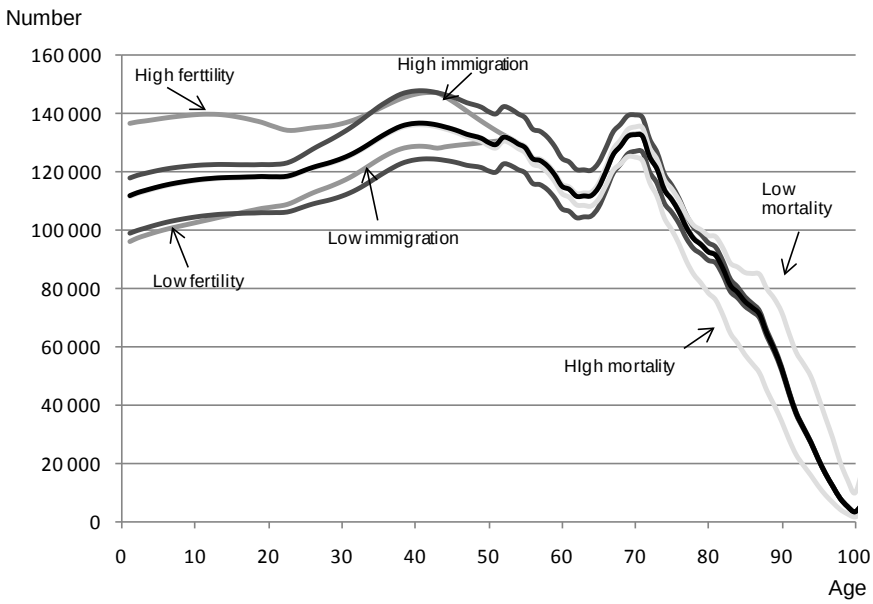




Dependency ratio

The alternatives with low fertility and high mortality result in about the same population size in 2060, but the age distribution are completely different. In the alternative with low fertility, there are fewer persons under age 50, while in the alternative with high mortality there are fewer persons in the older ages. The figure below illustrates age distribution in 2060.

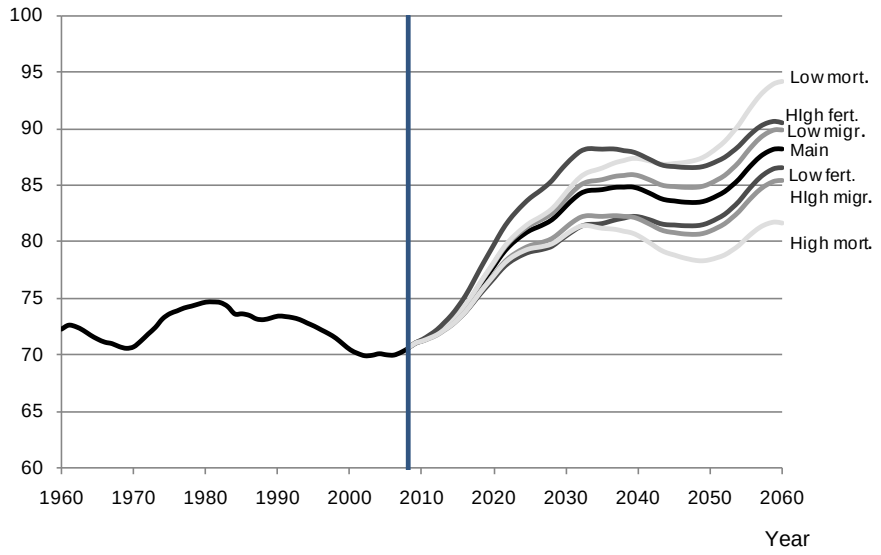
Figure 6.2
Age structure 2060 by alternative assumptions



Since the different alternatives give rise to different age structures, the dependency ratio is affected. The graph below shows the dependency ratio according to the various alternatives. The highest dependency ratio is the alternative with high fertility. Only the dependency ratio for children and young people (under age 19) is affected. It rises sharply in the beginning of the forecast period, and then slows down when more of those who were born during the forecast period come of working age. In the long term, the alternative for low mortality gives the highest dependency ratio. The lowest dependency ratio results from the alternative with high mortality, when there is no improvement in life expectancy from today's level. In this case, the dependency ratio from the older persons influences the total dependency ratio.

The dependency ratio from older persons is nearly only influenced by the assumption of mortality. In the main alternative in 2060, the dependency ratio for older persons is 47, that is, there are 47 persons over 65 years for every 100 persons between ages 20-64. In the alternative with high mortality, the dependency ratio for older persons is 40, while in the alternative with high net migration the ratio is 42. A net immigration of 28 000 per year thus only influences the dependency ratio for older persons marginally.

Figure 6.3
Dependency ratio 1960-2008 and projection 2009-2060 by alternative assumptions.

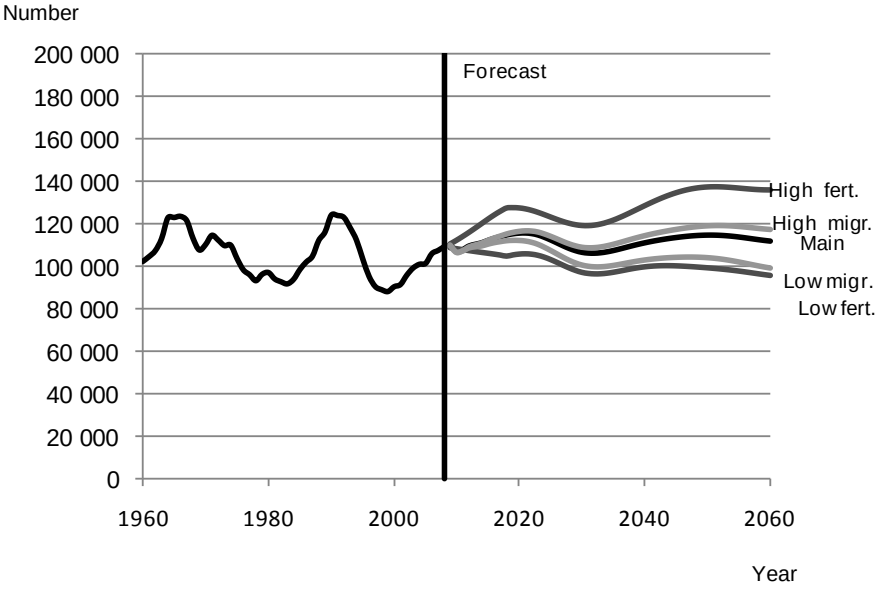


Development among different age groups

Number of births

It is difficult to predict the number of births. Historically, fertility has varied considerably from year to year and this development will probably continue in the future. The difficulty in foreseeing future variations in fertility increases the weight of the alternative fertility assumptions. Errors in the number of births directly affect forecasts of expenses, such as parental insurance costs. After one year, the need for preschool places is influenced and later on the need for the number of school places. The number of births are indirectly influenced by immigration by increased or decreased immigration of women in childbearing ages.

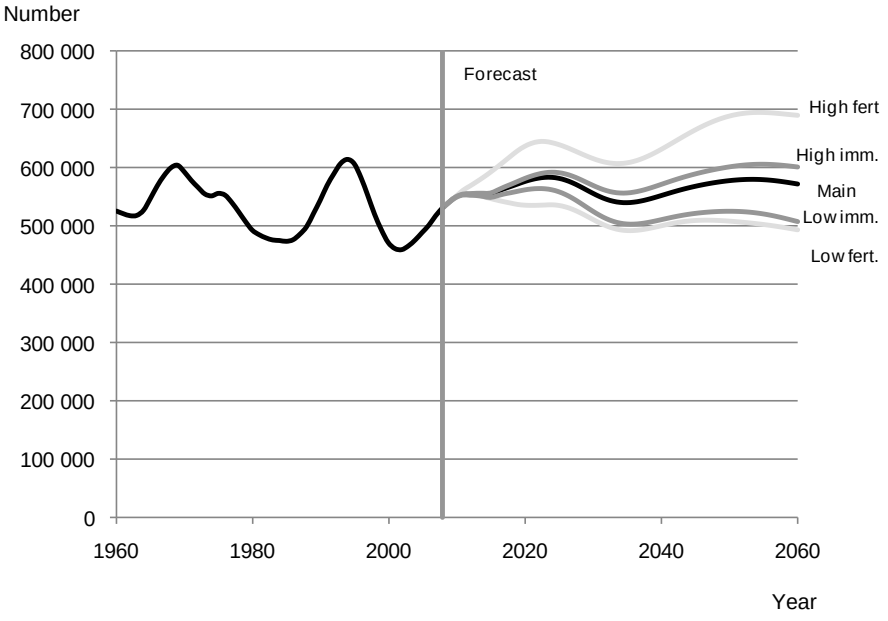
Figure 6.4
Number of births 1960–2008 and forecast 2009–2060 by alternative fertility and migration assumptions.



Number of children aged 1–5

The number of preschool age children is greatly influenced by the number born several years before. Migration is also an influential factor, in part directly with immigration of children, and in part indirectly by reduced or increased immigration of women of childbearing ages. As early as 2018, the fertility alternatives result in deviations to the main alternative by 50 000 more children or 30 000 fewer children. In 2060, these deviations amount to 120 000 more children or 80 000 fewer compared to the main alternative. In 2018, we speak of deviations with the main alternative of 3 000 more children with high immigration and 11 000 fewer children with low immigration. In 2060 these deviations have increased to 30 000 more or 60 000 fewer children than in the main alternative. The assumption of low immigration results in nearly the same number of children aged 1-5 as the alternative with low fertility. The alternative assumption for future mortality only marginally affects the number of children aged 1-5 years.

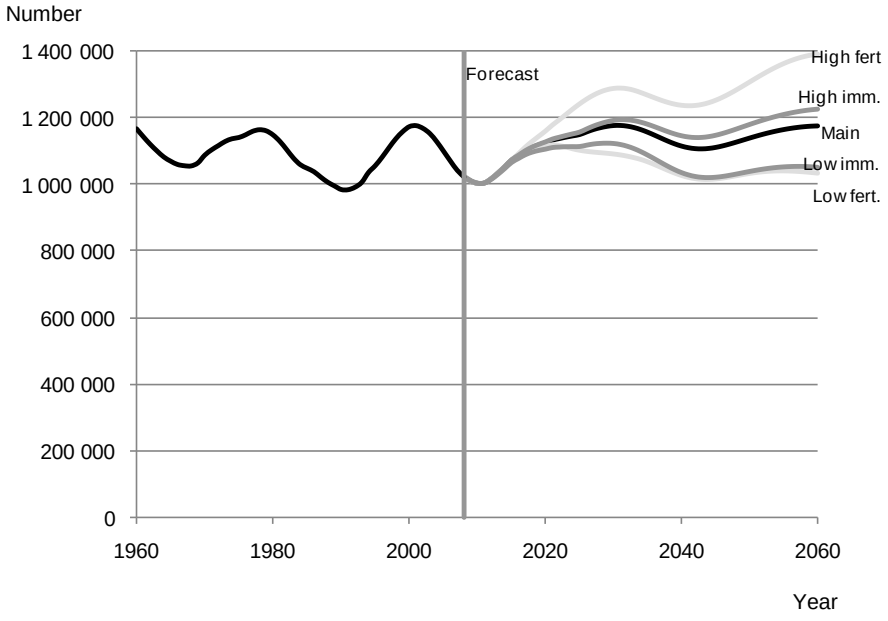
Figure 6.5
Population in ages 1–5 1960–2008 and forecast 2009–2060 by alternative fertility and migration assumptions.



Number of children in school aged 6–15

In the short-term, the number of children of school age is not affected by the alternative assumptions for fertility. Migration also has a minimal effect. In 2018, the alternative assumptions for fertility give only a marginal difference of around 15-20 000 children compared to the main alternative and the alternative assumptions for migration give an even smaller difference. However, the differences are more significant in the long term. In 2060, the alternative with high fertility results in deviations of about 220 000 more school children and the alternative with high immigration about 50 000 more school children. The alternative with low fertility and low immigration gives 140 000 and 125 000 fewer school children respectively. Mortality in these ages has a very marginal effect on the calculations.

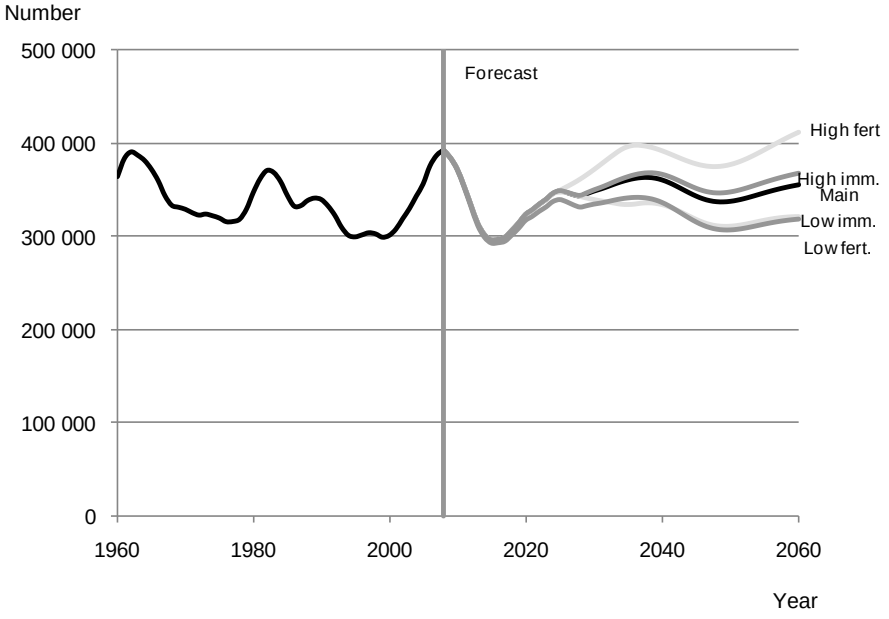
Figure 6.6
Number of children aged 6 –15 in 1960–2009 and projections according to alternative fertility and migration assumptions 2009–2060



Young people aged 16-18 years

The number of young people aged 16-18 at the start is only influences by the low immigration alternative that gives fewer young people at upper-secondary school age. In 18 years, when those who were born during the first forecast year reach the age of upper secondary school, the high fertility alternative results in 21 000 more in this age group and the low fertility alternative results in 10 000 fewer children. In 2060, these differences have increased to 60 000 and 35 000 young people respectively compared to the main alternative. In the long term, the low immigration alternative results in fewer young people than the low fertility alternative.

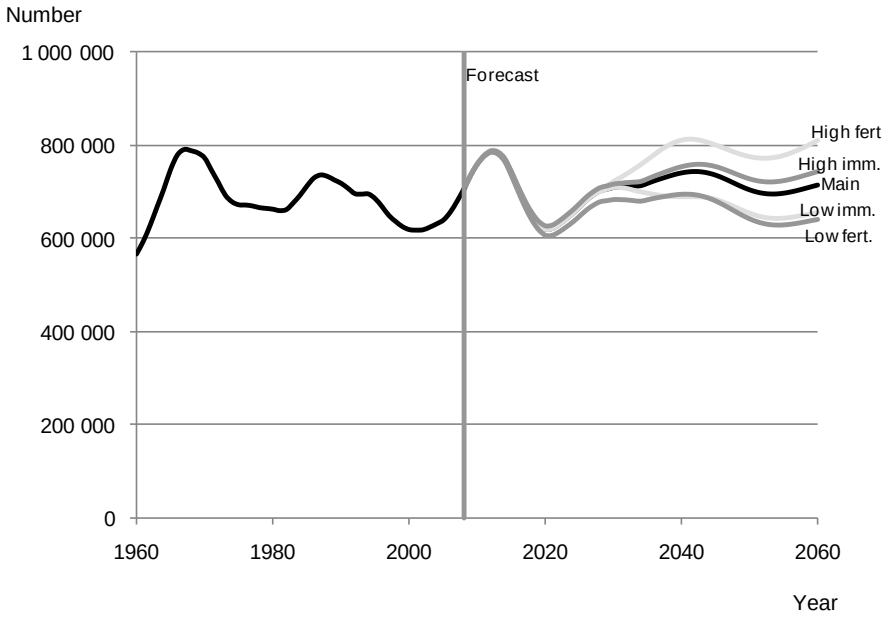
Figure 6.7
Number of persons in age-group 16–18 in years 1960–2008 and projections according to alternative fertility and migration assumptions 2009–2060.



Young people aged 19-24 years

The number of young people aged 19-24 is influenced the first forecast years only by the migration assumptions. The low migration assumptions result in 10 000 fewer young people after 10 year, while the high immigration alternative results in 3 000 more people of these ages. In 2060 the high fertility alternative results in 90 000 more young people while the low fertility alternative results in 60 000 fewer. Migration is not as influential; the high immigration alternative results in 30 000 more young people while the low immigration alternative results in 70 000 fewer.

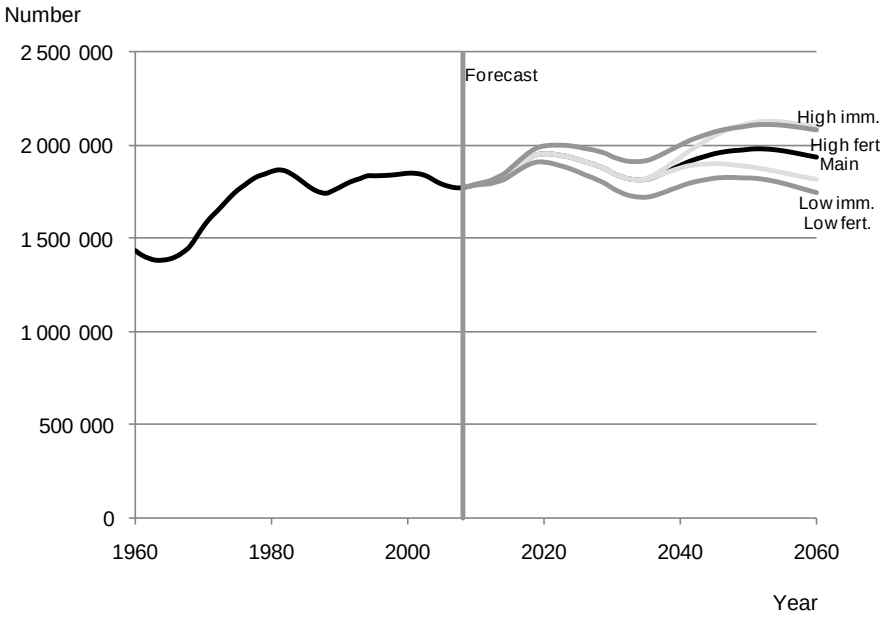
Figure 6.8
Number of persons in age-group 19–24 in years 1960–2008 and projections according to alternative fertility and migration assumptions.



Population in the younger labour force ages 25–39

Up until about 2035, only the alternatives for migration result in any deviations from the main alternative for the population of younger working ages 25-39 years. In 2035, the differences between the alternative assumptions and the main alternative amount to 90 000 people and in 2060, this has increased to 140 000 more and 190 000 fewer people. The alternative for fertility gives slight differences at first from 2030 onwards but then these differences increase sharply to amount to 160 000 more people or 120 000 fewer people in 2060. The alternative for mortality gives very marginal differences from the main alternative for the whole period.

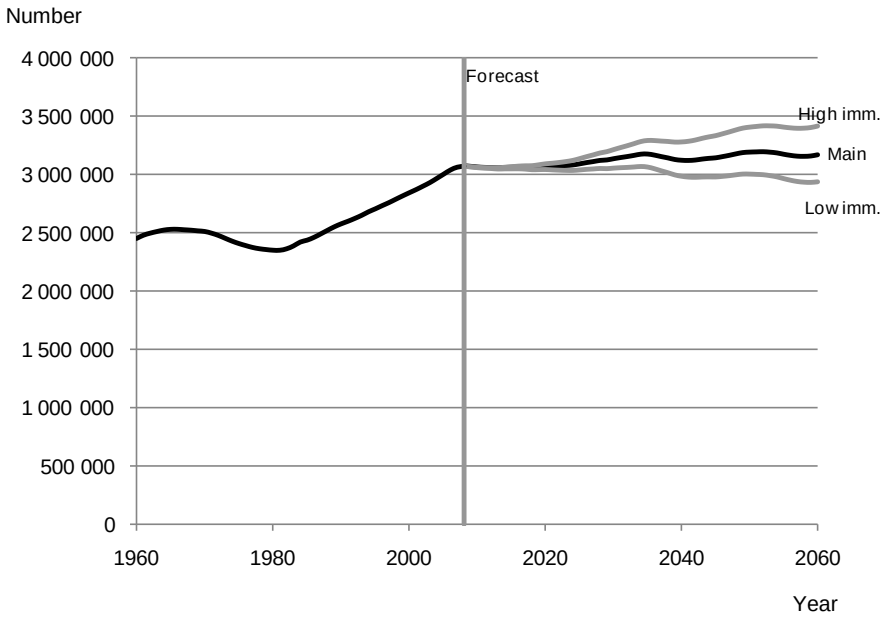
Figure 6.9
Number of persons in age group 25–39 in years 1960–2009 and projections according to alternative fertility and migration assumptions.



Population in the older working force ages 40–64

During the greater part of the forecast period, only the alternative assumptions for the development of migration affect the calculated number of people aged 40-64 years to any extent. In 2025 the differences from the main alternative amount to 85 000 more people or 75 000 fewer people. The deviations grow to over 250 000 more or 230 000 fewer people in 2060. With regard to mortality, only the alternative with unchanged mortality during the whole forecast period, i.e. the high alternative, gives some larger differences from the main alternative. In 2025, the alternative assumption for mortality gives a difference of 20 000 people compared to the main alternative and in 2060 this difference has grown to 50 000 people.

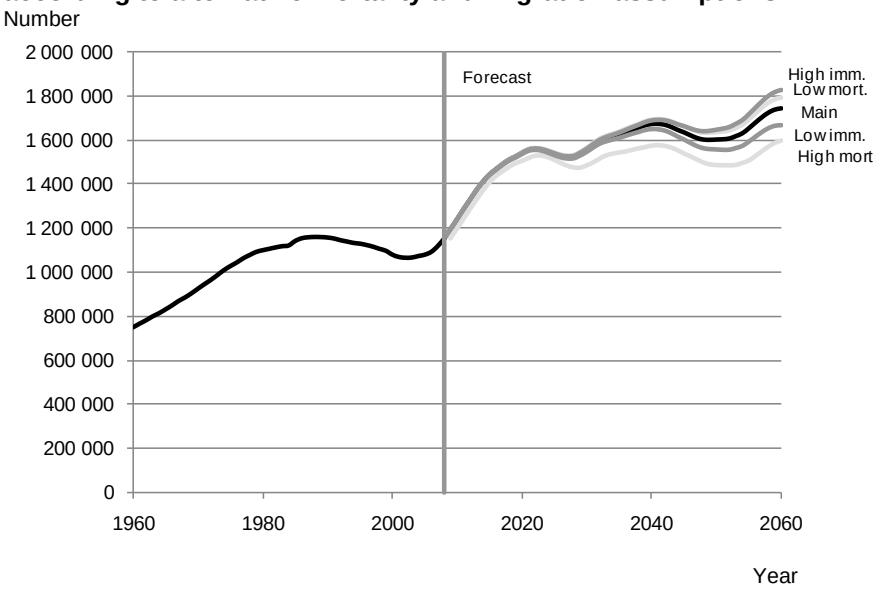
Figure 6.10
Number of persons in age group 40–64 in 1960–2008 and projections according to alternative migration assumptions.



People aged 65-79 years

The calculations of the number of people aged 65-79 years is above all affected by the alternative with unchanged mortality for the entire forecast period, i.e. the high alternative. In 2030, the deviation from the main alternative is 60 000 people and in 2060 this deviation has grown to 130 000 people. Alternative assumptions on migration influence this age group almost equally as the low mortality alternative, and in the long term even more. The alternative with low mortality results in about 11 000 more people in this age group in 2030. The migration assumptions result in a difference of about 6 000 for the same year. In 2060 the high immigration assumption results in 85 000 more people, the low immigration assumption in 70 000 fewer people and the low mortality assumption results in 50 000 more people.

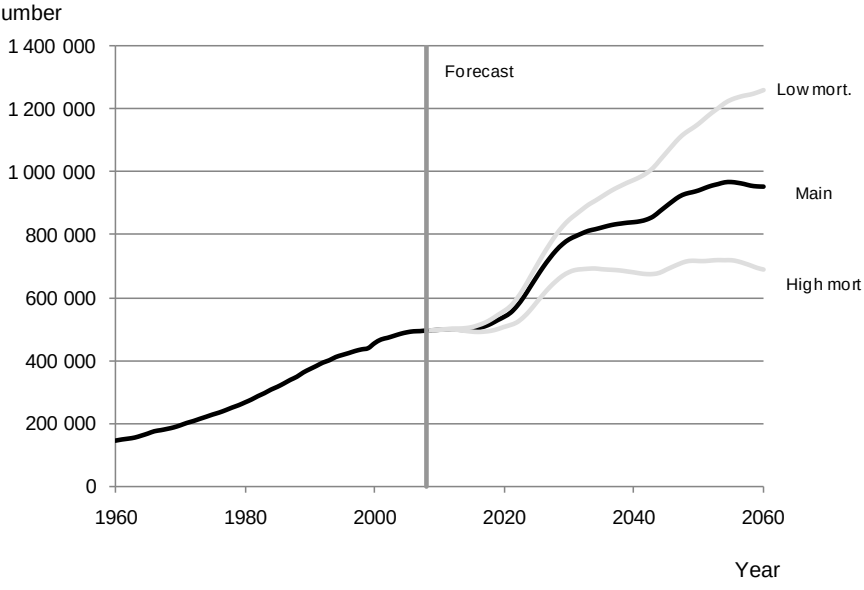
Figure 6.11
Number of persons in age group 65–79 in 1960–2008 and projections according to alternative mortality and migration assumptions.



People aged 80 years and older

In the age group 80 years and older, the calculations are affected very marginally by the alternative assumption for migration. However, the alternative assumption for mortality has a strong impact in the calculations of the number of "older elderly" people. Even in the short-term, effects are noticeable and in 2030 a deviation is noted between the mortality alternative and the main alternative in the size of 60 000 more or 100 000 fewer older persons. The differences increase to around 300 000 people in 2060.

Figure 6.12
Number of persons in age group 80 and older in 1960–2008 and projections according to alternative mortality assumptions.



Facts about the statistics

Scope of the statistics

Population forecasts or projections have been carried out by Statistics Sweden since the 1940s. The main objective is to carry out projections of Sweden's population, broken down by age and sex, as a basis for social planning. Beginning with the forecast period 2003-2050, the population has been broken down by those born in Sweden and those born abroad. From last year and forecast onwards, for the period 2008-2050, the population is broken down by countries of birth in seven different groups of countries.

The population forecast presented is based on the population on 31 December 2008 and extends over every year until 31 December 2060.

The forecast has been made every year for the last eight years. Every third year (this years forecast), a more extensive analysis is carried out of the assumptions with detailed descriptions in the publication series "Demographic reports". In the other years, a more concise report is made in the Statistical Report series.

Definitions and explanations

Mortality risk
The number of deceased people of a certain age is divided by the population at the beginning of the period (results are adjusted for migration).

Mortality rate
The number of deaths at a certain age divided by the average population during a period of time. To convert mortality rates to mortality risks, $1-e^{-mortalityrates/1000)}$, the age 0 is used $1-e^{-0,5\cdot dmortalityrates/1000}$.

Immigrants
In the forecast we distinguish between re-immigration of Swedish-born and immigration of foreign-born people. By immigrant we refer to a foreign-born person who is registered in Sweden. To be registered, it is necessary to intend to settle in the country for at least one year.

Cohort - period data
Most of the demographic measures (mortality, fertility, etc.) usually relate to a calendar year and are called period data (cross section). Data on a cohort (people born in a certain year) aim to provide observations during the lifetime of these people, i.e. longitudinally.

Average population
Average population during a period.

Natural population growth (birth surplus or deficit)
The difference between the number of births and the number of deaths.

Net migration
The number of immigrants minus the number of emigrants.

Total Fertility Rate (TFR)
Sum of the age-specific fertility rate. This measurement shows how many children would be born on average by a woman going through her fertile years (disregarding mortality).

Emigrant
The term emigrant (Swedish-born and foreign-born) refers to a person who when leaving Sweden intends to take up residency abroad for at least one year.

Age-specific fertility rate
The number of children born by women of a specific age during one calendar year, in relation (ratio) to the average population of women of the same age. If the period is longer than one year, the ratio's numerator consists of the risk time (average population multiplied by the period's length in years).

Remaining life expectancy
The number of years on average that a person has left to live, calculated from different ages. The term " life expectancy" stipulates the life expectancy for a newborn. The calculation of life expectancy is carried out in the frame of the life table (collective name for mortality risks, survival rate and life expectancy).

How the statistics are produced

The population forecast is based on sub-forecasts of different demographic changes: births, deaths, immigration and emigration.

The information for the assumptions comes from various registers at Statistics Sweden. The population statistics are of course used the most, but other registers are also used. These include the Multi-Generation Register and the Historical Population Register, which are processed from the official population statistics. STATIV is another register that is used. It is a longitudinal database for integration studies.

Model

The size of the population at the end of the year is determined using the population in one-year age categories at the beginning of a year and the assumptions for the demographic change factors for that year as a basis. This forecasted population then forms the basis for the calculation of the population at the end of the following year.

The forecast calculations are made by a division of the individual's country of birth group and for each sex separately. We start with the last known population figure and then move forward from year to year in the way described below.

Separate calculations are made in the projection for individuals who are in the country at the beginning of the year and individuals who arrive, immigrants or newborns, during the year.

Individuals in Sweden at the beginning of the year

For individuals who are in the country at the beginning of the year, the numbers who remain at the end of the year are calculated:

$B_{t+1} = B_t \cdot e^{-(m+e)}$, where m stands for death rate and e for emigration rate

The number of deaths and the number of emigrants are calculated:

$$D_{t+1} = (B_t - B_{t-1}) \cdot \frac{m}{m+e}$$

$$E_{t+1} = (B_t - B_{t-1}) \cdot \frac{e}{m+e}$$

Average population of individuals in Sweden at the beginning of the year is calculated:

$$M_{t+1} = B_t \cdot \frac{1-e^{-(m+e)}}{m+e}$$

The number of children born during the year by persons in Sweden at the beginning of the year:

$F_{t+1} = M_{t+1} \cdot f_{t+1}$, where f is fertility rate

Individuals who immigrate during the year
Persons immigrating during the year run the risk of bearing children, dying, or emigrating. Let I_{t+1} be the number of immigrants who come during the year. The number of immigrants remaining at the end of the year is:

$$B_{t+1}^{I} = I_{t+1} \frac{1 - e^{-(m+e)}}{m+e}$$

The number of deaths and emigrants among those who immigrated during the year:

$$D_{t+1}^{I} = (B_t - B_{t-1}) \cdot \frac{m}{m+e}$$

$$E_{t+1}^{I} = (B_t - B_{t-1}) \cdot \frac{e}{m+e}$$

Average population during the year for those who immigrated:

$$M_{t+1}^{I} = \frac{I_{t+1}}{m+e} + I_{t+1} \cdot \frac{e^{(-(m+e))} - 1}{(m+e)^2}$$

and the number of children born during the first year:

$F_{t+1}^{I} = M_{t+1}^{I} \cdot f_{t+1}$, where f is fertility rate

Children who were born during the year
The total number of children born during the year is calculated:

$$F_{t+1}^{tot} = F_{t+1} + F_{t+1}^{I}$$

The number of children remaining at the end of the year is calculated:

$$B_{t+1}^{F} = F_{t+1}^{tot} \cdot \frac{1 - e^{-(m+e)}}{m+e}$$

The number of deaths and emigrants of those who were born during the year:

$$D_{t+1}^{F} = (F_{t+1}^{tot} - B_{t+1}^{F}) \cdot \frac{m}{m+e}$$

$$E_{t+1}^{F} = (F_{t+1}^{tot} - B_{t+1}^{F}) \cdot \frac{e}{m+e}$$

Fertility projection

Swedish-born women

The future fertility rate of different ages is calculated for usage in the population forecast. Our calculations are based on the relative distribution of childbirth for each cohort up until the first forecast year (measured by incidence rates). During the forecast period, the estimated transitional probabilities, which have been shown to be stable, are used to calculate relative events for the second, third and fourth child who corresponds to the incidence figure:

$$f_x^p = B_x^p / M_x \qquad \text{(incidence rate)}$$

B_x^p is the number of children born with *ordinal position p* to all women of *age x* in year (end of year). M_x is the average time lived for women of *age x* regardless of parity. The measure relates the number of children born with *ordinal position p* to the total number of women of *age x* in year.

In the model, the incidence rates for the first, second and third child are estimated. The incidence rate for parities over four have been added to the fourth child.

The total of all incidence figures correspond to the normal age-specific fertility rate:

$$f_x = (f_x^1 + f_x^2 + f_x^3 + f_x^{4+})$$

The Total Fertility Rate (TFR) over the fertile years**,** is calculated as:

$$TFR = \sum_{x=15}^{\omega} (f_x^1 + f_x^2 + f_x^3 + f_x^{4+}) = \sum_{x=15}^{\omega} (B_x^1 + B_x^2 + B_x^3 + B_x^{4+} / M_x)$$

ω is the highest age at which women give birth. It has been set at age 49 since very few have children after this age. This measure is used as a total description of the fertility rate in different years.

There are special calculation routines for calculating the first child using the model, which estimate the incidence rate so that every cohort has a predetermined level of childlessness. In the forecast's main alternative, it is assumed that childlessness in the future will rise gradually to 15 percent. The incidence rate for first child fertility follows those trends that have most recently been observed in different ages, so that the cohort reaches the assumed childlessness.

The calculations for how a mother with one child will go on to have a second child begin from the time from the birth of the first child. The proportion who do go on to give birth to a second child also depends on the woman's age at the birth of their first child. The incidence rate for the second child is estimated for every birth cohort as follows:

$$\hat{f}^{2}_{x,k} = \sum_{j=15}^{x-1} f^{1}_{j,k} \times \hat{p}^{2}_{j,x-j}$$

where $f^{1}_{j,k}$ is the incidence rate for the first child of age j for the cohort born in year k and $\hat{p}^{2}_{j,x-j}$ is the estimated probability of a second child being born *x-j* years after the first child's birth, given than a woman had their first child at age j. The probability $\hat{p}^{2}_{j,x-j}$ is estimated with the help of information up until the end of 2007. Information on the transition probabilities that have been used are presented in tables 1-3.

Foreign-born women

Since 2008, Statistics Sweden's population forecast is done with separate assumptions about childbearing for the Swedish-born and separate groups of the foreign-born. The reason is because the levels of the total fertility rate differ among different groups. Persons born outside of Sweden have been divided into different groups depending on their country of birth: The Nordic countries (except Sweden), the EU (except the Nordic countries, Europe (except the EU and the Nordics) and countries outside of Europe with high, medium and low levels of development. This is a breakdown done annually by the United Nations, where consideration is given to a country's GDP, life expectancy of the population and level of education (the Human Development Index).

The method for producing the assumptions for foreign-born is simpler than the one used for Swedish-born. No parity-specific assumptions are made for foreign-born, but the fertility rate by age is projected forward for each group and each forecast year. The assumptions for the foreign-born groups have been processed by analyses of how fertility for these groups has developed.

Statistics Sweden's report on childbirth among native and foreign born studies the fertility trends for the different groups of foreign-born[17]. The assumption made in this forecast are based on results from the study.

[17] This report is translated into English and available on request – *Childbearing among native and foreign born*

Table 1
Estimated probabilities to give birth to the second child depending on the age of the mother and time after the birth of the first child

Age	Time in years after birth of first child									
	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5
14	0.000	0.204	0.262	0.142	0.102	0.062	0.052	0.039	0.029	0.011
15	0.000	0.204	0.262	0.142	0.102	0.062	0.052	0.039	0.029	0.011
16	0.000	0.204	0.262	0.149	0.102	0.062	0.052	0.039	0.029	0.011
17	0.000	0.204	0.262	0.149	0.102	0.062	0.052	0.039	0.015	0.011
18	0.000	0.204	0.282	0.149	0.102	0.062	0.052	0.023	0.015	0.011
19	0.000	0.231	0.282	0.149	0.102	0.062	0.029	0.023	0.015	0.011
20	0.007	0.268	0.282	0.149	0.102	0.048	0.029	0.023	0.015	0.011
21	0.004	0.268	0.282	0.149	0.075	0.048	0.029	0.023	0.015	0.011
22	0.005	0.268	0.282	0.149	0.075	0.048	0.029	0.023	0.011	0.011
23	0.003	0.268	0.330	0.149	0.075	0.043	0.028	0.011	0.011	0.009
24	0.002	0.268	0.330	0.149	0.067	0.036	0.018	0.011	0.007	0.004
25	0.002	0.268	0.385	0.149	0.067	0.023	0.018	0.011	0.007	0.004
26	0.002	0.268	0.385	0.149	0.044	0.023	0.012	0.007	0.004	0.003
27	0.002	0.268	0.400	0.141	0.044	0.023	0.010	0.007	0.004	0.003
28	0.002	0.268	0.400	0.133	0.044	0.019	0.012	0.007	0.004	0.003
29	0.002	0.297	0.400	0.125	0.039	0.019	0.010	0.006	0.004	0.002
30	0.001	0.297	0.400	0.125	0.039	0.019	0.010	0.006	0.004	0.002
31	0.002	0.283	0.385	0.125	0.039	0.019	0.010	0.006	0.004	0.001
32	0.001	0.268	0.385	0.125	0.039	0.019	0.010	0.006	0.002	0.001
33	0.002	0.268	0.367	0.125	0.039	0.019	0.010	0.004	0.002	0.001
34	0.002	0.220	0.328	0.120	0.039	0.019	0.006	0.004	0.002	0.000
35	0.002	0.203	0.293	0.120	0.034	0.019	0.006	0.004	0.000	0.000
36	0.001	0.203	0.281	0.106	0.031	0.018	0.006	0.000	0.000	0.000
37	0.001	0.171	0.225	0.083	0.027	0.018	0.004	0.000	0.000	0.000
38	0.002	0.166	0.188	0.074	0.027	0.008	0.002	0.000	0.000	0.000
39	0.002	0.166	0.160	0.031	0.019	0.008	0.002	0.000	0.000	0.000
40	0.000	0.107	0.096	0.039	0.007	0.003	0.000	0.000	0.000	0.000
41	0.000	0.077	0.067	0.021	0.007	0.003	0.000	0.000	0.000	0.000
42	0.000	0.051	0.035	0.012	0.000	0.000	0.000	0.000	0.000	0.000
43	0.000	0.019	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
44	0.000	0.011	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.000	0.007	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
46	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
47	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 2
Estimated probabilities to give birth to the third child depending on the age of the mother and time after the birth of the second child

Age	Time in years after birth of second child									
	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5
14	0.000	0.130	0.149	0.130	0.068	0.053	0.037	0.028	0.030	0.022
15	0.000	0.130	0.149	0.130	0.068	0.053	0.037	0.028	0.028	0.022
16	0.000	0.130	0.149	0.122	0.068	0.053	0.049	0.028	0.028	0.022
17	0.000	0.130	0.149	0.130	0.068	0.064	0.037	0.028	0.028	0.022
18	0.000	0.130	0.149	0.130	0.078	0.053	0.037	0.028	0.028	0.022
19	0.007	0.130	0.149	0.130	0.068	0.053	0.037	0.028	0.028	0.022
20	0.007	0.147	0.149	0.130	0.062	0.042	0.028	0.028	0.028	0.022
21	0.004	0.147	0.149	0.122	0.056	0.042	0.037	0.028	0.028	0.019
22	0.005	0.147	0.132	0.112	0.052	0.053	0.037	0.028	0.019	0.017
23	0.003	0.147	0.123	0.105	0.062	0.042	0.037	0.024	0.019	0.014
24	0.002	0.123	0.113	0.105	0.056	0.031	0.028	0.021	0.014	0.011
25	0.002	0.123	0.113	0.102	0.052	0.039	0.028	0.021	0.014	0.011
26	0.002	0.123	0.098	0.091	0.052	0.031	0.028	0.021	0.014	0.009
27	0.002	0.123	0.093	0.086	0.052	0.031	0.023	0.016	0.011	0.009
28	0.002	0.108	0.088	0.081	0.052	0.031	0.023	0.016	0.011	0.009
29	0.002	0.108	0.084	0.079	0.052	0.028	0.023	0.016	0.011	0.007
30	0.001	0.108	0.084	0.079	0.052	0.025	0.018	0.016	0.011	0.007
31	0.002	0.098	0.084	0.079	0.039	0.025	0.018	0.013	0.010	0.003
32	0.001	0.098	0.084	0.074	0.033	0.025	0.014	0.011	0.005	0.006
33	0.002	0.098	0.084	0.066	0.033	0.020	0.014	0.005	0.005	0.006
34	0.002	0.070	0.068	0.062	0.024	0.018	0.005	0.005	0.008	0.001
35	0.002	0.070	0.062	0.052	0.024	0.004	0.002	0.001	0.001	0.000
36	0.001	0.054	0.045	0.026	0.008	0.002	0.001	0.001	0.000	0.000
37	0.001	0.054	0.042	0.025	0.005	0.002	0.001	0.000	0.000	0.000
38	0.002	0.054	0.042	0.018	0.004	0.001	0.000	0.000	0.000	0.000
39	0.002	0.054	0.022	0.015	0.002	0.001	0.000	0.000	0.000	0.000
40	0.000	0.054	0.014	0.011	0.002	0.000	0.000	0.000	0.000	0.000
41	0.000	0.023	0.011	0.002	0.001	0.000	0.000	0.000	0.000	0.000
42	0.000	0.016	0.005	0.002	0.000	0.000	0.000	0.000	0.000	0.000
43	0.000	0.011	0.005	0.002	0.000	0.000	0.000	0.000	0.000	0.000
44	0.000	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
46	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
47	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 3
Estimated probabilities to give birth to the fourth (or more) child depending on the age of the mother and time after the birth of children or third or higher birth order

Age	Time in years after the third or later birth of child									
	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5
14	0.000	0.198	0.153	0.105	0.076	0.041	0.030	0.025	0.017	0.013
15	0.000	0.198	0.153	0.105	0.076	0.041	0.030	0.025	0.017	0.013
16	0.000	0.198	0.153	0.105	0.076	0.041	0.030	0.025	0.017	0.013
17	0.000	0.198	0.153	0.105	0.076	0.041	0.030	0.025	0.017	0.013
18	0.000	0.198	0.153	0.105	0.076	0.041	0.030	0.025	0.017	0.013
19	0.007	0.198	0.153	0.105	0.076	0.041	0.030	0.025	0.017	0.013
20	0.007	0.198	0.153	0.105	0.076	0.041	0.030	0.025	0.017	0.013
21	0.004	0.198	0.153	0.105	0.076	0.041	0.030	0.025	0.017	0.013
22	0.005	0.198	0.153	0.105	0.076	0.041	0.030	0.025	0.017	0.013
23	0.003	0.198	0.153	0.105	0.076	0.041	0.030	0.025	0.017	0.013
24	0.002	0.198	0.153	0.105	0.076	0.041	0.030	0.025	0.017	0.013
25	0.002	0.198	0.153	0.105	0.076	0.041	0.030	0.025	0.017	0.013
26	0.002	0.198	0.153	0.105	0.076	0.041	0.030	0.025	0.017	0.013
27	0.002	0.182	0.142	0.097	0.070	0.041	0.030	0.025	0.017	0.015
28	0.002	0.157	0.130	0.089	0.070	0.041	0.030	0.025	0.015	0.008
29	0.002	0.138	0.107	0.089	0.048	0.041	0.030	0.013	0.008	0.008
30	0.001	0.123	0.107	0.079	0.048	0.041	0.030	0.008	0.008	0.007
31	0.002	0.123	0.097	0.079	0.048	0.037	0.016	0.008	0.005	0.003
32	0.001	0.123	0.097	0.079	0.048	0.016	0.016	0.005	0.003	0.003
33	0.002	0.087	0.097	0.070	0.031	0.016	0.016	0.004	0.003	0.002
34	0.002	0.087	0.083	0.070	0.040	0.016	0.010	0.004	0.002	0.001
35	0.002	0.052	0.083	0.070	0.031	0.008	0.010	0.003	0.001	0.001
36	0.001	0.065	0.070	0.070	0.031	0.008	0.007	0.002	0.001	0.001
37	0.001	0.052	0.065	0.070	0.031	0.007	0.003	0.001	0.001	0.001
38	0.002	0.056	0.065	0.070	0.013	0.001	0.001	0.001	0.001	0.001
39	0.002	0.056	0.065	0.070	0.013	0.001	0.001	0.001	0.001	0.000
40	0.000	0.056	0.070	0.056	0.007	0.001	0.001	0.001	0.000	0.000
41	0.000	0.056	0.070	0.056	0.007	0.001	0.001	0.000	0.000	0.000
42	0.000	0.056	0.070	0.044	0.007	0.001	0.000	0.000	0.000	0.000
43	0.000	0.048	0.070	0.030	0.004	0.001	0.000	0.000	0.000	0.000
44	0.000	0.035	0.060	0.030	0.004	0.001	0.000	0.000	0.000	0.000
45	0.000	0.031	0.044	0.023	0.001	0.000	0.000	0.000	0.000	0.000
46	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
47	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Migration forecast

The forecast divides the migration to and from Sweden into 14 flows: *Swedish-born* emigration and re-emigration, and the six groups of countries of birth for foreign-born immigration and emigration. Each flow is broken down by age (one-year categories) and sex.

Foreign-born immigration is determined outside of the forecast model, while Swedish-born re-immigration is calculated in a model that is described in the section *Re-immigration of Swedish-born*.

Net migration indicates how these four flows affect the size of the population annually. The net migration is given by the difference of immigration and emigration for Swedish born and the six groups of foreign born.

Emigration of Swedish-born people

Emigration of Swedish-born is determined by emigration rates. The first forecast year begins with emigration rates created from emigration for 1999-2008. To give a greater stability of the estimations, a moving average is used for those people over the age of 35. For persons 36-79, a moving average is used that spans three ages. Persons who are age 80 or older are given the same emigration rates. Since the tendency to emigrate has risen in recent years, the immigration rate, which is a ten-year average value, is lifted up to the level for the last three years.

The emigration rates is calculated for the four sub-groups of Swedish-born: Swedish-born with two Swedish-born parents, Swedish-born with two foreign-born parents, Swedish-born with a Swedish-born father and a foreign-born mother, and Swedish-born with a Swedish-born mother and a Swedish-born father. Because of a lack of a forecast for the background of Swedish-born, it is assumed in the calculations that the proportion with parents that are born abroad increases in a linear manner based on the rate of increase that has been observed over the last ten years. For each forecast year, the percentages of the total Swedish population are calculated for the four groups. These percentages are multiplied by the emigration rates for each one-year category and sex. Then they are added to the emigration rates for the entire group of Swedish-born. Like the total fertility for women, the emigration rates are added for men and women respectively to the total emigration rates. Based on these added emigration rates, the rate of change is

created in the form of ratios that are multiplied for each forecast year with the emigration rates described in the paragraph above.

Re-immigration of Swedish-born people
To estimate re-immigration of Swedish-born, a model has been produced where information on immigration and emigration 1851-2007 has been the basis for building up a population of "Swedish-born living abroad". For every year, Swedish-born emigrants have been added, re-immigrants have been subtracted, and the population of Swedish-born living abroad has been reduced based on the same death risks that apply to Swedish-born people living in Sweden.

All the calculations are made for one-year categories and sex.

The number of Swedish-born living abroad year t has been calculated as follows:

$$B_t = E_t - I_t + B_{t-1}(1 - q_t)$$

Where E_t is the number of emigrants year t

I_t is the number of immigrants year t

q_t are the mortality risks year t

The estimates of the number of Swedish-born who live abroad is shown in figure 8 in chapter 4.

Number of re-immigrated Swedes is divided by the number of Swedes living abroad, to create age- and sex-specific re-immigration rates. Re-immigration rates are calculated for the years 2002-2005 and 2007. The year 2006 is missing here because the Swedish-born children of those persons who received residence permits when the temporary asylum legislation was in effect, the risks were driven up somewhat for the youngest ages.

Re-immigration risks based on 5-year average values are calculated:

$$\hat{I}_t = \frac{\sum_{i=1}^{5} I_{(t-i)}}{\sum_{i=1}^{5} M_{(t-1)}}$$

Where I_t is the number of immigrants year t

M_t is the average population size year t

For ages above 75, calculations are

$$\hat{I}_t = \frac{\sum_{i=1}^{5}\sum_{i=75}^{\infty} I_{(t-i)x}}{\sum_{i=1}^{5}\sum_{i=75}^{\infty} M_{(t-i)x}}$$

An estimation of immigration based only on emigration rates does not follow the observed development particularly well (see figure 1). However, a linear regression where immigration created by re-immigration rates is combined with information on emigration three years earlier gives quite good results.

Such a regression equation created for the years 1998-2007 shows development that is close to the results even for the years before 1998 (see figure 1). Since the model seems to work well to estimate development backwards in time, it is assumed that the model can also be used to forecast future re-immigration of Swedish-born.

The forecast is calculated:

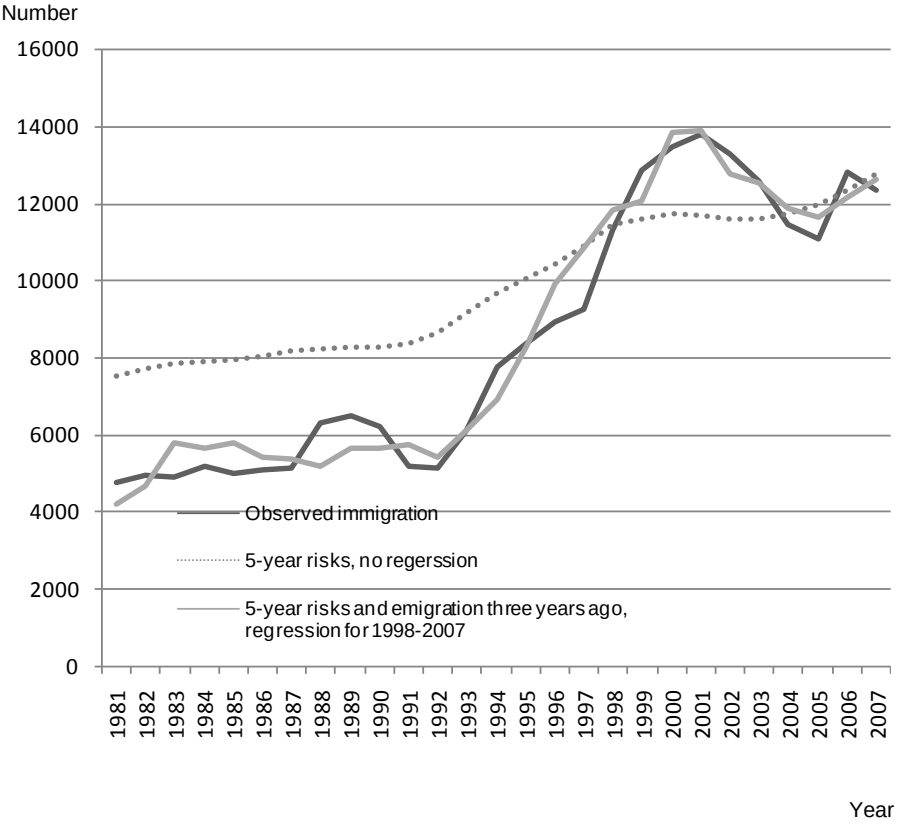
$$\hat{I}_t^{\,r} = \hat{I}_t^{\,5} \cdot B_{t-1}$$

$$\hat{I}_t^{\,reg} = -5059 + 0{,}90683 \cdot \hat{I}_t^{\,r} + 0{,}37266 \cdot E_{t-3}$$

$$B_t = E_t - \hat{I}_t^{\,reg} + B_{t-1} \cdot (1 - q_t)$$

For those under age 1: $B_t = E_t$

Figure 1
Observed immigration and model based assumptions of the immigration 1981-2007



Foreign-born emigration
Emigration of foreign-born is determined based on emigration rates as for Swedish-born.

Nordic countries
No adjustments in ages are made for those under age 15, but both sexes receive the same emigration rates. For those aged 16-60, a moving average value for five ages is used, for ages 61-69 a moving average for three ages is used, and for those 70 and over an average for all the groups of countries except Sweden and the Nordics is used.

EU excluding Nordic countries
For those under age 15, no adjustments are made, but both sexes receive the same emigration rate. For those aged 16-60, a moving

average value for five ages is used, for ages 61-69 a moving average for three ages is used, and for those 70 and over an average for all the groups of countries except Sweden and the Nordics is used.

Born in remaining Europe (outside Nordic countries and EU)
Emigration rates are an average value for the years 1999-2008. For those under age 1, the years 1999-2000 are removed when the emigration rates are calculated, since the rates are unusually high for these years. For those aged 16-60, a moving average value for five ages is used, for ages 60-69 a moving average for three ages is used, and for those 70 and over an average for all the groups of countries except Sweden and the Nordics is used.

Countries with high HDI
Emigration rates are average values for 1999-2008. No adjustments in ages are made for those under age 15, but both sexes receive the same emigration rates. For those aged 16-25, a moving average value for three ages is used, for ages 26-60 a moving average for five ages is used, for ages 61-69 a moving average over three ages is used, and for those 70 and over an average for all the groups of countries except Sweden and the Nordics is used.

Countries with medium HDI and low HDI
For those under age 1, the years 1999-2000 are removed when the emigration rates are calculated, since the rates are unusually high for these years. For those aged 16-25, a moving average value for three ages is used, for ages 36-60 a moving average for five ages is used, for ages 61-69 a moving average over three ages is used, and for those 70 and over an average for all the groups of countries except Sweden and the Nordics is used.

Age structure of immigrants
Sweden
The age structure of re-immigrants is based on the observed breakdown for the years 2003-2005 and 2007-2008. The age structure for 2006 is too different to be used as a basis for the breakdown in the forecast.

Foreign-born persons
The age structure of immigrants is based on data on immigration for 2003-2005 and 2007-2008. The age structure for the foreign-born immigrants looks different for immigrants depending on their reason for settling in Sweden. A model has been used in the forecast where the age and sex structure of immigrants is calculated for all

five reasons for settling. For each group of countries of birth and forecast year, the assumption of immigration for each reason for settling is multiplied by its specific age structure. In this way, assumptions on an increased labour force immigration for a certain forecast year lead to more being given a sex and age structure as observed for labour force immigrants.

Mortality projection

In the report, the mortality rates according to the cohort method is used unless stated otherwise (x gives the age at the end of the calendar year). To calculate the future change in mortality risks, we have used a method advocated by Lee and Carter (Lee and Carter, 1992). According to this method, time parameters (vectors) are determined on the basis of observed mortality data, which can then be extrapolated.

The parameters in the Lee-Carter model are estimated on the basis of the mortality rate and not mortality risks (the probability of dying at a given age). The mortality rate (m) is always slightly higher than the corresponding mortality risk and consists of the ratio between the number of deaths and the time of exposure (average population) for a given year. The mortality rate is broken down by sex and one-year categories (x, age at the end of the year).

$$m_x^t = \frac{D_x^t}{(P_{x-1}^{t-1} + P_x^t)/2},$$

d = deaths during year t,

P= population at the turn of year t-1 and t for the cohort.

Mortality rate by age and sex (matrix) consists of a origin matrix. The logarithmic values of the matrix in each cell can then be reproduced using the model according to Lee-Carter,

$$\ln(m_{x,t}) = a_x + b_x k_t + \varepsilon_{x,t},$$

a_x = age-specific average level of mortality

k_t = trends over time in the mortality rate

b_x = age-specific weight for trends over time

$\varepsilon_{x,t}$ = random terms

It can be noted that if the mortality rate for a given time period lacks a trend-related development or other functional change, it would be sufficient to describe the logarithm of the mortality rate using the average level (first term) and the random term (third term) in the above formula.

It is commonly the case that some form of change in mortality occurs, at least over a longer time period. According to the model, this type of change can be divided up into two separate parts or vectors (factors in the second term in the right flow), which represents the dependency on age and time of the mortality rate.

The vectors for the time effect k_t is assumed therefore to have a common component regarding development over time in the different ages. The vector for the age effect b_x is assumed to reflect the level differences in the development of mortality in different ages.

The estimation of b_x and k_t is carried out using the method "singular value decomposition" (SVD) for men and women. This multivariate analysis methods has similarities with main component analysis and is, with quadratic symmetric origin matrices, the same as diagonalisation in individual value problems.

Before the estimation is done, the matrix is centred by the logarithmic m_x -figure using subtraction of the average of the logarithm m_x -figure over time, for each age (in rows). With this procedure, the first term in the model is avoided when estimating.

The equation for the singular value decomposition of Y (m x n) is as follows:

$$Y = USV^T$$

m = age

n = time

Y = centred, logarithmic mortality rate

U = m x n matrix (orthonormal)

S = n x n diagonal matrix, singular values

V^T = n x n matrix (orthonormal)

The first singular value and the first vector in each two orthogonal matrices U and V used for parameter estimation. The calculations are carried out in SAS using the sub-routine SVD. The result does not however have unambiguous values but is converted according to the following conditions. The sum of b_x over different ages is equal to 1 and the sum of k_t over time is equal to 0. The estimations are unweighted, i.e. we have not tried to calibrate the parameter values in relation to the number of deaths. Such an unweighted estimation can be made under the assumption that the inner structure of development over time is homogenous in different ages.

The Lee-Carter method is commonly used on data that extends over very long time periods. In several cases, all of the 1900s have been used. We have however found that the age effect is not particularly stable for such long time series. At the beginning of the century, there was primarily a decline in the number of young people and, at the end of the century, this decline related more to older people (Lundström and Qvist, 2002). Our application has therefore been limited to the period 1978-2008. The choice of the base periods for the latest 10, 15, 20, 25 and 30 years respectively have given nearly identical results, so the last 30-year period has been chosen as the base period.

To calculate the future mortality rate, the time vector k_t is extrapolated. This can be done using an ARIMA model. We have chosen to apply a simple variation by assuming that the development is linear[18]. It is clear from the model that the annual changes show the relative changes in the mortality rate.

When applying the Lee-Carter method, we have concentrated on estimations of the ages over 40. We have done so to make the structure of mortality as homogenous as possible, dominated by chronic diseases. The number of deaths in these ages is a determining factor for the forecast, as the majority of deaths occur in these ages.

[18]The annual change in time is then received as the difference between the highest and the lowest value in the kt curve, divided by the number of points in time minus a leaning coefficient. The relative annual change factors intended for extrapolation of the mortality rate by age are received when the leaning is weighted with the age factor. A certain evening is made. The projection of mortality means that the leaning coefficient is multiplied by the number of years that are being forecasted.

For the younger ages, 0-40 years, we use the technique used in previous forecasts. For reasons of stability when estimating, we have also done the same for the highest ages. In the age groups mentioned, the ratios between the life expectancy tables for the two neighbouring five-year periods have been used for the calculations of change.

The actual change figures often changes relatively slowly over time and can be approximated by the average annual change r_x calculated as follows:

Let m_x^0 and m_x^τ be two observed mortality rates at two different points with τ years interval. The average annual change in mortality risks is obtained by using the expression

$$m_x^0(1+r_x)^\tau = m_x^\tau$$

In the younger ages (0-40 years) we have finally chosen an unweighted average in the change figure.

The assumption of the future development of the change figure is thus based on the development of mortality towards the end of the 1900s. However, directly projecting mortality in the same way for 50 years or more is problematic. The characteristics that distinguish the base period for the calculation must first be assessed and evaluated. The reduction rate in the mortality rate has slowed down in time to 75 percent of the original rate, and is finally reduced to 50 percent of the original rate. This adjustment has been based on an analysis of mortality trends by causes of death. For more information on the applied method with calculations based on the four groups of causes of death, please refer to *The future population of Sweden 2006-2050. Demographic reports 2006:2*. After the most recent analysis, there are a few years with information on causes of death available, but the observed trends do not motivate the need for a new analysis.

Stochastic projection

The main alternative of the basic model has been complemented by a stochastic forecast illustrating projection uncertainty. The model for projections with stochastic variations comprises a model developed by Gustaf Strandell, "Replication the official population projection for Sweden using a time series approach" published by EUROSTAT/UNECE (2007). Work session on demographic projections. Bucharest.

Fertility
In the stochastic forecast, fertility is only controlled by the value of total fertility rate, TFR. We maintain a constant age structure when we calculate age-specific fertility rates for each year.

To project the future fertility rate, we use an AR(2)-model:

$$TFR_t = a_1 TFR_{t-1} + a_2 TFR_{t-2} + \mu(1 - a_1 - a_2) + e_t$$

The model is adapted after observed TFR for the years 1980-2008. The intensity μ is adjusted so that the projection of TFR with the AR(2)-model is consistent with the main alternative, e_t is an independent N(0,σ^2, where σ is the residual variance from the model.

Migration
In the stochastic projection, immigration and emigration are not handled separately (as in the main alternative). Net migration is used here instead. Net migration is treated as an exogenous variable in the sense that the future size of the population does not influence net migration. Net migration is projected forwards with an AR(2)-model the same way as for fertility.

$$Migr_t = a_1 Migr_{t-1} + a_2 Migr_{t-2} + \mu(1 - a_1 - a_2) + e_t$$

The model is adapted after observed net migration for the years 1980-2008. The parameter μ is adapted so that the projection of migration with the AR(2)-model is consistent with the main alternative. e_t is an independent N(0,σ^2), where σ is the residual variance from the model. Net migration is broken down by sex and by age.

Mortality
We use the Brass model to project mortality. The future sex and age-specific mortality is determined in the Brass model by two parameters, alpha and beta (actually one alpha and one beta for each sex). When the Brass model is used in population projections, normally two steps are taken. First, alpha and beta are calculated for past years on observed data. The calculated time series for alpha and beta are projected with some time series model, and finally alpha and beta are transformed back to future death risks.

A somewhat different method is used here. Even if we technically use the Brass model, we have a somewhat different approach. It is described here with average life expectancy at 0 years. Both TFR

and net migration are treated as stochastic processes that follow a stationary process, where the differences among the years mostly look like random ups and downs. The difficulty to predict future life expectancy is not in predicting when and how large the peaks and valleys are. Average life expectancy in Sweden will most likely continue to increase in Sweden, but the question is how rapidly.

The stochastic projection of average life expectancy is based on the assumption of future life expectancy in the main alternative. If $Life(main, y), y = 2009,....2060$ is the projection of average life expectancy in the main alternative.

Our stochastic projection of life expectancy then consists of 100 projections of the form:

$$Life(k, y) = Life(main, y) + d(k)(y - 2008) + e(k, y),$$

$$k = 1,.....100$$

$$y = 2009,.....2060$$

The 100 d(k) and the 5 200 e(k,y) are random and independent.

In other words, we produce 100 new average life expectancies by adding linear random coefficients for the direction, d(k) and by adding noise e(k,y) to average life expectancies in the main alternative.

An evaluation of earlier forecasts of average life expectancy has shown that in ten years time, the average error is about 1 year. The variance in the direction coefficient d(k) has been determined by that.

Calculations

100 future populations are calculated with a normal cohort model, where fertility is randomly selected from 100 different simulations of TFR, net migration is randomly selected from 100 different simulations of net migration, and mortality is randomly selected from 100 simulations of average life expectancy.

From these 100 population projections, we can for example calculate a 95 percent confidence interval.

Reliability of the statistics

In this report, two attempts have been made to describe uncertainty in the assumptions: stochastic forecasts and alternative projections.

At the end of chapter 2, stochastic forecasts are used to estimate uncertainty in the projections. The section presents a 95 percent confidence interval for different population groups.

One other way to express uncertainty is to use alternative forecasts: low, medium and high assumptions for each of the change factors. This also provides a basis for partial variations of the factors.

The reliability regarding the birth years that exist at the beginning of the forecast period is considered to be very good during the first part of the forecast period but gradually decreases. The reliability regarding the birth years during the forecast period is naturally lower.

In general, the following applies:

- for the coming years, the forecast is relatively certain but becomes more uncertain the further forward in time it goes. Uncertainty is greater in the forecast's calculations for older people.
- the forecast is the most accurate for people born in the period before the forecast begins.
- the forecast is uncertain for people born during the forecast period.

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Appendix 1

List of representatives in the reference group

Reference group for fertility

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Ann-Zofie Duvander, Ph.D., Demography Unit,
Stockholm University, and Researcher, Swedish Social Insurance Agency
Åsa Löfström, Associate Professor, Department of Economics, Umeå University
Karl-Gösta Nygren, Professor, Sophiahemmet
Livia Olah, Ph.D., Demography Unit, Stockholm University
Susanne Zander, Researcher, Swedish National Board for Youth Affairs

Reference group for migration

Christina Enegren, Ministry of Finance
Krister Isaksson, Swedish Migration Board
Danne Mikula, Swedish Social Insurance Agency
Therese Karlsson, Statistics Sweden
Martin Klinthäll, Associate Professor, Lund University
Anna-Karin Nylin, Statistics Sweden
Eskil Wadensjö, Professor, Swedish Institute for Social Research
Anders Wirhed, Ministry of Justice
Rita Ylikivelä, Swedish Migration Board

Appendix 2

Countries in the different country groups

Sweden

Nordic countries (excluding Sweden)
Denmark
Finland
Iceland
Norway

EU countries (excluding Nordic countries)
Austria
Belgium
Bulgaria
Cyprus
Czech Republic
Czech Republic
Estonia
France
Gdansk
German Democratic Republic (DDR)
Germany
Gibraltar
Great Britain and Northern Ireland
Greece
Hungary
Ireland
Italy
Latvia
Lithuania
Luxembourg
Malta
Netherlands
Poland
Portugal
Romania
Slovakia
Slovenia
Spain

The rest of Europe (except Nordics and EU countries)
Albania
Andorra
Belarus
Bosnia-Herzegovina
Croatia
Liechtenstein
Macedonia
Moldavia
Monaco
Montenegro
Russia
San Marino
Serbia
Serbia and Montenegro
Switzerland
Turkey
Ukraine
Vatican City
Yugoslavia

Countries outside Europe with high HDI
Antigua and Barbuda
Argentina
Australia
Bahamas
Bahrain
Barbados
Bermuda
Brazil
Brunei Darussalam
Canada
Chile
Costa Rica
Cuba
Free Federation of Malaysia
Hong Kong

Israel
Japan
Kuwait
Libya
Malaysia
Mauritius

Countries outside Europe with high HDI con't
Mexico
New Zealand
Oman
Panama
Qatar
Saudi Arabia
Seychelles
Singapore
South Korea
St Kitts and Nevis
Taiwan
Tonga
Trinidad and Tobago
United Arab Emirates
Uruguay
USA

Countries (outside of Europe) with medium HDI
Algeria
Anguilla
Arab Republic of Egypt
Armenia
Azerbaijan
Bangladesh
Belize
Bhutan
Bolivia
Botswana
Cambodia
Cameroon
Cape Verde
China
Colombia
Congo
Congo, Democratic Republic
Djibouti
Dominica
Dominican Republic
East Timor
Ecuador
Egypt
El Salvador
Equatorial Guinea
Fiji
French Morocco
Gabon
Gambia
Gaza
Georgia
Ghana
Grenada
Guatemala

Countries (outside of Europe) with medium HDI con't
Guyana
Haiti
Honduras
India
Indonesia
Iran
Iraq
Jamaica
Jordan
Kazakhstan
Kenya
Kiribati
Kyrgyzstan
Laos
Lebanon
Lesotho
Liberia
Madagascar
Mauritania
Micronesia
Mongolia
Morocco
Myanmar
Namibia
Nauru
Nepal
Nicaragua
North Korea
Pakistan
Palau
Palestine
Papua New Guinea
Paraguay
Peru
Republic of Vietnam
Samoa
Sao Tome and Principe
Sikkim
Solomon Islands
South Africa
South Yemen
Soviet Union
Sri Lanka
St Lucia
St Vincent and the Grenadines

Sudan
Surinam
Swaziland
Syria
Tajikistan
Thailand
the Maldives
the Marshall Islands

Countries (outside of Europe) with medium HDI con't
the Philippines
Togo
Tunisia
Turkmenistan
Tuvalu
Uganda
Union of the Comoros
Uzbekistan
Vanuatu
Venezuela
West Bank
Western Samoa
Vietnam
Virgin Islands, British
Yemen
Zimbabwe

Countries (outside Europe) with low HDI
Afghanistan
Angola
Benin
Burkina Faso
Burundi
Central African Republic
Chad
Côte d'Ivoire
Eritrea
Ethiopia
Guinea
Guinea-Bissau
Malawi
Mali
Mozambique
Niger
Nigeria
Rwanda
Senegal
Sierra Leone
Somalia
Tanzania
Zambia
Zanzibar

Persons who do not have a known country of birth have been placed in the group "countries with medium HDI".

Appendix 3

Previous publications

Population forecasts or projections have been carried out by Statistics Sweden since the 1940s. Below are all the forecasts published by Statistics Sweden since 1973.

Befolkningsprognos för riket 1973–2000. Information i prognosfrågor 1973:6

Befolkningsprognos för riket 1976–2000. Information i prognosfrågor 1976:3

Befolkningsprognos för riket 1978–2000. Information i prognosfrågor 1978:5

Befolkning år 2000 – Prognos för Sverige 1980–2000 – med utblick mot 2025. Information i prognosfrågor 1980:6

Sveriges framtida befolkning – Prognos för åren 1983–2025. Information i prognosfrågor 1983:2

Sveriges framtida befolkning – Prognos för åren 1986–2025. Demographic reports 1986

Sveriges framtida befolkning – Prognos för åren 1989–2025. Demographic reports 1989:1

Sveriges framtida befolkning – Prognos för åren 1991–2025. Demographic reports 1991:1

Sveriges framtida befolkning – Framskrivning för åren 1994–2050. Demographic reports 1994:3

Sveriges framtida befolkning – Befolkningsframskrivning för åren 2000–2050. Demographic reports 2000:1

Sveriges framtida befolkning 2001–2050. Reviderad befolkningsprognos från SCB. BE 18 SM 0101

Sveriges framtida befolkning 2002–2050. Reviderad befolkningsprognos från SCB. BE 18 SM 0201

Sveriges framtida befolkning – Befolkningsframskrivning för åren 2003–2050. Demografisk rapport 2003:4

Sveriges framtida befolkning 2004–2050. Reviderad befolkningsprognos från SCB. BE 18 SM 0401

Sveriges framtida befolkning 2005–2050. Reviderad befolkningsprognos från SCB. BE 18 SM 0501

Sveriges framtida befolkning 2006–2050. Demographic reports 2006:2

Sveriges framtida befolkning 2007–2050. Reviderad befolkningsprognos från SCB. BE 18 SM 0701

Sveriges framtida befolkning 2008–2050. Reviderad befolkningsprognos från SCB. BE 18 SM 0801

Table Appendix

Table T.1
Overview of assumptions about fertility, mortality and migration

Year	Immi-gration Thousands	Emigra-tion Thousands	Net migration Thousands	Total fertility	Average life expectancy Men	Women
2009	93	44	49	1.91	79.36	83.24
2010	90	45	45	1.84	79.54	83.36
2011	84	46	38	1.84	79.72	83.48
2012	82	47	35	1.86	79.89	83.60
2013	77	47	30	1.85	80.06	83.71
2014	75	48	28	1.85	80.24	83.83
2015	74	48	25	1.85	80.41	83.94
2016	72	49	23	1.85	80.58	84.06
2017	72	49	23	1.85	80.75	84.17
2018	72	49	23	1.85	80.91	84.28
2019	73	50	23	1.85	81.08	84.39
2020	73	50	23	1.85	81.24	84.50
2021	73	50	23	1.85	81.40	84.61
2022	73	50	23	1.85	81.54	84.71
2023	73	50	22	1.85	81.68	84.80
2024	73	51	22	1.85	81.80	84.89
2025	73	51	22	1.85	81.92	84.97
2026	73	51	22	1.84	82.04	85.05
2027	73	51	22	1.84	82.15	85.13
2028	73	52	22	1.84	82.27	85.20
2029	74	52	22	1.83	82.38	85.28
2030	74	52	22	1.83	82.50	85.36
2031	74	52	22	1.83	82.61	85.44
2032	74	52	21	1.83	82.72	85.52
2033	74	53	21	1.83	82.83	85.59
2034	74	53	21	1.83	82.94	85.67
2035	74	53	21	1.83	83.05	85.75
2036	74	53	21	1.83	83.15	85.82
2037	74	54	21	1.83	83.25	85.88
2038	75	54	21	1.83	83.33	85.94
2039	75	54	21	1.83	83.41	86.00

Table T.1 (con't.)

Year	Immi-gration	Emigra-tion	Net migration	Total fertility	Average life expectancy	
	Thousands	Thousands	Thousands		Men	Women
2040	75	54	20	1.83	83.48	86.05
2041	75	55	20	1.83	83.55	86.10
2042	75	55	20	1.83	83.62	86.15
2043	75	55	20	1.83	83.69	86.20
2044	75	55	20	1.83	83.76	86.25
2045	75	55	20	1.83	83.83	86.30
2046	76	56	20	1.83	83.90	86.34
2047	76	56	20	1.83	83.97	86.39
2048	76	56	20	1.83	84.03	86.44
2049	76	56	20	1.83	84.10	86.49
2050	76	56	20	1.83	84.17	86.54
2051	76	56	20	1.83	84.24	86.59
2052	76	57	20	1.83	84.30	86.63
2053	76	57	20	1.83	84.37	86.68
2054	76	57	20	1.83	84.43	86.73
2055	76	57	19	1.83	84.50	86.77
2056	76	57	19	1.83	84.57	86.82
2057	76	57	19	1.83	84.63	86.87
2058	76	57	19	1.83	84.69	86.92
2059	76	57	19	1.83	84.76	86.96
2060	76	57	19	1.83	84.82	87.01

Table T.2
Number of children born per 1000 women by age at end of the year

Age	Year								
	2009	2010	2011	2012	2013	2014	2015	2016	2017-2060
16	1	1	1	1	1	1	1	1	1
17	2	3	3	3	3	3	3	3	2
18	5	5	5	5	6	6	6	6	5
19	11	11	11	11	11	11	11	11	10
20	20	19	19	19	19	19	19	19	18
21	32	29	29	28	29	29	29	29	28
22	44	41	41	40	41	40	40	40	38
23	55	52	52	51	51	51	51	51	49
24	68	66	66	64	64	63	63	63	60
25	84	80	79	79	78	77	77	77	74
26	96	94	94	93	93	91	91	91	89
27	109	104	104	107	108	107	106	106	104
28	125	122	123	123	123	123	123	122	121
29	136	134	134	134	134	134	134	135	134
30	146	144	144	143	142	143	144	144	144
31	149	145	145	146	146	146	146	147	148
32	145	142	142	142	142	142	142	142	144
33	132	129	129	129	130	131	131	131	131
34	118	117	117	117	117	118	118	118	119
35	104	102	102	104	103	103	103	104	104
36	87	83	83	84	84	84	84	84	84
37	69	67	67	69	68	67	67	67	68
38	53	51	51	54	54	52	52	52	52
39	42	37	37	40	40	40	40	40	39
40	30	27	27	28	27	27	28	28	27
41	20	17	17	17	18	18	18	18	17
42	13	11	11	12	11	12	12	12	11
43	7	6	6	6	7	6	6	6	6
44	4	3	3	3	3	3	3	3	3
45	2	1	1	1	1	1	1	1	1
46	1	1	1	1	1	1	1	1	1
47	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0

Table T.3
Death rates[19] for 2009 by sex and age at the end of the year. Per thousand

Age	Wome	Men	Age	Wome	Men	Age	Women	Men
0	4.39	4.39	35	0.39	0.69	70	11.75	19.08
1	0.48	0.45	36	0.45	0.74	71	12.89	20.97
2	0.15	0.14	37	0.47	0.76	72	14.23	23.47
3	0.11	0.11	38	0.50	0.84	73	15.88	26.18
4	0.08	0.09	39	0.52	0.91	74	17.80	29.30
5	0.08	0.08	40	0.55	0.96	75	19.85	33.02
6	0.08	0.08	41	0.60	1.05	76	22.33	36.20
7	0.06	0.07	42	0.72	1.18	77	25.38	41.38
8	0.06	0.06	43	0.77	1.32	78	28.60	46.66
9	0.07	0.07	44	0.87	1.41	79	32.90	51.75
10	0.07	0.08	45	1.01	1.57	80	37.66	58.35
11	0.07	0.08	46	1.11	1.73	81	43.61	66.40
12	0.07	0.08	47	1.22	1.88	82	49.33	75.72
13	0.07	0.11	48	1.42	2.11	83	57.23	84.61
14	0.10	0.12	49	1.61	2.30	84	65.34	96.89
15	0.14	0.17	50	1.80	2.52	85	75.80	109.51
16	0.16	0.24	51	2.01	2.86	86	86.95	124.11
17	0.18	0.30	52	2.14	3.13	87	99.32	138.85
18	0.19	0.39	53	2.32	3.59	88	114.17	157.74
19	0.22	0.53	54	2.58	3.86	89	131.01	176.26
20	0.26	0.61	55	2.88	4.22	90	148.04	197.42
21	0.27	0.65	56	3.24	4.69	91	171.80	224.13
22	0.25	0.67	57	3.55	5.25	92	191.81	253.21
23	0.26	0.66	58	3.92	5.55	93	216.95	276.38
24	0.22	0.65	59	4.20	6.24	94	241.29	307.22
25	0.21	0.64	60	4.78	6.70	95	267.96	330.11
26	0.25	0.63	61	5.27	7.42	96	294.94	372.79
27	0.23	0.60	62	5.59	8.25	97	327.07	406.35
28	0.24	0.59	63	6.23	9.06	98	358.37	435.17
29	0.25	0.58	64	6.71	10.35	99	381.71	473.12
30	0.28	0.60	65	7.49	11.47	100	399.19	503.68
31	0.30	0.56	66	8.05	12.59	101	431.16	527.42
32	0.30	0.58	67	8.81	14.09	102	465.06	565.48
33	0.32	0.62	68	9.66	15.44	103	501.04	605.89
34	0.33	0.63	69	10.47	17.11	104	539.27	648.91
						105	578.92	694.75
						106	660.48	768.36

[19] The above so-called death rates are calculated as the number of deaths divided by the average population size. To convert death rates to death risks se *Facts about the statistics*

Table T.4
Annual reduction[20] of the death rates 2010-2060. Percent

	Women			Men		
Age	2010-2020	2025-2035	2040-2060	2010-2020	2025-2035	2040-2060
0-43	2.00	1.50	1.00	2.00	1.50	1.00
44	1.98	1.49	0.99	2.00	1.50	1.00
45	1.95	1.46	0.98	2.00	1.50	1.00
46	1.85	1.39	0.93	2.00	1.50	1.00
47	1.75	1.31	0.88	2.00	1.50	1.00
48	1.65	1.24	0.83	2.00	1.50	1.00
49	1.55	1.16	0.78	2.00	1.50	1.00
50	1.45	1.09	0.73	2.00	1.50	1.00
51	1.38	1.04	0.69	2.00	1.50	1.00
52	1.34	1.01	0.67	2.00	1.50	1.00
53	1.33	1.00	0.67	2.00	1.50	1.00
54	1.32	0.99	0.66	2.00	1.50	1.00
55	1.31	0.98	0.66	2.00	1.50	1.00
56	1 30	0.98	0.65	2.00	1.50	1.00
57	1 30	0.98	0.65	2.00	1.50	1.00
58	1 30	0.98	0.65	2.00	1.50	1.00
59	1 30	0.98	0.65	2.00	1.50	1.00
60	1 30	0.98	0.65	2.00	1.50	1.00
61	1 30	0.98	0.65	2.00	1.50	1.00
62	1 30	0.98	0.65	2.00	1.50	1.00
63	1 30	0.98	0.65	2.00	1.50	1.00
64	1 30	0.98	0.65	2.05	1.54	1.03
65	1 30	0.98	0.65	2.10	1.58	1.05
66	1 30	0.98	0.65	2.10	1.58	1.05
67	1 30	0.98	0.65	2.10	1.58	1.05
68	1 30	0.98	0.65	2.10	1.58	1.05
69	1 30	0.98	0.65	2.10	1.58	1.05
70	1 30	0.98	0.65	2.10	1.58	1.05
71	1 30	0.98	0.65	2.10	1.58	1.05
72	1 30	0.98	0.65	2.10	1.58	1.05
73	1 30	0.98	0.65	2.10	1.58	1.05
74	1 30	0.98	0.65	2.10	1.58	1.05

[20] The death rate at the starting year 2009 is calculated by reducing the death rate of the previous year by the percentage rate given above. During the transition years the reduction rates are interpolated in a linear manner between 2020 and 2025 and 2035 and 2040.

Table T.4 (con't.)

Age	Women			Men		
	2010-2020	2025-2035	2040-2060	2010-2020	2025-2035	2040-2060
75	1 30	0.98	0.65	2.07	1.56	1.04
76	1 30	0.98	0.65	2.06	1.54	1.03
77	1 30	0.98	0.65	2.00	1.50	1.00
78	1 30	0.98	0.65	1.97	1.48	0.98
79	1.30	0.98	0.65	1.88	1.41	0.94
80	1 30	0.98	0.65	1.81	1.36	0.91
81	1 30	0.98	0.65	1.73	1 30	0.87
82	1 30	0.98	0.65	1.64	1.23	0.82
83	1 30	0.98	0.65	1.53	1.15	0.76
84	1.28	0.96	0.64	1.41	1.06	0.70
85	1.18	0.89	0.59	1.28	0.96	0.64
86	1.08	0.81	0.54	1.16	0.87	0.58
87	0.98	0.74	0.49	1.03	0.78	0.52
88	0.89	0.67	0.45	0.91	0.69	0.46
89	0.81	0.61	0.41	0.80	0.60	0.40
90	0.73	0.55	0.37	0.68	0.51	0.34
91	0.66	0.50	0.33	0.57	0.43	0.29
92	0.59	0.44	0.30	0.46	0.35	0.23
93	0.53	0.40	0.27	0.37	0.28	0.18
94	0.48	0.36	0.24	0.29	0.21	0.14
95	0.41	0.31	0.21	0.22	0.17	0.11
96	0.35	0.26	0.18	0.18	0.13	0.09
97	0.29	0.22	0.15	0.15	0.11	0.07
98	0.24	0.18	0.12	0.13	0.09	0.06
99	0.21	0.16	0.11	0.10	0.08	0.05
100	0.18	0.14	0.09	0.10	0.08	0.05
101	0.14	0.11	0.07	0.10	0.08	0.05
102	0.13	0.10	0.07	0.10	0.08	0.05
103	0.11	0.08	0.06	0.10	0.08	0.05
104	0.10	0.08	0.05	0.10	0.08	0.05
105	0.10	0.08	0.05	0.10	0.08	0.05
106	0.10	0.08	0.05	0.10	0.08	0.05

Table T.5
Number of Swedish-born and foreign-born immigrants 2009-2060. Thousands

	Men		Women		Total	
Year	Swedish-born	Foreign-born	Swedish-born	Foreign-born	Swedish-born	Foreign-born
2009	7 218	41 031	6 951	37 920	14 169	78 952
2010	7 240	39 441	6 972	36 537	14 211	75 978
2011	7 510	36 467	7 232	32 938	14 742	69 406
2012	7 420	35 244	7 145	31 729	14 565	66 973
2013	7 556	33 097	7 277	29 193	14 833	62 290
2014	7 671	32 404	7 387	27 987	15 057	60 391
2015	7 773	31 734	7 485	26 794	15 258	58 528
2016	7 862	31 065	7 572	25 600	15 434	56 665
2017	7 938	31 065	7 644	25 600	15 582	56 665
2018	8 004	31 065	7 708	25 600	15 712	56 665
2019	8 070	31 065	7 771	25 600	15 841	56 665
2020	8 133	31 065	7 832	25 600	15 965	56 665
2021	8 193	31 065	7 890	25 600	16 082	56 665
2022	8 253	31 065	7 948	25 600	16 201	56 665
2023	8 306	31 065	7 999	25 600	16 305	56 665
2024	8 361	31 065	8 052	25 600	16 413	56 665
2025	8 415	31 065	8 103	25 600	16 518	56 665
2026	8 466	31 065	8 153	25 600	16 619	56 665
2027	8 520	31 065	8 205	25 600	16 725	56 665
2028	8 573	31 065	8 256	25 600	16 829	56 665
2029	8 631	31 065	8 312	25 600	16 942	56 665
2030	8 685	31 065	8 363	25 600	17 048	56 665
2031	8 744	31 065	8 420	25 600	17 164	56 665
2032	8 800	31 065	8 474	25 600	17 274	56 665
2033	8 851	31 065	8 524	25 600	17 375	56 665
2034	8 902	31 065	8 572	25 600	17 474	56 665
2035	8 951	31 065	8 620	25 600	17 571	56 665
2036	9 003	31 065	8 670	25 600	17 673	56 665
2037	9 053	31 065	8 718	25 600	17 772	56 665
2038	9 105	31 065	8 768	25 600	17 874	56 665
2039	9 165	31 065	8 825	25 600	17 990	56 665
2040	9 226	31 065	8 885	25 600	18 111	56 665
2041	9 295	31 065	8 951	25 600	18 246	56 665
2042	9 371	31 065	9 024	25 600	18 394	56 665
2043	9 441	31 065	9 091	25 600	18 532	56 665
2044	9 512	31 065	9 160	25 600	18 673	56 665

Table T.5 (con't.)

	Men		Women		Total	
Year	Swedish-born	Foreign-born	Swedish-born	Foreign-born	Swedish-born	Foreign-born
2045	9 585	31 065	9 231	25 600	18 816	56 665
2046	9 652	31 065	9 295	25 600	18 947	56 665
2047	9 715	31 065	9 355	25 600	19 070	56 665
2048	9 767	31 065	9 405	25 600	19 172	56 665
2049	9 815	31 065	9 452	25 600	19 267	56 665
2050	9 861	31 065	9 496	25 600	19 358	56 665
2051	9 902	31 065	9 536	25 600	19 437	56 665
2052	9 938	31 065	9 570	25 600	19 509	56 665
2053	9 967	31 065	9 598	25 600	19 565	56 665
2054	9 986	31 065	9 616	25 600	19 602	56 665
2055	10 004	31 065	9 633	25 600	19 637	56 665
2056	10 011	31 065	9 641	25 600	19 652	56 665
2057	10 018	31 065	9 647	25 600	19 665	56 665
2058	10 019	31 065	9 648	25 600	19 667	56 665
2059	10 020	31 065	9 649	25 600	19 668	56 665
2060	10 032	31 065	9 661	25 600	19 693	56 665

Table T.6
Number of Swedish-born and foreign-born emigrants 2009-2060

	Men		Women		Total	
Year	Swedish-born	Foreign-born	Swedish-born	Foreign-born	Swedish-born	Foreign-born
2009	10 033	13 501	9 976	10 632	20 009	24 132
2010	10 127	13 979	10 097	10 957	20 224	24 936
2011	10 223	14 376	10 214	11 224	20 437	25 600
2012	10 322	14 703	10 327	11 441	20 650	26 143
2013	10 424	14 965	10 432	11 608	20 856	26 573
2014	10 521	15 178	10 513	11 734	21 034	26 912
2015	10 607	15 369	10 573	11 834	21 180	27 203
2016	10 683	15 536	10 613	11 913	21 296	27 449
2017	10 747	15 688	10 643	11 978	21 390	27 666
2018	10 801	15 835	10 664	12 041	21 464	27 876
2019	10 843	15 977	10 681	12 101	21 524	28 078
2020	10 877	16 113	10 690	12 159	21 566	28 272
2021	10 903	16 242	10 702	12 215	21 604	28 457
2022	10 923	16 365	10 714	12 269	21 637	28 635
2023	10 943	16 482	10 728	12 323	21 671	28 805
2024	10 964	16 593	10 744	12 375	21 707	28 968
2025	10 988	16 700	10 771	12 427	21 759	29 126
2026	11 018	16 799	10 807	12 477	21 825	29 276
2027	11 055	16 893	10 854	12 527	21 909	29 419
2028	11 099	16 983	10 909	12 578	22 007	29 561
2029	11 146	17 069	10 961	12 627	22 106	29 696
2030	11 193	17 146	11 014	12 674	22 207	29 820
2031	11 244	17 218	11 072	12 720	22 316	29 938
2032	11 299	17 283	11 134	12 764	22 432	30 046
2033	11 356	17 340	11 200	12 806	22 556	30 146
2034	11 418	17 390	11 268	12 847	22 686	30 238
2035	11 482	17 435	11 340	12 886	22 822	30 321
2036	11 550	17 478	11 415	12 923	22 965	30 401
2037	11 623	17 517	11 494	12 958	23 118	30 475
2038	11 702	17 554	11 577	12 991	23 279	30 545
2039	11 786	17 589	11 664	13 023	23 449	30 612
2040	11 872	17 623	11 752	13 055	23 624	30 677
2041	11 960	17 653	11 840	13 086	23 800	30 739
2042	12 050	17 683	11 928	13 116	23 977	30 798
2043	12 140	17 711	12 011	13 146	24 151	30 857
2044	12 229	17 740	12 090	13 176	24 319	30 916

Table T.6 (con't.)

	Men		Women		Total	
Year	Swedish-born	Foreign-born	Swedish-born	Foreign-born	Swedish-born	Foreign-born
2045	12 316	17 766	12 163	13 205	24 478	30 971
2046	12 398	17 792	12 227	13 232	24 624	31 024
2047	12 474	17 818	12 283	13 258	24 757	31 076
2048	12 545	17 841	12 331	13 284	24 876	31 125
2049	12 609	17 864	12 373	13 309	24 982	31 173
2050	12 668	17 886	12 409	13 333	25 077	31 218
2051	12 721	17 905	12 442	13 354	25 163	31 259
2052	12 769	17 923	12 472	13 375	25 240	31 298
2053	12 813	17 939	12 500	13 395	25 313	31 334
2054	12 852	17 955	12 528	13 414	25 381	31 369
2055	12 890	17 969	12 558	13 432	25 447	31 401
2056	12 926	17 981	12 588	13 448	25 513	31 429
2057	12 961	17 991	12 620	13 464	25 581	31 455
2058	12 997	18 002	12 655	13 478	25 652	31 480
2059	13 035	18 012	12 693	13 491	25 727	31 503
2060	13 075	18 021	12 733	13 503	25 808	31 524

Population projections – main alternative

Table T.7
Population and population changes 1960-2008 and projection 2009-2060. Thousands

Year	Births	Deaths	Birth surplus	Immi grants	Emi grants	Immigration surplus	Population increase	Population size 31 Dec
1960	102.2	75.1	27.1	26.1	15.1	11.0	36.1	7 498.0
1970	110.2	80.0	30.1	77.3	28.7	48.7	77.0	8 081.2
1980	97.1	91.8	5.3	39.4	29.8	9.6	14.9	8 317.9
1990	123.9	95.2	28.8	60.0	25.2	34.9	63.6	8 590.6
1991	123.7	95.2	28.5	49.7	24.7	25.0	53.5	8 644.1
1992	122.8	94.7	28.1	45.3	25.7	19 6	47.9	8 692.0
1993	118.0	97.0	21.0	61.9	29.9	32.0	53.1	8 745.1
1994	112.3	91.8	20.4	83.6	32.7	50.9	71.3	8 816.4
1995	103.4	94.0	9.5	45.9	34.0	11.9	21.1	8 837.5
1996	95.3	94.1	1.2	39.9	33.9	6.0	7.0	8 844.5
1997	90.5	93.3	-2.8	44.8	38.5	6.3	3.1	8 847.6
1998	89.0	93.3	-4.2	49.4	38.5	10.9	6.7	8 854.3
1999	88.2	94.7	-6.6	49.8	35.7	14.1	7.1	8 861.4
2000	90.4	93.3	-2.8	58.7	34.1	24.6	21.4	8 882.8
2001	91.5	93.8	-2.3	60.8	32.1	28.7	26.3	8 909.1
2002	95.8	95.0	0.8	641	33.0	31.1	31.7	8 940.8
2003	99.2	93.0	6.2	63.8	35.0	28.8	34.9	8 975.7
2004	100.9	90.5	10.4	62.0	36.6	25.4	35.7	9 011.4
2005	101.3	91.7	9.6	65.2	38.1	27.1	36.4	9 047.8
2006	105.9	91.2	14.7	95.8	44.9	50.8	65.5	9 113.3
2007	107.4	91.7	15.7	99.5	45.4	54.1	69.7	9 182.9
2008	109.3	91.4	17.9	101.2	45.3	55.9	73.4	9 256.3
Projection								
2009	110.1	91.0	19.1	93.1	44.1	49.0	68.0	9 324.4
2010	106.9	91.1	15.8	90.2	45.2	45.0	60.8	9 385.2
2011	107.6	91.2	16.4	84.1	46.0	38.1	54.5	9 439.7
2012	109.3	91.2	18.1	81.5	46.8	34.7	52.9	9 492.6
2013	110.2	91.2	18.9	77.1	47.4	29.7	48.6	9 541.2
2014	110.9	91.3	19 6	75.4	47.9	27.5	47.1	9 588.3
2015	112.0	91.3	20.7	73.8	48.4	25.4	46.1	9 634.4
2016	113.0	91.4	21.6	72.1	48.7	23.4	45.0	9 679.4
2017	113.8	91.5	22.3	72.2	49.1	23.2	45.5	9 724.9
2018	114.6	91.7	22.9	72.4	49.3	23.0	46.0	9 770.8
2019	115.2	92.0	23.2	72.5	49.6	22.9	46.1	9 817.0
2020	115.5	92.3	23.2	72.6	49.8	22.8	46.0	9 862.9

Table T.7 (con't.)

Year	Births	Deaths	Birth surplus	Immi grants	Emi grants	Immigration surplus	Population increase	Population size 31 Dec
2021	115.6	92.9	22.7	72.7	50.1	22.7	45.4	9 908.3
2022	115.3	93.6	21.7	72.9	50.3	22.6	44.3	9 952.6
2023	114.6	94.5	20.1	73.0	50.5	22.5	42.6	9 995.2
2024	113.5	95.6	18.0	73.1	50.7	22.4	40.4	10 035.6
2025	112.3	96.8	15.5	73.2	50.9	22.3	37.8	10 073.4
2026	110.9	98.1	12.7	73.3	51.1	22.2	34.9	10 108.3
2027	109.5	99.6	9.9	73.4	51.3	22.1	31.9	10 140.2
2028	108.2	101.1	7.1	73.5	51.6	21.9	29.0	10 169.2
2029	107.1	102.6	4.5	73.6	51.8	21.8	26.3	10 195.5
2030	106.3	104.2	2.1	73.7	52.0	21.7	23.8	10 219.3
2031	106.0	105.8	0.2	73.8	52.3	21.6	21.8	10 241.0
2032	105.9	107.3	-1.4	73.9	52.5	21.5	20.1	10 261.1
2033	106.1	108.7	-2.6	74.0	52.7	21.3	18.8	10 279.9
2034	106.6	110.0	-3.4	74.1	52.9	21.2	17.8	10 297.7
2035	107.2	111.1	-3.9	74.2	53.1	21.1	17.2	10 314.9
2036	107.9	112.1	-4.2	74.3	53.4	21.0	16.8	10 331.7
2037	108.7	112.9	-4.2	74.4	53.6	20.8	16.6	10 348.3
2038	109.5	113.6	-4.1	74.5	53.8	20.7	16.6	10 364.9
2039	110.2	114.1	-3.9	74.7	54.1	20.6	16.7	10 381.5
2040	110.9	114.5	-3.7	74.8	54.3	20.5	16.8	10 398.3
2041	111.5	114.8	-3.3	74.9	54.5	20.4	17.1	10 415.4
2042	112.0	114.9	-2.9	75.1	54.8	20.3	17.4	10 432.8
2043	112.5	115.0	-2.5	75.2	55.0	20.2	17.7	10 450.5
2044	113.0	115.1	-2.1	75.3	55.2	20.1	18.0	10 468.5
2045	113.4	115.2	-1.8	75.5	55.4	20.0	18.3	10 486.8
2046	113.8	115.3	-1.5	75.6	55.6	20.0	18.4	10 505.2
2047	114.1	115.5	-1.4	75.7	55.8	19.9	18.5	10 523.7
2048	114.3	115.7	-1.4	75.8	56.0	19.8	18.4	10 542.1
2049	114.5	116.1	-1.6	75.9	56.2	19.8	18.2	10 560.3
2050	114.5	116.4	-1.9	76.0	56.3	19.7	17.8	10 578.1
2051	114.5	116.9	-2.3	76.1	56.4	19.7	17.3	10 595.4
2052	114.4	117.3	-2.9	76.2	56.5	19 6	16.7	10 612.2
2053	114.3	117.8	-3.5	76.2	56.6	19 6	16.1	10 628.3
2054	114.0	118.2	-4.2	76.3	56.7	19.5	15.3	10 643.6
2055	113.6	118.6	-4.9	76.3	56.8	19.5	14.5	10 658.1
2056	113.3	118.8	-5.6	76.3	56.9	19.4	13.8	10 671.9
2057	112.8	119.0	-6.2	76.3	57.0	19.3	13 1	10 685.0
2058	112.4	119.1	-6.7	76.3	57.1	19.2	12.5	10 697.5
2059	112.0	119.1	-7.0	76.3	57.2	19.1	12.1	10 709.5
2060	111.7	118.9	-7.2	76.4	57.3	19.0	11.8	10 721.3

Table T.8
Population by country of birth 2008-2060. Thousands

	Swedish-born	Foreign-born	Total
2008	7 974.8	1 281.6	9 256.3
Projection			
2009	7 996.9	1 327.5	9 324.4
2010	8 015.8	1 369.4	9 385.2
2011	8 035.9	1 403.8	9 439.7
2012	8 057.6	1 435.0	9 492.6
2013	8 080.4	1 460.8	9 541.2
2014	8 104.2	1 484.1	9 588.3
2015	8 129.4	1 505.0	9 634.4
2016	8 155.8	1 523.6	9 679.4
2017	8 183.2	1 541.7	9 724.9
2018	8 211.6	1 559.3	9 770.8
2019	8 240.5	1 576.5	9 817.0
2020	8 269.7	1 593.2	9 862.9
2021	8 298.8	1 609.5	9 908.3
2022	8 327.2	1 625.4	9 952.6
2023	8 354.4	1 640.8	9 995.2
2024	8 379.8	1 655.8	10 035.6
2025	8 403.0	1 670.3	10 073.4
2026	8 423.8	1 684.5	10 108.3
2027	8 442.1	1 698.1	10 140.2
2028	8 457.8	1 711.4	10 169.2
2029	8 471.3	1 724.2	10 195.5
2030	8 482.7	1 736.6	10 219.3
2031	8 492.5	1 748.6	10 241.0
2032	8 501.0	1 760.2	10 261.1
2033	8 508.6	1 771.3	10 279.9
2034	8 515.6	1 782.1	10 297.7
2035	8 522.4	1 792.5	10 314.9
2036	8 529.2	1 802.5	10 331.7
2037	8 536.1	1 812.2	10 348.3
2038	8 543.5	1 821.4	10 364.9
2039	8 551.4	1 830.2	10 381.5
2040	8 559.8	1 838.5	10 398.3
2041	8 568.9	1 846.5	10 415.4
2042	8 578.7	1 854.1	10 432.8
2043	8 589.2	1 861.3	10 450.5
2044	8 600.4	1 868.1	10 468.5

Table T.8 (con't.)

	Swedish-born	Foreign-born	Total
2045	8 612.2	1 874.6	10 486.8
2046	8 624.6	1 880.7	10 505.2
2047	8 637.3	1 886.4	10 523.7
2048	8 650.4	1 891.7	10 542.1
2049	8 663.5	1 896.7	10 560.3
2050	8 676.7	1 901.4	10 578.1
2051	8 689.7	1 905.8	10 595.4
2052	8 702.4	1 909.8	10 612.2
2053	8 714.7	1 913.5	10 628.3
2054	8 726.6	1 917.0	10 643.6
2055	8 738.0	1 920.1	10 658.1
2056	8 748.9	1 923.0	10 671.9
2057	8 759.3	1 925.6	10 685.0
2058	8 769.5	1 928.0	10 697.5
2059	8 779.4	1 930.1	10 709.5
2060	8 789.3	1 932.0	10 721.3

Table T.9
Population by age 1960-2008 and projection 2009-2060. Thousands

31 Dec. year	Total	of which by age					
		0-4	5-9	10-14	15-19	20-24	25-29
Both sexes							
1960	7498	519.9	533.5	610.2	594.1	466.2	435.0
1970	8 081.1	576.6	575.1	530.3	551.4	657.9	633.9
1980	8 317.9	483.8	554.3	577.2	579.1	553.9	579.5
1990	8 590.6	566.0	487.8	494.4	563.3	601.0	615.5
1991	8 644.1	586.7	497.9	492.5	550.2	591.4	634.7
1992	8 692.0	603.6	510.3	492.1	536.1	581.9	648.1
1993	8 745.1	608.6	532.0	494.9	522.1	579.5	649.5
1994	8 816.4	605.7	558.0	499.0	512.2	585.1	636.7
1995	8 837.5	582.3	581.2	501.9	506.8	580.2	620.9
1996	8 844.5	551.5	599.4	510.5	503.5	565.6	609.0
1997	8 847.6	518.5	613.5	522.4	502.6	549.5	598.0
1998	8 854.3	491.4	614.9	542.2	504.0	533.3	592.9
1999	8 861.4	468.7	608.0	563.0	504.7	520.4	595.2
2000	8 882.8	457.9	585.9	587.0	508.6	516.7	592.2
2001	8 909.1	455.8	557.4	607.1	519.1	515.6	580.9
2002	8 940.8	462.5	527.0	622.4	532.2	517.0	568.7
2003	8 975.7	472.9	501.6	624.5	553.3	520.0	556.0
2004	9 011.4	485.6	479.9	618.1	574.7	522.3	545.7
2005	9 047.8	496.3	468.7	595.7	598.4	527.3	544.1
2006	9 113.3	512.6	468.0	569.0	619.7	541.6	547.7
2007	9 182.9	525.3	476.2	540.2	637.0	557.5	554.5
2008	9 256.3	537.0	488.7	516.7	641.4	580.3	562.9
Projection							
2009	9 324.4	546.1	503.0	496.5	636.6	603.3	570.2
2010	9 385.2	551.1	514.8	487.0	615.7	628.3	578.5
2011	9 439.7	551.8	529.6	485.3	587.6	647.9	590.9
2012	9 492.6	552.8	540.8	492.0	557.8	662.7	604.0
2013	9 541.2	552.7	549.8	502.2	532.4	664.2	623.1
2014	9 588.3	552.7	557.1	514.7	510.9	657.7	642.3
2015	9 634.4	557.1	560.6	524.9	500.0	635.7	663.9
2016	9 679.4	561.9	560.3	538.3	497.2	607.1	681.0
2017	9 724.9	566.0	560.5	548.4	502.9	577.0	693.9
2018	9 770.8	570.2	560.1	556.8	512.5	551.8	694.7
2019	9 817.0	574.4	559.8	563.8	524.6	530.6	688.0

Table T.9 (con't)

31 Dec. year	Total	of which by age					
		0-4	5-9	10-14	15-19	20-24	25-29
Both sexes							
2020	9 862.9	577.9	564.0	567.2	534.6	519.9	666.5
2021	9 908.3	580.4	568.7	567.0	547.9	517.3	639.0
2022	9 952.6	581.9	572.7	567.3	558.0	522.9	610.0
2023	9 995.2	581.9	576.9	566.9	566.4	532.3	585.7
2024	10 035.6	580.3	581.0	566.7	573.4	544.1	565.2
2025	10 073.4	577.1	584.4	570.9	576.8	553.9	554.9
2026	10 108.3	572.5	586.9	575.5	576.7	566.9	552.3
2027	10 140.2	566.8	588.3	579.5	577.1	576.7	557.7
2028	10 169.2	560.5	588.3	583.6	576.7	584.9	566.8
2029	10 195.5	554.2	586.8	587.7	576.5	591.8	578.2
2030	10 219.3	548.4	583.7	591.0	580.7	595.1	587.6
2031	10 241.0	543.6	579.1	593.5	585.4	595.1	600.1
2032	10 261.1	540.1	573.5	594.9	589.4	595.5	609.7
2033	10 279.9	538.2	567.3	594.9	593.5	595.2	617.6
2034	10 297.7	537.7	561.2	593.4	597.5	595.2	624.3
2035	10 314.9	538.5	555.5	590.3	600.8	599.3	627.5
2036	10 331.7	540.4	550.8	585.9	603.3	603.8	627.6
2037	10 348.3	543.2	547.4	580.4	604.7	607.7	628.1
2038	10 364.9	546.5	545.5	574.3	604.7	611.8	628.0
2039	10 381.5	550.0	545.0	568.2	603.2	615.7	628.0
2040	10 398.3	553.6	545.8	562.6	600.2	619.0	632.0
2041	10 415.4	557.2	547.7	558.0	595.9	621.4	636.4
2042	10 432.8	560.5	550.3	554.7	590.4	622.7	640.2
2043	10 450.5	563.5	553.5	552.8	584.4	622.8	644.1
2044	10 468.5	566.3	557.0	552.3	578.4	621.3	647.9
2045	10 486.8	568.8	560.6	553.1	572.9	618.4	651.0
2046	10 505.2	571.0	564.0	555.0	568.3	614.2	653.4
2047	10 523.7	573.0	567.2	557.6	565.1	608.9	654.7
2048	10 542.1	574.8	570.2	560.8	563.2	603.0	654.8
2049	10 560.3	576.2	572.9	564.2	562.7	597.2	653.4
2050	10 578.1	577.3	575.4	567.7	563.6	591.9	650.6
2051	10 595.4	578.1	577.5	571.1	565.4	587.5	646.5
2052	10 612.2	578.5	579.5	574.3	568.0	584.3	641.4
2053	10 628.3	578.4	581.2	577.2	571.2	582.5	635.8
2054	10 643.6	577.9	582.5	579.9	574.6	582.0	630.2
2055	10 658.1	577.0	583.6	582.3	578.1	582.9	625.0
2056	10 671.9	575.7	584.3	584.4	581.4	584.6	620.7
2057	10 685.0	574.2	584.7	586.3	584.6	587.2	617.7
2058	10 697.5	572.3	584.6	587.9	587.5	590.2	615.9
2059	10 709.5	570.4	584.1	589.3	590.1	593.5	615.4
2060	10 721.3	568.5	583.1	590.3	592.4	596.8	616.1

Table T.9 (con't.)

31 Dec. year	of which by age						
	30-34	35-39	40-44	45-49	50-54	55-59	60-64
Both sexes							
1960	470.2	533.5	535.9	533.5	521.5	460.7	395.5
1970	490.1	444.8	471.9	527.4	521.3	507.9	479.2
1980	659.9	622.4	479.2	433.7	455.2	498.8	478.7
1990	577.0	585.3	654.9	613.0	467.2	415.4	423.7
1991	575.8	586.7	635.3	646.0	480.2	416.4	418.5
1992	578.1	586.3	618.4	663.7	503.7	420.2	415.1
1993	589.3	585.4	604.8	669.9	533.7	431.8	407.5
1994	611.8	589.7	593.9	664.3	568.4	446.7	404.8
1995	630.7	586.4	587.9	651.2	604.9	458.2	401.7
1996	646.9	583.2	588.8	631.6	637.0	470.8	403.3
1997	658.3	584.5	588.0	615.1	654.5	493.5	406.8
1998	657.6	593.2	585.6	600.9	660.6	522.3	417.7
1999	641.4	611.6	586.4	588.4	654.4	555.4	431.4
2000	627.8	632.1	584.6	583.6	642.0	591.2	442.5
2001	619.1	651.1	583.2	585.6	623.7	623.4	455.1
2002	611.6	664.9	586.4	586.5	608.4	641.5	477.8
2003	609.1	665.9	596.6	584.9	595.2	648.4	506.1
2004	612.6	651.2	615.8	586.4	583.6	642.7	538.5
2005	610.3	638.0	636.2	584.9	578.8	630.5	573.3
2006	602.0	631.4	656.3	584.4	581.3	612.9	604.8
2007	593.2	626.5	671.7	588.6	582.8	598.3	622.7
2008	585.2	626.7	674.3	600.2	582.1	585.9	629.9
Projection							
2009	579.0	633.4	662.0	620.4	584.6	575.1	624.9
2010	580.6	632.9	651.1	641.6	584.1	571.1	613.8
2011	583.4	624.1	643.7	660.8	583.3	573.7	596.9
2012	587.9	613.4	637.6	674.9	586.8	574.8	582.8
2013	593.2	602.9	636.0	676.3	597.3	573.9	571.0
2014	596.9	594.5	641.0	663.3	616.6	576.2	560.6
2015	602.0	593.7	639.0	651.8	637.0	575.4	556.8
2016	611.8	594.6	629.0	644.0	655.6	574.6	559.3
2017	622.9	597.5	617.6	637.4	669.2	577.9	560.5
2018	640.7	601.7	606.6	635.6	670.5	588.2	559.8
2019	658.9	604.7	597.8	640.2	657.7	607.1	562.1

Table T.9 (con't.)

31 Dec. year	of which by age						
	30-34	35-39	40-44	45-49	50-54	55-59	60-64
Both sexes							
2020	679.8	609.2	596.5	638.0	646.4	627.1	561.5
2021	696.6	618.8	597.2	628.0	638.7	645.4	560.9
2022	709.4	629.7	599.8	616.7	632.3	658.8	564.3
2023	710.4	647.2	603.7	605.6	630.4	660.0	574.4
2024	704.1	665.3	606.3	596.8	635.0	647.6	592.9
2025	683.4	685.9	610.7	595.3	632.7	636.6	612.5
2026	656.8	702.7	620.1	595.8	622.8	629.2	630.3
2027	628.8	715.4	630.9	598.1	611.5	623.0	643.5
2028	605.2	716.6	648.3	601.8	600.5	621.2	644.8
2029	585.4	710.6	666.3	604.3	591.7	625.6	632.8
2030	575.3	690.5	686.7	608.6	590.1	623.4	622.2
2031	572.8	664.6	703.4	617.8	590.5	613.6	615.2
2032	578.0	637.1	716.1	628.5	592.7	602.5	609.2
2033	586.8	614.1	717.5	645.7	596.2	591.7	607.6
2034	597.8	594.6	711.6	663.7	598.5	583.0	612.0
2035	606.9	584.8	691.9	684.0	602.7	581.4	609.8
2036	619.0	582.3	666.5	700.7	611.8	581.8	600.3
2037	628.3	587.4	639.6	713.3	622.5	583.8	589.5
2038	636.0	596.0	616.8	714.8	639.6	587.2	579.0
2039	642.6	606.8	597.7	709.1	657.4	589.4	570.6
2040	645.9	615.7	588.0	689.8	677.6	593.5	569.0
2041	646.1	627.6	585.6	664.8	694.1	602.5	569.3
2042	646.7	636.7	590.6	638.2	706.7	613.1	571.2
2043	646.6	644.4	599.1	615.8	708.3	630.0	574.5
2044	646.7	650.9	609.8	597.0	702.8	647.6	576.7
2045	650.6	654.3	618.7	587.4	683.8	667.6	580.8
2046	655.0	654.6	630.4	585.1	659.2	684.0	589.6
2047	658.7	655.3	639.4	590.1	633.1	696.5	600.1
2048	662.4	655.4	647.0	598.5	611.0	698.2	616.7
2049	666.1	655.5	653.5	609.1	592.5	692.9	634.1
2050	669.2	659.4	657.0	617.9	583.1	674.3	653.9
2051	671.4	663.7	657.4	629.5	580.8	650.2	670.1
2052	672.7	667.3	658.2	638.5	585.8	624.6	682.4
2053	672.8	671.1	658.3	646.0	594.2	602.9	684.1
2054	671.5	674.7	658.5	652.5	604.6	584.8	679.0
2055	668.7	677.7	662.4	656.0	613.4	575.6	661.0
2056	664.8	679.9	666.6	656.5	624.9	573.4	637.5
2057	659.9	681.1	670.2	657.3	633.8	578.4	612.5
2058	654.4	681.2	673.9	657.4	641.3	586.7	591.4
2059	648.9	679.8	677.4	657.7	647.8	597.0	573.8
2060	643.9	677.2	680.3	661.6	651.2	605.7	564.9

Table T.9 (con't.)

31 Dec. year	of which by age							
	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100+
Both sexes								
1960	324.5	251.8	170.5	95.4	36.2	8.3	1.3	0.0
1970	399.4	309.9	213.7	122.7	51.5	13.8	2.0	0.1
1980	442.8	382.5	273.5	163.0	73.9	22.1	3.9	0.3
1990	443.2	394.1	319.3	220.5	107.5	34.7	6.3	0.6
1991	429.0	404.6	318.6	224.3	111.8	36.2	6.7	0.6
1992	419.0	407.7	317.5	228.7	115.7	38.2	6.9	0.7
1993	411.6	411.3	315.4	231.0	119.6	39.4	7.1	0.7
1994	404.0	413.3	314.7	233.2	124.9	41.9	7.5	0.7
1995	399.2	399.4	330.0	233.3	128.8	43.7	8.1	0.8
1996	394.8	387.6	340.1	234.1	131.6	45.7	8.5	0.8
1997	391.9	379.3	343.7	234.7	135.1	47.8	8.9	0.9
1998	384.5	373.2	347.4	234.6	137.6	49.9	9.7	0.9
1999	381.2	366.0	348.9	234.5	139.0	51.9	10.2	0.9
2000	378.3	362.1	338.0	247.6	139.8	53.6	10.6	1.0
2001	380.3	358.4	329.1	256.5	140.7	54.8	11.2	1.0
2002	384.5	356.5	323.3	259.7	141.4	55.9	11.5	1.1
2003	395.7	350.4	319.2	263.2	142.2	57.4	11.9	1.2
2004	409.2	348.2	314.6	265.7	143.8	58.9	12.6	1.3
2005	420.3	346.0	311.9	259.2	153.9	59.5	13.2	1.3
2006	432.6	348.8	309.8	253.8	160.8	60.6	13.6	1.4
2007	454.5	353.8	309.1	250.7	163.4	61.4	14.1	1.5
2008	481.8	365.1	305.0	248.6	166.5	61.9	14.5	1.5
Projection								
2009	513.4	378.4	303.8	245.8	168.0	63.2	14.9	1.7
2010	547.1	389.3	302.9	245.1	164.9	68.5	15.1	1.8
2011	577.7	400.8	306.2	244.2	162.4	72.1	15.4	1.9
2012	594.9	421.7	311.2	244.6	161.0	73.2	15.8	2.0
2013	601.7	447.7	321.7	241.9	160.7	74.7	16.0	2.1
2014	597.2	477.5	334.0	241.6	159.6	75.3	16.4	2.1
2015	586.8	509.3	344.2	241.7	159.9	74.4	18.1	2.2
2016	571.0	538.1	354.9	245.3	160.1	73.7	19.1	2.2
2017	557.9	554.5	374.3	250.3	161.0	73.3	19.3	2.3
2018	547.1	561.3	398.3	259.6	159.8	73.6	19 6	2.3
2019	537.5	557.7	425.9	270.3	160.2	73.5	19.7	2.4

Table T.9 (con't.)

31 Dec. year	of which by age							
	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100+
Both sexes								
2020	534.2	548.4	454.9	279.2	161.1	74.1	19 6	2.6
2021	536.9	534.2	481.2	288.8	164.5	74.5	19 6	2.8
2022	538.3	522.5	496.3	305.6	168.7	75.1	19.5	2.8
2023	537.8	512.9	503.0	326.4	175.7	74.8	19.7	2.8
2024	540.3	504.4	500.4	350.3	183.7	75.3	19.7	2.9
2025	539.9	501.7	492.6	374.9	190.2	76.1	20.0	2.9
2026	539.5	504.6	480.4	396.8	197.2	78.2	20.1	2.9
2027	542.9	506.3	470.5	409.6	209.7	80.6	20.3	2.9
2028	552.8	506.2	462.5	415.6	225.2	84.3	20.3	2.9
2029	570.8	508.8	455.4	414.0	242.8	88.4	20.4	2.9
2030	589.9	508.6	453.6	408.2	260.2	91.6	20.7	3.0
2031	607.2	508.6	456.7	398.7	275.4	95.3	21.4	3.0
2032	620.0	512.2	458.7	391.3	284.5	102.0	22.2	3.0
2033	621.4	521.8	459.2	385.6	288.9	110.4	23.3	3.0
2034	610.0	539.2	462.0	380.5	288.3	119.6	24.5	3.0
2035	600.0	557.6	462.2	379.9	284.7	128.3	25.4	3.1
2036	593.5	574.3	462.8	383.1	278.6	135.5	26.5	3.2
2037	588.0	586.6	466.5	385.5	274.2	139.7	28.5	3.3
2038	586.6	588.1	475.8	386.5	271.2	141.9	31.1	3.5
2039	590.9	577.5	492.4	389.4	268.4	141.6	33.9	3.7
2040	588.9	568.3	509.6	390.0	268.8	139.9	36.3	3.8
2041	579.7	562.4	525.1	391.0	271.7	137.0	38.1	4.0
2042	569.4	557.4	536.6	394.8	273.9	135.2	39.2	4.3
2043	559.2	556.4	538.1	403.3	275.1	134.3	39.7	4.7
2044	551.2	560.6	528.6	418.2	277.4	133.2	39.6	5.1
2045	549.7	558.8	520.4	433.3	278.2	133.9	39.0	5.4
2046	550.1	550.1	515.5	446.8	279.5	135.6	38.2	5.7
2047	551.9	540.4	511.4	456.8	282.9	137.0	37.8	5.8
2048	555.1	530.9	510.7	458.1	289.9	137.9	37.7	5.9
2049	557.2	523.4	514.9	450.2	301.6	139.1	37.5	5.9
2050	561.3	522.2	513.4	443.7	313.1	139.6	37.8	5.9
2051	569.9	522.6	505.6	440.2	323.1	140.7	38.4	5.8
2052	580.2	524.4	496.9	437.5	330.3	142.9	38.9	5.7
2053	596.6	527.5	488.2	437.5	331.0	147.0	39.1	5.7
2054	613.6	529.7	481.7	441.4	325.3	153.9	39.5	5.7
2055	633.0	533.8	480.9	440.3	321.2	160.0	39.6	5.8
2056	648.8	542.2	481.6	433.8	319.6	165.1	40.0	5.8
2057	660.9	552.3	483.5	426.6	318.7	168.5	40.8	5.9
2058	662.8	568.2	486.5	419.5	319.3	168.4	42.2	6.0
2059	658.0	584.7	488.7	414.5	322.5	165.4	44.5	6.0
2060	640.6	603.5	492.9	414.4	321.8	163.6	46.3	6.0

Table T.10
Population by age 1960-2008 and projection 2009-2060. Men. Thousands

31 Dec. year	Total	of which by age					
		0-4	5-9	10-14	15-19	20-24	25-29
Men							
1960	3 740.1	267.4	274.2	312.5	303.2	235.8	219.9
1970	4 035.8	296.1	295.1	272.6	282.0	336.6	329.3
1980	4 119.8	247.9	283.8	295.9	296.5	282.9	296.3
1990	4 244.0	290.3	250.5	253.4	288.4	307.8	316.9
1991	4 270.6	301.1	256.0	252.3	281.6	302.2	326.9
1992	4 294.6	310.2	262.0	252.0	274.7	296.7	333.7
1993	4 321.0	312.3	273.2	253.8	267.6	295.3	333.5
1994	4 356.3	310.5	286.4	256.2	262.5	297.9	326.4
1995	4 366.1	298.7	298.1	257.9	259.7	295.6	317.3
1996	4 369.7	282.4	307.7	262.6	257.8	288.3	310.8
1997	4 371.9	265.4	315.4	268.4	257.5	280.3	304.5
1998	4 375.6	251.8	315.6	278.6	258.4	272.0	301.8
1999	4 380.1	240.4	311.7	289.2	259.1	265.1	302.6
2000	4 392.8	234.9	300.4	301.3	261.4	263.2	301.3
2001	4 408.4	234.2	285.3	311.7	267.2	262.4	295.5
2002	4 427.1	237.6	269.6	320.0	273.5	263.2	289.5
2003	4 446.7	242.8	257.1	320.5	284.4	265.1	283.0
2004	4 466.3	249.3	246.2	316.9	295.2	266.6	277.7
2005	4 486.6	254.5	240.5	305.5	307.1	269.5	277.0
2006	4 523.5	262.9	240.5	291.3	318.2	277.5	279.3
2007	4 563.9	269.6	244.5	276.5	327.7	285.4	283.5
2008	4 603.7	276.0	250.7	265.0	329.7	296.8	288.3
Projection							
2009	4 641.1	280.5	258.2	254.9	327.0	308.4	292.5
2010	4 674.6	283.1	264.0	250.1	316.3	321.0	297.1
2011	4 705.2	283.5	271.6	249.5	301.3	331.5	303.8
2012	4 734.8	283.9	277.6	252.7	285.9	339.7	310.0
2013	4 762.5	283.8	282.3	257.7	273.3	340.3	319.9
2014	4 789.5	283.8	286.0	264.3	262.5	337.0	329.9
2015	4 816.1	286.2	287.9	269.2	257.0	325.9	341.1
2016	4 842.2	288.7	287.7	276.1	255.9	310.8	350.6
2017	4 868.5	290.9	287.7	281.6	258.6	295.4	358.2
2018	4 894.8	293.1	287.4	286.0	263.3	282.9	358.6
2019	4 921.0	295.2	287.4	289.5	269.7	272.2	355.2

Table T.10 (con't.)

31 Dec. year	Total	of which by age					
		0-4	5-9	10-14	15-19	20-24	25-29
Men							
2020	4 946.9	297.0	289.6	291.3	274.5	266.8	344.5
2021	4 972.3	298.3	292.1	291.2	281.4	265.7	329.9
2022	4 997.0	299.1	294.2	291.3	286.8	268.4	314.9
2023	5 020.7	299.1	296.4	291.0	291.2	273.0	302.9
2024	5 043.1	298.3	298.5	291.0	294.7	279.3	292.5
2025	5 064.0	296.6	300.3	293.2	296.5	284.1	287.2
2026	5 083.3	294.3	301.5	295.7	296.4	290.8	286.2
2027	5 100.9	291.3	302.3	297.8	296.6	296.1	288.8
2028	5 117.0	288.1	302.3	299.9	296.3	300.5	293.3
2029	5 131.6	284.8	301.5	302.0	296.3	304.0	299.4
2030	5 145.0	281.8	299.9	303.7	298.6	305.7	304.0
2031	5 157.3	279.4	297.6	305.0	301.0	305.7	310.5
2032	5 168.8	277.6	294.7	305.7	303.1	305.8	315.7
2033	5 179.7	276.6	291.5	305.7	305.3	305.7	319.9
2034	5 190.3	276.3	288.3	305.0	307.3	305.7	323.3
2035	5 200.6	276.8	285.4	303.4	309.1	307.9	325.1
2036	5 210.8	277.7	283.0	301.1	310.3	310.3	325.1
2037	5 221.0	279.2	281.2	298.3	311.1	312.4	325.3
2038	5 231.3	280.8	280.2	295.1	311.1	314.5	325.2
2039	5 241.8	282.7	280.0	292.0	310.3	316.6	325.3
2040	5 252.4	284.5	280.4	289.1	308.8	318.3	327.5
2041	5 263.1	286.3	281.4	286.7	306.5	319.5	329.8
2042	5 274.0	288.0	282.7	285.0	303.7	320.2	331.9
2043	5 285.1	289.6	284.4	284.0	300.6	320.3	333.9
2044	5 296.3	291.0	286.2	283.8	297.5	319.5	335.9
2045	5 307.5	292.3	288.0	284.2	294.7	318.0	337.5
2046	5 318.7	293.5	289.8	285.2	292.3	315.8	338.8
2047	5 329.9	294.5	291.4	286.5	290.6	313.1	339.5
2048	5 340.9	295.4	292.9	288.1	289.7	310.0	339.5
2049	5 351.8	296.1	294.3	289.9	289.4	307.0	338.8
2050	5 362.4	296.7	295.6	291.7	289.9	304.2	337.3
2051	5 372.7	297.1	296.7	293.5	290.8	302.0	335.2
2052	5 382.7	297.3	297.7	295.1	292.2	300.3	332.5
2053	5 392.3	297.3	298.6	296.6	293.8	299.4	329.6
2054	5 401.5	297.0	299.3	298.0	295.5	299.2	326.7
2055	5 410.3	296.6	299.8	299.2	297.3	299.6	324.0
2056	5 418.7	295.9	300.2	300.3	299.0	300.5	321.8
2057	5 426.8	295.1	300.4	301.2	300.7	301.8	320.2
2058	5 434.7	294.1	300.3	302.1	302.1	303.4	319.3
2059	5 442.3	293.1	300.0	302.8	303.5	305.1	319.0
2060	5 449.9	292.1	299.6	303.3	304.7	306.8	319.4

Table T.10 (con't.)

31 Dec. year	of which by age						
	30-34	35-39	40-44	45-49	50-54	55-59	60-64
Men							
1960	236.3	268.8	270.5	268.8	260.9	225.7	190.3
1970	253.1	226.1	237.0	264.5	261.1	252.5	234.2
1980	337.9	321.1	244.8	217.9	225.5	245.4	232.9
1990	295.8	298.6	333.2	314.1	236.1	205.2	204.0
1991	295.1	299.8	322.9	330.6	243.3	206.2	201.6
1992	296.8	299.4	314.3	338.7	256.1	208.8	200.0
1993	302.8	299.0	307.7	341.0	271.7	215.1	196.9
1994	313.9	301.5	302.4	337.1	289.8	223.2	195.9
1995	324.1	299.8	298.9	330.0	308.3	229.5	195.5
1996	332.6	297.9	299.7	319.8	324.2	236.6	196.7
1997	338.4	299.1	299.0	311.4	332.3	248.8	199.4
1998	337.1	303.8	297.9	304.5	334.6	263.9	205.4
1999	328.6	312.9	298.5	298.2	330.5	281.2	213.2
2000	320.6	324.0	297.7	295.4	323.9	299.5	219.4
2001	315.6	333.9	296.8	297.0	314.5	315.6	226.5
2002	311.2	340.9	299.0	297.2	306.7	324.0	238.9
2003	309.7	340.6	304.5	296.5	300.4	326.8	253.7
2004	311.2	332.7	314.0	297.6	294.6	323.0	270.7
2005	310.3	325.1	325.0	296.8	291.9	316.5	288.4
2006	306.5	321.3	335.4	296.4	293.7	307.3	304.1
2007	302.6	318.5	343.6	299.1	294.3	299.9	312.2
2008	298.6	318.4	344.0	305.2	293.9	294.1	315.1
Projection							
2009	295.8	321.8	337.6	315.4	295.5	288.9	311.9
2010	296.9	321.7	331.3	326.6	295.3	286.7	306.1
2011	298.5	317.3	327.0	336.6	294.8	288.5	297.4
2012	301.2	312.2	323.3	343.9	296.9	289.0	290.5
2013	304.5	307.1	322.5	343.9	302.7	288.6	285.1
2014	306.9	303.1	325.0	337.2	312.3	290.0	280.2
2015	310.0	303.1	324.1	330.7	323.1	289.7	278.2
2016	315.6	303.8	319.3	326.3	332.8	289.2	280.0
2017	321.0	305.9	313.9	322.5	339.9	291.2	280.5
2018	330.4	308.7	308.5	321.6	339.8	296.9	280.2
2019	340.0	310.7	304.4	323.9	333.3	306.2	281.8

Table T.10 (con't.)

31 Dec. year	of which by age						
	30-34	35-39	40-44	45-49	50-54	55-59	60-64
Men							
2020	350.9	313.6	304.1	323.0	327.0	316.9	281.6
2021	360.3	318.9	304.6	318.1	322.7	326.3	281.2
2022	367.7	324.3	306.4	312.6	319.1	333.3	283.3
2023	368.2	333.5	309.0	307.3	318.2	333.3	288.8
2024	365.0	343.0	310.8	303.0	320.4	327.1	298.0
2025	354.6	353.8	313.6	302.7	319.4	321.0	308.3
2026	340.6	363.1	318.8	303.0	314.5	316.9	317.6
2027	326.0	370.5	324.1	304.6	309.1	313.4	324.4
2028	314.3	371.0	333.2	307.0	303.8	312.5	324.5
2029	304.3	368.0	342.6	308.7	299.5	314.8	318.5
2030	299.1	357.9	353.4	311.4	299.1	313.7	312.8
2031	298.1	344.2	362.5	316.5	299.3	308.9	308.9
2032	300.7	329.9	369.9	321.7	300.8	303.6	305.6
2033	305.0	318.5	370.5	330.8	303.1	298.3	304.9
2034	310.9	308.6	367.6	340.1	304.7	294.1	307.1
2035	315.4	303.6	357.7	350.8	307.3	293.6	306.1
2036	321.7	302.6	344.3	359.9	312.3	293.9	301.5
2037	326.8	305.1	330.3	367.2	317.5	295.2	296.3
2038	330.9	309.4	319.1	367.9	326.5	297.4	291.2
2039	334.2	315.2	309.4	365.0	335.7	298.9	287.2
2040	336.0	319.6	304.5	355.3	346.3	301.5	286.7
2041	336.1	325.8	303.5	342.1	355.3	306.4	286.9
2042	336.4	330.7	306.0	328.4	362.5	311.6	288.2
2043	336.4	334.8	310.2	317.4	363.3	320.4	290.3
2044	336.5	338.1	315.9	307.9	360.5	329.6	291.8
2045	338.6	340.0	320.3	303.1	351.0	340.0	294.3
2046	340.9	340.2	326.4	302.2	338.1	348.9	299.1
2047	342.9	340.5	331.3	304.6	324.7	356.1	304.2
2048	344.9	340.5	335.3	308.8	313.8	356.9	313.0
2049	346.8	340.7	338.7	314.4	304.5	354.2	322.0
2050	348.4	342.8	340.5	318.8	299.8	345.0	332.2
2051	349.6	345.1	340.8	324.8	298.9	332.4	341.0
2052	350.3	347.0	341.2	329.6	301.3	319.2	348.1
2053	350.3	348.9	341.2	333.7	305.5	308.6	348.9
2054	349.6	350.8	341.4	337.0	311.1	299.5	346.3
2055	348.2	352.4	343.5	338.9	315.4	294.9	337.4
2056	346.1	353.5	345.7	339.1	321.3	294.1	325.1
2057	343.6	354.2	347.6	339.6	326.1	296.5	312.4
2058	340.7	354.2	349.5	339.6	330.1	300.6	302.1
2059	337.9	353.5	351.4	339.8	333.4	306.1	293.2
2060	335.3	352.1	352.9	341.9	335.3	310.4	288.8

Table T.10 (con't)

31 Dec. year	of which by age							
	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100+
Men								
1960	151.7	114.9	77.1	42.5	15.7	3.3	0.4	0.0
1970	187.5	139.8	91.3	50.4	20.5	5.3	0.7	0.0
1980	209.6	172.6	113.6	62.0	25.1	6.8	1.1	0.1
1990	208.5	178.2	134.2	83.3	34.4	9.5	1.4	0.1
1991	201.8	182.9	134.1	85.0	35.8	9.8	1.5	0.1
1992	197.3	184.2	133.9	86.7	37.2	10.2	1.6	0.1
1993	193.4	186.2	132.9	88.1	38.4	10.5	1.6	0.1
1994	189.9	186.9	133.1	89.0	40.5	11.1	1.6	0.1
1995	187.5	180.7	140.1	88.8	42.1	11.5	1.7	0.1
1996	185.6	175.7	144.7	89.3	43.2	12.1	1.8	0.1
1997	184.5	172.2	146.4	89.9	44.4	12.7	1.9	0.1
1998	181.7	169.1	148.6	90.1	45.3	13.2	2.0	0.1
1999	180.7	166.2	149.2	90.6	46.0	13.8	2.1	0.1
2000	180.6	164.5	145.0	96.6	46.3	14 4	2.1	0.2
2001	182.4	163.4	141.8	100.4	47.0	14.9	2.2	0.2
2002	185.5	163.2	139.7	102.2	47.6	15.2	2.3	0.2
2003	191.7	161.2	137.9	104.2	48.3	15.8	2.4	0.2
2004	199.3	160.9	136.4	105.4	49.3	16.4	2.6	0.2
2005	205.5	161.2	135.6	103.4	53.3	16.5	2.8	0.2
2006	212.5	163.4	135.3	101.8	56.1	17.0	2.9	0.2
2007	224.5	166.9	136.0	101.0	57.5	17.4	3.0	0.2
2008	238.7	173.1	135.1	100.4	59.3	17.9	3.2	0.2
Projection								
2009	255.1	180.6	135.3	99.9	60.0	18.5	3.3	0.3
2010	272.1	186.6	136.2	100.2	59.4	20.4	3.3	0.3
2011	287.3	193.2	138.7	100.6	58.9	21.6	3.4	0.3
2012	295.1	204.5	142.0	101.6	58.7	22.1	3.6	0.3
2013	298.1	217.9	147.7	101.3	58.9	22.8	3.7	0.3
2014	295.3	233.3	154.5	101.9	59.0	23.1	3.8	0.3
2015	290.0	249.2	160.1	103.2	59.6	23.0	4.3	0.3
2016	282.0	263.3	166.2	105.7	60.2	23.0	4.5	0.3
2017	275.8	270.9	176.6	108.8	61.2	23.0	4.6	0.4
2018	271.0	274.0	188.8	113.7	61.4	23.3	4.8	0.4
2019	266.6	271.7	202.8	119.5	62.1	23.5	4.8	0.4

Table T.10 (con't)

31 Dec. year	of which by age							
	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100+
Men								
2020	264.9	267.2	217.2	124.3	63.3	23.9	4.8	0.4
2021	266.9	260.3	229.9	129.6	65.3	24.3	4.8	0.5
2022	267.5	255.0	236.9	138.3	67.8	24.8	4.8	0.5
2023	267.5	250.9	240.0	148.7	71.3	25.0	4.9	0.5
2024	269.1	247.2	238.5	160.5	75.3	25.4	5.0	0.5
2025	269.0	245.9	235.0	172.3	78.6	26.1	5.1	0.5
2026	268.8	248.0	229.3	182.6	82.2	27.2	5.2	0.5
2027	271.0	248.9	225.1	188.4	88.4	28.4	5.3	0.5
2028	276.4	249.0	222.0	191.3	95.6	30.0	5.4	0.5
2029	285.3	250.8	219.1	190.5	103.8	31.8	5.5	0.5
2030	295.3	250.9	218.4	188.1	111.7	33.3	5.7	0.5
2031	304.3	250.9	220.6	184.0	118.4	35.0	5.9	0.5
2032	311.0	253.2	221.7	181.1	122.3	37.9	6.2	0.5
2033	311.2	258.5	222.2	179.2	124.3	41.4	6.6	0.6
2034	305.6	267.1	224.1	177.4	124.1	45.2	7.1	0.6
2035	300.2	276.8	224.5	177.4	122.8	48.7	7.4	0.6
2036	296.7	285.4	224.9	179.6	120.5	51.5	7.8	0.6
2037	293.7	291.9	227.3	181.0	119.1	53.1	8.5	0.6
2038	293.2	292.2	232.4	181.8	118.4	53.9	9.4	0.7
2039	295.4	287.2	240.6	183.7	117.6	53.9	10.3	0.7
2040	294.5	282.3	249.6	184.3	118.1	53.4	11.0	0.8
2041	290.0	279.2	257.6	185.0	119.9	52.4	11.6	0.8
2042	285.1	276.6	263.6	187.4	121.1	52.0	11.9	0.9
2043	280.2	276.2	264.0	192.0	122.0	52.0	12.0	1.0
2044	276.4	278.4	259.6	199.3	123.5	51.8	12.0	1.1
2045	276.0	277.7	255.4	207.1	124.1	52.2	11.9	1.2
2046	276.2	273.5	253.0	214.0	124.9	53.2	11.7	1.2
2047	277.4	269.0	250.9	219.1	126.9	53.9	11.6	1.2
2048	279.5	264.4	250.8	219.5	130.5	54.4	11.7	1.3
2049	280.9	260.9	253.0	216.0	136.1	55.1	11.7	1.3
2050	283.4	260.6	252.4	212.8	141.8	55.4	11.8	1.2
2051	288.2	260.9	248.8	211.3	146.6	56.0	12.1	1.2
2052	293.2	262.2	244.8	210.0	150.1	57.1	12.2	1.2
2053	301.7	264.2	240.8	210.3	150.3	59.1	12.4	1.2
2054	310.6	265.6	237.9	212.4	148.0	62.0	12.5	1.2
2055	320.6	268.1	237.8	212.0	146.1	64.8	12.6	1.2
2056	329.2	272.8	238.3	209.2	145.6	67.0	12.8	1.3
2057	336.1	277.7	239.6	206.0	145.3	68.5	13 1	1.3
2058	337.0	286.0	241.5	202.9	145.9	68.3	13.6	1.3
2059	334.6	294.5	243.0	200.8	147.5	67.2	14 4	1.3
2060	326.0	304.3	245.6	201.1	147.4	66.5	15.0	1.3

Table T.11
Population by age 1960-2008 and projection 2009-2060. Women. Thousands

31 Dec. year	Total	of which by age					
		0-4	5-9	10-14	15-19	20-24	25-29
Women							
1960	3 757.8	252.5	259.3	297.7	290.8	230.4	215.6
1970	4 045.4	280.5	280.0	257.7	269.4	321.3	304.6
1980	4 198.1	236.0	270.6	281.2	282.7	271.0	283.1
1990	4 346.6	275.6	237.3	241.0	274.9	293.2	298.6
1991	4 373.5	285.6	242.0	240.2	268.6	289.1	307.8
1992	4 397.4	293.4	248.4	240.0	261.3	285.2	314.4
1993	4 424.2	296.3	258.9	241.1	254.5	284.2	316.0
1994	4 460.1	295.2	271.5	242.8	249.7	287.2	310.3
1995	4 471.4	283.6	283.1	244.0	247.0	284.5	303.6
1996	4 474.8	269.1	291.7	247.9	245.6	277.3	298.3
1997	4 475.7	253.1	298.1	254.0	245.1	269.2	293.5
1998	4 478.7	239.5	299.3	263.6	245.6	261.4	291.1
1999	4 481.3	228.3	296.3	273.8	245.6	255.2	292.5
2000	4 490.0	223.0	285.5	285.7	247.1	253.5	290.9
2001	4 500.7	221.5	272.1	295.4	251.9	253.3	285.4
2002	4 513.7	224.9	257.4	302.4	258.7	253.8	279.3
2003	4 529.0	230.1	244.5	304.0	268.9	254.9	273.0
2004	4 545.1	236.2	233.8	301.3	279.5	255.7	268.0
2005	4 561.2	241.8	228.2	290.2	291.3	257.8	267.0
2006	4 589.7	249.7	227.5	277.7	301.5	264.1	268.4
2007	4 619.0	255.7	231.7	263.7	309.3	272.2	270.9
2008	4 652.6	261.0	238.1	251.7	311.7	283.5	274.6
Projection							
2009	4 683.3	265.6	244.8	241.6	309.6	294.9	277.7
2010	4 710.6	267.9	250.9	236.9	299.4	307.3	281.4
2011	4 734.6	268.4	258.0	235.8	286.3	316.5	287.1
2012	4 757.8	269.0	263.2	239.2	271.9	322.9	294.0
2013	4 778.8	268.9	267.4	244.5	259.0	323.9	303.2
2014	4 798.9	268.9	271.1	250.4	248.4	320.8	312.4
2015	4 818.3	270.9	272.7	255.7	243.0	309.8	322.7
2016	4 837.2	273.2	272.7	262.2	241.3	296.3	330.4
2017	4 856.4	275.1	272.8	266.8	244.3	281.7	335.7
2018	4 876.1	277.2	272.6	270.8	249.3	268.9	336.1
2019	4 896.0	279.2	272.4	274.3	255.0	258.4	332.8

Table T.11 (con't.)

31 Dec. year	Total	of which by age					
		0-4	5-9	10-14	15-19	20-24	25-29
Women							
2020	4 916.0	280.9	274.4	275.9	260.1	253.1	322.1
2021	4 936.0	282.1	276.6	275.9	266.6	251.5	309.1
2022	4 955.6	282.8	278.5	276.1	271.2	254.5	295.1
2023	4 974.5	282.8	280.5	275.9	275.2	259.3	282.8
2024	4 992.5	282.0	282.5	275.7	278.7	264.8	272.7
2025	5 009.4	280.5	284.1	277.7	280.3	269.8	267.7
2026	5 025.0	278.3	285.3	279.9	280.3	276.1	266.1
2027	5 039.3	275.5	286.0	281.7	280.5	280.6	268.9
2028	5 052.2	272.4	286.0	283.7	280.4	284.4	273.5
2029	5 063.8	269.4	285.3	285.7	280.2	287.8	278.9
2030	5 074.3	266.5	283.8	287.3	282.2	289.4	283.6
2031	5 083.7	264.2	281.6	288.5	284.4	289.4	289.6
2032	5 092.3	262.5	278.9	289.2	286.2	289.7	294.0
2033	5 100.2	261.6	275.9	289.2	288.2	289.6	297.6
2034	5 107.5	261.3	272.9	288.4	290.2	289.4	301.0
2035	5 114.3	261.8	270.1	287.0	291.8	291.4	302.4
2036	5 120.9	262.7	267.8	284.8	293.0	293.5	302.5
2037	5 127.3	264.0	266.2	282.1	293.7	295.3	302.8
2038	5 133.5	265.6	265.3	279.2	293.7	297.2	302.7
2039	5 139.7	267.3	265.0	276.2	292.9	299.1	302.6
2040	5 146.0	269.1	265.4	273.5	291.5	300.7	304.5
2041	5 152.3	270.8	266.3	271.3	289.4	301.8	306.6
2042	5 158.8	272.4	267.6	269.7	286.7	302.5	308.3
2043	5 165.4	273.9	269.2	268.7	283.8	302.5	310.2
2044	5 172.3	275.3	270.9	268.5	280.9	301.8	312.0
2045	5 179.3	276.5	272.6	268.9	278.2	300.4	313.5
2046	5 186.5	277.6	274.3	269.8	276.0	298.4	314.6
2047	5 193.8	278.5	275.8	271.1	274.4	295.8	315.3
2048	5 201.1	279.4	277.3	272.6	273.5	293.0	315.3
2049	5 208.5	280.1	278.6	274.3	273.3	290.2	314.6
2050	5 215.7	280.6	279.8	276.0	273.7	287.6	313.3
2051	5 222.7	281.0	280.8	277.7	274.6	285.5	311.3
2052	5 229.5	281.2	281.8	279.2	275.9	284.0	308.9
2053	5 236.0	281.1	282.6	280.6	277.4	283.1	306.2
2054	5 242.1	280.9	283.3	281.9	279.1	282.9	303.5
2055	5 247.8	280.5	283.8	283.1	280.7	283.3	301.0
2056	5 253.2	279.9	284.1	284.1	282.4	284.1	299.0
2057	5 258.2	279.1	284.3	285.0	283.9	285.4	297.5
2058	5 262.8	278.2	284.3	285.8	285.3	286.8	296.6
2059	5 267.2	277.3	284.0	286.5	286.6	288.4	296.4
2060	5 271.4	276.3	283.6	287.0	287.7	290.0	296.7

Table T.11 (con't.)

31 Dec. year	of which by age						
	30-34	35-39	40-44	45-49	50-54	55-59	60-64
Women							
1960	233.9	264.6	265.4	264.7	260.6	234.9	205.2
1970	237.0	218.7	234.9	262.8	260.3	255.4	245.1
1980	322.0	301.2	234.4	215.8	229.8	253.3	245.8
1990	281.1	286.7	321.7	298.9	231.1	210.2	219.8
1991	280.7	286.9	312.4	315.4	236.8	210.2	217.0
1992	281.3	286.9	304.1	324.9	247.6	211.4	215.1
1993	286.5	286.4	297.1	328.9	262.0	216.7	210.6
1994	297.9	288.1	291.5	327.2	278.5	223.5	208.9
1995	306.6	286.6	289.1	321.1	296.6	228.7	206.2
1996	314.4	285.2	289.1	311.8	312.7	234.3	206.6
1997	319.9	285.4	289.0	303.7	322.2	244.7	207.5
1998	320.5	289.4	287.7	296.4	326.0	258.4	212.3
1999	312.8	298.7	287.8	290.2	323.9	274.1	218.1
2000	307.2	308.1	286.9	288.1	318.0	291.7	223.0
2001	303.6	317.2	286.4	288.6	309.2	307.8	228.5
2002	300.4	324.0	287.4	289.3	301.7	317.5	238.9
2003	299.4	325.3	292.1	288.4	294.8	321.6	252.3
2004	301.4	318.4	301.7	288.9	289.0	319.7	267.7
2005	300.0	312.9	311.2	288.1	286.9	313.9	284.9
2006	295.5	310.1	320.9	288.0	287.6	305.6	300.8
2007	290.6	308.0	328.1	289.6	288.5	298.3	310.5
2008	286.6	308.3	330.3	295.0	288.2	291.9	314.7
Projection							
2009	283.3	311.7	324.4	305.0	289.1	286.2	313.0
2010	283.7	311.3	319.8	314.9	288.7	284.4	307.7
2011	284.9	306.7	316.7	324.2	288.6	285.1	299.5
2012	286.6	301.2	314.2	331.0	289.8	285.9	292.3
2013	288.6	295.8	313.5	332.4	294.6	285.3	285.9
2014	290.0	291.4	316.0	326.1	304.3	286.1	280.4
2015	291.9	290.6	314.8	321.1	313.9	285.7	278.6
2016	296.2	290.8	309.7	317.7	322.8	285.4	279.3
2017	301.9	291.7	303.8	314.9	329.4	286.7	280.0
2018	310.3	293.1	298.1	314.0	330.6	291.3	279.5
2019	319.0	294.0	293.4	316.3	324.4	300.9	280.4

Table T.11 (con't.)

31 Dec. year	of which by age						
	30-34	35-39	40-44	45-49	50-54	55-59	60-64
Women							
2020	328.8	295.7	292.4	315.0	319.4	310.2	279.9
2021	336.4	299.9	292.6	309.9	316.0	319.1	279.7
2022	341.6	305.5	293.3	304.0	313.2	325.5	281.0
2023	342.2	313.7	294.7	298.4	312.3	326.7	285.6
2024	339.0	322.4	295.5	293.8	314.5	320.6	294.9
2025	328.8	332.1	297.2	292.7	313.3	315.7	304.1
2026	316.3	339.7	301.3	292.8	308.2	312.3	312.8
2027	302.8	344.9	306.8	293.5	302.4	309.6	319.1
2028	290.9	345.6	315.0	294.8	296.8	308.7	320.3
2029	281.1	342.6	323.6	295.6	292.2	310.9	314.2
2030	276.2	332.6	333.4	297.2	291.1	309.6	309.5
2031	274.7	320.4	340.9	301.3	291.2	304.7	306.2
2032	277.4	307.2	346.2	306.8	291.9	298.9	303.6
2033	281.8	295.6	346.9	315.0	293.1	293.4	302.7
2034	286.9	286.0	344.1	323.5	293.8	288.9	304.9
2035	291.5	281.2	334.3	333.3	295.5	287.8	303.7
2036	297.3	279.7	322.3	340.8	299.5	287.9	298.8
2037	301.5	282.3	309.2	346.1	305.0	288.5	293.2
2038	305.1	286.6	297.8	346.9	313.1	289.7	287.8
2039	308.3	291.6	288.3	344.1	321.7	290.4	283.4
2040	309.8	296.1	283.6	334.4	331.3	292.1	282.3
2041	310.0	301.8	282.1	322.6	338.8	296.1	282.4
2042	310.2	306.0	284.6	309.7	344.2	301.5	283.0
2043	310.2	309.5	288.9	298.4	345.0	309.6	284.2
2044	310.2	312.7	293.9	289.1	342.3	318.0	284.9
2045	312.0	314.3	298.4	284.4	332.8	327.6	286.5
2046	314.0	314.5	304.0	282.9	321.1	335.1	290.5
2047	315.8	314.8	308.2	285.5	308.4	340.4	295.8
2048	317.5	314.8	311.7	289.7	297.2	341.3	303.8
2049	319.3	314.8	314.9	294.6	288.0	338.7	312.2
2050	320.8	316.7	316.4	299.1	283.3	329.3	321.6
2051	321.8	318.6	316.7	304.7	281.9	317.9	329.0
2052	322.5	320.4	317.0	308.8	284.5	305.4	334.3
2053	322.5	322.1	317.1	312.3	288.7	294.3	335.2
2054	321.9	323.8	317.1	315.5	293.6	285.3	332.7
2055	320.6	325.3	318.9	317.1	298.0	280.7	323.6
2056	318.7	326.3	320.9	317.3	303.5	279.3	312.4
2057	316.3	326.9	322.6	317.7	307.7	281.9	300.2
2058	313.7	327.0	324.3	317.8	311.2	286.0	289.4
2059	311.1	326.3	326.0	317.9	314.3	290.9	280.5
2060	308.7	325.0	327.4	319.7	315.9	295.2	276.1

Table T.11 (con't.)

31 Dec. year	of which by age							
	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100+
Women								
1960	172.8	136.9	93.3	52.9	20.5	5.0	0.9	0.0
1970	211.9	170.1	122.4	72.3	31.0	8.6	1.3	0.1
1980	233.2	209.9	159.9	101.0	48.8	15.3	2.8	0.2
1990	234.7	216.0	185.0	137.2	73.1	25.2	4.9	0.5
1991	227.2	221.6	184.5	139.3	76.0	26.4	5.1	0.5
1992	221.8	223.5	183.7	142.0	78.5	28.0	5.4	0.5
1993	218.2	225.1	182.5	142.9	81.2	29.0	5.5	0.6
1994	214.1	226.4	181.6	144.2	84.3	30.8	5.9	0.6
1995	211.7	218.7	189.9	144.5	86.7	32.2	6.4	0.7
1996	209.2	211.9	195.4	144.8	88.3	33.7	6.7	0.7
1997	207.4	207.1	197.3	144.8	90.8	35.1	7.1	0.7
1998	202.7	204.0	198.8	144.5	92.3	36.7	7.7	0.8
1999	200.5	199.8	199.7	143.9	93.0	38.1	8.1	0.8
2000	197.7	197.6	193.0	151.0	93.5	39.2	8.4	0.8
2001	197.8	195.1	187.3	156.1	93.7	39.9	9.0	0.9
2002	199.0	193.4	183.6	157.5	93.7	40.7	9.2	1.0
2003	204.0	189.2	181.4	159.0	94.0	41.6	9.5	1.0
2004	209.9	187.3	178.1	160.3	94.5	42.5	10.0	1.1
2005	214.8	184.8	176.3	155.8	100.6	43.0	10.4	1.1
2006	220.1	185.4	174.5	152.0	104.8	43.6	10.7	1.2
2007	230.0	187.0	173.1	149.6	105.9	44.0	11.1	1.2
2008	243.1	192.0	170.0	148.2	107.2	44.1	11.3	1.3
Projection								
2009	258.2	197.9	168.5	145.9	108.0	44.7	11.6	1.4
2010	275.0	202.8	166.6	144.8	105.5	48.2	11.8	1.5
2011	290.4	207.7	167.5	143.6	103.4	50.5	12.0	1.6
2012	299.7	217.2	169.3	143.0	102.3	51.1	12.2	1.7
2013	303.6	229.8	174.0	140.6	101.7	51.9	12.3	1.7
2014	301.9	244.2	179.5	139.7	100.5	52.2	12.6	1.8
2015	296.8	260.2	184.1	138.5	100.3	51.4	13.8	1.8
2016	288.9	274.8	188.7	139.7	99.8	50.7	14.6	1.9
2017	282.1	283.6	197.7	141.6	99.7	50.3	14.7	1.9
2018	276.1	287.4	209.5	145.8	98.4	50.3	14.9	1.9
2019	270.9	285.9	223.0	150.8	98.1	50.0	14.9	2.0

Table T.11 (con't.)

31 Dec. year	of which by age							
	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100+
Women								
2020	269.3	281.2	237.8	154.9	97.8	50.1	14.8	2.2
2021	270.0	273.9	251.3	159.2	99.1	50.2	14.7	2.3
2022	270.8	267.6	259.4	167.2	101.0	50.3	14.6	2.3
2023	270.4	262.0	263.0	177.8	104.5	49.8	14.7	2.4
2024	271.2	257.2	261.8	189.8	108.4	49.8	14.7	2.4
2025	270.9	255.8	257.6	202.6	111.6	50.0	14.8	2.4
2026	270.7	256.6	251.0	214.1	115.0	51.0	14.9	2.4
2027	272.0	257.4	245.4	221.2	121.3	52.3	15.0	2.4
2028	276.5	257.1	240.5	224.4	129.6	54.3	14.9	2.4
2029	285.6	258.0	236.3	223.5	138.9	56.6	14.9	2.4
2030	294.6	257.7	235.3	220.1	148.5	58.3	15.1	2.4
2031	302.9	257.7	236.1	214.7	157.0	60.3	15.5	2.5
2032	309.1	259.0	237.0	210.2	162.2	641	16.0	2.5
2033	310.2	263.3	236.9	206.4	164.7	69.0	16.7	2.5
2034	304.4	272.1	237.9	203.1	164.2	74.4	17.5	2.5
2035	299.8	280.8	237.7	202.5	161.9	79.6	18.0	2.5
2036	296.8	288.9	237.9	203.5	158.1	84.0	18.7	2.6
2037	294.2	294.8	239.2	204.6	155.2	86.7	20.0	2.7
2038	293.4	295.9	243.4	204.7	152.8	88.0	21.8	2.8
2039	295.5	290.4	251.8	205.7	150.8	87.8	23.6	2.9
2040	294.4	286.0	260.0	205.7	150.7	86.5	25.3	3.0
2041	289.7	283.2	267.5	206.0	151.7	84.6	26.5	3.1
2042	284.2	280.8	273.0	207.4	152.8	83.2	27.3	3.4
2043	279.0	280.1	274.0	211.3	153.1	82.3	27.7	3.7
2044	274.8	282.2	268.9	218.9	153.9	81.4	27.6	4.0
2045	273.7	281.1	265.0	226.2	154.1	81.7	27.1	4.3
2046	273.9	276.6	262.5	232.9	154.6	82.4	26.5	4.5
2047	274.5	271.4	260.5	237.7	156.0	83.2	26.2	4.6
2048	275.6	266.4	259.9	238.6	159.3	83.5	26.0	4.7
2049	276.3	262.5	261.9	234.2	165.6	84.0	25.8	4.7
2050	277.9	261.5	260.9	230.9	171.4	84.2	26.0	4.6
2051	281.7	261.7	256.8	229.0	176.5	84.7	26.3	4.5
2052	287.0	262.3	252.0	227.5	180.2	85.8	26.6	4.5
2053	294.8	263.3	247.4	227.2	180.7	87.9	26.8	4.5
2054	303.1	264.0	243.8	229.0	177.4	91.9	26.9	4.5
2055	312.4	265.6	243.1	228.2	175.1	95.3	27.0	4.5
2056	319.7	269.4	243.3	224.6	174.0	98.2	27.3	4.6
2057	324.9	274.6	243.9	220.6	173.4	100.1	27.7	4.6
2058	325.8	282.2	244.9	216.7	173.4	100.1	28.6	4.7
2059	323.4	290.2	245.7	213.8	175.0	98.2	30.1	4.7
2060	314.6	299.3	247.3	213.3	174.4	97.1	31.3	4.7

Table T.12
Table T.1960 Population by age 1960-2008 and projection 2009-2060. Thousands

Year	Age			
Total	0-19	20-64	65+	Total
1960	2 257	4 352	888	7 498
1970	2 234	4 734	1 114	8 081
1980	2 194	4 761	1 362	8 318
1990	2 112	4 953	1 527	8 591
2000	2 139	5 212	1 531	8 883
2008	2 184	5 427	1 645	9 256
Projection				
2009	2 182	5 453	1 689	9 324
2020	2 244	5 545	2 074	9 863
2030	2 304	5 580	2 336	10 219
2040	2 262	5 630	2 506	10 398
2050	2 284	5 757	2 537	10 578
2060	2 334	5 698	2 689	10 721
Men				
1960	1 157	2 177	406	3 740
1970	1 146	2 394	496	4 036
1980	1 124	2 405	591	4 120
1990	1 083	2 512	650	4 244
2000	1 098	2 645	650	4 393
2008	1 121	2 754	728	4 604
Projection				
2009	1 121	2 768	753	4 641
2020	1 152	2 828	966	4 947
2030	1 184	2 857	1 104	5 145
2040	1 163	2 896	1 194	5 252
2050	1 174	2 969	1 220	5 362
2060	1 200	2 943	1 307	5 450
Women				
1960	1 100	2 175	482	3 758
1970	1 088	2 340	618	4 045
1980	1 070	2 356	771	4 198
1990	1 029	2 441	877	4 347
2000	1 041	2 567	881	4 490
2008	1 062	2 673	917	4 653
Projection				
2009	1 062	2 685	936	4 683
2020	1 091	2 717	1 108	4 916
2030	1 120	2 723	1 232	5 074
2040	1 100	2 735	1 312	5 146
2050	1 110	2 788	1 317	5 216
2060	1 135	2 755	1 382	5 271

Table T.13
Swedish-born and foreign-born population by age and sex 2009-2060. 2009-2060. Thousands

	Swedish-born				Foreign-born			
Year	Age				Age			
Total	0-19	20-64	65+	Total	0-19	20-64	65+	Total
2009	2 033	4 469	1 495	7 997	149	984	195	1 328
2020	2 108	4 365	1 796	8 270	135	1 180	278	1 593
2030	2 187	4 327	1 968	8 483	117	1 253	367	1 737
2040	2 147	4 359	2 054	8 560	116	1 271	452	1 839
2050	2 168	4 516	1 992	8 677	116	1 241	545	1 901
2060	2 219	4 485	2 086	8 789	116	1 213	604	1 932
Men								
2009	1 045	2 284	669	3 998	76	484	84	643
2020	1 085	2 237	841	4 162	68	592	125	784
2030	1 125	2 222	934	4 282	59	635	170	863
2040	1 105	2 242	986	4 334	58	653	208	919
2050	1 116	2 326	966	4 407	58	644	254	956
2060	1 141	2 312	1 020	4 473	58	631	288	977
Women								
2009	989	2 185	825	3 999	73	500	111	684
2020	1 023	2 129	955	4 107	68	588	153	809
2030	1 062	2 105	1 034	4 201	58	618	198	874
2040	1 042	2 117	1 067	4 226	57	618	244	920
2050	1 053	2 190	1 027	4 270	57	598	291	946
2060	1 077	2 173	1 066	4 316	57	582	316	955

Table T.14
Share of population by age and sex 1960-2008 and projection 2009-2060

Year	Age			
Total	0-19	20-64	65+	Total
1960	30	58	12	100
1970	28	59	14	100
1980	26	57	16	100
1990	25	58	18	100
2000	24	59	17	100
2008	24	59	18	100
Projection				
2009	23	58	18	100
2020	23	56	21	100
2030	23	55	23	100
2040	22	54	24	100
2050	22	54	24	100
2060	22	53	25	100
Men				
1960	31	58	11	100
1970	28	59	12	100
1980	27	58	14	100
1990	26	59	15	100
2000	25	60	15	100
2008	24	60	16	100
Projection				
2009	24	60	16	100
2020	23	57	20	100
2030	23	56	21	100
2040	22	55	23	100
2050	22	55	23	100
2060	22	54	24	100
Women				
1960	29	58	13	100
1970	27	58	15	100
1980	25	56	18	100
1990	24	56	20	100
2000	23	57	20	100
2008	23	57	20	100
Projection				
2009	23	57	20	100
2020	22	55	23	100
2030	22	54	24	100
2040	21	53	25	100
2050	21	53	25	100
2060	22	52	26	100

Table T.15
Share of Swedish and foreign-born populations by age and sex 2009-2060

	Swedish-born				Foreign-born			
Year	Age				Age			
Total	0-19	20-64	65+	Total	0-19	20-64	65+	Total
2009	25	56	19	100	11	74	15	100
2020	25	53	22	100	8	74	17	100
2030	26	51	23	100	7	72	21	100
2040	25	51	24	100	6	69	25	100
2050	25	52	23	100	6	65	29	100
2060	25	51	24	100	6	63	31	100
Men								
2009	26	57	17	100	12	75	13	100
2020	26	54	20	100	9	75	16	100
2030	26	52	22	100	7	74	20	100
2040	25	52	23	100	6	71	23	100
2050	25	53	22	100	6	67	27	100
2060	26	52	23	100	6	65	29	100
Women								
2009	25	55	21	100	11	73	16	100
2020	25	52	23	100	8	73	19	100
2030	25	50	25	100	7	71	23	100
2040	25	50	25	100	6	67	27	100
2050	25	51	24	100	6	63	31	100
2060	25	50	25	100	6	61	33	100

Alternative projections

Table T.16
Population 1960-2008 and projection 2009-2060 according to different alternative assumptions in discrepancy with the main alternative. Thousands and percent

Year	Observed	Main alter-native	Alternative assumptions					
			Fertility		Mortality		Migration	
			Low	High	Low	High	Low	High
All ages both sexes								
1960	7 498							
1970	8 081							
1980	8 318							
1990	8 591							
2000	8 883							
2008	9 256							
Projection								
2009		9 324	9 323	9 325	9 324	9 324	9 320	9 326
2020		9 863	9 803	9 971	9 885	9 801	9 732	9 940
2030		10 219	10 072	10 440	10 293	10 038	9 922	10 434
2040		10 398	10 159	10 762	10 560	10 099	9 932	10 763
2050		10 578	10 220	11 133	10 836	10 182	9 938	11 079
2060		10 721	10 227	11 483	11 094	10 245	9 904	11 349
Deviations from main alternative (thousands)								
2009			-1	1	0	0	-5	2
2020			-59	108	22	-62	-131	77
2030			-147	221	74	-181	-297	215
2040			-240	363	162	-299	-466	365
2050			-358	555	258	-397	-640	501
2060			-494	761	372	-476	-818	628
Deviations from main alternative (percent)								
2009			0	0	0	0	0	0
2020			-1	1	0	-1	-1	1
2030			-1	2	1	-2	-3	2
2040			-2	3	2	-3	-4	4
2050			-3	5	2	-4	-6	5
2060			-5	7	3	-4	-8	6

Table T.17
Population 1960-2008 and projection 2009-2060 according to different alternative assumptions in discrepancy with the main alternative. Men. Thousands and percent

Year	Observed	Main alter-native	Alternative assumptions					
			Fertility		Mortality		Migration	
			Low	High	Low	High	Low	High
All ages men								
1960	3 740							
1970	4 036							
1980	4 120							
1990	4 244							
2000	4 393							
2008	4 487							
Projection								
2009		4 641	4 640	4 641	4 641	4 641	4 638	4 642
2020		4 947	4 916	5 003	4 953	4 909	4 883	4 999
2030		5 145	5 069	5 259	5 170	5 033	5 001	5 287
2040		5 252	5 129	5 440	5 314	5 070	5 027	5 490
2050		5 362	5 177	5 649	5 470	5 120	5 053	5 685
2060		5 450	5 194	5 843	5 616	5 160	5 055	5 848
Deviations from main alternative (thousands)								
2009			-1	0	0	0	-3	1
2020			-31	56	6	-38	-64	52
2030			-76	114	25	-112	-144	142
2040			-124	187	62	-183	-226	238
2050			-185	287	108	-243	-309	323
2060			-256	393	166	-289	-395	398
Deviations from main alternative (percent)								
2009			0	0	0	0	0	0
2020			-1	1	0	-1	-1	1
2030			-1	2	0	-2	-3	3
2040			-2	4	1	-3	-4	5
2050			-3	5	2	-5	-6	6
2060			-5	7	3	-5	-7	7

Table T.18
Population 1960-2008 and projection 2090-2060 according to different alternative assumptions in discrepancy with the main alternative. Women. Thousands and percent

Year	Observed	Main alter-native	Alternative assumptions					
			Fertility		Mortality		Migration	
			Low	High	Low	High	Low	High
All ages women								
1960	3 758							
1970	4 045							
1980	4 198							
1990	4 347							
2000	4 490							
2008	4 653							
Projection								
2009		4 683	4 683	4 684	4 683	4 683	4 681	4 684
2020		4 916	4 887	4 969	4 932	4 892	4 849	4 941
2030		5 074	5 003	5 182	5 124	5 005	4 922	5 147
2040		5 146	5 030	5 322	5 246	5 030	4 905	5 273
2050		5 216	5 043	5 484	5 365	5 062	4 885	5 394
2060		5 271	5 033	5 639	5 478	5 085	4 849	5 501
Deviations from main alternative (thousands)								
2009			-1	0	0	0	-2	1
2020			-29	53	16	-24	-67	25
2030			-71	107	49	-69	-153	72
2040			-116	176	100	-116	-241	127
2050			-173	269	150	-154	-331	179
2060			-239	368	207	-187	-423	229
Deviations from main alternative (percent)								
2009			0	0	0	0	0	0
2020			-1	1	0	0	-1	1
2030			-1	2	1	-1	-3	1
2040			-2	3	2	-2	-5	2
2050			-3	5	3	-3	-6	3
2060			-5	7	4	-4	-8	4

Table T.19
Number of children aged 0-5 1960-2008 and projection 2009-2060 according to different alternative assumptions in discrepancy with the main alternative. Thousands and percent

Year	Observed	Main alter-native	Alternative assumptions					
			Fertility		Mortality		Migration	
			Low	High	Low	High	Low	High
Children aged 0-5								
1960	626							
1970	701							
1980	589							
1990	568							
2000	562							
2008	640							
Projection								
2009		651	650	652	651	651	651	652
2020		692	642	764	692	692	674	698
2030		663	610	735	663	662	626	679
2040		663	602	760	663	662	615	686
2050		693	609	826	693	691	630	721
2060		684	591	826	685	681	608	719
Deviations from main alternative (thousands)								
2009			-1	1	0	0	0	0
2020			-50	72	0	0	-18	6
2030			-53	72	0	-1	-36	16
2040			-61	97	0	-1	-49	23
2050			-84	133	0	-2	-63	28
2060			-93	141	1	-3	-77	35
Deviations from main alternative (percent)								
2009			0	0	0	0	0	0
2020			-7	10	0	0	-3	1
2030			-8	11	0	0	-5	2
2040			-9	15	0	0	-7	3
2050			-12	19	0	0	-9	4
2060			-14	21	0	0	-11	5

Table T.20
Number of children aged 6-15 1960-2008 and projection 2009-2060 according to different alternative assumptions in discrepancy with the main alternative. Thousands and percent

Year	Observed	Main alter-native	Alternative assumptions					
			Fertility		Mortality		Migration	
			Low	High	Low	High	Low	High
Children aged 6-15								
1960	1 168							
1970	1 089							
1980	1 150							
1990	987							
2000	1 175							
2008	1 012							
Projection								
2009		1 012	1 012	1 012	1 012	1 012	1 011	1 012
2020		1 126	1 117	1 163	1 126	1 126	1 106	1 128
2030		1 177	1 092	1 290	1 177	1 176	1 123	1 191
2040		1 116	1 029	1 240	1 116	1 114	1 035	1 146
2050		1 140	1 035	1 310	1 140	1 137	1 039	1 179
2060		1 176	1 036	1 393	1 177	1 172	1 051	1 225
Deviations from main alternative (thousands)								
2009			0	0	0	0	-1	0
2020			-9	37	0	0	-20	2
2030			-85	113	0	-1	-54	14
2040			-87	124	0	-2	-81	30
2050			-105	170	0	-3	-101	39
2060			-140	217	1	-4	-125	48
Deviations from main alternative (percent)								
2009			0	0	0	0	0	0
2020			-1	3	0	0	-2	0
2030			-7	10	0	0	-5	1
2040			-8	11	0	0	-7	3
2050			-9	15	0	0	-9	3
2060			-12	18	0	0	-11	4

Table T.21
Number of youths aged 16-19 1960-2008 and projection 2009-2060 according to different alternative assumptions in discrepancy with the main alternative. Thousands and percent

Year	Observed	Main alter-native	Alternative assumptions					
			Fertility		Mortality		Migration	
			Low	High	Low	High	Low	High
Young people aged 16-19 years								
1960	463							
1970	444							
1980	455							
1990	457							
2000	403							
2008	519							
Projection								
2009		519	519	519	519	519	518	519
2020		425	425	425	425	425	417	426
2030		464	455	494	464	464	446	466
2040		483	447	526	483	482	451	491
2050		451	416	504	451	450	410	465
2060		474	429	549	474	473	425	491
Deviations from main alternative (thousands)								
2009			0	0	0	0	0	0
2020			0	0	0	0	-8	0
2030			-9	30	0	0	-18	2
2040			-36	43	0	-1	-32	8
2050			-35	53	0	-1	-41	14
2060			-45	75	0	-2	-49	17
Deviations from main alternative (percent)								
2009			0	0	0	0	0	0
2020			0	0	0	0	-2	0
2030			-2	6	0	0	-4	0
2040			-7	9	0	0	-7	2
2050			-8	12	0	0	-9	3
2060			-9	16	0	0	-10	4

Table T.22
Number of men aged 20-39 1960-2008 and projection 2009-2060 according to different alternative assumptions in discrepancy with the main alternative. Thousands and percent

Year	Observed	Main alter-native	Alternative assumptions					
			Fertility		Mortality		Migration	
			Low	High	Low	High	Low	High
Men aged 20-39								
1960	961							
1970	1 145							
1980	1 238							
1990	1 219							
2000	1 209							
2008	1 218							
Projection								
2009		1 218	1 218	1 218	1 218	1 218	1 217	1 219
2020		1 276	1 276	1 276	1 276	1 275	1 250	1 305
2030		1 267	1 267	1 270	1 267	1 265	1 218	1 327
2040		1 301	1 273	1 353	1 302	1 298	1 230	1 379
2050		1 333	1 263	1 434	1 334	1 327	1 234	1 423
2060		1 314	1 227	1 437	1 315	1 307	1 191	1 416
Deviations from main alternative (thousands)								
2009			0	0	0	0	-1	1
2020			0	0	0	-1	-26	29
2030			0	3	0	-2	-49	60
2040			-29	52	0	-4	-71	77
2050			-69	101	1	-5	-99	90
2060			-87	124	1	-7	-123	103
Deviations from main alternative (percent)								
2009			0	0	0	0	0	0
2020			0	0	0	0	-2	2
2030			0	0	0	0	-4	5
2040			-2	4	0	0	-5	6
2050			-5	8	0	0	-7	7
2060			-7	9	0	-1	-9	8

Table T.23
Number of women aged 20-39 1960-2008 and projection 2009-2060 according to different alternative assumptions and discrepancy to the main alternative. Thousands and percent

Year	Observed	Main alter-native	Alternative assumptions					
			Fertility		Mortality		Migration	
			Low	High	Low	High	Low	High
Women aged 20-39								
1960	945							
1970	1 082							
1980	1 177							
1990	1 160							
2000	1 160							
2008	1 153							
Projection								
2009		1 168	1 168	1 168	1 168	1 168	1 168	1 168
2020		1 200	1 200	1 200	1 200	1 199	1 199	1 214
2030		1 182	1 182	1 185	1 182	1 181	1 181	1 213
2040		1 211	1 185	1 259	1 211	1 209	1 209	1 253
2050		1 238	1 174	1 332	1 239	1 235	1 235	1 291
2060		1 220	1 140	1 335	1 221	1 217	1 217	1 285
Deviations from main alternative (thousands)								
2009			0	0	0	0	0	0
2020			0	0	0	0	0	14
2030			0	3	0	-1	-1	31
2040			-27	48	0	-2	-2	42
2050			-64	94	0	-3	-3	53
2060			-80	114	1	-4	-4	65
Deviations from main alternative (percent)								
2009			0	0	0	0	0	0
2020			0	0	0	0	0	1
2030			0	0	0	0	0	3
2040			-2	4	0	0	0	3
2050			-5	8	0	0	0	4
2060			-7	9	0	0	0	5

Table T.24
Number of men aged 40-64 1960-2008 and projection 2009-2060 according to different alternative assumptions and discrepancy to the main alternative. Thousands and percent

Year	Observed	Main alter-native	Alternative assumptions					
			Fertility		Mortality		Migration	
			Low	High	Low	High	Low	High
Men aged 40-64								
1960	1 216							
1970	1 249							
1980	1 167							
1990	1 293							
2000	1 436							
2008	1 552							
Projection								
2009		1 549	1 549	1 549	1 549	1 549	1 549	1 549
2020		1 553	1 553	1 553	1 553	1 547	1 539	1 570
2030		1 590	1 590	1 590	1 591	1 577	1 554	1 652
2040		1 594	1 594	1 594	1 596	1 574	1 532	1 710
2050		1 636	1 636	1 639	1 641	1 608	1 553	1 790
2060		1 629	1 604	1 676	1 636	1 598	1 525	1 803
Deviations from main alternative (thousands)								
2009			0	0	0	0	-1	0
2020			0	0	0	-5	-13	17
2030			0	0	1	-14	-36	61
2040			0	0	2	-20	-62	115
2050			0	3	5	-28	-83	154
2060			-26	47	7	-31	-104	173
Deviations from main alternative (percent)								
2009			0	0	0	0	0	0
2020			0	0	0	0	-1	1
2030			0	0	0	-1	-2	4
2040			0	0	0	-1	-4	7
2050			0	0	0	-2	-5	9
2060			-2	3	0	-2	-6	11

Table T.25
Number of women aged 40-64 1960-2008 and projection 2009-2060 according to different alternative assumptions and discrepancy to the main alternative. Thousands and percent

Year	Observed	Main alter-native	Alternative assumptions					
			Fertility		Mortality		Migration	
			Low	High	Low	High	Low	High
Women aged 40-64								
1960	1 231							
1970	1 258							
1980	1 179							
1990	1 282							
2000	1 408							
2008	1 520							
Projection								
2009		1 518	1 518	1 518	1 518	1 518	1 517	1 518
2020		1 517	1 517	1 517	1 518	1 514	1 504	1 523
2030		1 541	1 541	1 541	1 543	1 534	1 502	1 565
2040		1 524	1 524	1 524	1 528	1 513	1 452	1 573
2050		1 550	1 550	1 552	1 556	1 536	1 450	1 620
2060		1 534	1 511	1 578	1 541	1 518	1 411	1 617
Deviations from main alternative (thousands)								
2009			0	0	0	0	0	0
2020			0	0	1	-3	-13	6
2030			0	0	2	-7	-39	24
2040			0	0	4	-10	-72	49
2050			0	3	6	-14	-100	70
2060			-24	43	7	-16	-124	83
Deviations from main alternative (percent)								
2009			0	0	0	0	0	0
2020			0	0	0	0	-1	0
2030			0	0	0	0	-3	2
2040			0	0	0	-1	-5	3
2050			0	0	0	-1	-6	5
2060			-2	3	0	-1	-8	5

Table T.26
Number of men aged 65-79 1960-2008 and projection 2009-2060 according to different alternative assumptions and discrepancy to the main alternative. Thousands and percent

Year	Observed	Main alternative	Alternative assumptions					
			Fertility		Mortality		Migration	
			Low	High	Low	High	Low	High
Men aged 65-79								
1960	344							
1970	419							
1980	496							
1990	521							
2000	490							
2008	547							
Projection								
2009		571	571	571	571	571	571	571
2020		749	749	749	749	732	748	750
2030		765	765	765	765	725	761	768
2040		826	826	826	832	761	817	839
2050		796	796	796	809	718	777	829
2060		876	876	876	896	780	844	935
Deviations from main alternative (thousands)								
2009			0	0	0	0	0	0
2020			0	0	-1	-17	-1	1
2030			0	0	1	-40	-3	4
2040			0	0	5	-65	-9	13
2050			0	0	12	-78	-19	33
2060			0	0	21	-96	-32	59
Deviations from main alternative (percent)								
2009			0	0	0	0	0	0
2020			0	0	0	-2	0	0
2030			0	0	0	-5	0	0
2040			0	0	1	-8	-1	2
2050			0	0	2	-10	-2	4
2060			0	0	2	-11	-4	7

Table T.27
Number of women aged 65-79 1960-2008 and projection 2009-2060 according to different alternative assumptions and discrepancy to the main alternative. Thousands and percent

Year	Observed	Main alter-native	Alternative assumptions					
			Fertility		Mortality		Migration	
			Low	High	Low	High	Low	High
Women aged 65-79								
1960	403							
1970	504							
1980	603							
1990	636							
2000	588							
2008	605							
Projection								
2009		625	625	625	625	625	625	625
2020		788	788	788	792	781	787	789
2030		788	788	788	797	770	784	789
2040		840	840	840	858	810	832	846
2050		800	800	800	825	763	779	814
2060		861	861	861	893	816	823	888
Deviations from main alternative (thousands)								
2009			0	0	0	0	0	0
2020			0	0	4	-7	-1	0
2030			0	0	10	-18	-3	2
2040			0	0	18	-30	-9	6
2050			0	0	24	-37	-21	14
2060			0	0	32	-46	-39	27
Deviations from main alternative (percent)								
2009			0	0	0	0	0	0
2020			0	0	0	-1	0	0
2030			0	0	1	-2	0	0
2040			0	0	2	-4	-1	1
2050			0	0	3	-5	-3	2
2060			0	0	4	-5	-4	3

Table T.28
Number of men aged 80 and older 1960-2008 and projection 2009-2060 according to different alternative assumptions and discrepancy to the main alternative. Thousands and percent

Year	Observed	Main alter-native	Alternative assumptions					
			Fertility		Mortality		Migration	
			Low	High	Low	High	Low	High
Men age 80 and above								
1960	62							
1970	77							
1980	95							
1990	129							
2000	160							
2008	181							
Projection								
2009		182	182	182	182	182	182	182
2020		217	217	217	223	203	217	217
2030		339	339	339	362	285	339	340
2040		368	368	368	421	277	366	369
2050		423	423	423	513	295	420	427
2060		431	431	431	568	281	424	443
Deviations from main alternative (thousands)								
2009			0	0	0	0	0	0
2020			0	0	7	-14	0	0
2030			0	0	23	-55	0	0
2040			0	0	54	-91	-1	1
2050			0	0	90	-128	-3	4
2060			0	0	136	-151	-8	12
Deviations from main alternative (percent)								
2009			0	0	0	0	0	0
2020			0	0	3	-7	0	0
2030			0	0	7	-16	0	0
2040			0	0	15	-25	0	0
2050			0	0	21	-30	-1	1
2060			0	0	32	-35	-2	3

Table T.29
Number of women aged 80 years and older 1960-2008 and projection 2009-2060 according to different alternative assumptions and discrepancy to the main alternative. Thousands and percent

Year	Observed	Main alter-native	Alternative assumptions					
			Fertility		Mortality		Migration	
			Low	High	Low	High	Low	High
Women age 80 and above								
1960	79							
1970	113							
1980	168							
1990	241							
2000	293							
2008	312							
Projection								
2009		312	312	312	312	312	312	312
2020		320	320	320	331	307	320	320
2030		444	444	444	481	402	444	445
2040		471	471	471	549	399	470	472
2050		517	517	517	636	420	514	519
2060		521	521	521	687	404	512	527
Deviations from main alternative (thousands)								
2009			0	0	0	0	0	0
2020			0	0	12	-13	0	0
2030			0	0	37	-42	-1	0
2040			0	0	78	-72	-1	1
2050			0	0	118	-97	-4	2
2060			0	0	166	-117	-9	6
Deviations from main alternative (percent)								
2009			0	0	0	0	0	0
2020			0	0	4	-4	0	0
2030			0	0	8	-9	0	0
2040			0	0	16	-15	0	0
2050			0	0	23	-19	-1	0
2060			0	0	32	-22	-2	1

Demographic publications

1999 Från folkbrist till en åldrande befolkning
– glimtar ur en unik befolkningsstatistik under 250 år. Fakta inför 2000-talet. SCB
2007 Upp till 18 – Fakta om barn och ungdom 2007. Barnombudsmannen och SCB
1999:1 Barnfamiljer 1997 – om familjesammansättning och separationer
1999:2 Befolkningsutvecklingen under 250 år – Historisk statistik för Sverige
1999:3 Barn och deras familjer 1998 – om familjesammansättning, separation mellan föräldrar, boende, inkomster, barnomsorg och föräldrars sysselsättning
2000:1 Sveriges framtida befolkning
2000:2 Barn och deras familjer 1999
2001:1 Varför föds det så få barn?
2001:2 Arbetsmarknadsstatus och fruktsamhet
2001:3 Livslängden i Sverige 1991–2000
2002:1 Barnens del av kakan
2002:2 Barn och deras familjer 2000
2002:3 Livslängd, hälsa och sysselsättning
2002:4 Befolkningsåret 2001
2002:5 Hur många barn får jag?
2002:6 Arbetskraftsinvandring – en lösning på försörjningsbördan?
2002:7 Mammor och pappor – om kvinnors och mäns föräldraskap
2003:1.1 Barn och deras familjer 2001. Del 1: Tabeller
2003:1.2 Barn och deras familjer 2001. Del 2: Texter och diagram
2003:2 Flyttströmmar i Sverige 1999–2001
2003:3 Befolkningsåret 2002
2003:4 Sveriges framtida befolkning – Befolkningsframskrivning för åren 2003–2050
2003:5 Sveriges framtida befolkning 2003–2020. Svensk och utländsk bakgrund
2003:6 Arbetslöshet och barnafödande
2003:7 Barn och deras familjer 2002
2004:1 Barnens tid med föräldrarna
2004:2 Vad påverkar sjukskrivningarna?
2004:3 Barn och deras familjer 2003
2004:4 Dödlighet efter utbildning, boende och civilstånd
2004:5 Efterkrigstidens invandring och utvandring
2005:1 Bostaden, storstaden och barnfamiljen
2005:2 Barn och deras familjer 2004
2005:3 Familjens betydelse för rörligheten på arbetsmarknaden
2005:4 Från folkökning till folkminskning
2006:1 Äldres omsorgsbehov och närhet till anhöriga
2006:2 Sveriges framtida berfolkning 2006–2050
2006:3 Barn och deras familjer 2005
2007:1 Livslängden i Sverige 2001–2005
2007:2 Barn, boendesegregation och skolresultat
2007:3 Föräldraledighet och arbetskarriär – En studie av mammors olika vägar i arbertslivet
2007:4 Barn och deras familjer 2006
2008:1 Arbete och barnafödande. En jämförelse mellan inrikes och utrikes födda
2008:2 Barnafödande bland inrikes och utrikes födda
2008:3 Anhöriginvandrare och deras familjer
2008:4 Invandrares flyttmönster
2008:5 Ungdomars flytt hemifrån
2009:1 Sveriges framtida befolkning 2009–2060

The future population of Sweden 2009–2060

Around the middle of the last century Sweden had a population of slightly more than 7 million people. Sweden's population exceeded 8 million at the end of the 1960s and 9 million in 2004. By 2024 the 10 million mark will be passed and at the end of the projection period Sweden is expected to have a population of 10.7 million.

Average life expectancy for women in the projection is predicted to rise from 83 years in 2008 to 87 years in 2060. For men, the corresponding expected increase in average life expectancy for the same period is from 79 to 85 years.

Fertility is expected to drop from today's 1.9 children per woman to 1.8 children per woman.

Net immigration in recent years has been record high, with more than 50 000 persons annually. In the long term we expect to have an immigration of 76 000 and an emigration of 57 000. This results in a net immigration of about 19 000 persons per year.

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