

Report:

2006-based national population projections: underlying long-term assumptions

Introduction

The Office for National Statistics (ONS)'s next set of national population projections for the United Kingdom and constituent countries is due to be published on 23 October 2007, accompanied by an ONS 'First Release.' Summary results from the projections will be available from the National Statistics website, but detailed results will initially only be available from the Government Actuary's Department (GAD) website (in downloadable Excel™ files).¹ There will also be separate Press Releases from the General Register Office for Scotland (GROS) and the Northern Ireland Statistics and Research Agency (NISRA). An article describing the results of the new projections will appear in the spring 2008 issue of

Population Trends and a reference volume in the ONS PP2 series will follow later in 2008. The projections will be based on the official ONS, GROS and NISRA estimates of the population at the middle of 2006.

Long-term assumptions

The new projections will be based on the long-term assumptions of future fertility, mortality and net migration (that is, immigrants *less* emigrants) shown in Table A. These have been agreed in consultation with GROS, NISRA and the Welsh Assembly Government Statistical Directorate. Comparisons are given with the assumptions made for the previous 2004-based projections.

Table A

Long-term assumptions for the 2006-based national population projections compared with assumptions for the 2004-based projections

		United Kingdom	England	Wales	Scotland	Northern Ireland	
Fertility – Long-term average number of children per woman	2006-based	1.84	1.85	1.85	1.65	1.95	
	2004-based	1.74	1.75	1.75	1.60	1.80	
Mortality - Expectation of life at birth in 2031 ¹	Males	2006-based	82.7 ^p	83.0 ^p	82.5 ^p	80.5 ^p	82.3 ^p
		2004-based	81.4	81.6	81.1	79.2	81.0
	Females	2006-based	86.2 ^p	86.4 ^p	86.0 ^p	84.9 ^p	86.1 ^p
		2004-based	85.0	85.2	84.8	83.7	84.9
Net migration ² – Annual long-term assumption	2006-based	+190,000	+171,500	+9,500	+8,500	+500	
	2004-based	+145,000	+130,000	+11,500	+4,000	-500	

1. Expectations of life for 25 years ahead given as specimen year. Note these are **period** expectations of life based on the mortality rates assumed for the year 2031 and do not take account of the continuing improvement in mortality projected beyond 2031 (see main text). **Cohort** life expectancies in the 2006-based projections, allowing for the assumed further mortality improvement, will be about 8.7 years higher for a boy born in the UK in 2031 and about 8.0 years higher for a girl born in 2031 than the period figures shown in the table.

2. Net migration includes international migration and cross-border migration between the countries of the UK.

^p Provisional.

The long-term assumption of average family size has been raised for the UK to 1.84 children per woman, an increase of 0.10 compared with the 2004-based projections. The long-term UK fertility assumption in official national projections has been lowered on a number of occasions since the 1960s baby boom,² but this is the first time it has been increased during that period. This follows several years of increasing fertility rates in all four countries of the UK.

Projected period life expectancies at birth for the year 2031 are around 1.3 years higher than in the previous projections for males and 1.2 years higher for females. This is largely a result of greater than expected falls in mortality over the last two years which have led to higher assumptions of future mortality improvement particularly in the short-term. But there is also a change to assumptions of long-term rates of improvement. The new projections will assume that annual rates of mortality improvement will converge to a common rate of 1.0 per cent a year at 2031 for most ages, and continue to improve at that constant rate thereafter. However, it will now be assumed that those born in the years 1923 to 1940 (cohorts which have consistently experienced relatively high rates of mortality improvement over the last 25 years) will continue to experience higher rates of mortality improvement, with assumed rates of improvement in and after 2031 rising from 1.0 per cent a year for those born before 1923 to a peak of 2.5 per cent a year for those born in 1931 and then declining back to 1.0 per cent a year for those born in 1941 or later. In the 2004-based projections it was assumed that these cohort differentials would disappear over time with a common rate of improvement of 1.0 per cent assumed at all ages by 2029.

The new long-term assumption for net migration to the United Kingdom is +190,000 each year compared with +145,000 a year in the previous projections. This increase is partly due to taking account of data for two new years (2004 and 2005) where net migration to the UK has been at record levels, and partly because of the impact of methodological changes following recent announcements of improvements to the estimation of international migration.³ (International migration estimates for 2006, which are scheduled for publication on 15 November 2007, will also take account of these changes. Revised figures for earlier years will be published on the same date.) These methodological improvements also affect the assumed distribution of international migration between the countries of the UK. Changes to the migration assumptions for the individual countries also reflect recent trends in cross-border migration between the four countries. Migration assumptions for the initial few years of the new projections are still to be finalised and may differ from the long-term figures shown in Table A.

More details of the underlying assumptions will be given on the National Statistics and GAD websites on 23 October.

Variant projections

In addition to the principal (or central) population projections, ONS will also be producing an extensive set of variant projections based on alternative assumptions of future fertility, mortality and migration. The approach will follow that used for the 2004-based projections where nineteen different variant projections were carried out for each country.⁴ Full results will be placed on the GAD website. The key variants (the standard single component variants for fertility, mortality and migration and the zero net migration variant) will be published with the principal projections on 23 October, with all remaining variants published by the end of November 2007.

Notes

1. This will be the first set of national projections since responsibility for this work transferred from GAD to ONS in January 2006 (see *Population Trends* 123, page 4). It is planned that the detailed projection results will be added to the National Statistics website during 2008.
2. See *Population Trends* 128, page 13.
3. See www.statistics.gov.uk/statbase/Product.asp?vlnk=14834
4. See www.gad.gov.uk/Population/2004/methodology/varlist.htm