

## RESULTS

### Introduction

#### Different sub-periods

Two distinct time periods are distinguished in the presentation of the results, namely: the periods 2006-2016 and 2016-2036, respectively. Six population variants are given for both periods. These are M1F1, M1F2, M1F3, M2F1, M2F2 and M2F3. The one mortality assumption underlies all these projections. For the labour force just two projections for the period 2006-2016 only are presented since different fertility assumptions do not have any direct impact on the level of the workforce over such a relatively short period of time.

The main results of the projections are set out in tabular form in Tables 1 to 9 at the end of this section.

- Tables 1 to 6 give the projected population classified by five-year age group and sex at five-year intervals from 2006 to 2036 with 2001<sup>2</sup> shown for comparison purposes.
- The projected numbers of births, deaths and net migration under the six combinations of assumptions are set out for five-year periods from 2001 to 2036 in Table 7. This table also contains comparable historical intercensal data from 1926 onwards in order to facilitate comparisons with past trends.
- In Tables 8 and 9 the projected labour force is classified by five-year age group, sex and female marital status for the years 2006, 2011 and 2016. Corresponding data for 2001 are also given.

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<sup>2</sup> While the projections use the 2002 census based populations the 2001 population estimates are used in the results tables to allow cohort comparisons to be carried out.

## The Period 2006 to 2016

### Total projected population

Table M summarises the total population arising under the six combinations of fertility and migration.

**Table M Projected population 2006 - 2016**

| Year      | Strong net immigration (M1) |       |       | Declining net immigration (M2) |       |       |
|-----------|-----------------------------|-------|-------|--------------------------------|-------|-------|
|           | F1                          | F2    | F3    | F1                             | F2    | F3    |
| Thousands |                             |       |       |                                |       |       |
| 2006      | 4,168                       | 4,166 | 4,164 | 4,168                          | 4,166 | 4,164 |
| 2011      | 4,505                       | 4,487 | 4,469 | 4,452                          | 4,435 | 4,416 |
| 2016      | 4,854                       | 4,810 | 4,765 | 4,688                          | 4,645 | 4,601 |

Under the highest variant (M1F1) the population is projected to grow by just over one million between 2001 and 2016 - an average annual rate of population increase of almost 1.6 per cent. This is roughly equivalent to the historically high population growth rate observed during the decade 1971-1981 and exceeds the average annual growth rate of 1.3 per cent observed during the most recent intercensal period 1996-2002. Under the lowest variant (M2F3) the overall population in 2016 is projected to be over 750,000 higher than the estimated level in 2001. The range of population outcomes shown for 2016 (i.e. the difference between the populations projected under the highest and lowest variants) is therefore just over 250,000.

### .. migration the key factor..

The difference in the impact of the two migration assumptions on the level of the projected population in 2016 is between 164,000 and 166,000 depending on which fertility assumption is used. The fertility effect, on the other hand, is 87,000 or 89,000 depending on whether migration assumption M1 or M2 is used. Migration, therefore, accounts for about two-thirds of the total difference between the highest and lowest population levels projected for 2016.

Table N shows the population by broad age group under the various combinations of assumptions for five-year intervals from 2006 to 2016. It also distinguishes the derived young and old dependency ratios as well as the population of school-going age.

### The young population

The number of persons aged 0-14 years reached a peak of 1,044,000 in 1981. The main reasons were the steady build up of births in the 1970s coupled with inward migration during the same period when complete families returned to Ireland. The number of children in this age group has, however, declined in every census since 1981 mainly reflecting the sharp fall in births from the 1980 peak. By 2001 children aged 0-14 years were over 216,000 fewer in number than in 1981.

Those aged 0-14 years in 2001 will have aged fifteen years by 2016 and will, therefore, have been completely replaced by those born in the intervening period, with due allowance being made for migration and mortality. Comparisons between the number of persons aged 0-14 in 2001 and 2016 will vary, therefore, largely in accordance with the fertility assumption chosen.

Under the combination of the high fertility and continuing high immigration assumptions (M1F1), the number of 0-14 year olds is projected to increase from its 2001 level of 827,500 to 1,046,000 by 2016. This would be on a par with the 1981 peak level and would represent an increase of 219,000 or 26.5 per cent between 2001 and 2016. Under the medium fertility assumption (F2) the number of children in 2016 would be 17 to 21 per cent higher than the 2001 level depending on the migration assumption used. Finally, the combination of low fertility and declining immigration (M2F3) would lead to a lower, though still significant increase of 98,000 (11.9 per cent) when compared with the 2001 level.

**Table N Population projections, 2006 - 2016**

| Scenario | Population of school going age |                   | Population |         |                   |         | Average annual % change in total population in 5-year period | Dependency ratios |      |       |
|----------|--------------------------------|-------------------|------------|---------|-------------------|---------|--------------------------------------------------------------|-------------------|------|-------|
|          | “Primary” 5-12                 | “Secondary” 13-18 | 0-14       | 15-64   | 65 years and over | Total   |                                                              | Young             | Old  | Total |
|          | Thousands                      |                   |            |         |                   |         |                                                              | Percentage        |      |       |
| Actual   |                                |                   |            |         |                   |         |                                                              |                   |      |       |
| 2001     | 433.9                          | 375.3             | 827.5      | 2,589.8 | 429.8             | 3,847.2 | 0.00                                                         | 32.0              | 16.6 | 48.5  |
| M1F1     |                                |                   |            |         |                   |         |                                                              |                   |      |       |
| 2006     | 447.4                          | 341.3             | 868.0      | 2,834.0 | 465.6             | 4,167.7 | 1.61                                                         | 30.6              | 16.4 | 47.1  |
| 2011     | 502.0                          | 331.1             | 961.0      | 3,012.8 | 531.1             | 4,504.9 | 1.57                                                         | 31.9              | 17.6 | 49.5  |
| 2016     | 560.1                          | 365.1             | 1,046.4    | 3,176.7 | 631.1             | 4,854.2 | 1.50                                                         | 32.9              | 19.9 | 52.8  |
| M1F2     |                                |                   |            |         |                   |         |                                                              |                   |      |       |
| 2006     | 447.4                          | 341.3             | 866.2      | 2,834.0 | 465.6             | 4,165.8 | 1.60                                                         | 30.6              | 16.4 | 47.0  |
| 2011     | 500.2                          | 331.1             | 943.1      | 3,012.8 | 531.1             | 4,487.0 | 1.50                                                         | 31.3              | 17.6 | 48.9  |
| 2016     | 542.3                          | 365.1             | 1,002.1    | 3,176.7 | 631.1             | 4,809.9 | 1.40                                                         | 31.5              | 19.9 | 51.4  |
| M1F3     |                                |                   |            |         |                   |         |                                                              |                   |      |       |
| 2006     | 447.4                          | 341.3             | 864.2      | 2,834.0 | 465.6             | 4,163.9 | 1.59                                                         | 30.5              | 16.4 | 46.9  |
| 2011     | 498.2                          | 331.1             | 924.7      | 3,012.8 | 531.1             | 4,468.6 | 1.42                                                         | 30.7              | 17.6 | 48.3  |
| 2016     | 523.9                          | 365.1             | 957.3      | 3,176.7 | 631.1             | 4,765.1 | 1.29                                                         | 30.1              | 19.9 | 50.0  |
| M2F1     |                                |                   |            |         |                   |         |                                                              |                   |      |       |
| 2006     | 447.4                          | 341.3             | 868.0      | 2,834.0 | 465.6             | 4,167.7 | 1.61                                                         | 30.6              | 16.4 | 47.1  |
| 2011     | 498.3                          | 329.6             | 952.3      | 2,970.3 | 529.9             | 4,452.5 | 1.33                                                         | 32.1              | 17.8 | 49.9  |
| 2016     | 546.0                          | 359.8             | 1,012.2    | 3,048.9 | 626.8             | 4,687.9 | 1.04                                                         | 33.2              | 20.6 | 53.8  |
| M2F2     |                                |                   |            |         |                   |         |                                                              |                   |      |       |
| 2006     | 447.4                          | 341.3             | 866.2      | 2,834.0 | 465.6             | 4,165.8 | 1.60                                                         | 30.6              | 16.4 | 47.0  |
| 2011     | 496.4                          | 329.6             | 934.6      | 2,970.3 | 529.9             | 4,434.8 | 1.26                                                         | 31.5              | 17.8 | 49.3  |
| 2016     | 528.3                          | 359.8             | 969.2      | 3,048.9 | 626.8             | 4,644.9 | 0.93                                                         | 31.8              | 20.6 | 52.3  |
| M2F3     |                                |                   |            |         |                   |         |                                                              |                   |      |       |
| 2006     | 447.4                          | 341.3             | 864.2      | 2,834.0 | 465.6             | 4,163.9 | 1.59                                                         | 30.5              | 16.4 | 46.9  |
| 2011     | 494.5                          | 329.6             | 916.3      | 2,970.3 | 529.9             | 4,416.5 | 1.19                                                         | 30.8              | 17.8 | 48.7  |
| 2016     | 510.0                          | 359.8             | 925.6      | 3,048.9 | 626.8             | 4,601.3 | 0.82                                                         | 30.4              | 20.6 | 50.9  |

In the absence of migration, the young population would still increase (by approximately two per cent under F3 and eleven per cent under F1). These growth levels are, however, much lower than those noted above for either the M1 or M2 scenarios thus highlighting once again the sensitivity of the projections to the choice of migration assumption.

**..rise in numbers of  
“primary” school-going  
age..**

The projected changes will directly impact on the population of school-going age. Taking the “primary” school population as being broadly represented by those aged 5-12 years, the numbers in this category are projected to increase progressively under all combinations of assumptions in the period 2001-2016. The projected increases vary from 17.6 per cent under M2F3 to 29 per cent under M1F1. In the absence of migration the 15-year increase in the population of primary school-going age would be between 8 per cent and 15.6 per cent depending on which fertility scenario is chosen.

The outlook for children of “secondary” school age (i.e. persons aged 13-18 years) is more certain. Under all combinations of assumptions numbers are projected to continue to decline until 2011 and to then experience a recovery by 2016. The high immigration assumption yields a similar number of persons aged 13-18 years in 2016 compared with 2001 while under the low immigration assumptions the projected 2016 values will be slightly less.

It is instructive to put the likely changes in the young population in the context of projected changes in the rest of the population. The “young” dependency ratio is a measure which expresses the population aged 0-14 years as a percentage of the population aged 15-64 years. This ratio peaked at over 50 per cent during the 1960s and 1970s but has been in continuous decline since then to stand at just over 31 per cent in 2002. Table N shows that this ratio will remain largely unchanged over the next decade or so, i.e. in the range 30 to 33 per cent, under all assumptions.

**..births on the increase..**

The number of births averaged 70,000 in the ten-year period 1971-1981 with the peak number of births (74,000) occurring in 1980. Declines were observed in each intercensal period up to and including 1991-1996 when the average fell to just 50,000 births per annum over the period. Since the mid-1990s the annual number of births recorded has increased progressively from a low of 48,000 in 1994 to 61,500 in 2003. As a result, in the most recent intercensal period 1996-2002 the average annual number of births has risen to 54,000.

Under assumptions F1 and F2 the number of births is projected to continue its upward path with an average of 71,000 births projected for 2011-2016 under M1F1 compared with 65,000 for the same period under M1F2. In the same migration context the low fertility assumption F3 would result in an average annual number of births of 60,000 during 2011-2016. For the lower migration scenario M2 the average annual number of births in the 2011-2016 period would be approximately 2,000-3,000 lower on each fertility assumption.

In the absence of migration the average annual number of births would be some 5,000-6,000 lower in the 2006-2011 period, and 9,000-11,000 lower in the 2011-2016 period, compared with that projected under the M1 scenario.

**The population of working  
age**

In examining the population aged 15-64 in the period to 2016 reference only needs to be made to the migration effect as the different fertility assumptions have no impact on this age group. Only two scenarios are therefore considered, namely those corresponding to M1 and M2. With nearly all of the migration estimated to affect the 15-64 age group the difference between the two migration assumptions will, therefore, be seen to impact almost entirely on the this age group up to 2016.

The population aged 15-64 has increased at every census since 1961 from its then low point of 1,626,000 to 2,590,000 in 2001. Under M1 – the continuing high net immigration assumption – the population aged 15-64 is

projected to increase by 587,000 between 2001 and 2016 representing an average annual increase of about 1.4 per cent. Under M2 the increase during the period 2001-2016 would be 459,000 persons or 1.1 per cent per annum.

Both these projected population growth rates are lower than the 1.7 per cent rate recorded between 1991 and 2001. This high growth rate was due to two factors. On the one hand, the number of entrants to the age group was bolstered by the high births recorded in the late 1970s and early 1980s. On the other hand, the number of 65-year-olds leaving the age group was depleted due to emigration from this cohort during the late 1940s and the 1950s.

By way of contrast, looking at the period 2004-2016 the number of entrants to the working age population will diminish because of the fall in the number of births in the 1990s. It is clear that the assumed higher net immigration flows over the next decade or so will only partially counterbalance this decline.

The Expert Group's assumptions concerning labour force participation rates translate these populations into their relevant labour force and non-labour force components. The results are given in Tables 8 and 9.

### Increasing labour force

Under migration assumption M1, which assumes net inward migration continuing at an average annual rate of 30,000 up to 2016, the labour force is projected to increase from 1.92 to 2.37 million in the twelve-year period 2004-2016. This represents an overall increase of over 450,000 or an average annual increase of just under 38,000. This projected increase compares with an average annual gain of 43,500 during the thirteen-year period 1991/2004. Females are projected to account for 236,000 or 52 per cent of the overall increase. In relative terms this represents an increase of 30 per cent, well ahead of the 19 per cent increase projected for males. This differential follows from the assumptions that anticipate both lower female marriage rates and greater labour force participation by married females. Both categories of females – single and married – are projected to have similar rates of labour force growth between 2004 and 2016.

Under the M2 scenario of lower immigration the labour force is projected to increase at a slower average annual rate of 29,000 over the period to reach 2.27 million in 2016. Females will again account for the greatest share (54%) of the projected increase. The impact of assumed lower immigration causes the projected average annual labour force growth to fall from 1.8 per cent under M1 to 1.4 per cent under M2.

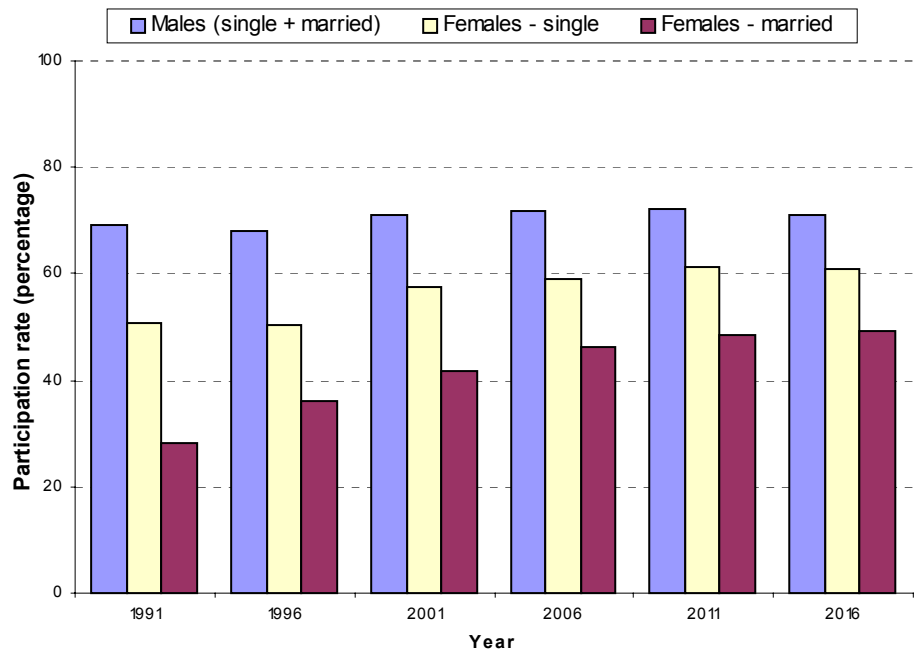
Table O compares labour force growth rates for the period 1991-2004 with those projected for 2004-2016. The projected average annual rate of increase is less than that achieved during 1991-2004 for all categories. This is due to two main factors. First, the lower growth noted above for the adult population will serve in turn to depress the labour force growth rates. Secondly in the case of females, the remarkable increase in labour force participation rates experienced between 1991 and 2004, as Irish rates rapidly converged towards those of comparable European States, is projected to continue to moderate.

**Table O Actual and projected average annual growth rates of the labour force (%)**

| Period         | Males | Married females | Other females | Total females | Persons |
|----------------|-------|-----------------|---------------|---------------|---------|
| 1991/2004      | 1.9   | 4.7             | 3.4           | 4.1           | 2.7     |
| 2004/2016 (M1) | 1.5   | 2.2             | 2.2           | 2.2           | 1.8     |
| 2004/2016 (M2) | 1.1   | 1.9             | 1.6           | 1.8           | 1.4     |

Table A5 in the Appendix contains historic and projected labour force participation rate data, distinguishing males along with both single and married females from 1991 to 2016. The situation is illustrated graphically in Figure 5 and shows in particular the rapid rise in the participation of married females.

**Figure 5 Actual and projected (M1) labour force participation rates for persons aged 15 years and over**



### Demographic effect dominates

By holding labour force participation rates constant at their 2004 level it is possible to apportion the overall projected increase in the labour force between its *demographic* and *participation rate* effects. Table P sets out the components under both migration assumptions.

**Table P Components of labour force change, 2004 - 2016**

| Scenario           | Males | Females |       |       | Persons |
|--------------------|-------|---------|-------|-------|---------|
|                    |       | Married | Other | Total |         |
| Thousands          |       |         |       |       |         |
| M1                 |       |         |       |       |         |
| Demographic        | 185.2 | 41.6    | 90.5  | 132.1 | 317.3   |
| Participation rate | 32.0  | 90.1    | 13.9  | 104.0 | 135.9   |
| Total              | 217.1 | 131.7   | 104.4 | 236.1 | 453.3   |
| M2                 |       |         |       |       |         |
| Demographic        | 129.4 | 26.7    | 61.2  | 87.9  | 217.4   |
| Participation rate | 31.5  | 87.9    | 13.2  | 101.2 | 132.6   |
| Total              | 160.9 | 114.7   | 74.4  | 189.1 | 350.0   |

The labour force participation rate effect for M1 is broadly similar to that for M2. However, as might be expected, the demographic effect is much stronger for the former because of the greater net inward migration.

Of the categories shown in Table P the demographic effect is largest in the case of males and accounts for 80-85 per cent of the overall labour force

change projected for 2004 to 2016. The demographic effect also dominates for single females. The assumed participation rate effect exerts the greatest influence on the projected change for married females. Under M1 it accounts for over two-thirds of the overall change while for M2 it is over three-quarters.

At the overall level the projected changes in the labour force to 2016 will arise mainly because of demographic factors. Under M1 these demographic factors account for 70 per cent of the projected change in the labour force between 2004 and 2016 while for M2 the corresponding figure is 62 per cent.

### Migration and Labour Force Growth

The choice of migration assumption is critical in determining the projected labour force supply outcome up to 2016. The cumulative population difference due to net migration up to 2016 between assumptions M1 and M2 is 150,000 and Table P shows that this translated into a difference of just over 100,000 in the projected labour force.

Labour force demand will be a key determinant of migration over the projection period. Table Q shows the relationship between migration and labour force growth for the period since 1991 and under each of the two migration scenarios (M1 and M2). In addition the projected growth in the labour force in the absence of migration (M0)<sup>3</sup> is shown for comparative purposes.

**Table Q Actual and projected average annual net migration and change in the labour force, 1991 - 2016**

| Period    | Scenario | Average annual net migration | Average annual change in the labour force | Average annual change in the labour force |
|-----------|----------|------------------------------|-------------------------------------------|-------------------------------------------|
|           |          | Thousands                    | Percentage                                |                                           |
| Actual    |          |                              |                                           |                                           |
| 1991/2004 |          | 16.7                         | 43.5                                      | 2.7                                       |
| Projected |          |                              |                                           |                                           |
| 2004/2016 | M1       | 30.0                         | 37.8                                      | 1.8                                       |
|           | M2       | 17.5                         | 29.2                                      | 1.4                                       |
|           | M0       | 0.0                          | 16.9                                      | 0.8                                       |

In the absence of migration (M0), the labour force is projected to grow at a modest 17,000 per annum over the next twelve years, while the low migration scenario (M2) would result in an annual labour force growth of 29,000. Net immigration of 30,000 persons annually would result in an annual labour force growth rate of 38,000 compared with the 43,500 growth achieved between 1991 and 2004. While it is difficult to be precise about the magnitude of the likely future labour force demand, Table Q illustrates that for every 10,000 shortfall/surplus in the projected labour supply an adjustment of approximately 15,000 would be required to the underlying migration assumption to achieve balance between supply and demand in the labour market.

<sup>3</sup> M0 assumes gross inflows and outflows of 20,000 annually over the course of the projection period.

## The Period 2016 to 2036

### Total projected population

The population projections for the years 2016, 2021, 2026, 2031 and 2036 classified by five-year age groups and sex are given in Tables 1 to 6. The more distant the projection period from the reference year for the base population the more uncertain the assumptions are likely to be. Therefore, the projections for the period beyond 2016 are of a more conjectural nature than those for the period up to and including 2016. However, they do convey a good indication of the likely changes in the population both in terms of structure and magnitude.

Table R shows the projected population under all six scenarios.

**Table R Projected population 2016-2036**

| Year      | Strong net immigration (M1) |       |       | Declining net immigration (M2) |       |       |
|-----------|-----------------------------|-------|-------|--------------------------------|-------|-------|
|           | F1                          | F2    | F3    | F1                             | F2    | F3    |
| Thousands |                             |       |       |                                |       |       |
| 2016      | 4,854                       | 4,810 | 4,765 | 4,688                          | 4,645 | 4,601 |
| 2021      | 5,140                       | 5,070 | 4,999 | 4,870                          | 4,803 | 4,736 |
| 2026      | 5,399                       | 5,304 | 5,208 | 5,016                          | 4,927 | 4,838 |
| 2031      | 5,613                       | 5,492 | 5,370 | 5,140                          | 5,029 | 4,917 |
| 2036      | 5,820                       | 5,669 | 5,518 | 5,259                          | 5,121 | 4,983 |

The range of outcomes projected for the population in 2036 is about 837,000. Maintaining the TFR at 2.0 over the entire period to 2036 coupled with strong net immigration - albeit declining in magnitude in the latter part of the projection period - would result in an increase in population in excess of 50 per cent between 2001 and 2036. Under this (M1F1) scenario the projected population for 2036 would be over 5.8 million. At the other extreme, declining net immigration (M2) allied to decreasing fertility in the period to 2011 followed by continuing low fertility in the following twenty five-year period would result in a population level of close to 5 million in 2036.

Table S contains the population classified by broad age groups, the derived young and old dependency ratios and the population of school-going age, under the various combinations of assumptions at five-year intervals from 2016 to 2036.

### Young population

The young population post 2016 is effectively determined by births occurring after 2001. Table 7 shows that the projected average annual number of births will decline under all projection combinations in the period 2016-2031 and then experience a small recovery in 2031-2036. The rate of decline will be more pronounced under the low fertility scenario. Under M1F1 the average number of births is projected to decline from 70,000 during 2016-2021 to 66,000 during 2026-2031 and then to recover to 68,000 births during 2031-2036. Projected births will be lowest under M2F3, falling to an average annual of 48,000 between 2026 and 2031 and remaining at that level during 2031-2036. Given that fertility rates are assumed to be constant under all three fertility variants from 2011 onwards, the variation in the number of births reflects the projected trend in the number of females of child bearing age, especially those aged 20-39.

The effect of these trends on the young population can be seen in Table S. Under M1F1 the population 0-14 years is projected to peak at 1,085,000 in 2021 and to decline to 1,032,000 by 2036. Scenario M2F3 would yield a peak young population of 926,000 in 2016 with projected decreases thereafter to reach a level of 750,000 by 2036.

**Table S Population projections, 2021 - 2036**

| Scenario | Population of school going age |                   | Population |         |                   |         | Average annual % change in total population in 5-year period | Dependency ratios |      |       |
|----------|--------------------------------|-------------------|------------|---------|-------------------|---------|--------------------------------------------------------------|-------------------|------|-------|
|          | “Primary” 5-12                 | “Secondary” 13-18 | 0-14       | 15-64   | 65 years and over | Total   |                                                              | Young             | Old  | Total |
|          | Thousands                      |                   |            |         |                   |         |                                                              | Percentage        |      |       |
| Actual   |                                |                   |            |         |                   |         |                                                              |                   |      |       |
| 2001     | 433.9                          | 375.3             | 827.5      | 2,589.8 | 429.8             | 3,847.2 | 0.00                                                         | 32.0              | 16.6 | 48.5  |
| M1F1     |                                |                   |            |         |                   |         |                                                              |                   |      |       |
| 2021     | 589.7                          | 412.7             | 1,084.8    | 3,314.1 | 741.3             | 5,140.1 | 1.15                                                         | 32.7              | 22.4 | 55.1  |
| 2026     | 587.9                          | 442.1             | 1,075.0    | 3,457.7 | 866.2             | 5,398.9 | 0.99                                                         | 31.1              | 25.1 | 56.1  |
| 2031     | 563.3                          | 449.9             | 1,044.2    | 3,566.8 | 1,002.3           | 5,613.3 | 0.78                                                         | 29.3              | 28.1 | 57.4  |
| 2036     | 548.2                          | 434.3             | 1,032.4    | 3,642.6 | 1,145.3           | 5,820.3 | 0.73                                                         | 28.3              | 31.4 | 59.8  |
| M1F2     |                                |                   |            |         |                   |         |                                                              |                   |      |       |
| 2021     | 551.7                          | 406.4             | 1,016.3    | 3,312.2 | 741.3             | 5,069.9 | 1.06                                                         | 30.7              | 22.4 | 53.1  |
| 2026     | 546.0                          | 417.5             | 997.5      | 3,439.9 | 866.2             | 5,303.6 | 0.91                                                         | 29.0              | 25.2 | 54.2  |
| 2031     | 522.8                          | 418.2             | 966.9      | 3,522.6 | 1,002.3           | 5,491.8 | 0.70                                                         | 27.4              | 28.5 | 55.9  |
| 2036     | 507.0                          | 403.6             | 950.8      | 3,572.6 | 1,145.3           | 5,668.7 | 0.64                                                         | 26.6              | 32.1 | 58.7  |
| M1F3     |                                |                   |            |         |                   |         |                                                              |                   |      |       |
| 2021     | 513.4                          | 399.9             | 947.5      | 3,310.3 | 741.3             | 4,999.0 | 0.96                                                         | 28.6              | 22.4 | 51.0  |
| 2026     | 504.1                          | 392.5             | 920.0      | 3,421.5 | 866.2             | 5,207.7 | 0.82                                                         | 26.9              | 25.3 | 52.2  |
| 2031     | 482.3                          | 386.5             | 889.9      | 3,477.9 | 1,002.3           | 5,370.1 | 0.62                                                         | 25.6              | 28.8 | 54.4  |
| 2036     | 466.1                          | 372.9             | 870.2      | 3,502.1 | 1,145.3           | 5,517.6 | 0.54                                                         | 24.8              | 32.7 | 57.6  |
| M2F1     |                                |                   |            |         |                   |         |                                                              |                   |      |       |
| 2021     | 558.9                          | 401.9             | 1,016.9    | 3,119.8 | 733.3             | 4,870.0 | 0.76                                                         | 32.6              | 23.5 | 56.1  |
| 2026     | 534.4                          | 421.6             | 970.5      | 3,192.1 | 853.4             | 5,016.0 | 0.59                                                         | 30.4              | 26.7 | 57.1  |
| 2031     | 493.3                          | 413.9             | 914.9      | 3,241.6 | 983.9             | 5,140.4 | 0.49                                                         | 28.2              | 30.4 | 58.6  |
| 2036     | 471.5                          | 383.2             | 892.8      | 3,247.3 | 1,119.0           | 5,259.1 | 0.46                                                         | 27.5              | 34.5 | 62.0  |
| M2F2     |                                |                   |            |         |                   |         |                                                              |                   |      |       |
| 2021     | 522.1                          | 395.7             | 952.0      | 3,118.0 | 733.3             | 4,803.2 | 0.67                                                         | 30.5              | 23.5 | 54.1  |
| 2026     | 495.6                          | 397.4             | 899.4      | 3,174.4 | 853.4             | 4,927.2 | 0.51                                                         | 28.3              | 26.9 | 55.2  |
| 2031     | 457.3                          | 384.0             | 846.2      | 3,198.7 | 983.9             | 5,028.8 | 0.41                                                         | 26.5              | 30.8 | 57.2  |
| 2036     | 435.5                          | 355.6             | 820.8      | 3,180.8 | 1,119.0           | 5,120.7 | 0.36                                                         | 25.8              | 35.2 | 61.0  |
| M2F3     |                                |                   |            |         |                   |         |                                                              |                   |      |       |
| 2021     | 485.1                          | 389.1             | 886.7      | 3,116.0 | 733.3             | 4,736.0 | 0.58                                                         | 28.5              | 23.5 | 52.0  |
| 2026     | 456.8                          | 372.9             | 828.4      | 3,156.2 | 853.4             | 4,838.0 | 0.43                                                         | 26.2              | 27.0 | 53.3  |
| 2031     | 421.3                          | 354.1             | 777.9      | 3,155.3 | 983.9             | 4,917.0 | 0.32                                                         | 24.7              | 31.2 | 55.8  |
| 2036     | 399.7                          | 327.9             | 749.9      | 3,113.8 | 1,119.0           | 4,982.8 | 0.27                                                         | 24.1              | 35.9 | 60.0  |

## The old population

The old population (i.e. those aged 65 years and over) is projected to increase very significantly from its 2001 level of 430,000 to over 1.1 million by 2036 under all combinations of assumptions chosen. The very old population (i.e. those aged 80 years of age and over) is set to rise even more dramatically from the 2001 level of 98,000 to a projected 323,000 in 2036.

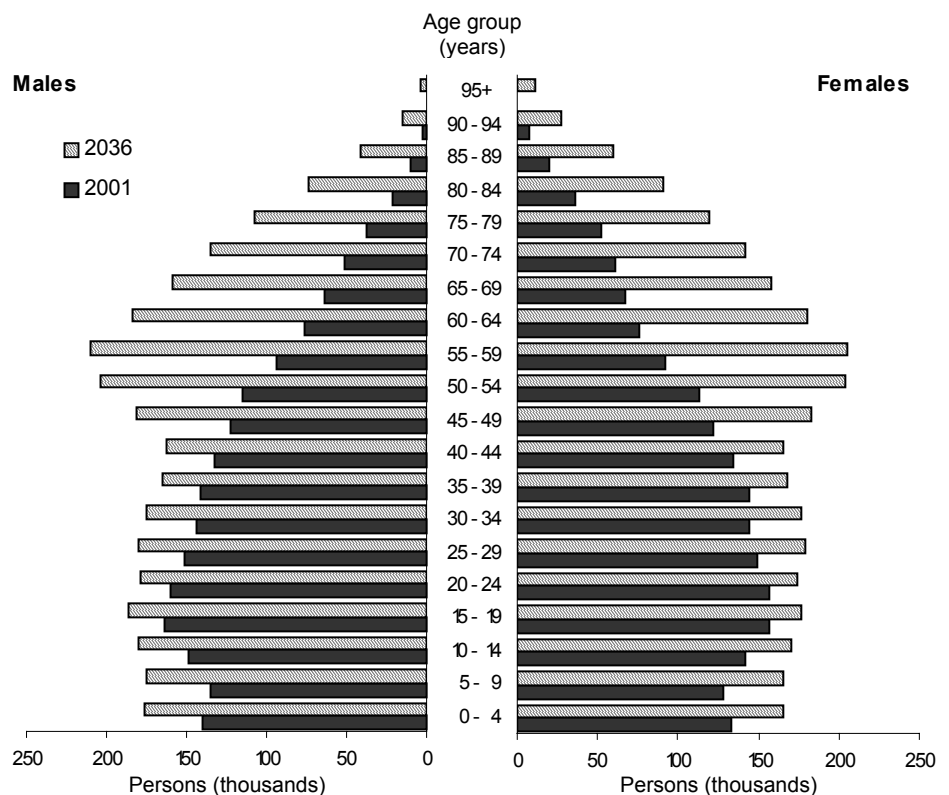
The average annual number of deaths will increase steadily from a current figure of under 30,000 to over 40,000 in the period 2031-2036. The natural increase in the population (i.e. the excess of births over deaths) is projected to decline under all combinations of assumptions. However, it will remain positive under all scenarios over the course of the projection period.

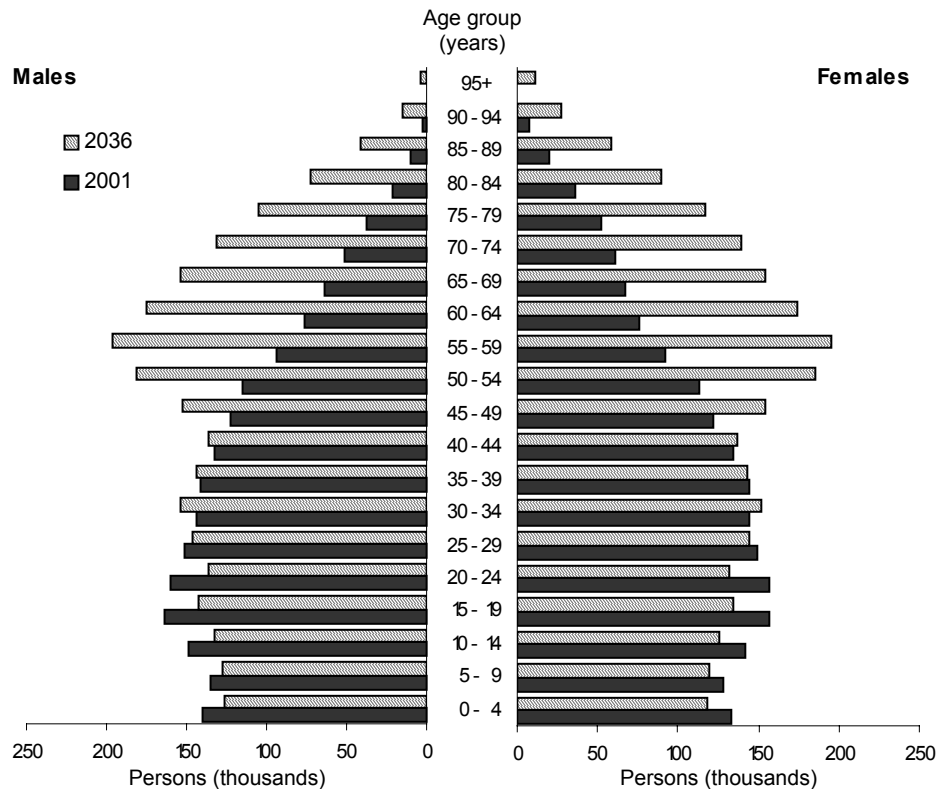
## Population structure

The young population (827,500) was almost double the old population (430,000) in 2001. However, by 2036 it is projected that there will be more older persons than younger persons with the excess being most pronounced in the case of the M2F3 scenario (i.e. 1,119,000 persons aged 65 years and over compared with just 750,000 persons aged 0-14 years).

The changing population structure is best illustrated by comparing the breakdown of the population by five-year age groups and sex in 2001 and 2036 as depicted by their respective population pyramids. Figures 6 and 7 contain the relevant population pyramids for 2001 and 2036 for M1F1 and M2F3, respectively – the two extremes of the projections. Both graphs illustrate the major expansion projected to take place in the number of persons aged 50 years and over. In the M1F1 scenario all age groups are projected to increase – the result of strong though declining net inward migration and the maintenance of a fertility rate of two children per woman. Under M2F3 the fall in fertility to a Northern European level of 1.7 children per woman coupled with moderate and declining net inward migration would see a fall in the number of young persons.

**Figure 6 Population pyramids for 2001 and 2036 (M1F1)**



**Figure 7 Population pyramids for 2001 and 2036 (M2F3)**

### Dependency ratios

As already mentioned, the young dependency ratio is expected to remain fairly static in the range 30-33 percent in the period up to 2016. Thereafter it will decline under all scenarios and finish in the range 24-28 per cent by 2036. The old dependency ratio is projected to increase from 2006 onwards with the rate of increase quickening after 2011. The total dependency ratio will be at a minimum of 47 per cent in 2006 but is projected to increase under all combinations of assumptions thereafter to reach values of between 58 and 62 per cent by 2036. A representative picture is given in Figure 8 which contains the young, old and total dependency ratios for the period 1926-2001 and forward to 2036 under the M2F2 scenario.

**Figure 8 Actual and projected (M2F2) dependency ratios**