## 10. *European Union*

(a) *Past trends*

   The total fertility rate in the 15 countries that presently constitute the European Union was on a rising curve until 1960-65, when it attained 2.69 births per woman. Since 1995, fertility has constantly decreased, falling below the replacement level of two children per woman around 1975. By 1990-95, fertility stood at 1.5 births per woman.  Life expectancy at birth, meanwhile, rose from 67.0 years in 1950-1955 to 76.5 years in 1990-1995.  As a consequence of these trends, the proportion of the population aged 65 or older rose from 9.5 per cent in 1950 to 15.5 per cent in 1995, and the potential support ratio (the number of persons aged 15-64 for each person aged 65 or older) fell in the same period, from 7.0 to 4.3.

(b) *Scenario I*

   Scenario I, the medium variant of the United Nations population projections in the *1998 Revision*, assumes an average net intake very close to 300,000 migrants per year between 1995-2050, for a total of almost 16.4 migrants during the period.  The medium variant projects that the total population of the 15 countries would briefly continue to grow until around 2005, by which time it would attain 376.5 million; from that point, it would start to decline at increasing speed, so that by 2050 some 331.3 million people would remain a loss of 40.6 million persons in relation to 1995 and 45.2 million persons in relation to the projected peak level in 2005 (the results of the 1998 United Nations projections are shown in the annex tables). This loss would be equivalent to the combined present population of the seven smallest members of the European Union:  Austria, Denmark, Finland, Ireland, Luxembourg, Portugal and Sweden (see table 27).  By 2050, the population of the European Union, which in 1995 was some 100 million larger than that of the United States, would be smaller than that of the United States by about 20 million.

   The population aged 15-64 would first register a slight increase from 249 million in 1995 to less than 252 million in 2005, but it would be followed by an accelerating decline that would bring it down to slightly under 188 million by 2050. The projected decline (61.5 million between 1995 and 2050) would thus reduce the working-age population by one quarter in relation to 1995 levels.  On the other hand, the population aged 65 or older would register steady growth, rising from 58 million in 1995 to 96 million in 2050, an increase of approximately 65 per cent.  As a result, the potential support ratio would decrease from 4.3 in 1995 to slightly less than 2.0 in 2050.

(c) *Scenario II*

   Scenario II, which is the medium variant with zero migration, uses the fertility and mortality assumptions of the medium variant of the *1998 Revision*, but without any migration to the 15 countries of the European Union after 1995. In this scenario, the total population would start declining after 2000 rather than five years later, and by 2050 it would be down to approximately 311 million, which is 20 million less than in scenario I.  The population aged 15-64 would immediately start declining, dropping from 249 million in 1995 to 174 million in 2050. Thus, without migration, the working age population would be cut by 30 per cent rather then by 25 per cent as in scenario I.   The population aged 65 or older would increase from 58 million in 1995 to 92 million in 2050, entailing a decline of the potential support ratio to 1.9 in 2050, 0.1 less than that projected in scenario I.

TABLE 27. POPULATION OF THE MEMBER COUNTRIES OF THE EUROPEAN UNION, 1995 AND 2050, SCENARIO I

| Member countries | Population (thousands) | | Projected change 1995-2050 | |
|---|---|---|---|---|
| as of 2000 | 1995 | 2050 (Scenario I) | (Thousands) | (Percentage) |
| Austria | 8 001 | 7 094 | - 907 | - 11.3 |
| Belgium | 10 088 | 8 918 | - 1 170 | - 11.6 |
| Denmark | 5 225 | 4 793 | - 567 | - 10.9 |
| Finland | 5 108 | 4 898 | - 210 | - 4.1 |
| France | 58 020 | 59 883 | 1 863 | + 3.2 |
| Germany | 81 661 | 73 303 | - 8 358 | - 10.2 |
| Greece | 10 489 | 8 233 | - 2 256 | - 21.5 |
| Ireland | 3 609 | 4 710 | 1 101 | + 30.5 |
| Italy | 57 338 | 41 197 | - 16 141 | - 28.2 |
| Luxembourg | 407 | 430 | 23 | + 5.7 |
| Netherlands | 15 459 | 14 156 | - 1 303 | - 8.4 |
| Portugal | 9 856 | 8 137 | - 1 719 | - 17.4 |
| Spain | 39 568 | 30 226 | 9 342 | - 23.6 |
| Sweden | 8 800 | 8 661 | - 139 | - 1.6 |
| United Kingdom | 58 308 | 56 667 | - 1 641 | - 2.8 |
| European Union | 371 937 | 331 307 | - 40 630 | - 10.9 |

(d) *Scenario III*

Scenario III keeps the size of the total population constant at its projected peak level of 372 million in 2000 (assuming no in-migration in the period 1995-2000). In order to keep the total population constant at that level, 47.4 million migrants would be necessary between 2000 and 2050, an average of 949,000 migrants per year. By 2050, out of a total population of 372 million, 61.6 million, or 16.5 per cent, would be post-2000 immigrants or their descendants. The potential support ratio in 2050 would be 2.2, which is only 0.2 point higher than in scenario I.

(e) *Scenario IV*

Scenario IV keeps the size of the population aged 15-64 constant at its 1995 level of 249 million, which would be the maximum level that it would ever reach in the absence of post-1995 migration. In order to keep the working-age population constant at that level, it would in fact be necessary to have 79.6 million migrants between 1995 and 2050, an average of 1.4 million migrants per year. Owing to irregularities in the age structure of the population, the annual number of migrants required to keep the working-age population constant would first increase rapidly and then decline. It would peak in 2025-2030, with an annual number of net migrants in excess of 2.8 million. By 2050, out of a total population of 418.5 million, post-1995 immigrants and their descendants would be 107.7 million, or 25.7 per cent. The potential support ratio in 2050 according to this scenario would be significantly higher than in scenario I, (2.4 as opposed to 2.0), but the difference is modest compared to the magnitude of the drop from the level of 4.3 in 1995.

(f) *Scenario V*

Scenario V does not allow the potential support ratio to decrease below the value of 3.0. In order to achieve this, no immigrants would be needed until 2015, and 153.6 million immigrants would be needed between 2015 and 2040, an average of 6.1 million per year during that period. By 2050, out of a total population of 520 million, 209 million, or 40 per cent, would be post-1995 immigrants or their descendants.

(g) *Scenario VI*

Scenario VI keeps the potential support ratio at its 1995 value of 4.3 persons aged 15-64 for each person aged 65 or older. In order to keep the potential support ratio constant at that level, the European Union would need 701 million immigrants from 1995 to 2050, an average of 12.7 million per year. Also, as under scenario IV, the irregularities in the age structure of the population would cause fluctuations in the annual number of migrants required to keep the potential support ratio constant. The peak levels would be attained in 2030-2035, with 20.3 million net immigrants per year. By 2050, out of a total population of 1.2 billion, 918 million, or about 75 per cent, would be post-1995 immigrants or their descendants.

(h) *Additional considerations*

According to recent national estimates, the European Union had an average annual net migration of 857,000 persons from 1990 to 1998. Thus, the number of migrants needed to prevent a decline in the total population is roughly comparable to the level of migration in the 1990s. However, in order to prevent a decline in the working-age population, the annual number of migrants would need to nearly double in relation to recent experience. Figure 26 shows, for scenarios I, II, III and IV, the population of the European Union in 2050, indicating the share that is made up of post-1995 migrants and their descendants.

The annual number of migrants necessary to keep the potential support ratio constant at its 1995 level would be 15 times greater than the net migration level in the 1990s. Towards the end of the period, i.e. by 2040-2050, the net annual number of migrants required by the European Union would be equivalent to half the world's annual population growth.

Thus, if replacement migration were to be used as the mechanism for shoring up the potential support ratio in the European Union at its present level, by 2050 the total population of the European Union would have grown to more than three times its present level. In this process, the European Union's share of world population would have more than doubled, from 6.6 per cent in 1995 to 13.8 per cent 2050. In addition, three quarters of the total population in 2050 would consist of post-1995 migrants from outside the present boundaries of the Union and their descendants.

In the absence of migration, the calculations in this report indicate that the upper limit of the working age would need to be raised to 71.3 years to obtain a potential support ratio of 3.0 in 2050, and to about 76 years in order to obtain in 2050 the same potential support ratio observed in 1995 in the European Union, which was 4.3 persons of working age per older person.

TABLE 28. POPULATION INDICATORS FOR THE EUROPEAN UNION BY PERIOD FOR EACH SCENARIO

| Scenario | I | II | III | IV | V | VI * |
|---|---|---|---|---|---|---|
| Period | Medium variant | Medium variant with zero migration | Constant total population | Constant age group 15-64 | Ratio 15-64/65+ not less than 3.0 | Constant ratio 15-64/65 years or older |
| *A. Average annual number of migrants (thousands)* | | | | | | |
| 1995-2000 | 574 | 0 | 0 | 46 | 0 | *5 302* |
| 2000-2025 | 330 | 0 | 612 | 1 380 | 1 793 | *8 556* |
| 2025-2050 | 210 | 0 | 1 287 | 1 795 | 4 352 | *18 404* |
| | | | | | | |
| 2000-2050 | 270 | 0 | 949 | 1 588 | 3 073 | *13 480* |
| 1995-2050 | 297 | 0 | 863 | 1 447 | 2 794 | *12 736* |
| *B. Total number of migrants (thousands)* | | | | | | |
| 1995-2000 | 2 870 | 0 | 0 | 230 | 0 | *26 510* |
| 2000-2025 | 8 239 | 0 | 15 290 | 34 502 | 44 837 | *213 911* |
| 2025-2050 | 5 250 | 0 | 32 166 | 44 874 | 108 808 | *460 088* |
| | | | | | | |
| 2000-2050 | 13 489 | 0 | 47 456 | 79 375 | 153 646 | *673 999* |
| 1995-2050 | 16 361 | 0 | 47 456 | 79 605 | 153 646 | *700 506* |
| *C. Total population (thousands)* | | | | | | |
| 1950 | 296 151 | - | - | - | - | - |
| 1975 | 349 313 | - | - | - | - | - |
| 1995 | 371 937 | - | - | - | - | - |
| 2000 | 375 276 | 372 440 | 372 440 | 372 680 | 372 440 | *400 089* |
| 2025 | 367 342 | 354 500 | 372 440 | 394 551 | 401 916 | *641 056* |
| 2050 | 331 307 | 310 839 | 372 440 | 418 509 | 519 965 | *1 228 341* |
| *D. Age group 0-14 (thousands)* | | | | | | |
| 1950 | 72 524 | - | - | - | - | - |
| 1975 | 82 958 | - | - | - | - | - |
| 1995 | 64 740 | - | - | - | - | - |
| 2000 | 62 380 | 61 879 | 61 879 | 61 941 | 61 879 | *69 006* |
| 2025 | 52 926 | 50 320 | 54 641 | 60 204 | 62 805 | *116 157* |
| 2050 | 47 856 | 44 130 | 57 445 | 65 846 | 86 786 | *237 981* |
| *E. Age group 15-64 (thousands)* | | | | | | |
| 1950 | 195 578 | - | - | - | - | - |
| 1975 | 220 708 | - | - | - | - | - |
| 1995 | 249 382 | - | - | - | - | - |
| 2000 | 251 299 | 249 213 | 249 213 | 249 382 | 249 213 | *268 773* |
| 2025 | 230 090 | 221 083 | 233 826 | 249 382 | 254 334 | *426 112* |
| 2050 | 187 851 | 174 470 | 216 929 | 249 382 | 325 575 | *803 974* |
| *F. Age group 65+ (thousands)* | | | | | | |
| 1950 | 28 049 | - | - | - | - | - |
| 1975 | 45 647 | - | - | - | - | - |
| 1995 | 57 815 | - | - | - | - | - |
| 2000 | 61 596 | 61 349 | 61 349 | 61 357 | 61 349 | *62 310* |
| 2025 | 84 326 | 83 096 | 83 973 | 84 964 | 84 778 | *98 786* |
| 2050 | 95 600 | 92 240 | 98 067 | 103 280 | 107 603 | *186 386* |
| *G. Potential support ratio 15-64/65+* | | | | | | |
| 1950 | 6.97 | - | - | - | - | - |
| 1975 | 4.84 | - | - | - | - | - |
| 1995 | 4.31 | - | - | - | - | - |
| 2000 | 4.08 | 4.06 | 4.06 | 4.06 | 4.06 | *4.31* |
| 2025 | 2.73 | 2.66 | 2.78 | 2.94 | 3.00 | *4.31* |
| 2050 | 1.96 | 1.89 | 2.21 | 2.41 | 3.03 | *4.31* |

* Scenario VI is considered to be demographically unrealistic.

**Figure 26. Population of the European Union in 2050, indicating those who are post-1995 migrants and their descendants, by scenario**
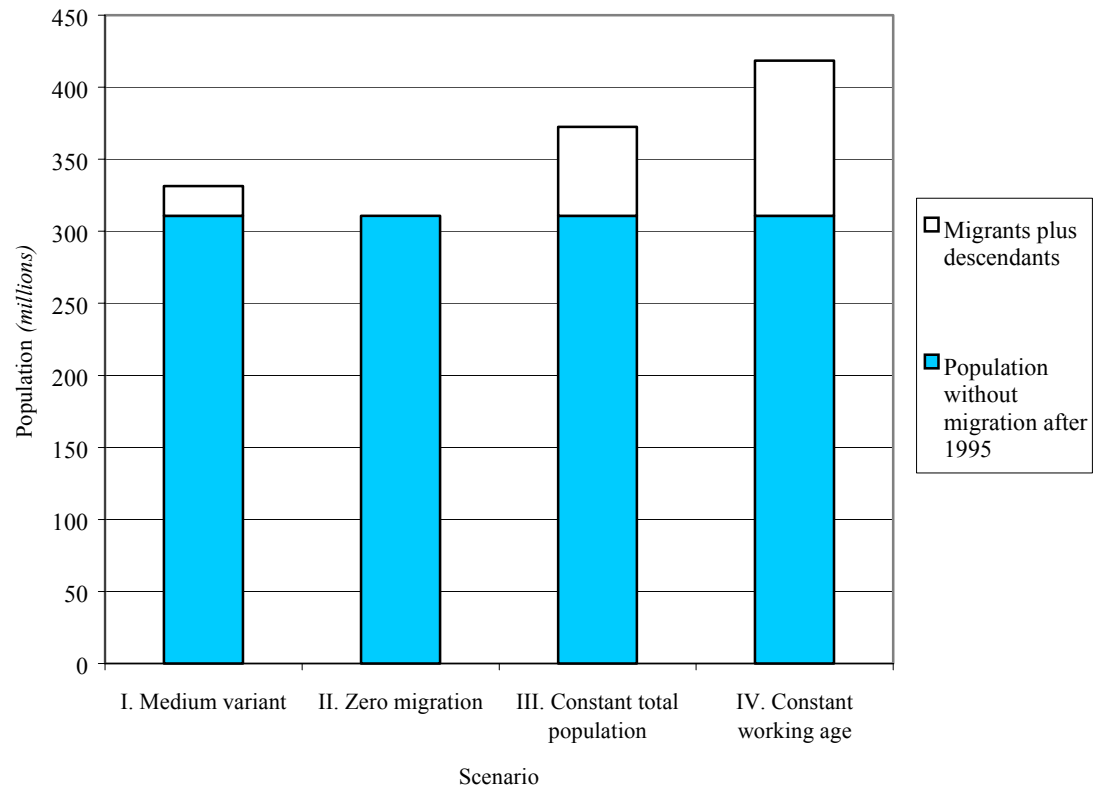
**EUROPEAN UNION**

**Figure 27. Age-sex structures by scenario for 2000, 2025 and 2050**
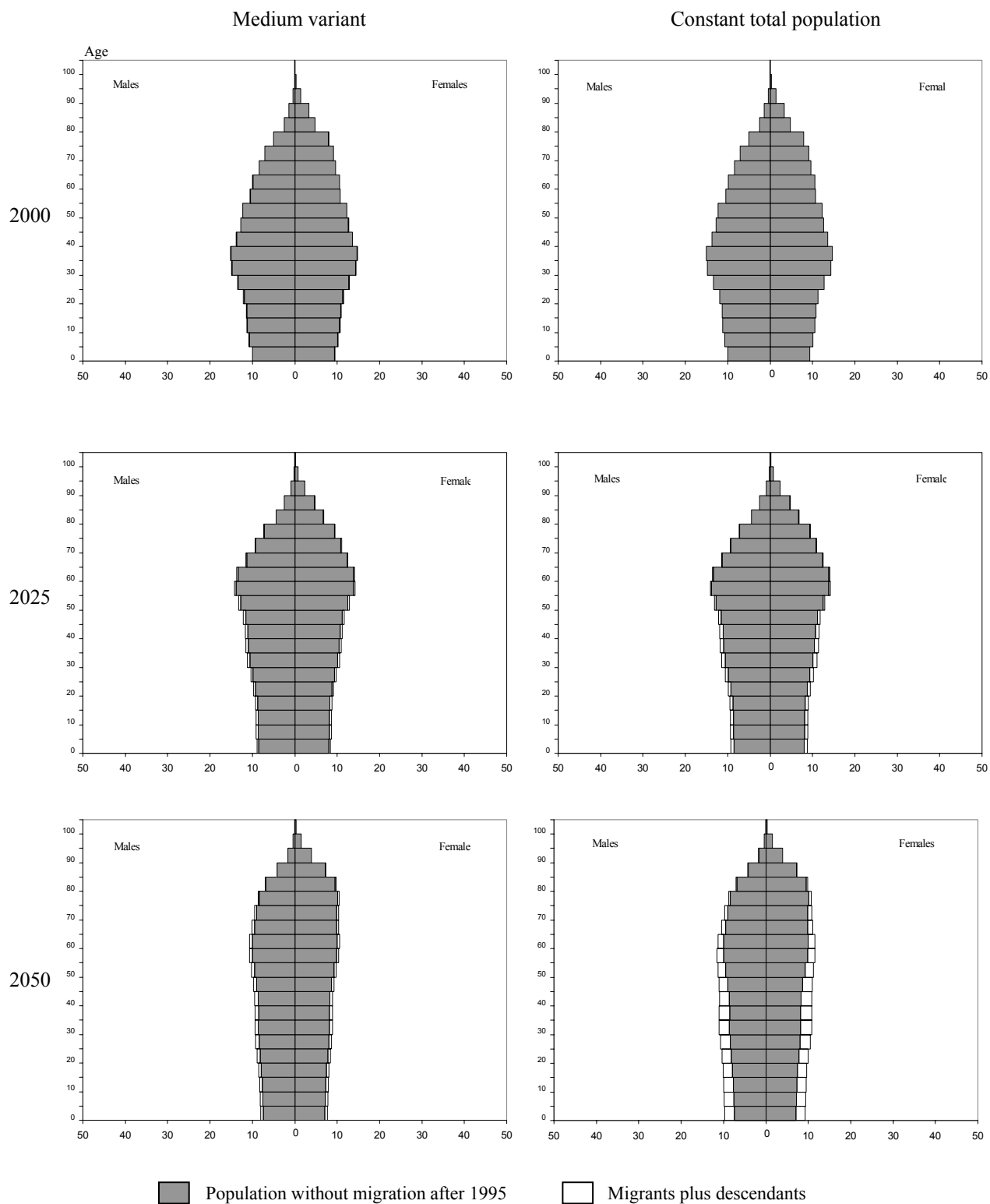(*Population in millions*)

Medium variant

Constant total population
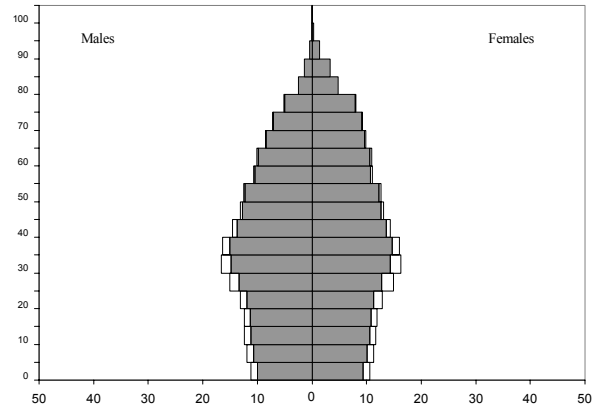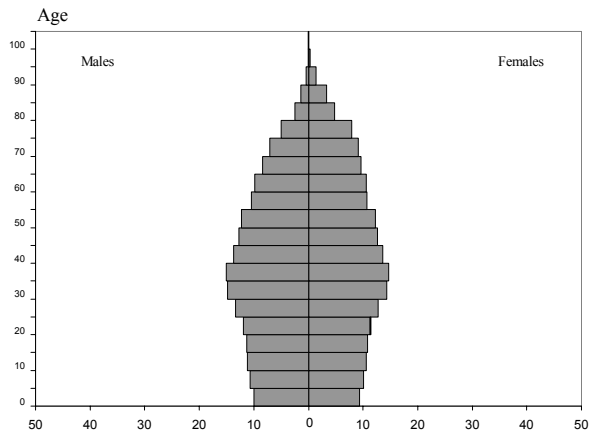


Population without migration after 1995
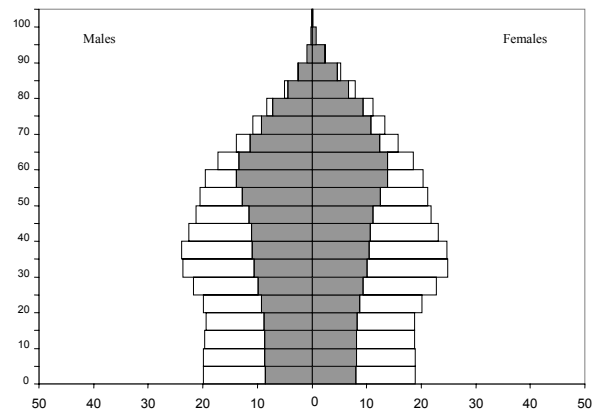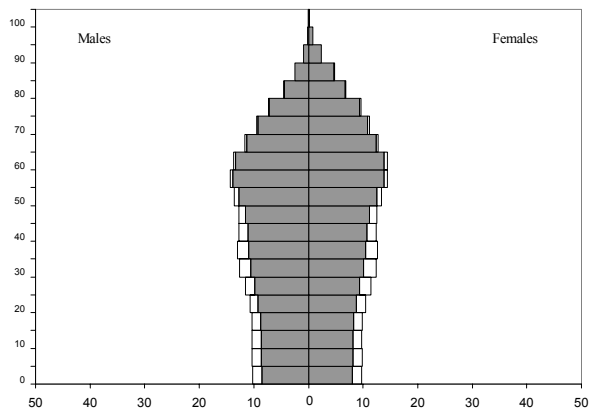
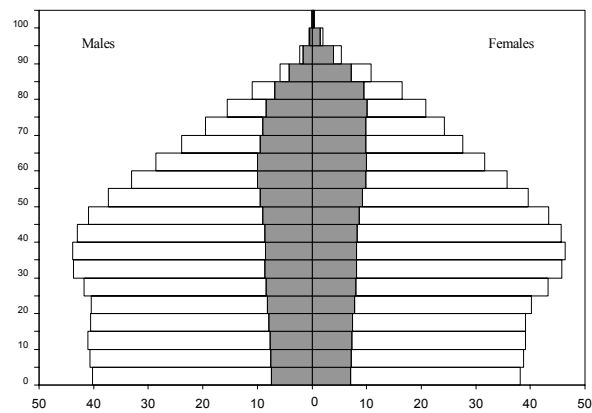Migrants plus descendants

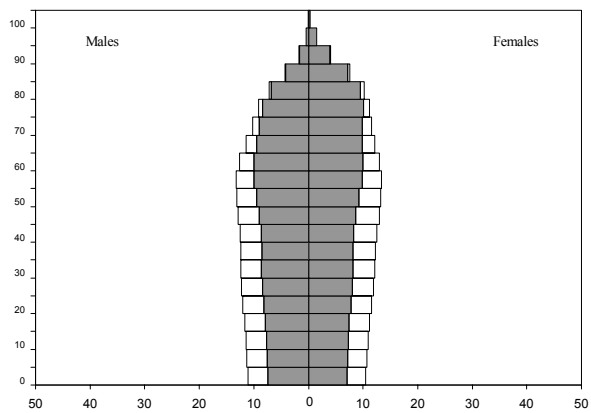**Figure 27 (continued)**

Constant
age group 15-64

Constant ratio
15-64/65 years or older

Age



2000

2025

2050