

I. OVERVIEW OF THE ISSUES

As part of its regular work programme, the United Nations Population Division continuously monitors fertility, mortality and migration trends for all countries of the world, as a basis for producing the official United Nations population estimates and projections. Among the demographic trends revealed by those figures, two are particularly salient: population decline and population ageing.

Focusing on these two striking and critical trends, the present study addresses the question of whether replacement migration is a solution to population decline and population ageing. Replacement migration refers to the international migration that would be needed to offset declines in the size of population and declines in the population of working age, as well as to offset the overall ageing of a population.

Eight countries and two regions that are treated as individual countries have been selected for this study. All of them are relatively large countries that have below-replacement fertility. The countries and regions are France, Germany, Italy, Japan, Republic of Korea, Russian Federation, the United Kingdom of Great Britain and Northern Ireland, the United States of America, Europe and the European Union. Through the technique of population projection, calculations are made of the amount of replacement migration that would be necessary for each of the eight countries and two regions to offset the expected declines in the size of the total population and working-age population, as well as to offset the overall ageing of the population.

The process of population ageing, which is the transformation of the age structure to relatively greater proportions in the older age groups, is being brought about by declining fertility and increased longevity. Since fertility and mortality levels have to some extent declined in most populations, population ageing is a nearly universal process. Where fertility has dropped to particularly low levels, such as in Europe and Japan, the ageing of populations is reaching unprecedented proportions.

In a smaller, yet significant number of countries, fertility has dropped so much that deaths exceed births, resulting in declining populations. Table 2 shows the list of countries that are projected to have smaller populations in 2050 compared to 2000 and the extent to which they will be experiencing population decline and ageing. In most cases, populations that are simultaneously ageing and declining will experience severe reductions in the ratio of persons of working age (15 to 64 years) to older persons (65 years or older).

These observations evoke an important set of issues and related questions. The first concerns the robustness of the projection figures. The second issue relates to the social and economic consequences of such unprecedented demographic trends and population changes. The third centres on the extent to which replacement migration is a solution to these expected trends and changes. Finally, the fourth issue relates to the policy and programmatic implications of the results from this study.

With regard to the figures themselves, it should be noted that most of the countries where population is projected to decline have well-developed statistical systems and considerable amounts of data and analytical insight on their demographic situation and trends. Having such a sound basis is of great help in suggesting what the most likely course of events in the future would be and how various alternative scenarios would diverge from or fall in line with present population trends.

From the demographic point of view, there is little doubt that the most likely course of events for those countries will result in smaller and older populations. To the extent that persons of working age (15 to 64 years) can be seen as supporting the older population (65 years or older), the ratio between the two (i.e., the “potential support ratio” or PSR) will decline dramatically. However, it is useful to ask a number

of “what if” questions. What would happen, for example, if fertility, mortality and migration changed course? More specifically, how much would they have to change course in order to reverse the most likely demographic outcomes?

Fertility is presently at record low levels in many countries where total fertility rates (TFR) as low as 1.2 children per woman have been recorded in recent years—well below the level of 2.1 children per woman that would ensure the replacement of the parents’ generation. Although fertility may rebound in the coming decades, few believe that fertility in most countries will recover sufficiently to reach replacement level in the foreseeable future.

TABLE 2. COUNTRIES WHOSE POPULATION IS EXPECTED TO DECLINE BETWEEN 2000 AND 2050: CHANGES IN THE TOTAL POPULATION AND IN THE PROPORTION AGED 65 YEARS OR OLDER

Country or area ^a	Population (thousands)		Population Change		Per cent 65 years or older		Change in proportion 65 years or older (per cent)
	2000	2050	(thousands)	(per cent)	2000	2050	
Austria	8 211	7 094	-1 117	-14	15	30	106
Belarus	10 236	8 330	-1 907	-19	14	25	86
Belgium	10 161	8 918	-1 243	-12	17	28	65
Bosnia and Herzegovina	3 972	3 767	-205	-5	10	27	171
Bulgaria	8 225	5 673	-2 552	-31	16	30	88
China, Hong Kong SAR ^b	6 927	6 664	-263	-4	11	33	217
Croatia	4 473	3 673	-800	-18	15	26	77
Cuba	11 201	11 095	-105	-1	10	27	176
Czech Republic	10 244	7 829	-2 415	-24	14	33	144
Denmark	5 293	4 793	-500	-9	15	24	59
Estonia	1 396	927	-469	-34	14	29	107
Finland	5 176	4 898	-278	-5	15	26	72
Germany	82 220	73 303	-8 917	-11	16	28	73
Greece	10 645	8 233	-2 412	-23	18	34	92
Hungary	10 036	7 488	-2 548	-25	15	28	92
Italy	57 298	41 197	-16 101	-28	18	35	92
Japan	126 714	104 921	-21 793	-17	17	32	86
Latvia	2 357	1 628	-728	-31	14	27	86
Lithuania	3 670	2 967	-704	-19	13	27	102
Luxembourg	431	430	-1	0	14	27	84
Netherlands	15 786	14 156	-1 629	-10	14	28	104
Poland	38 765	36 256	-2 509	-6	12	26	118
Portugal	9 875	8 137	-1 738	-18	16	31	99
Romania	22 327	16 419	-5 908	-26	13	31	131
Russian Federation	146 934	121 256	-25 678	-17	13	25	100
Slovakia	5 387	4 836	-551	-10	11	27	139
Slovenia	1 986	1 487	-499	-25	14	32	131
Spain	39 630	30 226	-9 404	-24	17	37	117
Sweden	8 910	8 661	-249	-3	17	27	53
Switzerland	7 386	6 745	-641	-9	15	30	104
Ukraine	50 456	39 302	-11 154	-22	14	27	91
United Kingdom	58 830	56 667	-2 163	-4	16	25	56
Yugoslavia	10 640	10 548	-92	-1	13	23	73

Source: United Nations Population Division, *World Population Prospects: The 1998 Revision*.

NOTES:

^a Countries or areas with 150,000 persons or more in 1995.

^b As of 1 July 1997, Hong Kong became a Special Administrative Region (SAR) of China.

Table 3 below shows the range of values that the potential support ratio might reach in 2050 for the eight selected countries and two selected regions, according to the three variants (low, medium and high) of the standard population projections prepared by the United Nations Population Division. These variants correspond essentially to alternative assumptions about the course of fertility. For ease of comparison, the values of the PSR in 1995 are also shown. In France, for instance, the most likely course of events (medium variant) leads to a decline of the PSR from 4.36 to 2.26: in other words, a halving of the number of working-age persons per older person. In case fertility rises to what appears at this point to be the highest plausible level in the context of France (a TFR of 2.36 children per woman in 2040-2050), the PSR would somewhat improve in relation to the medium variant, but it would still be nearly halved. If, on the other hand, fertility stabilizes at a TFR of 1.58 after 2005—which at this point appears to be the lowest plausible level—the PSR would decline even more drastically, to less than two persons in the working-age group per older person.

Thus, while the range of outcomes of alternative fertility levels in terms of the PSR by 2050 would be significant (1.95 against 2.52) the difference is relatively small in relation to the level from which the PSR will be dropping (4.36). Moreover, the impact of alternative fertility levels would not be felt until the later part of the period. While in the long run fertility levels will be the determinant factor in shaping the age structure of the population, plausible ranges of increases in fertility rates in the next decades would contribute at best marginally to slowing the process of population ageing by 2050. In the short to medium term—say over the next 20 years or so—measures to shore up fertility levels would not have any impact on the PSR.

With regard to mortality, its reduction will continue to be an overriding policy goal, so action in this area would by design further the population ageing process. Longevity is in any case projected to increase, even in the absence of possible new medical breakthroughs.

Therefore, among the demographic variables, only international migration could be instrumental in addressing population decline and population ageing in the short to medium term. As noted above, the most likely changes in fertility and mortality rates for Europe and Japan are unlikely to counter population decline and population ageing over the next half century.

TABLE 3. VALUES OF THE POTENTIAL SUPPORT RATIO (PSR) BY PROJECTION VARIANT

Country or region	PSR in 1995	PSR in 2050 by projection variant		
		Low	Medium	High
France	4.36	1.95	2.26	2.52
Germany	4.41	1.81	2.05	2.35
Italy	4.08	1.35	1.52	1.75
Japan	4.77	1.47	1.71	1.91
Republic of Korea	12.62	2.04	2.40	2.70
Russian Federation	5.62	2.05	2.43	3.04
United Kingdom	4.09	2.02	2.37	2.75
United States	5.21	2.43	2.82	3.26
Europe	4.81	1.84	2.10	2.51
European Union	4.31	1.72	1.96	2.26

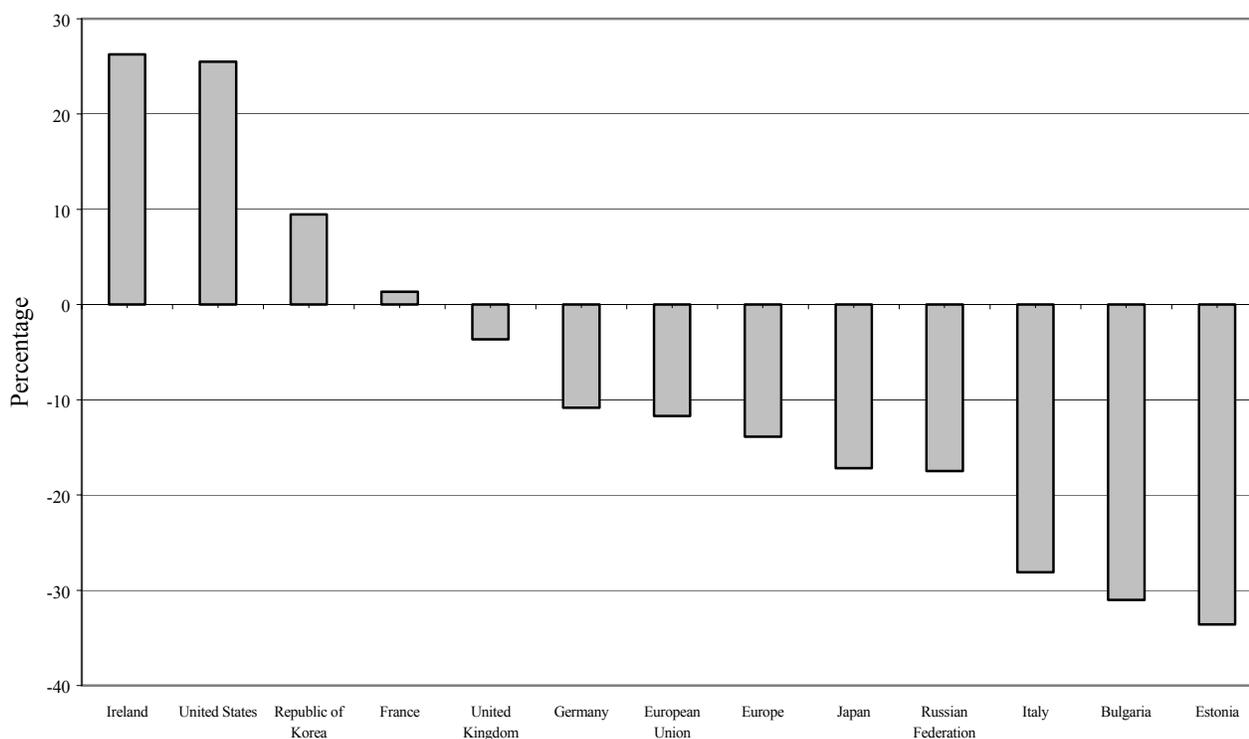
Source: United Nations Population Division, *World Population Prospects: The 1998 Revision*.

The prospects of population decline and population ageing during the coming decades, and particularly the rapid and extensive reduction of the potential support ratio in many countries, raise a number of crucial issues in the areas of employment, economic growth, health care services, pensions and social support services.

Moreover, while most developed countries will experience population decline, a few will not. Differentials in population growth, as illustrated in figure 2, will in some cases result in dramatic repositioning of countries and regions according to their relative population size. While these issues fall outside the scope of the present study, it is clear, however, that current demographic realities and expected future population changes, and their likely far-reaching consequences will force reassessments of many established economic, social and political policies and programmes, including those relating to international migration.

Following the publication of the draft of this study, the Population Division of the United Nations organized an Expert Group Meeting on “Policy Responses to Population Ageing and Population Decline” from 16 to 18 October 2000, at United Nations Headquarters in New York. The Meeting focused on the eight countries considered in this report and brought together national experts from these countries and regions, as well as representatives from selected regional and international organisations. Replacement migration was one among a number of possible policy responses that were considered.

Figure 2. Per cent change in total population for selected countries and regions, 2000-2050



Source: United Nations Population Division, *World Population Prospects: The 1998 Revision*.