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The population of France in 2000

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As of January 1, 2001, the population of metropolitan France reached 59 million and that of the overseas departments 1.7 million, a total of 60.7 million inhabitants for all of France [1].

In metropolitan France, in 2000, the population increased by 300,000 — a growth rate of +0.5%. This rate is higher than during the last 8 years, owing to a significant increase of births, a decrease of deaths and a slight rise in net migration.

◆ The upturn in fertility: a long-term trend or just the “millennium effect”?

According to the demographic evaluation carried out by the National Institute of Statistics (INSEE), 778,900 babies were born in 2000, as opposed to 744,100 in 1999, a 5% increase [1]. The number of marriages has also risen, reaching 304,300, or 7% more than in 1999. The total fertility rate (TFR) rose from 1.79 children per woman in 1999 to 1.89 in 2000. Although, in the past few years, the TFR had been slowly increasing, this sudden leap may be due to the “year 2000” effect, since some couples may have wished to give birth to a child precisely that year. Nevertheless, it is still too early to determine the real causes of this increase. Indeed, only next year will it be possible to verify whether the increase observed in 2000 was due to the millennium effect or whether it is the sign of a more long-term trend.

In the European Union, births have significantly increased in Italy, Spain and the Netherlands, but they have dropped in the United Kingdom and in Finland. Overall, for the entire Union, the number of births has risen by only 1.3 % (1) [2].

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The tendency for women to delay childbirth, a trend which began a little over twenty years ago, continues: the average age at childbirth in 2000 was 29.4, against 26.5 in 1977. This three-year increase in such a short time reveals significant transformations in the family formation process. The study of cohort fertility provides additional information. Women born in 1950, who turned 50 in 2000 and whose fertile period is now over, had 2.11 children on average [3]. Those born in 1960 reached the age of 40 in 2000. Most of their children are already born, but some may still have more. It is probable that the overall rate will be 2.1, the same as that of their seniors. The only difference is that they had their children later, at 27.7 years of age, on average, against 26.5 years for the women born in 1950 [4].

◆ Mortality is continuing to decrease

The annual number of deaths is estimated at 538,300 in 2000, a little less than in 1999 (- 0.6%). Since the population has increased slightly, the overall mortality rate has fallen, from 9.2 to 9.1 deaths per 1,000. Had mortality at each age remained constant, the number of deaths would have on the contrary increased by 6,500, given the growth and the aging of the population [1]. Life expectancy at birth has increased by three and a half months compared to 1999, reaching 75.2 years for men and 82.7 years for women in 2000. In ten years, life expectancy has increased by 2.5 years for men and 1.8 years for women. The mortality gap between men and women has thus grown smaller, from 8.2 years in 1990 to 7.5 years in 2000.

Infant mortality, which in 1995 dropped beneath

(1) Four countries of the European Union have a negative natural balance (Germany, Greece, Italy and Sweden). However, thanks to migrations, the population is increasing in all countries.

the threshold of 5 deaths before the age of 1 per 1,000 live-born children, has since undergone a 10% decrease; in 2000, the rate was 4.4 per 1,000.

◆ The generation born in 2000, compared to those born in 1800 and 1900

Although more children were born in France 100 or 200 years ago than in 2000, the difference is not so considerable: 1,003,200 were born in 1800 (on the territory of present-day France), or 29% more than in 2000, and 879,000 were born in 1900, or 13% more [5] [6]. However, the population of France was quite different from what it is today. First, it was smaller: 29.2 million in 1800 and 40.6 million in 1900. The birth rates, in other words the births/population ratio, were higher: 34 births per 1,000 population in 1800, 22 per 1,000 in 1900 and 13 per 1,000 in 2000. Despite the fact that the annual number of births was a little higher than it is now, the base of the population pyramid was about the same: if one divides the population into five-year age groups (see figure 1), the first group, that of children under 5, is practically identical in 1800, 1900 and 2000: respectively 3.71 million, 3.59 million and 3.66 million. Indeed, though somewhat more children were born each year than today, a much larger proportion died in infancy: 23% of those born in 1800 and 16% of those born in 1900 died before their first birthday, against 0.4% of those born in 2000.

By contrast, the shape of the population pyramid, tapering at the top as we go up in age, has evolved considerably. Since the number of births has not changed much over the last three centuries in France, except during war years, it is the high mortality rates, especially during childhood, that account for the shape of the pyramids in 1800 and 1900. Subsequently, the substantial mortality decline altered the pyramid by deferring the narrowing to older and older age groups. The present population pyramid also shows a less regular shape owing to the postwar baby boom, which has widened it in the middle, between the ages of 25 and 55.

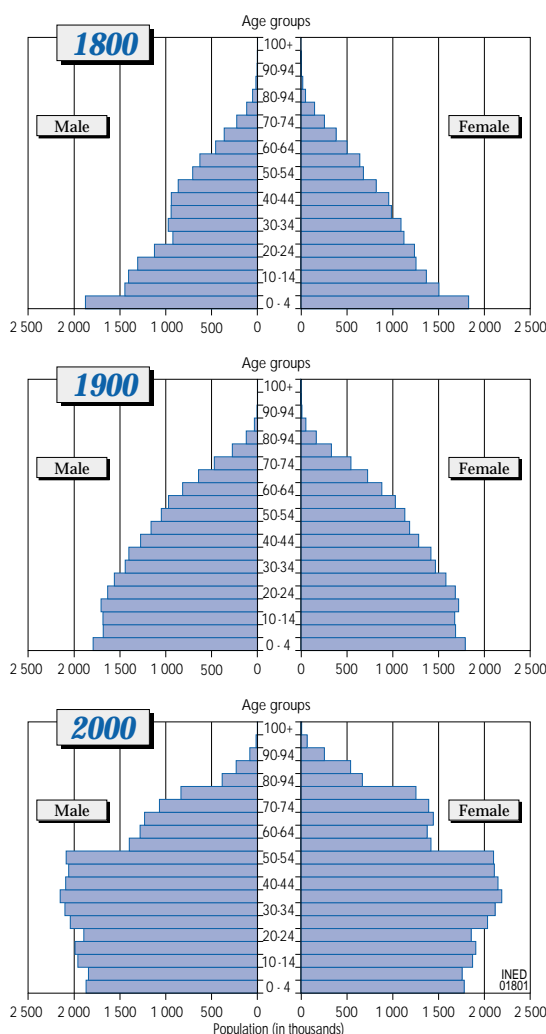
The generations of 1800, 1900 and 2000 were born in very different demographic contexts, and their lives were/will also be different. As regards the 2000 generation, which is only starting out in life, we can only make conjectures. As to the earlier ones, however, we know that their fates were quite different. Looking at the number of children born to the women of these generations, it appears that women born in 1800 gave birth to four children on average, whereas those of 1900 had two. These averages take into account only those women who lived at least until the age of fifty, and therefore did not die before the end of their reproductive period. But many women never reached the age of 50 (respectively 60% and 36% for each

generation). If we calculate instead the “net reproduction rate”, which takes mortality as well as fertility conditions into account, the 1800 generation had on average 2.15 children, of which 1.05 girls, whereas the 1900 one had on average 1.52 children, of which 0.74 girls. This measure shows that the 1800 generation was replaced — one woman born that year had at least one live daughter at the next generation —, but that the generation of 1900 was not. This did not prevent the French population from increasing during the 20th century, however, due to the mortality decline, immigration and the baby boom.

As concerns the generation born in 2000, there is no way of predicting its future fertility. Given the deep transformations that have occurred over the past century and the very rapid changes that can happen over a few decades, one cannot foresee future developments.

The life expectancies of persons born in 1800 and 1900 differed considerably, as will, most probably, that of persons born in 2000. All the members of the

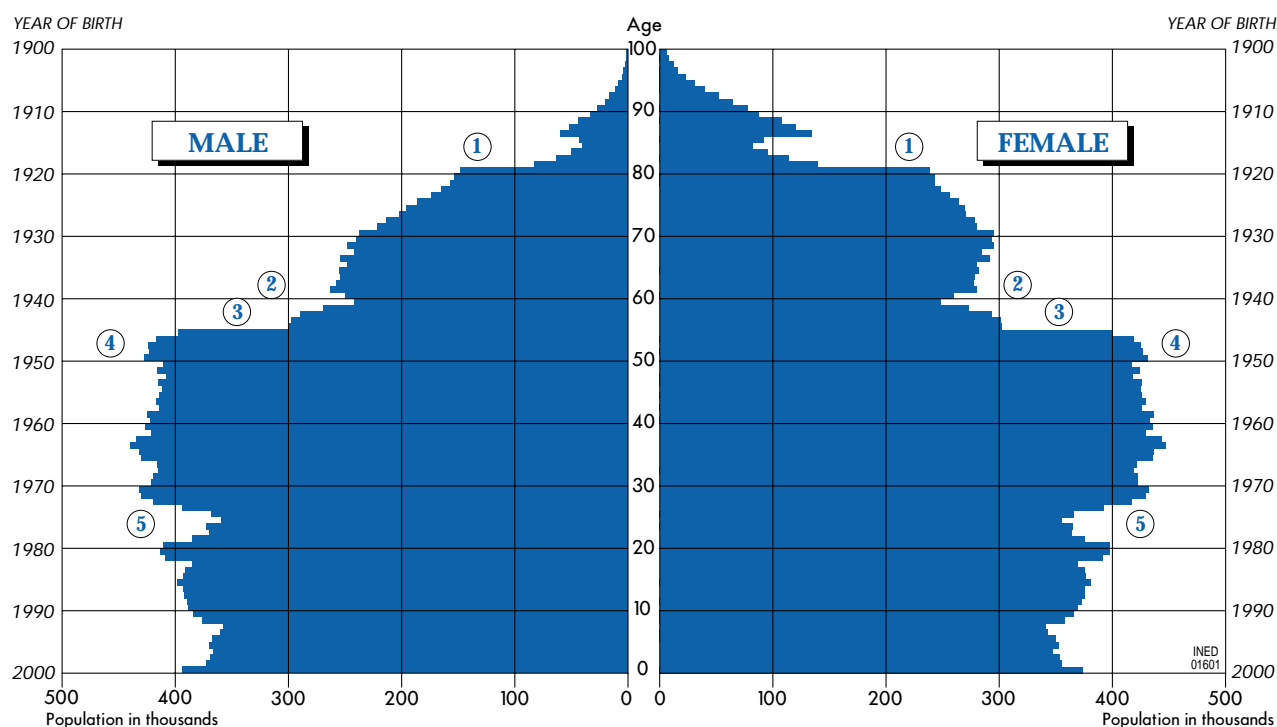
Figure 1 — Population pyramid in France as of December 31, 1800, 1900 and 2000



Source: INSEE.

POPULATION OF FRANCE

Provisional evaluation as of January 1st, 2001



- ① Deficit of births due to World War I (depleted cohorts)
 ② These depleted cohorts reach the reproductive ages
 ③ Deficit of births due to World War II
 ④ Baby boom
 ⑤ End of baby boom

Source : INSEE.

Table 1 – Demographic indicators 1950-2000, metropolitan France

	1950	1960	1970	1980	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999(p)	2000(p)
Births (a)	858	816	848	800	762	759	744	712	711	730	734	727	738	744	779
Deaths (a)	530	517	540	547	526	525	522	532	520	532	536	530	534	542	538
Excess of births (a)	328	299	308	253	236	234	222	179	191	198	199	196	204	203	241
Net migration (a)	35	140	180	44	80	90	90	70	50	40	35	40	45	45	55
Total population change (a)	362	439	488	297	316	324	312	249	241	238	234	236	249	248	296
Birth rate (b)	20.5	17.9	16.7	14.9	13.4	13.3	13.0	12.4	12.3	12.6	12.7	12.5	12.6	12.7	13.2
Mortality rate (b)	12.7	11.3	10.6	10.2	9.3	9.2	9.1	9.3	9.0	9.2	9.2	9.1	9.1	9.2	9.1
Infant mortality rate (c)	51.9	27.4	18.2	10.0	7.3	7.3	6.8	6.5	5.9	4.9	4.8	4.7	4.6	4.3	4.4
Total fertility rate	2.93	2.73	2.47	1.94	1.78	1.77	1.73	1.65	1.65	1.71	1.73	1.73	1.76	1.79	1.89
Life expectancy:															
male	63.4	67.0	68.4	70.2	72.7	72.9	73.2	73.3	73.7	73.9	74.1	74.5	74.8	74.9	75.2
female	69.2	73.6	75.9	78.4	80.9	81.1	81.4	81.4	81.8	81.9	82.0	82.3	82.4	82.4	82.7
Marriages (a)	331	320	394	334	287	280	271	255	254	255	280	284	271	285	304
Marriage rate (b)	7.9	7.0	7.8	6.2	5.1	4.9	4.7	4.4	4.4	4.4	4.8	4.9	4.6	4.9	5.2
Population (1) (a)	42 010	45 904	51 016	54 029	56 893	57 111	57 369	57 565	57 753	57 936	58 116	58 299	58 497	58 744	59 040
Under 20 (1) (a)	12 556	14 665	16 748	16 419	15 632	15 474	15 330	15 180	15 084	15 058	15 056	15 027	15 018	15 013	15 005
65 or older (1) (a)	4 727	5 288	6 174	7 541	8 036	8 205	8 366	8 524	8 686	8 858	9 011	9 164	9 285	9 413	9 518
Under 20 (1) %	29.9	31.9	32.8	30.4	27.5	27.1	26.7	26.4	26.1	26.0	25.9	25.8	25.7	25.6	25.4
65 or older (1) %	11.3	11.5	12.1	14.0	14.1	14.4	14.6	14.8	15.0	15.3	15.5	15.7	15.9	16.0	16.1

(a) in thousands — (b) per 1,000 population — (c) per 1,000 live births — (p) provisional — (1) As of 31 December.

Note: the numbers and rates estimated for the period 1990-1998 were adjusted to ensure coherence between the censuses of 1990 and 1999.

Source : INSEE [1], [6].

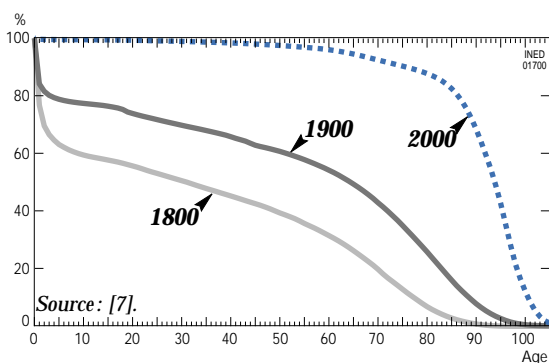
Table 2 – Comparison between generations born in 1800, 1900 and 2000

	Year of birth		
	1800	1900	2000*
Population 31 December (in millions)	29.2	40.6	59.0
Size of birth cohort (in thousands)	1 003	879	779
Proportion (%) of survivors at the age of:			
1	77	84	99.6
5	63	79	99.5
60	32	54	96
70	20	43	92
80	6.8	26	88
90	0.8	8	68
100	0.004	0.4	12
Average duration of life	35	52	90
Number of centenarians	40	3 516	93 480

* The death probabilities for the generation born in 2000 are based on the hypothesis that the age-specific mortality rates will continue to decrease as in the past 20 years.

Field: metropolitan France within its current borders.

Sources: INSEE [1], [6]; Vallin and Meslé [7].

Figure 2 – Proportion of survivors according to age and generation (persons born in 1800, 1900 and 2000)

Source: [7].

generation born in 1800 and almost all those born in 1900 are now deceased (2). We know how old they were when they died and thus how long they lived. Persons born in 1800 lived an average of 35 years, and those born in 1900 an average of 52 years. However, these averages mask wide extremes. Indeed, a little over one third of the generation born in 1800 lived a very short life, since these were children who died before their fifth birthday. A second third grew up to become adults but died before their 60th birthday. Only one third of that generation survived till old age and died after the age of 60 (see table 2 and figure 2). The fate of the generation born in 1900 begins in the same way as that of their elders: indeed, the infant mortality rate was still very high at the turn of the 20th century. Thus, one out of five children died before

(2) Most of the 3,500 persons who celebrated their 100th birthday in 2000 are still alive today; their life expectancy is more or less known, on the basis of the present death rates of centenarians.

their 5th birthday. At sixty, only half (54%) of the generation was left and only 43% by the age of 70. However, these survivors fully benefited from the decrease in the mortality rate of the elderly in France which began in the 1970s, in particular thanks to progress in the treatment of heart diseases. As a result, 1/4 of that generation was still alive at the age of 80 (26%), 1/10 at 90 (8%) and about 3,500 persons (0.4%) celebrated their 100th birthday last year. Those born in 1800 and who had managed to survive until 60 lived in entirely different mortality conditions at that age: in the 19th century, mortality rates were high at all ages. Only 1% of that generation was still alive at 90, and only 40 “lucky ones”, out of the million born a century before, celebrated their 100th birthday in 1900.

The generation born in 1900 had a unique fate. Their lives began in difficult conditions of high or very high mortality, similar to that of all previous generations. But during the second half of their lives, mortality rates dropped to low or very low rates, something quite new in the long history of mankind.

The story of the generation born in 2000 remains to be written, but it will most certainly differ from that of its predecessors, in three ways: first, if no wars or major disasters occur, its members will probably live quite a bit longer. The scenario suggested in table 2 and figure 2 is based on the hypothesis that mortality rates will continue to decrease at all ages as they have during the last twenty years, and gives an idea of the progress made during the 20th century, especially in the second half [7]. According to this projection, the generation born in 2000 will live 90 years on average. Since infant mortality rates are extremely low and adult mortality has also considerably decreased, practically the entire generation will still be alive at the age of 60 or 70. Finally, since the mortality rates of elderly and very elderly persons is also decreasing, the majority will probably live to the age of 90, but will then die within a relatively short span of time, compared to earlier generations.

REFERENCES

- [1] Lionel DOISNEAU – “Bilan démographique 2000. Une année de naissances et de mariages”, *Insee Première*, n° 757, février 2001.
- [2] Eurostat – “Premières estimations démographiques pour 2000”, *Statistiques en bref*, n° 16, 2000.
- [3] *Bulletin mensuel de statistique*, n° 1, 2001, INSEE.
- [4] France PRIOUX – “L'évolution démographique récente en France”, *Population*, 2000/3.
- [5] “Démographie historique”, numéro spécial de *Population*, 1975.
- [6] Fabienne DAGUET – “Un siècle de démographie française”, *Insee Résultats*, n° 434-435, 1995.
- [7] Jacques VALLIN and France MESLÉ – *Tables de mortalité françaises pour les XIX^e et XX^e siècles et projections pour le XXI^e siècle*, Coll. “Données statistiques”, Paris, INED (in press).