1914-2014 : A century of change in the French population pyramid

Gilles Pison*

A population pyramid and its changes over time provide a visual account of a country's history. The French population pyramid has changed continuously since the outbreak of the First World War. Here, we will stop the clock every 20 years, and focus on the situation in 1914, 1934, 1954, 1974, 1994 and 2014.

On 1 January 1914, on the eve of the First World War, the population pyramid of France had a regular bell shape (see page 2). The indent at age 42 corresponds to the birth deficit due to the Franco-Prussian war of 1870-1871, aggravated by a sudden increase in infant mortality: some 23% of babies born in 1871 died before age one, versus 17% on average in the second half of the nineteenth century. In 1911, a very hot summer produced another infant mortality peak due to severe infantile diarrhoea, and this explains the dent in the 1914 pyramid at age 2.

Twenty years later, on 1 January 1934, the pyramid bears the scars of the 1914-1918 War, with a narrowing on the male side at ages 38 to 55. There are 25% fewer men than women at these ages, in contrast to all ages up to 35, where the sexes are balanced. One and a half million French soldiers were killed in the Great War. It was men born in 1894, and who were aged 20 in 1914 who paid the heaviest tribute: 24% lost their lives while in uniform.[1, 2]

Box. Demographic situation in 2013: a smaller natural surplus

According to INSEE, the French statistical office, the population of France on 1 January 2014 totalled 66.0 million, of which 63.9 million in metropolitan France (mainland France and Corsica), and 2.1 million in the overseas départements.\[4\] Population growth was fuelled by natural increase, which totalled 219,000 in metropolitan France (780,000 births minus 561,000 deaths), and by net migration (arrivals minus departures), estimated by INSEE at +50,000 (Table p.4).

Natural increase is tending to slow down – it was 20% higher five years ago in 2008 (264,000) – and there were 10,000 fewer births in 2013 than in 2012. After reaching 2.02 children per woman in 2010, the total fertility rate has fallen slightly, and stood at 1.97 in 2013.

Life expectancy at birth has risen, reaching 78.7 years for men and 85.0 years for women in 2013, versus 78.5 and 84.9 years in 2012. The number of deaths increased slightly, however, in 2013 (2,000 more than in 2012) as the population is ageing.

* Institut national d'études démographiques.
The number of births halved between 1915 and 1919, and the 1934 population pyramid shows a large gash at ages 14-18, this time affecting both sexes. When these depleted cohorts reached childbearing age 25-30 years later, they produced a second gash which, while smaller than the first, is still highly visible on the 1954 pyramid. Fertility declined during the Second World War, between 1940 and 1942, and there is a dent in the 1954 pyramid at ages 11-13, although much smaller than that of 25 years earlier. This pyramid also shows the impact of another major change first observed eight years earlier: 1946 saw the start of the baby boom, with 200,000 more births in that year than in 1945. This surge in births lasted for almost 30 years, with annual births totalling 800-900,000, compared with 600-700,000 before the war. As the baby boomers grew older, the corresponding bump moved up the pyramid, but its effect was gradually reversed: after rejuvenating the population, it contributed to its ageing.

The number of births remained high until 1973, although the number of children per woman began falling from the mid-1960s. This was because the large baby-boom generations born 20 years earlier were now reaching reproductive age. After falling by around 20% from 1974, births then levelled off, and were later marginally offset by

---

1914-2014 : A century of change in the French population pyramid

(Gilles Pison, Population and Societies no 509, INED, March 2014)
The population pyramid of 1 January 1914 published by INSEE corresponds to the population of France as defined by its borders of 1871, i.e. the current French territory minus Alsace and Moselle, which formed part of Germany at that time.[3] The pyramid for the current territory was obtained by increasing all cohorts by 5.6%, the ratio between the population of Alsace-Moselle and the rest of France in 1914.

The bottom half of the 2014 pyramid has a remarkably vertical profile, reflecting the relatively stable annual numbers of births over the last 40 years. The French situation is unique in the world, since the population pyramids of most developed countries – such as Germany for example – now have a very narrow base. In France, barring future catastrophe, this vertical base should eventually result in a pyramid as regular as that of 1 January 1914,(1) at the eve of the First World War.

The effects of direct military losses in WWI disappeared from the pyramid after 80 years, and the shortfall in births after a century. It will be another few decades before the traces of WWII are effaced, and a half century before the last baby-boom cohorts born in the early 1970s die out and the corresponding bulge disappears from the pyramid.

Note: ________, : 1913 birth cohort aged below one on 1 January 1914, and aged 20, 40, 60, 80 and 100, respectively, on 1 January 1934, 1954, 1974, 1994 and 2014.

Source: INSEE [3]
1914-2014 : A century of change in the French population pyramid

Table. Demographic indicators 1950 to 2013, metropolitan France

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Births (m)</td>
<td>459,000</td>
<td>512,000</td>
<td>558,000</td>
<td>571,000</td>
<td>565,000</td>
<td>551,000</td>
<td>539,000</td>
<td>526,000</td>
<td>514,000</td>
<td>502,000</td>
<td>490,000</td>
<td>478,000</td>
<td>465,000</td>
<td>452,000</td>
<td>439,000</td>
</tr>
<tr>
<td>Deaths (m)</td>
<td>248,000</td>
<td>271,000</td>
<td>300,000</td>
<td>315,000</td>
<td>320,000</td>
<td>315,000</td>
<td>310,000</td>
<td>305,000</td>
<td>300,000</td>
<td>295,000</td>
<td>290,000</td>
<td>285,000</td>
<td>280,000</td>
<td>275,000</td>
<td>270,000</td>
</tr>
<tr>
<td>Natural increase (m)</td>
<td>211,000</td>
<td>241,000</td>
<td>258,000</td>
<td>256,000</td>
<td>246,000</td>
<td>236,000</td>
<td>229,000</td>
<td>221,000</td>
<td>214,000</td>
<td>207,000</td>
<td>200,000</td>
<td>195,000</td>
<td>187,000</td>
<td>182,000</td>
<td>179,000</td>
</tr>
<tr>
<td>Net migration (m)</td>
<td>5,000</td>
<td>10,000</td>
<td>15,000</td>
<td>20,000</td>
<td>25,000</td>
<td>30,000</td>
<td>35,000</td>
<td>40,000</td>
<td>45,000</td>
<td>50,000</td>
<td>55,000</td>
<td>60,000</td>
<td>65,000</td>
<td>70,000</td>
<td>75,000</td>
</tr>
<tr>
<td>Total growth (m)</td>
<td>216,000</td>
<td>251,000</td>
<td>273,000</td>
<td>277,000</td>
<td>271,000</td>
<td>266,000</td>
<td>264,000</td>
<td>262,000</td>
<td>260,000</td>
<td>258,000</td>
<td>256,000</td>
<td>254,000</td>
<td>252,000</td>
<td>250,000</td>
<td>248,000</td>
</tr>
</tbody>
</table>

References


Abstract

On 1 January 1914, the population pyramid of France had a regular bell shape. It was then dented by military losses and a shortfall of births during the First World War. Today, the French population pyramid is returning to a more regular shape, and the century-long scars of WWI have practically disappeared.