

# Population & Societies

## France 2012: stable fertility, declining infant mortality

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The recent demographic situation in France has two surprising features, analysed here by Gilles Pison. First, contrary to expectations, fertility remains stable despite the economic crisis. While fertility in most industrialized countries has been adversely affected by the downturn, France seems to have escaped this tendency. Second, mortality trends among newborn infants in recent years are not easy to discern. What are the reasons for this?

On 1 January 2013, the population of metropolitan France (mainland France and Corsica) was an estimated 63.7 million, with a further 2.1 million in the French overseas *départements*,<sup>(1)</sup> making a total of 65.8 million for France as a whole. [1] In metropolitan France, the population increased by 230,000 in 2012 (+0.5%). Natural increase – the surplus of births over deaths – fell slightly with respect to 2011, with a stable number of births and a slight increase in deaths (Table page 3).

### Births stable with respect to 2011

The number of births remains stable (792,000 in 2012 in metropolitan France versus 793,000 in 2011), and the total fertility rate likewise, at 2.00 children per woman in 2012 as in 2011. The trend towards ever later births observed over the last 35 years is continuing: women who gave birth in 2012 were aged 30.1 years on average.<sup>(2)</sup> Mean age at childbearing has increased steadily since 1977, when it stood at 26.5 years. Though female fertility is still increasing after age 30, maintaining a trend that began in the late 1970s, it has been falling before age 30 since 2010.

An examination of cohort fertility shows that women born in 1962, who reached age 50 in 2012 and have completed their reproductive life, had 2.08 children on average. Women born in 1972, who turned 40 in 2012, have already had 1.93 children, and the total should reach

2.0 by the time they are 50. The youngest cohorts still have many childbearing years ahead of them, but their completed fertility may reach a similar level.

### Fertility remains stable despite the economic crisis

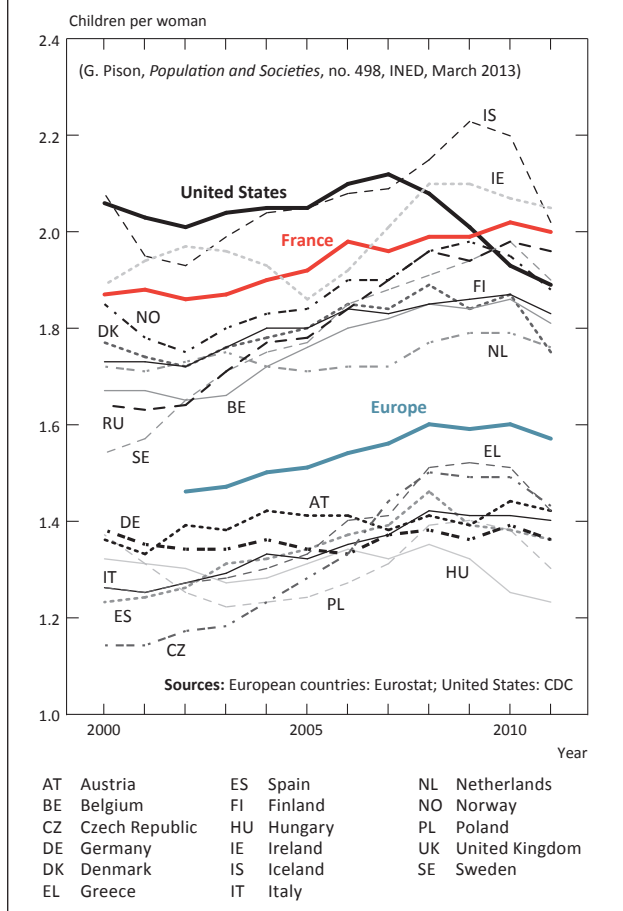
In a context of economic uncertainty and rising unemployment, one might expect fertility to decline, and this is indeed the case in most developed countries (Figure 1). In the United States for example, the total fertility rate (TFR), which stood at 2.12 children per woman in 2007, before the crisis, fell to 1.89 in 2011 (the last year for which figures are available). Yet, for the moment, France appears to have escaped this general trend. First observed in 2009 and 2010, the fertility downturn occurred later in Europe than in the United States. It is on a similar scale to the US in some countries, such as Iceland, where the mean number of children per woman fell from 2.23 in 2009 to 2.02 in 2011, but much smaller in France, where it fell only slightly, from 2.02 in 2010 to 2.00 in 2011. Does this mean that, contrary to

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(1) Including Mayotte (population 213,000 in 2012).

(2) The mean age at first birth was 28.1 years in 2010.

**Figure 1. Changes in the total fertility rate in the United States and Europe (selected countries), 2000-2011**



other developed countries, the economic crisis has barely affected fertility in France? This latest crisis occurred at a time when fertility in western countries, which had been low for many years (especially in southern, eastern and central Europe) was starting to recover. But this rebound was due largely to a slowing of the trend towards ever later childbearing, which led to an automatic increase in the fertility levels recorded each year.[2, 3]

In the countries where fertility was recovering, the economic recession has reversed the trend and fertility has fallen as a result. France is one of the rare countries to have avoided this phenomenon. While a slight decrease in the fertility of women under 30 was observed in 2011 and 2012 (after more than a decade of stability), it was more than offset by the steady fertility increase among the over-30s. A number of factors may explain this observation. First, the recession has been less severe in France, and the economy less shaken by the crisis than in other countries. Second, the shock of recession has been softened by generous social and family policies. Although France has escaped the fertility decline observed

in other developed countries, more babies would have been born in 2011 and 2012 if the economic context had been more favourable, and the TFR in metropolitan France would have exceeded two children per woman.

**Mortality trends among newborn infants are difficult to interpret**

In its 2012 report, the French Court of Auditors (*Cour des comptes*) expressed concern about the stagnation of infant mortality in France since 2005. In fact, progress resumed in 2010 and the proportion of infant deaths below age 1 fell to 3.3 per 1,000 in 2012 [1] (Figure 2). These figures are difficult to interpret, however, due to new uncertainties about the nature of the data. In principle, infant mortality is calculated on the basis of live births only. It does not include stillbirths, i.e. infants born without signs of life. Yet the boundary between stillbirth and death in the first days of life is uncertain, and the official definition of stillbirth has been changed twice since 2001. Up to 2001, the stillbirth rate in France decreased steadily, and until that year, births before 28 weeks of pregnancy were considered as miscarriages and not registered.<sup>(3)</sup> But in a circular dated 30 November 2001, new rules were introduced based on the standards of the World Health Organization (WHO). The minimum gestational age for a stillbirth was reduced from 28 to 22 weeks, or a fetal weight of 500 grams,[4] and the number of stillbirths immediately doubled as a consequence (Figure 2). INSEE, the French statistical office, duly explained the reasons for this discontinuity in its published stillbirth statistics. In 2008, a second initiative led to a further increase in the recorded stillbirth rate. For a growing number of parents, the loss of a stillborn fetus is experienced as the death of a child, so lawmakers have modified the criteria for registering births to facilitate the bereavement process. The decree of 20 August 2008 authorizes families to name and register a stillborn child, whatever its weight or gestational age, thus modifying the content of vital records, the main data source for counting stillbirths.

This double discontinuity means that French trends in stillbirths can no longer be analysed or measured, and comparisons with neighbouring countries have become meaningless. In the comparative tables published by Eurostat, metropolitan France is now in bottom position, with a stillbirth rate of 10.1 per 1,000 in 2010, above that of Bulgaria, (7.8), will behind the United Kingdom, (5.1), Germany (3.6) or the Netherlands (3.5). INSEE has therefore stopped sending stillbirth data to Eurostat until a new continuous series becomes available over the coming years. This new series will be based on the “standardized patient discharge reports” (*résumé standardisé de sortie*, RSS) produced by hospitals and which contain relevant information on gestational age and birth weight, independently of the parents’ decision whether or not to register the birth. [5]

(3) Counted in weeks of amenorrhoea.

Figure 3. Population of France - Provisional estimate at 1 January 2013

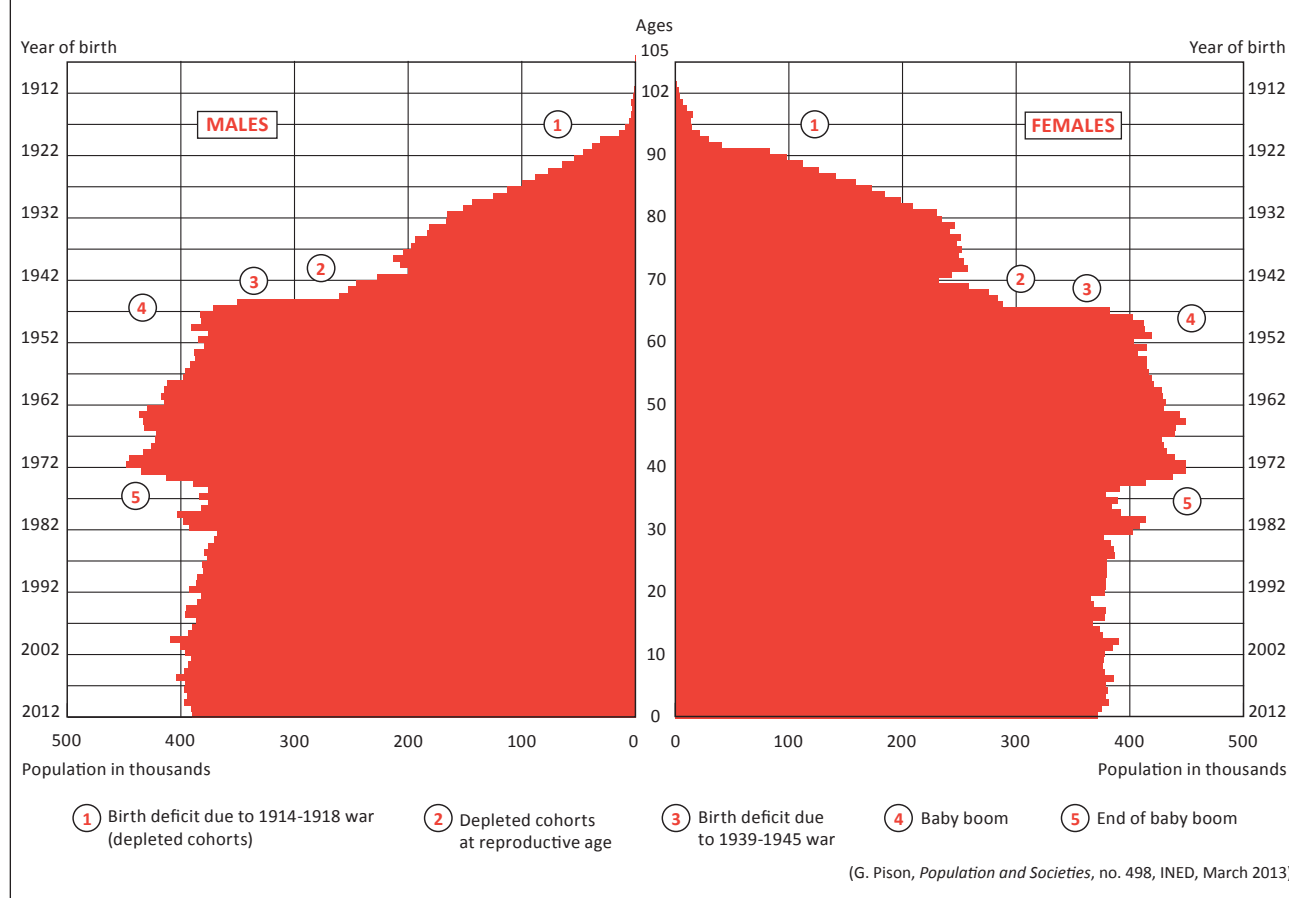


Table. Population indicators 1950 to 2012. Metropolitan France

	1950	1960	1970	1980	1990	2000	2004	2005	2006	2007	2008	2009	2010(p)	2011(p)	2012(p)
Births (m)	858	816	848	800	762	775	768	774	797	786	796	793	802	793	792
Deaths (m)	530	517	540	547	526	531	509	527	516	521	532	538	540	535	560
Natural increase (m)	328	299	308	253	236	244	258	247	280	265	264	255	262	258	232
Net migration (m)	35	140	180	44	80	70	105	95	115	75	67	44	62	62	62
Total growth (m)	363	439	488	297	316	314	363	342	395	340	331	299	324	320	294
Adjustment (1) (m)	-	-	-	-	-	94	94	94	-	-	-	-	-	-	-
Birth rate (t)	20.5	17.9	16.7	14.9	13.4	13.1	12.6	12.7	12.9	12.7	12.8	12.7	12.7	12.5	12.5
Death rate (t)	12.7	11.3	10.6	10.2	9.3	9.0	8.4	8.6	8.4	8.4	8.5	8.6	8.6	8.5	8.8
Infant mortality rate (r)	51.9	27.4	18.2	10.0	7.3	4.4	3.9	3.6	3.6	3.6	3.6	3.7	3.5	3.3	3.3
Total fertility rate (e)	2.93	2.73	2.47	1.94	1.78	1.87	1.90	1.92	1.98	1.96	1.99	1.99	2.02	2.00	2.00
Life expectancy:															
Male (a)	63.4	67.0	68.4	70.2	72.7	75.3	76.8	76.8	77.2	77.4	77.6	77.8	78.0	78.4	78.5
Female (a)	69.2	73.6	75.9	78.4	80.9	82.8	83.9	83.8	84.2	84.4	84.4	84.5	84.7	85.0	84.9
Marriages (m)	331	320	394	334	287	298	272	276	267	267	259	245	245	231	235
Marriage rate (t)	7.9	7.0	7.8	6.2	5.1	5.0	4.5	4.5	4.3	4.3	4.2	3.9	3.9	3.7	3.7
Population (2) (m)	42,010	45,904	51,016	54,029	56,893	59,267	60,963	61,400	61,795	62,135	62,466	62,765	63,089	63,409	63,703
Under 20 (2) (m)	12,556	14,665	16,748	16,419	15,632	15,068	15,242	15,280	15,315	15,338	15,369	15,407	15,463	15,519	15,581
65 and over (2) (m)	4,727	5,288	6,174	7,541	8,036	9,561	10,067	10,163	10,208	10,301	10,421	10,540	10,662	10,969	11,282
Under 20 (2) %	29.9	31.9	32.8	30.4	27.5	25.4	25.0	24.9	24.8	24.7	24.6	24.5	24.5	24.5	24.5
65 and over (2) %	11.3	11.5	12.1	14.0	14.1	16.1	16.5	16.6	16.5	16.6	16.7	16.8	16.9	17.3	17.7

(a) years – (e) children per woman – (m) in thousands – (p) provisional – (r) per 1.000 live births – (t) per 1.000 population.

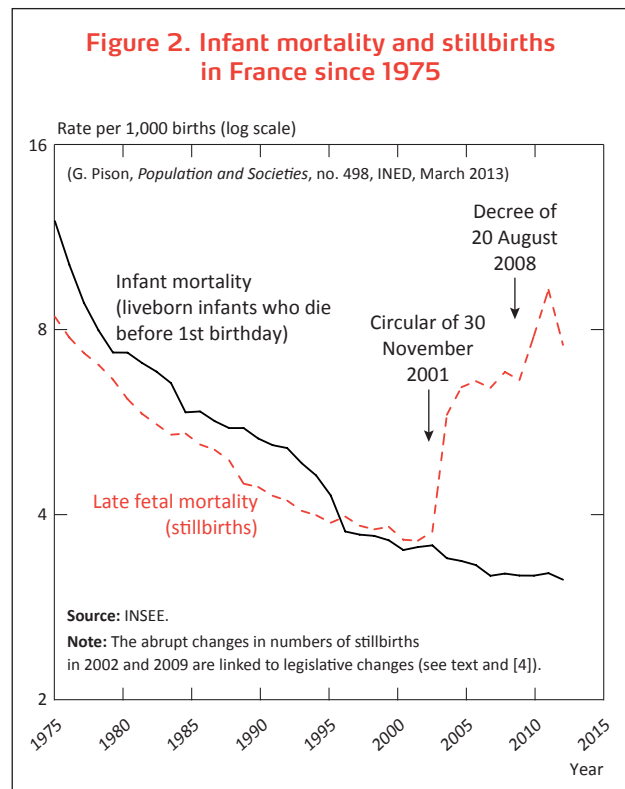
(1) Population estimates for 1990-2005 were adjusted to establish accounting consistency between the 1990, 1999 and 2006 censuses (see Vanessa Bellamy and Catherine Beaumel, 2013 [1]).

(2) At year-end.

Sources: INSEE. Division des enquêtes et études démographiques (<http://www.insee.fr>).

## Vital statistics reflect progress in health care and the new status of the fetus

Infant mortality statistics concern liveborn infants only and are estimated from the vital records. While unaffected by the new definition of stillbirth, they are nonetheless sensitive to a similar change, namely a shift in the boundary between stillbirths and live births due to more frequent recording of the slightest “signs of life” in a newborn. The fact that the number of reputedly liveborn infants who die on the day of birth has not fallen in the last twenty years provides evidence of this trend. Both for stillbirth and mortality in the first days of life, the statistics reflect both improvements in neonatal care and a change in perceptions. Parents’ emotional investment in the unborn child has given the fetus a whole new status. Thirty years ago, no-one would have considered registering a dead fetus as if it were a liveborn child. No-one imagined that medical teams would be able to save severely premature babies who would previously have died, and the criteria of viability have changed as a consequence. All these factors make it difficult to interpret recent trends in infant mortality in public health terms. With an infant mortality rate of 3.3 per 1,000 in 2011, France ranks tenth out of 27 in the European Union, behind countries such as the Czech Republic (2.7), Slovenia (2.9), Spain (3.1) or Portugal (3.1).



But no-one can say today whether this is due to less effective healthcare or to differences in measurement methods.

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What is the solution to this conundrum? To provide an answer to the Court of Auditors and gain a clearer picture of infant mortality and stillbirth in France, a simple solution would be to modify the birth notification form and include two questions on birth weight and gestational age, as is the case in other European countries. This would make it possible to determine whether the viability thresholds set by the WHO are actually attained. Even if purely conventional, stable definitions are essential for determining the true position of France in terms of mortality around the time of birth.<sup>(4)</sup>

### References

- [1] Vanessa Bellamy and Catherine Beaumel, “Bilan démographique 2012 : la population croît, mais plus modérément”, *Insee-Première*, 1429, January 2013.
- [2] Gilles Pison, “France 2008: why are birth numbers still rising?”, *Population and Societies*, 454, March 2009, 4 p., and “Two children per woman in France in 2010: Is French fertility immune to economic crisis?”, *Population and Societies*, 476, March 2011, 4 p.
- [3] Tomáš Sobotka, Vegard Skirbekk, Dimiter Philipov, “Economic recession and fertility in the developed world” *Population and Development Review*, 2011, 37(2), pp. 267-306.
- [4] INSEE, “Les sources des statistiques de l’état civil”, *Note méthodologique*, 5 November 2011.
- [5] Jeanne Fresson and Béatrice Blondel, “La sortie prochaine des mort-nés des limbes de la statistique française”, *Journal de Gynécologie Obstétrique et Biologie de la Reproduction*, 2013, vol. 42, 1, pp. 1-4.

### Abstract

In most developed countries, fertility has declined in response to the economic crisis. France appears to be an exception, but without the crisis, the total fertility rate, which had been increasing for several years, would have continued its upward trend and exceeded 2 children per woman. Trends in infant mortality are difficult to interpret due to changes in birth registration practices. A solution to this problem would be to add the birth weight and gestational age on the birth certificate so that the viability of each birth can be gauged against the international criteria established by the WHO.