France 2008: why are birth numbers still rising?

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Rising birth numbers and fertility rates might suggest that couples in France are having more and more children but, paradoxically, this is not the case. As Gilles Pison explains, they are having the same number of children as couples thirty years ago, but at a later age. Couples now have greater control over timing of births thanks to the spread of contraception and to government policies aimed at reconciling work and family life. For a while, delayed childbearing reduced birth numbers and brought down the fertility rate. That movement has now ceased and these indicators are rising again.

The number of births has been rising in France for some years now. Between 1998 and 2008 it increased 9% in metropolitan France (i.e. mainland and Corsica), from 738,000 to 801,000 (Box 1) [1]. Can this be attributed to population growth (7% over the period), on the principle that the larger the population, the higher the number of births? That is not the full story.
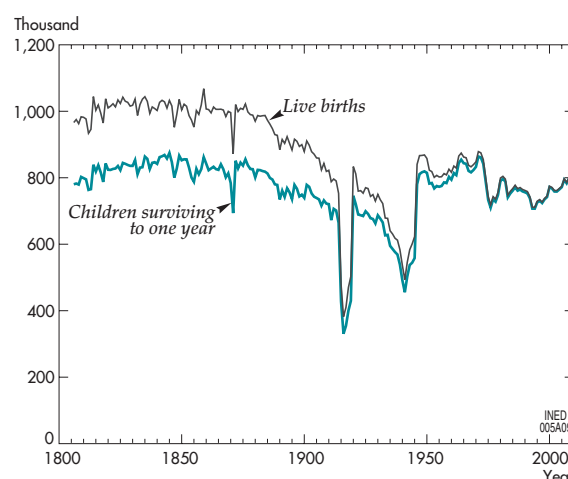
With 1.35 billion inhabitants – twenty-two times the figure for France – China had roughly 18 million births in 2008, which is also twenty-two times the French figure. To compare birth data between populations of different sizes, or identify whether births are increasing or decreasing in a given population, the number of births is usually expressed in relation to population size as a *birth rate*. The birth rate is practically the same in China and France for 2008, at 13 births per thousand inhabitants. In France it has been relatively stable for some twenty years.

◆ **Birth numbers are stable over the long term**

The birth rate in France has halved over the past two hundred years, from 31 per thousand in 1806 to 13 per thousand in 2008 [1] [2]. Yet as the population doubled over that period, from 31 million in 1806 (over the same

territory as today) to 62 million in 2008, the annual number of births has fallen only slightly (Figure 1) [3]. It stood at about 1 million a year in the nineteenth century and 750,000 a year in the twentieth century, leaving aside wartimes and the baby-boom years. If we count only children surviving to their first birthday, the number has scarcely changed in 200 years, remaining at about 750,000 to 800,000 per year.

Figure 1 – Annual births in France since 1806

(G. Pison *Population & Societies*, 454, INED, March 2009) Sources: [1][3].

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Fertility measured by year has been rising

Returning to the recent period, in the last ten years the birth rate has remained stable while the population has grown by 7%. Population growth would appear to explain all but 2% of the 9% increase in births. But population growth has been mainly due to an increase in older people who have completed their reproductive lives. The number of people of childbearing age, particularly women aged 15 to 50, has remained practically the same for ten years, at about 14.5 million. The age composition of this age group has changed, a fact which must also be taken into account. A group of women of whom nine-tenths are under 25 or over 40 will, in principle, have fewer children than a group of the same size, nine-tenths of whom are aged between 25 and 39 years.

Demographers usually divide women into age groups and determine the number of births occurring in each age group with respect to the total size of the group, as a measure of its *fertility rate*. They then sum these age-specific fertility rates to give the total fertility rate (TFR) (see definition and calculation method in Box 2, page 4).

Let us examine the trend in TFR since the end of the baby boom, i.e. since it fell below two children per woman after some thirty years at a markedly higher rate (Figure 2). The TFR fell from 1.94 children per woman in 1980 to 1.65 in 1993, before rising to 2.00 in 2008 [1][2]. How can these fluctuations be explained?

Fertility measured by cohort is stable, at about two children per woman

It is useful at this stage to consider another fertility indicator: *completed cohort fertility*, which refers not to a
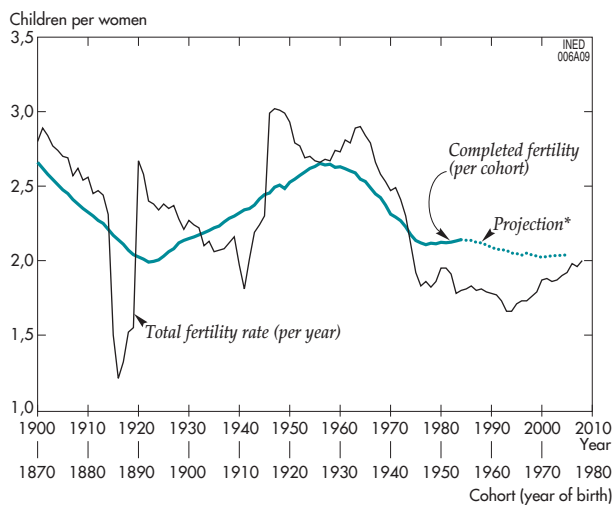
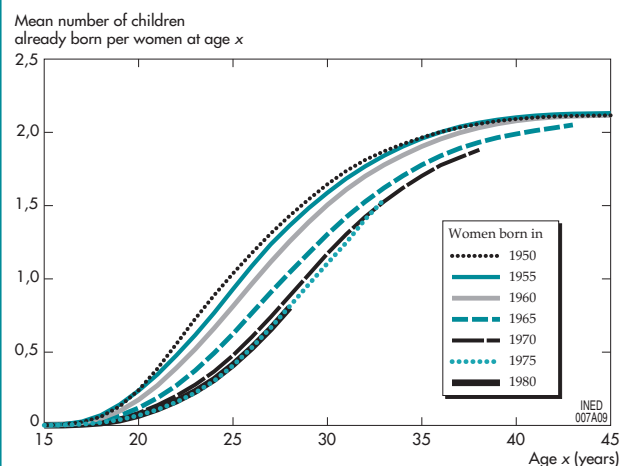**2008 statistics: four-fifths of population growth is due to natural increase**

On 1 January 2009 the population of France was an estimated 64.3 million, including 62.4 million in metropolitan France and 1.9 in the overseas territories [1]. In metropolitan France, the population grew by 343,000 in 2008 (+ 0.5%). This is about the same growth rate as in the previous seven years (see table, page 3). In 2008, four-fifths of the increase was due to a natural surplus of births over deaths. The remaining one-fifth was due to net migration (the difference between migration inflows and outflows), estimated by INSEE at 75,000, slightly more than in 2007 (70,000).

calendar year but to a cohort of women. The completed cohort fertility of women born in 1958 (and who reached age 50 in 2008) is 2.13 children per woman. This is the average number of children born over their reproductive lifetime to women who have survived to age 50 (excluding all those who die or emigrate before then). Unlike the total fertility rate, which refers to a fictitious cohort, this figure refers to real women. But it can only be measured for cohorts that have already reached age 50 or more. It is not possible, for example, to know the lifetime fertility of women born in 1978 and who turned 30 in 2008, as they still have many years of childbearing ahead of them. We do know that they have each had 1.1 child on average so far [1]. Can we forecast how many they will subsequently have? The fertility curves of different cohorts, including those who are not yet 50, show three patterns (Figure 3):
– 1) since the end of the baby boom, the age at first birth of successive cohorts has been increasing steadily;
– 2) they then make up for the late start by having a similar total number of children as their elders;
– 3) the trend towards increasingly delayed maternity has ceased with the cohorts born since 1970 [4] [5].

Mean age at childbearing, which has increased by three and a half years since 1978, stood at around 30 in

Figure 2 – Fertility trends in France since 1900

Children per women

INED
006A09

Completed fertility (per cohort)

Projection*

Total fertility rate (per year)

Note: Women's year of birth is given as 30 years earlier, this being the mean age at childbearing in 2008.
* Projection assumption: delay in first birth leads to similar delay in all subsequent births.
(G. Pison *Population & Societies*, 454, INED, March 2009)   *Sources : [1][2][4][5].*

Figure 3 – Cumulative fertility, by age, for different cohorts of women

Mean number of children already born per women at age *x*

Women born in
········· 1950
——— 1955
——— 1960
– – – 1965
——— 1970
········· 1975
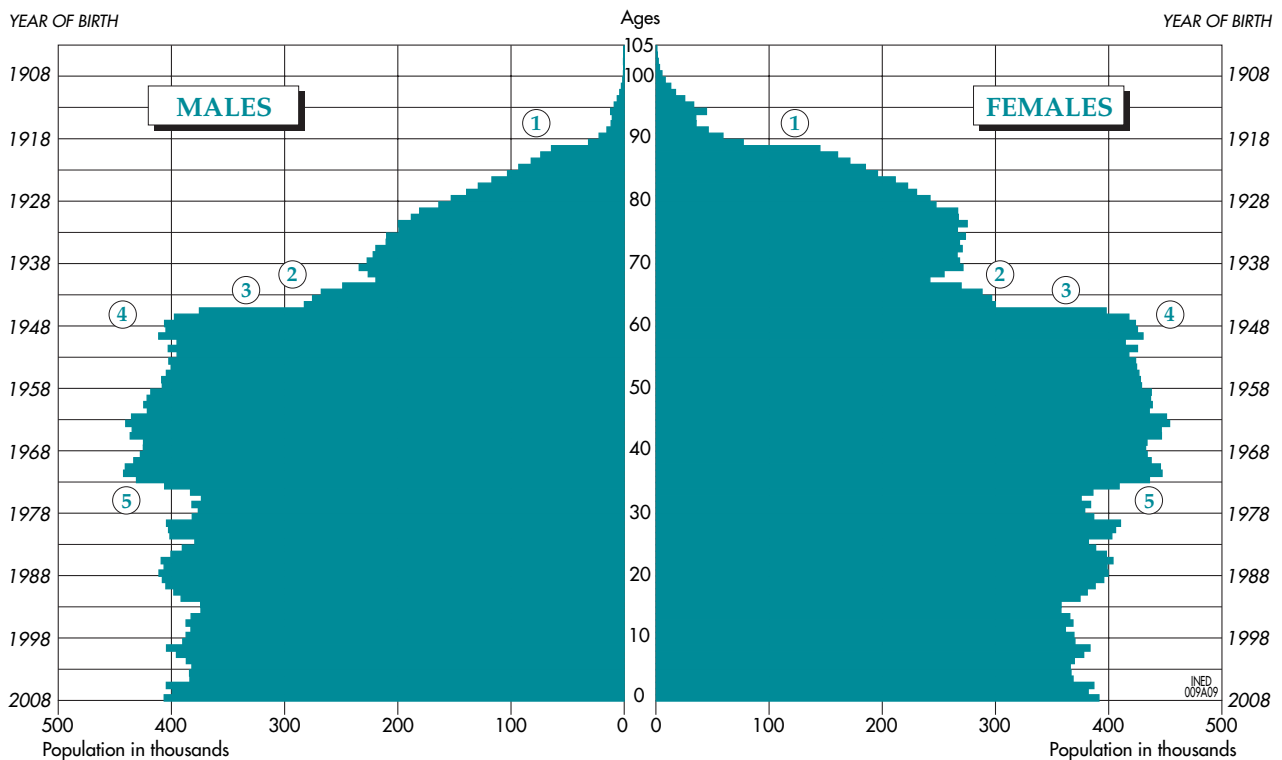——— 1980

INED
007A09

Age *x* (years)

(G. Pison *Population & Societies*, 454, INED, March 2009)   *Sources : [1][5].*

POPULATION OF FRANCE
PROVISIONAL ESTIMATE AT 1 JANUARY 2009

(1) Birth deficit due to 1914-18 war (depleted cohorts)
(2) Depleted cohorts at reproductive age
(3) Birth deficit due to 1939-45 war
(4) Baby boom
(5) End of baby boom

Source : INSEE.
(G. Pison *Population & Societies*, 454, INED, March 2009)

**Table – Population indicators 1950 to 2008, metropolitan France**

	1950	1960	1970	1980	1990	1999	2000	2001	2002	2003	2004	2005	2006	2007(p)	2008(p)
Births (m)	858	816	848	800	762	745	775	771	762	761	768	774	797	786	801
Deaths (m)	530	517	540	547	526	538	531	531	535	552	509	528	516	521	533
Natural increase (m)	328	299	308	253	236	207	244	240	226	209	258	247	280	265	268
Net migration (m)	35	140	180	44	80	60	70	85	95	100	105	95	91	70	75
Total growth (m)	363	439	488	297	316	267	314	325	321	309	363	342	371	335	343
Adjustment (1) (m)	-	-	-	-	-	94	94	95	94	95	95	94	-	-	-
Birth rate (t)	20.5	17.9	16.7	14.9	13.4	12.7	13.1	13.0	12.7	12.6	12.7	12.7	12.9	12.7	12.9
Death rate (t)	12.7	11.3	10.6	10.2	9.3	9.2	9.0	8.9	8.9	9.2	8.4	8.6	8.4	8.4	8.6
Infant mortality rate (r)	51.9	27.4	18.2	10.0	7.3	4.3	4.4	4.5	4.1	4.0	3.9	3.6	3.6	3.6	3.6
Total fertility rate (e)	2.93	2.73	2.47	1.94	1.78	1.79	1.87	1.88	1.86	1.87	1.90	1.92	1.98	1.96	2.00
Life expectancy : Male (a)	63.4	67.0	68.4	70.2	72.7	75.0	75.3	75.5	75.8	75.9	76.8	76.8	77.2	77.4	77.6
Female (a)	69.2	73.6	75.9	78.4	80.9	82.5	82.8	82.9	83.0	82.9	83.9	83.8	84.2	84.4	84.4
Marriages (m)	331	320	394	334	287	286	298	288	279	276	272	276	267	267	267
Marriage rate (t)	7.9	7.0	7.8	6.2	5.1	4.9	5.0	4.8	4.7	4.6	4.5	4.5	4.3	4.3	4.3
Population (2) (m)	42,010	45,904	51,016	54,029	56,893	58,858	59,267	59,686	60,102	60,506	60,963	61,400	61,771	62,106	62,449
Under 20 (2) (m)	12,556	14,665	16,748	16,419	15,632	15,044	15,054	15,060	15,069	15,124	15,151	15,280	15,289	15,288	15,297
65 and over (2) (m)	4,727	5,288	6,174	7,541	8,036	9,422	9,543	9,667	9,779	9,871	9,991	10,163	10,216	10,319	10,442
Under 20 (2) %	29.9	31.9	32.8	30.4	27.5	25.6	25.4	25.2	25.1	25.0	24.9	24.9	24.8	24.6	24.5
65 and over (2) %	11.3	11.5	12.1	14.0	14.1	16.0	16.1	16.2	16.3	16.3	16.4	16.6	16.5	16.6	16.7

(a) years – (e) children per woman – (m) in thousands – (p) provisional – (r) per 1000 live births – (t) per 1000 population.
(1) Population estimates for 1990-2005 were adjusted to establish accounting consistency between the 1990, 1999 and 2006 censuses (see Anne Pla, 2009 [1]) –
(2) At year-end.
Sources: INSEE. Division des enquêtes et études démographiques (http://www.insee.fr).

Figure 4 – Mean age at childbirth in France since 1900

Age (years)

All births

First births
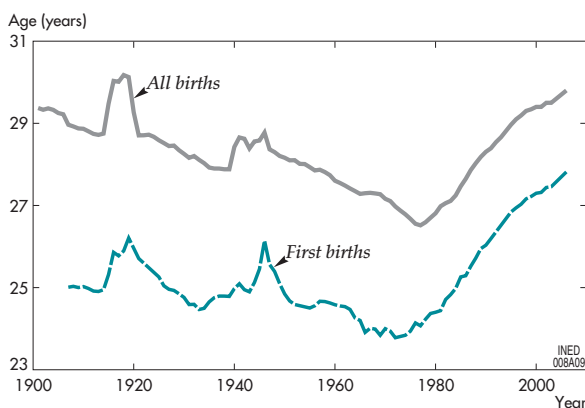
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(G. Pison *Population & Societies*, 454, INED, March 2009)   Sources : [1] [3] [5].

2008 (Figure 4). Mothers had their first child at around age 25 on average at the start of the twentieth century and at just below 24 in the early 1970s. The first birth now occurs more than four years later, at age 28. If we project the completed fertility of the cohorts that are not yet 50 years old, assuming that the delay in the first birth postpones subsequent births likewise without affecting the propensity to have a second (or third) child after the birth of the first (or second), the cohorts born in the 1970s will have a lifetime total of close to 2.05 children (Figure 2) [4] [5].

◆ **Women are having the same number of children, but later**

Let us return now to the fluctuations in the total fertility rate (Figure 2). In wartime, women have fewer children regardless of their age. At such times fertility rates are low for all age groups. The total rate is therefore also low, well below the lowest completed fertility ever reached by any cohort, since all cohorts of reproductive age are able to make up part of the wartime birth deficit in the post-war years. During the baby boom, by contrast, fertility increased in all age groups and the total fertility rate was higher than the highest completed fertility ever reached by a single cohort. After the baby boom, between 1970 and the mid-1990s, women increasingly delayed their first births. The older cohorts had already completed their childbearing, while younger women were able to postpone their entry into parenthood thanks to the spread of contraception and government policies aimed at reconciling work and family life. The combination of these two factors brought the annual fertility rate below the lifetime fertility of each cohort of reproductive age. This low fertility was a corollary of the trend towards increasingly delayed childbearing. Now that this trend is ending, the fertility rate is rising towards the level of the completed cohort fertility rate (1). If the new cohorts have the same number of children as their elders and at the

(1) Immigration is not, as is often argued, the cause of rising fertility rates. The contribution of immigrant women to the national fertility rate is a modest +0.1 child, and this is not new [6]. Though it may have increased in recent years, it has certainly not increased three- or fourfold.

Calculating total fertility rate

Fertility is measured by the total fertility rate. To calculate this rate, births occurring during the year are classified by the age of the mother to determine the mean number of children born to women of each age over the year. This is often expressed as a rate per 100 women of that age. These age-specific rates for ages 15 to 50 are then summed to obtain an aggregate fertility rate for the 35 different cohorts observed in the year in question. This total fertility rate indicates the total number of children that a group of women would have if they were to experience the fertility rates of the period at each age. This fictional group of women is a synthetic cohort that does not correspond to any cohort of real women. But their total number of children summarizes the fertility rate of all the women in the country in that year. It is a measure that can be used to compare fertility rates in different populations and to monitor changes from year to year.

For more information, see the *Measuring fertility* animation on the INED website (www.ined.fr/en/, "All about population").

same ages, the two indicators should eventually converge.

Thus the rise in birth numbers and fertility rates does not reflect a propensity for women or couples to have more children than their elders. It shows that the timing of births has now stabilized after several transitional decades of increasingly delayed childbearing which caused a temporary drop in birth numbers.

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ABSTRACT

The annual number of births in metropolitan France has increased by 9% in the past ten years and the total fertility rate rose from 1.65 to 2.00 children per woman between 1993 and 2008. However, these increases are not due to a rise in fertility from one cohort to the next. Today's cohorts have as many children as those of thirty years ago but are having them later, and this postponement of childbirth has pushed the fertility rate successively down, then up again.