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1968-2018: Four demographic surprises in France over the last 50 years

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French demography is a tale of continuity and surprises. To mark the 50th anniversary of *Population and Societies* (the first issue was published in March 1968), Gilles Pison highlights four demographic changes that nobody was expecting half a century ago: the astonishing increase in life expectancy, the postponement of motherhood, the increase in births outside marriage and the invention and success of civil partnerships.

The population of metropolitan France topped 50 million exactly half a century ago, in 1968. It has grown by nearly a third since then, to reach 65 million in 201 [1] (Table and Box). Population growth and ageing were both predicted, but four demographic changes occurring over the past 50 years were quite unexpected.

A remarkable increase in life expectancy

Life expectancy has risen by 11 years in half a century, from 71.5 years (both sexes combined) in 1967 to 82.5 years in 2017. The pace of increase has slowed in recent years, however, gaining only two months per year since 2010 compared to a mean of three months per year over the past half century. This suggests that the prolongation of life may soon reach its limit. But if we look at trends over the longer term, we find a similar slowdown in progress 50 years ago (Figure 1). While life expectancy at birth, both sexes combined, increased by 4 years during the 1950s, from 66.4 years in 1950 to 70.4 years a decade later, it increased by only 1.7 years during the 1960s, reaching 72.1 years in 1970.

At that time, the increase in life expectancy was still due in part to the decline in infant mortality, which fell by half between 1950 and 1960, from 51 deaths of infants aged below one per 1,000 births to 27 per 1,000, and continued to decrease in the following decade, down to 18 per 1,000 in 1970. At these low levels, it represented a very small proportion of overall mortality, and although the downtrend continued, it had almost no effect on life expectancy. A further increase in life expectancy was

dependant on efforts to reduce adult mortality, particularly among older people who accounted for an increasing proportion of deaths.

It was thought at the time that the scope for reducing mortality at these ages was limited and that life expectancy would soon hit a biological ceiling. The slowdown of the 1960s reinforced that view, which was reflected in the life expectancy projections for the French population developed by INSEE (Figure 1). The forecast published in 1970, with 1995 as its horizon, extended the upward trend for life expectancy, initially at the same rate as in the 1960s and then at a decreasing rate. The next forecast, published in 1979, was even more pessimistic; it considered that life expectancy would increase even more slowly, hitting a ceiling at 73.8 years (both sexes combined) in 2000. Both projections severely underestimated actual trends. Reaching 74.1 years in 1979, life expectancy went through the ceiling set by the second forecast in the very year it was published! Given the huge gap between these forecasts and actual trends, the 1986 forecast predicted a much faster life expectancy increase, but still assumed that progress would slow down and, in the long run, level off.

Despite this upward adjustment, the life expectancy increase again outstripped the forecast, breaking through the supposed ceiling in 1997. Given that ceilings were exceeded after a few years, even when raised, the very idea of a ceiling was dropped from subsequent forecasts. More recent projections predict a continuation of the current trend throughout the period covered, with a gradual lessening of the slope but no upper limit. They have matched the actual curve quite well, at least up to now.

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Figure 1. Life expectancy at birth in France – observations and projections

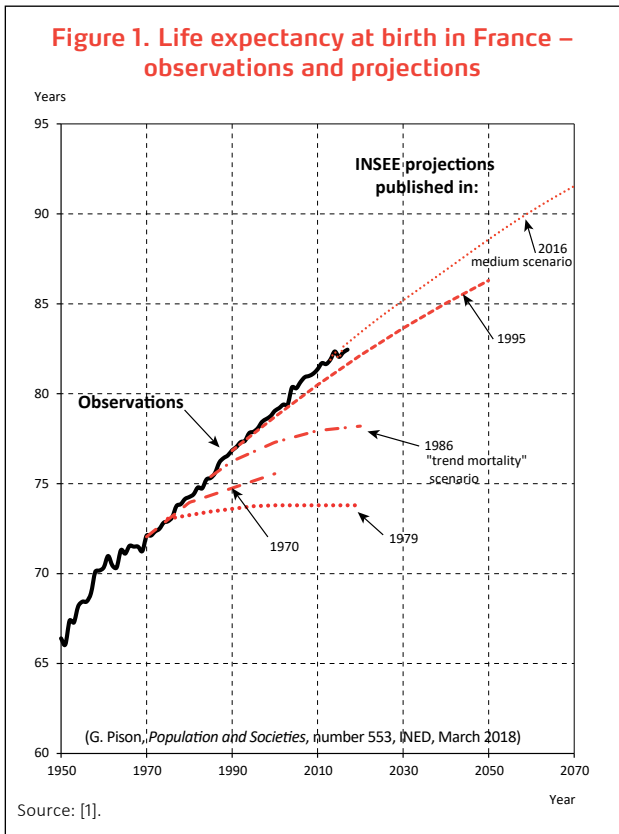
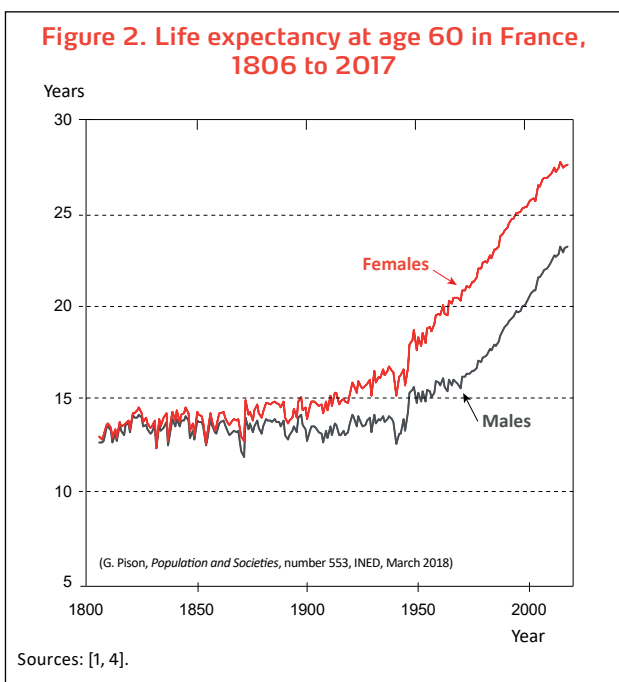


Figure 2. Life expectancy at age 60 in France, 1806 to 2017



A surprising success in reducing adult and old-age mortality

Forecasts long underestimated the increase in life expectancy because they did not anticipate the sharp drop in adult mortality, old-age mortality in particular. Progress in this area is relatively recent, as shown by the trend in life expectancy at age 60 (Figure 2). In the mid-20th century it was still close to its 19th-century level,

especially for men: a 60-year-old man could expect to live for another 13 or 14 years. Only after World War II did this residual life expectancy start increasing – and then accelerate – for men, reaching 23.2 years in 2014, seven years more than in 1964. For women, the improvement began earlier, in the first decades of the 20th century. It started to accelerate at the end of World War II, reaching 27.7 years in 2014, 7.4 years more than in 1964. In the mid-20th century, infectious diseases were still a major cause of death in older adults, and their decline led to a significant increase in life expectancy at age 60. But, as with children, these diseases now account for a much smaller proportion of overall mortality [2] and the gains to be expected from a further reduction are small. Cardiovascular diseases and cancers are now the main causes of death at these ages. And it is thanks to the success in the fight against these diseases that mortality rates in adults and older adults have continued to fall, and life expectancy to increase, since the 1970s [3]. Cardiovascular mortality has declined spectacularly in the past 50 years thanks to progress in prevention and treatment. And cancer deaths, which had been increasing, are now falling thanks to earlier diagnosis and a reduction in risk behaviours.

There has been no increase in life expectancy at age 60 over the past three years, however. For men it stood at 23.2 years in 2017, as in 2014, and it even fell slightly for women, to 27.6 years in 2017 compared to 27.7 years in 2014. While it is too early to conclude that progress has halted, we may be entering a new phase of slower increase in life expectancy at age 60, for women especially.

As many children as 50 years ago, but at later ages

Since the end of the baby boom 50 years ago, women of all generations in France have had two children on average. Those born in 1977, who were 40 years old last year, have already had 1.99 children, and will probably have 2.05 by the time they are 50. Their mothers, mostly born in the late 1940s and the 1950s, had almost the same number (about 2.10), but they had them much earlier in life.

The mean age at childbearing was 30.7 years in 2017, exceeding the previous record established during World War I, a century earlier. Age at childbearing increased exceptionally at that time, exceeding 30 years between 1916 and 1919 (Figure 3). In more recent times, it has risen steadily since 1977, when women bore children at the mean age of 26.5. In that year they had their first child at age 24 on average, whereas today they start a family five years later [5].

Postponing motherhood – until what age?

Later motherhood is a general trend in developed countries. It goes hand in hand with a longer time spent in education, an increase in the proportion of working women, and a growing desire among both men and women to have children only when they are well settled in life with a qualification, a steady job, a home and a partner. The spread of modern contraception and the legalization of abortion have contributed to birth postponement by reducing the frequency of unwanted births, especially among young women.

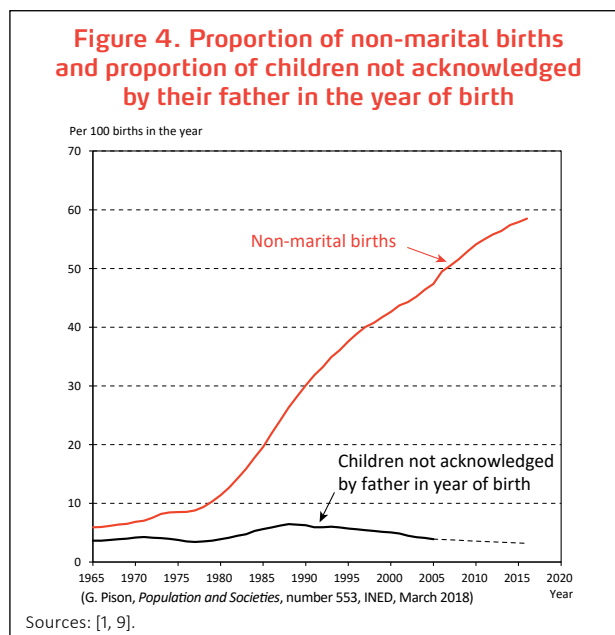
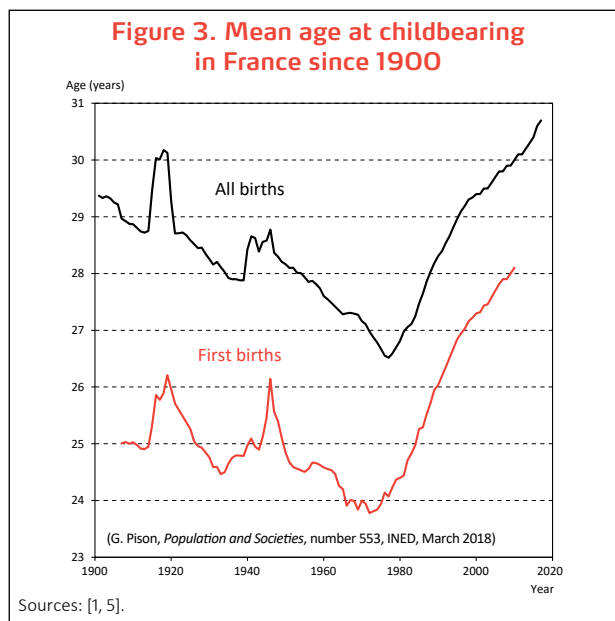
Will this trend continue in the future? Mean age at childbirth could increase further in France in the coming years, but by how much? It might rise to 32 years, as is already the case in Spain (31.9 years in 2015), but it is unlikely to reach 35 or 40. The main reason is biological; women may be unable to have a child if they postpone the decision for too long. The risk of infertility increases rapidly with age: it is 4% at age 20, 14% at age 35, already 35% at age 40 and nearly 80% at age 45 [6].

Assisted reproductive technology (ART), which has developed substantially in recent years, gives cause for hope to couples having difficulty in conceiving. But too few people know that such medical procedures are often ineffective after the age of 40. Mothers aged 40 or over account for a very small proportion of births – just 4% in France in 2016. Although their number is increasing, they are unlikely to represent a high percentage of births unless it becomes possible to break the menopause barrier for all women – a prospect which, for now at least, is pure "demographic fiction".

Nearly 60% of children are born to unmarried parents

Of the 745,000 children born in Metropolitan France in 2016, 435,000, or 58.5%, had parents who were not married at the time of the birth. Fifty years earlier, in 1966, the proportion was just 6% (Figure 4). Such births – rare and socially stigmatized – were officially designated as "illegitimate". But social norms have changed, and such births are now more common than births to married parents.

Since July 2006, French law no longer makes a distinction between marital and non-marital births. Children born to unmarried parents now have the same rights as those born to a married couple. Most births outside marriage now occur within stable couples. For these children, filiation is not established automatically when the birth is registered, as is the case for children born to married couples; the father has to acknowledge paternity. In the early 1970s, only one in five children born outside marriage was acknowledged by the father at birth; in 1980 that proportion was one in two [7, 8].



In 2005, it was five in six. As non-marital births become increasingly commonplace, paternal acknowledgement has become the rule, and is done quickly. All in all, fewer than 4% of children are not acknowledged in the year of their birth, a lower figure than 50 years ago (Figure 4) [9]. The old distinction between illegitimate and legitimate children has shifted to a distinction between children not acknowledged by their fathers and those with two recognized parents, regardless of whether the parents were married at the time of the birth [7].

The success of civil partnerships, now catching up with marriages

Since the introduction of the civil partnership (the *pacte civil de solidarité* or PACS) in 1999, the number of

Demographic situation in 2017: birth numbers are still falling

On 1 January 2018, the population of metropolitan France was an estimated 65.0 million. Adding the 2.2 million people in the overseas départements, the total population was 67.2 million [1]. In metropolitan France the population increased by about 217,000 in 2017 (+0.4%) (Table). Natural increase (surplus of births over deaths) continues to decline; it has shrunk by nearly half in seven years, from 262,000 in 2010 to 138,000 in 2017. Around 60% of this drop is due to a reduction in births and 40% to an increase in deaths.

The number of births is decreasing (781,000 in 2014, 760,000 in 2015, 745,000 in 2016 and 728,000 in 2017 in metropolitan France) because of a decline in the number of women of childbearing age and a drop in the total fertility rate, which fell from 1.97 children per woman in 2014 to 1.92 in 2015, 1.89 in 2016 and 1.85 in 2017. This downtrend is due to lower fertility rates before age 37; beyond that age they have risen slightly. The trend towards later childbearing observed over the last 40 years is continuing: the mean age of the women who gave birth in 2017 was 30.7 years* (see article).

Analysis of cohort fertility shows that women born in 1967, who were 50 in 2017 and therefore past their childbearing years, had 2.02 children on average. Women born in 1977, who were 40 in 2017, already had 1.99 children that year, slightly more

than those born in 1967 at the same age (1.97), so the total for them will probably also be at least 2.0 children at age 50.

Is life expectancy increasing more slowly?

A total of 590,000 deaths were registered in 2017. This is 1.5% more than the 581,000 recorded in 2016, an increase explained partly by the 0.4% population growth over the year and the increasing proportion of older adults. Calculating life expectancy provides a means to eliminate components of mortality linked to variations in population size and age distribution, so that only fluctuations linked to changes in the risk of dying are taken into account. Life expectancy at birth was 79.5 years for men and 85.4 years for women in 2017, compared to 79.3 years and 85.3 years in 2016 – a gain of 0.2 years for men and 0.1 years for women. As in previous years, the gain is small: life expectancy was 78.0 years for men and 84.7 years for women in 2010, so the gains have been only 1.5 years for men and 0.7 years for women over that time – an annual average of 0.2 years for men and less than 0.1 years for women. This is a break with the trend of three months (0.25 years) per year observed over the past 50 years: (see Figure 1 and article). Is progress in life expectancy stalling? It is probably too soon to say, and far too soon to claim that it has reached its limits.

*The mean age at first birth was about 28.7 years in 2017.

new PACS unions has risen year on year (Figure 5). It increased almost tenfold between 2001 and 2016, from around 20,000 to nearly 192,000. A total of 233,000 marriages were celebrated in 2016, so there is almost one PACS to every marriage. The PACS was introduced partly with same-sex couples in mind, to enable them to register their union and enjoy the same rights as unmarried different-sex couples. In fact, it soon became hugely popular with different-sex couples, and the tremendous rise in PACS registrations is mainly due to heterosexual couples who enter a PACS. Their number increased from 15,000 to 184,000 per year in the 15 years from 2001 to 2016 – a twelve-fold increase. The numbers of same-sex PACS unions merely doubled over that period, from nearly 3,500 to a little over 7,000 per year. They now account for 4% of the total.

The rise of the PACS and the simultaneous decline in marriages (from 296,000 in 2001 to 233,000 in 2016, a decrease of 63,000) suggests that the PACS may be gradually replacing marriage.

The two types of union have become more similar in recent years. In 2005, their tax regimes were aligned, with new civil partners being taxed on their joint incomes from the first year of their PACS, like married couples, rather than after three years, as was previously the case. Likewise, new PACS couples – like their married counterparts – were able to submit three tax returns in the one year, one each for the period they were single and one joint tax return for the rest of the year, after the PACS was registered. This tax arrangement, especially advantageous for dual-earner couples, was abolished in 2011 for both types of union. As a result, PACS registrations peaked in 2010, the last year the arrangement was in force (Figure 5). There was no similar surge in marriages, which shows that while some couples enter a PACS simply for legal or tax reasons, this is not the case for most marriages.

The mean age at entry into a heterosexual PACS in 2005 was 30.4 for women and 32.4 for men, very close to the age at first marriage (29.7 for women and 31.9 for

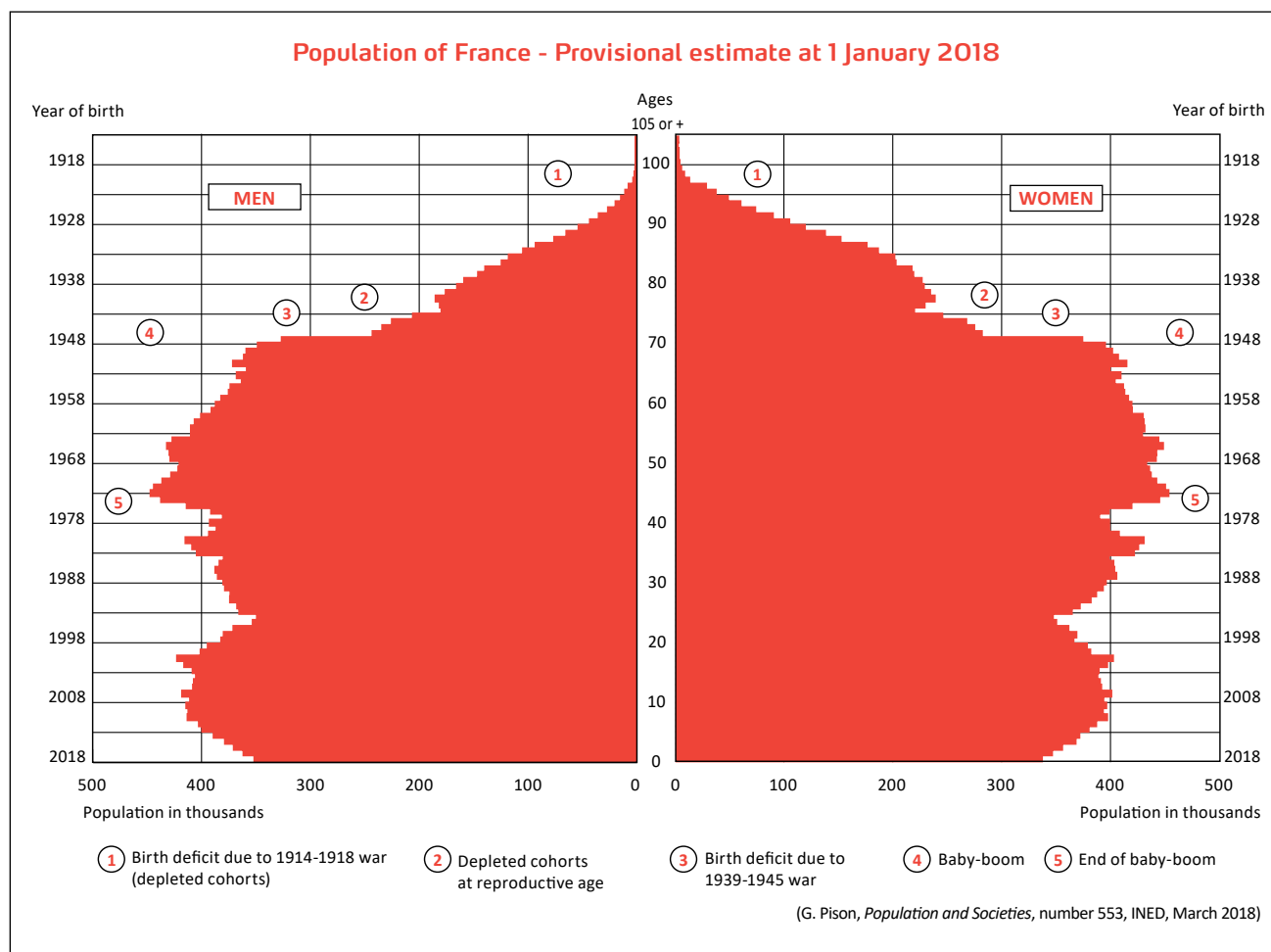


Table - Demographic indicators 1950 to 2018, metropolitan France

	1950	1960	1970	1980	1990	2000	2009	2010	2011	2012	2013	2014	2015(p)	2016(p)	2017(p)
Births (m)	858	816	848	800	762	775	793	802	793	790	782	781	760	745	728
Deaths (m)	530	517	540	547	526	531	538	540	535	559	558	547	582	581	590
Natural increase (m)	328	299	308	253	236	244	255	262	258	231	223	234	179	164	138
Net migration (m)	35	140	180	44	80	70	44	43	47	91	107	39	79	79	79
Total growth (m)	363	439	488	297	316	314	299	305	305	322	331	273	257	243	217
Adjustment ⁽¹⁾ (m)	-	-	-	-	-	94	-	-	-	-	-	-	-	-	-
Birth rate (t)	20.5	17.9	16.7	14.9	13.4	13.1	12.7	12.7	12.5	12.4	12.2	12.2	11.8	11.5	11.2
Death rate (t)	12.7	11.3	10.6	10.2	9.3	9.0	8.6	8.6	8.5	8.8	8.7	8.5	9.0	9.0	9.1
Infant mortality rate (r)	51.9	27.4	18.2	10.0	7.3	4.4	3.7	3.5	3.3	3.3	3.5	3.3	3.5	3.5	3.6
Total fertility rate (e)	2.93	2.73	2.47	1.94	1.78	1.87	1.99	2.02	2.00	1.99	1.97	1.97	1.92	1.89	1.85
Life expectancy:															
Males (a)	63.4	67.0	68.4	70.2	72.7	75.3	77.8	78.0	78.4	78.5	78.8	79.3	79.0	79.3	79.5
Females (a)	69.2	73.6	75.9	78.4	80.9	82.8	84.5	84.7	85.0	84.8	85.0	85.4	85.1	85.3	85.4
Marriages ⁽²⁾ (m)	331	320	394	334	287	298	245	245	231	240	233	235	230	227	223
Marriage rate (t)	7.9	7.0	7.8	6.2	5.1	5.0	3.9	3.9	3.7	3.8	3.6	3.7	3.6	3.5	3.4
Population⁽³⁾ (m)	42,010	45,904	51,016	54,029	56,893	59,267	62,765	63,070	63,376	63,698	64,028	64,301	64,558	64,801	65,018
Under 20 ⁽²⁾ (m)	12,556	14,665	16,748	16,419	15,632	15,068	15,407	15,440	15,458	15,513	15,589	15,652	15,683	15,690	15,688
65 and over ⁽²⁾ (m)	4,727	5,288	6,174	7,541	8,036	9,561	10,540	10,667	10,973	11,302	11,649	11,989	12,309	12,593	12,879
Under 20 ⁽²⁾ %	29.9	31.9	32.8	30.4	27.5	25.4	24.5	24.5	24.4	24.4	24.3	24.3	24.3	24.2	24.1
65 and over ⁽²⁾ %	11.3	11.5	12.1	14.0	14.1	16.1	16.8	16.9	17.3	17.7	18.2	18.6	19.1	19.4	19.8

(a) . years – (e) children per woman – (m) in thousands – (p) provisional – (r) per 1,000 live births – (t) per 1,000 population.

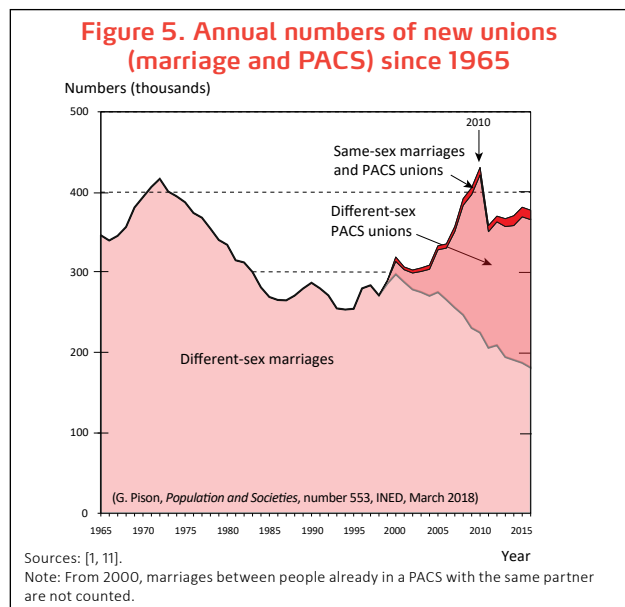
(1) Population estimates for 2000 were adjusted to establish accounting consistency between the 1999 and 2006 censuses (see Vanessa Bellamy and Catherine Beaumel, 2018 [1]).

(2) Including same-sex marriages from 2013.

(3) At year-end.

Source: INSEE. Division des enquêtes et études démographiques (www.insee.fr).

Figure 5. Annual numbers of new unions (marriage and PACS) since 1965



men). The frequency of separation is also similar: nearly one in five heterosexual PACS unions are dissolved in the first six years (18.9%), compared to just under one in seven marriages (13.5%) [10].

The legalization of same-sex marriage in 2013 did not alter the trend. In 2016 there were as many same-sex marriages as same-sex PACSs (7,113 and 7,112 respectively), although some same-sex marriages were between people already in a PACS (36% in 2016).

The trend in union formation, whether PACS or marriage, can be followed by summing annual totals of newly registered unions (Figure 5). The total number of new unions has been growing steadily since the mid-1990s, with the decline in marriages being more than offset by the rise in PACS registrations.

Divorce has also become more frequent in recent decades, followed in some cases by repartnering, resulting in an increase in one-parent families and stepfamilies. As life expectancy increases, lifelong unions are losing ground and a growing proportion of people now have several successive partners.

Half a century ago, notably following the events of May 1968 in France, many believed that couples and families would soon be a thing of the past. The facts have proven otherwise and these institutions have stood the

test of time; the proportion of people living with a partner has remained stable, as has the proportion registering their union. The latter has even increased in the past 20 years as new forms of union have become available.

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Abstract

Life expectancy in France rose by 11 years between 1967 and 2017, from 71.5 to 82.5 years for both sexes combined. The forecasts produced several decades ago failed to anticipate this spectacular progress, and life expectancy has still not hit the "ceiling" that was predicted. The past half-century has also been marked by three other demographic surprises: the postponement of motherhood, with a four-year increase in the age at childbearing since 1977, the rise in non-marital births, which now outnumber births within marriage, and the invention and success of the PACS civil partnership; the number of PACS registrations now almost equals the number of weddings.

Keywords

Population, France, life expectancy, age at childbearing, non-marital births, PACS, 1968-2018

¹ Some marriages follow a PACS between the same two people. These marriages were deducted to avoid counting the same couple twice [11].