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## Recent Demographic Trends in France The Disruptive Impact of COVID-19 on French Population Dynamics: Fewer Births and Marriages, a Downturn in Migration, More Deaths...

### Overview

Every year, *Population* publishes an article on recent demographic trends in France. Using data available so far, this year's article focuses on the year 2020, profoundly marked by the start of the COVID-19 pandemic. All components of France's population dynamics were affected, with fewer births (−17,000), abortions (−10,000), and marriages (−70,000) and, according to provisional statistics, probably fewer residence permits granted to third-party nationals. By contrast, a historically high number of deaths were recorded (+56,000). For most countries in the Global North, 2020 was an exceptional year from a demographic viewpoint. In France, not since the Second World War have birth numbers been so low. And as the health crisis continues, 2021 will be equally affected, if not more so.

On 1 January 2021, the population of France was 67.4 million, 120,000 more than on 1 January 2020. While the COVID-19 pandemic did not reverse population growth, it slowed the rate of growth substantially and altered the balance of its components. In 2020, natural increase (+67,000) was only slightly higher than net migration; it was even negative in the last quarter of 2020 and the first quarter of 2021. Yet France is still the country with the strongest

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growth in the European Union, whose population fell by around 300,000 in 2020. However, while the pandemic has disrupted the demographic dynamics of France, its effect on age structure has been marginal, with a very slight rejuvenation of the population.

In 2019, the most recent year for which statistics are available, 257,137 people obtained a first residence permit valid for at least 1 year, the highest number since 2000, up 3.4% with respect to 2018 and up 28.6% with respect to 2014. This number represents inflows from third countries (i.e. outside the European Economic Area and Switzerland). New residence permit holders are young (75% are under age 35 and 12% are under 18). In 2019, among these arrivals from third countries, it was only among African nationals that the number of new residence permits increased: these nationalities represented 61% of admissions versus 60% in 2018. Residence permits were most frequently granted for family (41%), educational (25%), humanitarian (13%), and employment reasons (12%), but only admissions for family and humanitarian reasons increased between 2018 and 2019. Given the time lags inherent in our counting method, it will not be possible to measure the effects of the COVID-19 pandemic on migration flows from third countries until 2022. However, initial statistics released by the Ministry of the Interior indicate a decrease in inflows (−21%) but also a change in composition (fewer admissions for employment reasons in particular).

Births in France in 2020 numbered 736,000, the lowest since 1945. The decline in births that had begun more than 10 years earlier accelerated in 2020. It is explained solely by the fertility decline and not by a decrease in the number of women of reproductive age. The total fertility rate was 1.83 children per woman in 2020, a level equivalent to that of 1989 or 1999 but with a higher age at child-bearing. Despite the decline in births, France is still the most fertile European country. The COVID-19 pandemic explains the accelerated decrease in births in 2020, which was concentrated around the months of November and December, 9 months after the start of the first lockdown in March (−6% and −8%, respectively, compared with the average of the 3 previous years). This decrease mainly affected the youngest women (under age 25) and the oldest (over age 40).

The number of induced abortions fell to 220,000 in 2020, down 4% with respect to 2019. This drop was particularly pronounced in the weeks following the first lockdown, indicating that the decline in births in November and December was due above all to fewer conceptions. The decrease in abortions mainly concerned women under age 30 and hospital abortions. The lengthening of the gestational age limit from 7 to 9 weeks for non-hospital medical abortions made up in part for the difficulty of accessing specialized hospital services during the strict lockdown period.

The number of marriages fell in 2019, and estimates published for 2020 show a spectacular decrease linked directly to the constraints of the health crisis. The drop was especially sharp from March to July 2020, with no real catch-up in the second semester, although an upturn of 28% was observed in

October. Statistics on civil partnerships have not yet been published for 2020, but in 2019, for the first time since 2011, their number declined (196,400). This decrease almost exclusively concerned different-sex unions. In 2019, mean age at marriage continued to decrease for men and women in same-sex relationships and increased slightly for other couples, with the overall mean age for men and women remaining unchanged (37.9 years for men and 35.4 years for women). Marriage is losing ground from one cohort to the next: 49% of men and 52% of women in the 1990s cohorts will marry at least once, compared with 62% and 68% among the cohorts born in the early 1970s.

In 2020, 668,900 deaths were registered in France (+9.1% with respect to 2019), and life expectancy fell by around 6 months (–0.58 years for males and –0.45 years for females), slipping back to the levels recorded in 2014. This excess mortality is the direct consequence of the COVID-19 pandemic, but its specific effect on the number of deaths cannot be accurately determined until statistics on mortality by cause are published for 2020. The daily pattern of deaths in 2020 shows peaks in March, early April, and early November that are much higher than those caused by seasonal flu epidemics in previous years. Excess mortality was higher among men and older people, especially men in their 70s. It was also higher in the three regions most hard-hit by the pandemic: Grand Est, Île-de-France, and Auvergne-Rhône-Alpes.

## I. General trends and population age structure

### 1. Historically low natural increase, becoming negative in the last quarter

On 1 January 2021, the population of France was 67.4 million, including 2.17 million in the overseas departments (*départements*) and regions (3.2% of the population) (Papon and Beaumel, 2021).

Over 2020, the French population continued to increase but at a historically low rate. Total population increase in 2020 was 2.4 per 1,000 and just 2.2 per 1,000 in metropolitan France,<sup>(1)</sup> compared with 2.8 and 2.7 per 1,000 in 2019 (Table 1; Appendix Table A.1<sup>(2)</sup>). In all, the population of France increased by 120,000 (154,000 – 34,000 migration adjustment; in 2019, the population increased by 143,000). This slowdown is a continuation of the trend already observed in recent years, but it is also a consequence of the COVID-19 pandemic. All three components of population dynamics have been affected, with a strong increase in mortality, fewer births, and smaller migration flows.

(1) These rates are calculated before migration adjustment. After adjustment, the mean annual increase is just 1.8 per 1,000 for the whole of France and 1.7 per 1,000 for metropolitan France. The reasons for this adjustment are presented in Breton et al. (2020).

(2) The appendix tables are available on INED's website and on the Archined open archive: [http://hdl.handle.net/20.500.12204/AX3JfgRDQw0312HDrH\\_V](http://hdl.handle.net/20.500.12204/AX3JfgRDQw0312HDrH_V)

Table 1. Population change and crude rates

Years	Population on 1 January (thousands)		Births (thousands)		Deaths (thousands)		Natural increase (thousands)		Net migration (thousands)		Migration adjustment		Total net change (thousands)		Crude birth rate (per thousand)		Crude death rate (per thousand)		Total increase (%) before adjustment		Total increase (%)	
	Metro. France	Whole of France	Metro. France	Whole of France	Metro. France	Whole of France	Metro. France	Whole of France	Metro. France	Whole of France	Metro. France	Whole of France	Metro. France	Whole of France	Metro. France	Whole of France	Metro. France	Whole of France	Metro. France	Whole of France	Metro. France	Whole of France
1990	56,577	57,996	762	793	526	534	236	259	80	77	-53	-52	316	336	13.0	14.0	9.3	9.2	0.56	0.58	0.47	0.49
2000	58,858	60,508	775	807	531	541	244	267	70	72	94	94	314	339	13.0	13.0	9.0	8.9	0.53	0.56	0.69	0.72
2010	62,765	64,613	802	833	540	551	262	282	43	39	0	0	305	320	13.0	13.0	8.6	8.5	0.49	0.50	0.49	0.50
2015	64,301	66,422	760	799	582	594	179	205	53	40	-64	-65	232	246	11.8	12.0	9.0	8.9	0.36	0.37	0.26	0.27
2016	64,469	66,603	745	784	581	594	164	190	88	65	-82	-84	252	255	11.5	11.8	9.0	8.9	0.39	0.38	0.26	0.26
2017	64,639	66,774	730	770	594	606	137	163	167	154	-99	-99	304	317	11.3	11.5	9.2	9.1	0.30	0.31	0.32	0.33
2018	64,844	66,992	720	759	597	610	123	149	103	87	-82	-84	226	236	11.1	11.3	9.2	9.1	0.28	0.29	0.22	0.23
2019*	64,988	67,144	714	753	599	613	115	140	103	87	-82	-84	218	227	11.0	11.2	9.2	9.1	0.27	0.28	0.21	0.21
2020*	65,124	67,287	697	736	654	669	43	67	103	87	-34	-34	146	154	10.7	10.9	10.0	9.9	0.22	0.24	0.17	0.18
2021*	65,236	67,407	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

n/a = not available.

\* Provisional results, end 2020.

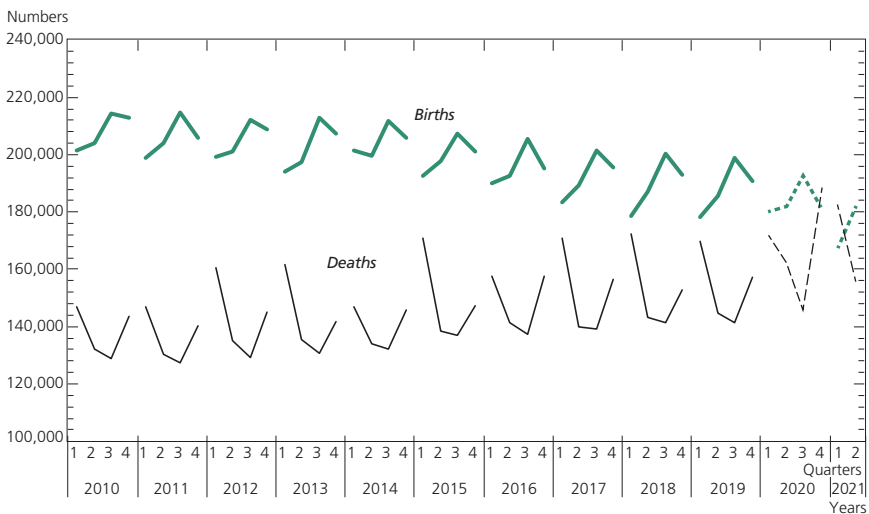
Coverage: Whole of France.

Source: INSEE, annual demographic reports; authors' calculations.

The crude mortality rate (9.9 per 1,000) continued to increase, but at a higher relative rate than over the last 50 years (Table 1). The impact of the pandemic was thus much greater than that of recent severe seasonal influenza epidemics (winters of 1948–1949 or, more recently, 2011–2012 and 2014–2015) or the summer heatwave of 2003, despite a strict 2-month lockdown and numerous preventive measures. High-mortality years are generally followed by years of below-average mortality, but this was not the case in 2021 due to the arrival of a second wave of COVID-19 in the first semester. The birth rate (10.9 per 1,000) continued to decrease, but at a faster relative rate than over the last 5 years (Table 1). In 2020, natural increase no longer accounted for the largest share of population growth, and the difference between estimated numbers of births and deaths fell to a low of +67,000 (Papon and Beaumel, 2021).

This trend has continued in 2021, and natural increase could even become negative if data from the beginning of the year are confirmed. This is because the increase in COVID-19 deaths continued into 2021, in parallel with a sharp drop in births that first became visible in November 2020 (9 months after the start of lockdown), and lasted until February (Figure 1) and even beyond in many departments (Brée et al., 2021). Quarterly natural increase can be calculated using provisional data published for the first quarter of 2021. For the first time since the end of the Second World War, natural increase was negative in the last quarter of 2020 and the first quarter of 2021 (–4,900 in the fourth quarter of 2020 and –14,900 in the first quarter of 2021). While excess mortality largely explains this unprecedented situation at the end of 2020, it is the exceptional decrease in births that accounts for the negative figure in the first quarter of 2021.

**Figure 1. Quarterly numbers of births and deaths in France, 2010–2021**



**Note:** Dotted lines indicate estimated data.

**Coverage:** Whole of France.

**Source:** INSEE; authors' calculations.

Net migration is estimated at +87,000 before correction (Table 1) and +53,000 after corrected adjustment. Trends are difficult to interpret as adjustments vary and are corrected from one year to the next (Breton et al., 2020). The year 2020 is exceptional nonetheless, with net migration before adjustment becoming the main driver of population growth in France, ahead of natural increase.

Population increase varies considerably across French departments, but COVID-19 had little impact on the hierarchy of 2019 (Breton et al., 2020). In 2020, the population decreased in 49 of the 101 departments (compared with 47 in 2019), and those where growth rates are falling most sharply remained the same: Martinique and Guadeloupe in the French Antilles; the departments of Grand Est, Bourgogne-Franche-Comté, Auvergne-Rhône-Alpes, and Nouvelle-Aquitaine (the north-east–south-west ‘empty diagonal’ in mainland France with relatively low population density); but also those of Hauts-de-France and Paris. However, the pandemic also adversely affected certain departments such as Jura, Haut-Rhin, Ardèche, Loire, and Haute-Loire.

## 2. France is still the main driver of population growth in the European Union

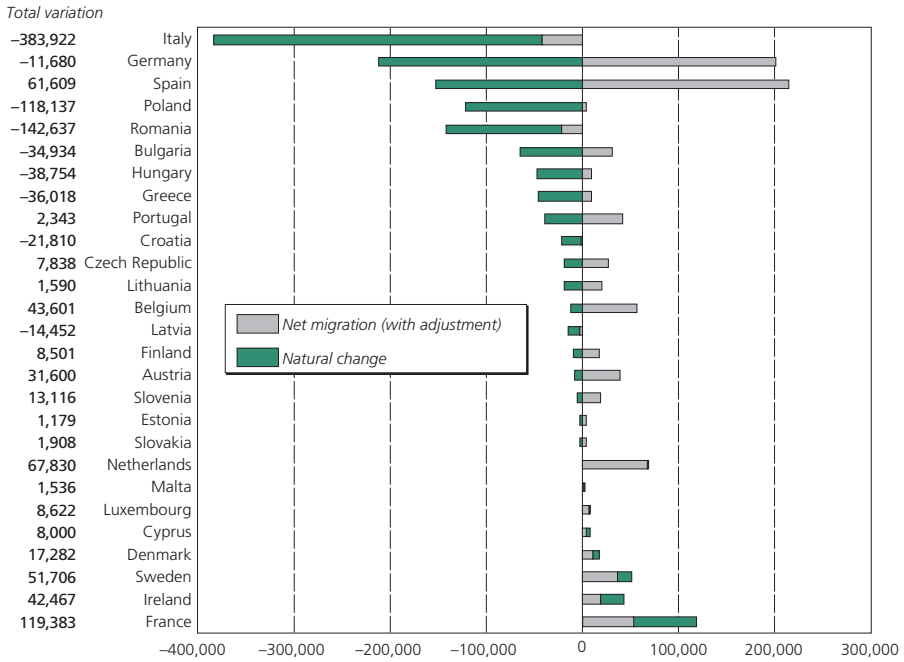
The 2020 slowdown in French population growth was nonetheless limited by comparison with the whole European Union (27-country European Union [EU-27]); in absolute terms, France contributes most to EU population growth (Figure 2). EU-27 lost almost 300,000 inhabitants (−0.7%) in a single year, a situation that, for a constant geographical area, represents a historical first. This decrease is attributable to a doubling of negative natural increase compared with 2019 (−1.14 million vs. −480,000), and a sharp drop in net migration, estimated at +827,000, a figure well below that of 2019 (+1.4 million). This population decline mainly concerns a handful of countries, primarily Romania (−148,000 inhabitants, −7.4% with respect to 2019), Poland (−118,000, −3.1%) and Italy (−384,000, −6.5%), where the population has fallen below 60 million. Now only two EU-27 countries have populations above 60 million: France and Germany, where for the first time in 10 years the population has fallen slightly (−0.1%). In 2020, under the exceptional conditions of border closures and lockdowns, migration flows were smaller in most countries. Consequently, natural growth contributed more to total population growth in the European Union than net migration.<sup>(3)</sup>

## 3. A slight pandemic-induced rejuvenation of the French population

The age and sex structure of a country varies little from one year to the next, especially in countries with a relatively large population, such as

(3) In 2020, the coefficient of determination ( $R^2$ ) between net migration and total population growth was 0.71, but 0.61 between natural increase and total increase. On average, these coefficients were 0.58 and 0.91, respectively, between 2001 and 2019.

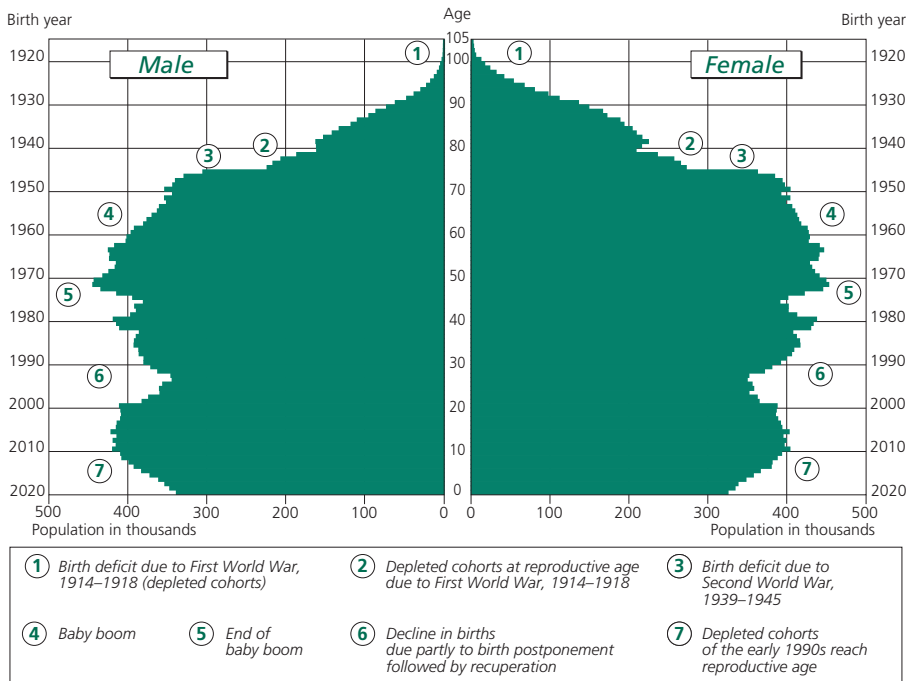
Figure 2. Natural increase and net migration in EU-27 countries in 2020



France.<sup>(4)</sup> What was the effect of the COVID-19 pandemic in 2020? First, the decrease in births narrowed the base of the pyramid, with a population ageing effect, although the impact of the pandemic on births was observed only in the last quarter of the year. Secondly, while deaths were more concentrated at advanced ages, causing a population rejuvenation effect, the age distribution of COVID-19 deaths proved quite similar to that of other deaths (Pison and Meslé, 2021). Last, the effect of migration on age structure is more difficult to verify, but it is likely that the drop in immigration for educational reasons and the decrease in emigration of older foreigners to their country of origin produced a very slight ageing effect. In short, the age structure changed very little. The pandemic simply slowed the effect of inertia linked to cohort ageing. The share of under 20s (23.7%) remained stable after 56 years of continuous decline (34.0% in 1965), as did that of the over-75s (Appendix Table A.2). Median age in 2020 increased by 0.1 years to reach 41.9 years (40.4 for males and 43.5 for females). Independently of the pandemic, the population pyramid on 1 January 2021, increasingly narrow at the base (Figure 3), is becoming more similar to that of the European Union. This trend will continue for at least another year, given the expected decrease in numbers of births (Brée et al., 2021).

(4) Even in 1962, when almost 600,000 repatriates arrived in the country, the age and sex structure of metropolitan France was barely affected, as the immigrants' age and sex structure was similar to that of the metropolitan population.

Figure 3. Population pyramid of France on 1 January 2021



Coverage: Whole of France.  
Source: INSEE.

#### 4. Population of France by place of birth and nationality

The population can be divided into six categories by combining nationality (French by birth, French by acquisition, foreigner) and place of birth (in France or in a foreign country) (Table 2). In 2020, the largest category is that of persons born French in France, who represent 85.3% of the population.<sup>(5)</sup> INSEE estimates the immigrant and foreign-born population to be 10.1% of the total

Table 2. Distribution (%) of the French population by nationality and place of birth, 1 January 2021

Place of birth	Nationality			Total
	French by birth	French by acquisition	Foreigner	
In France	86.2		1.2	87.4
In a foreign country	2.5	3.7	6.4	12.6
Total	92.4		7.6	100.0

Coverage: Whole of France (excluding Mayotte).  
Source: INSEE; authors' calculations.

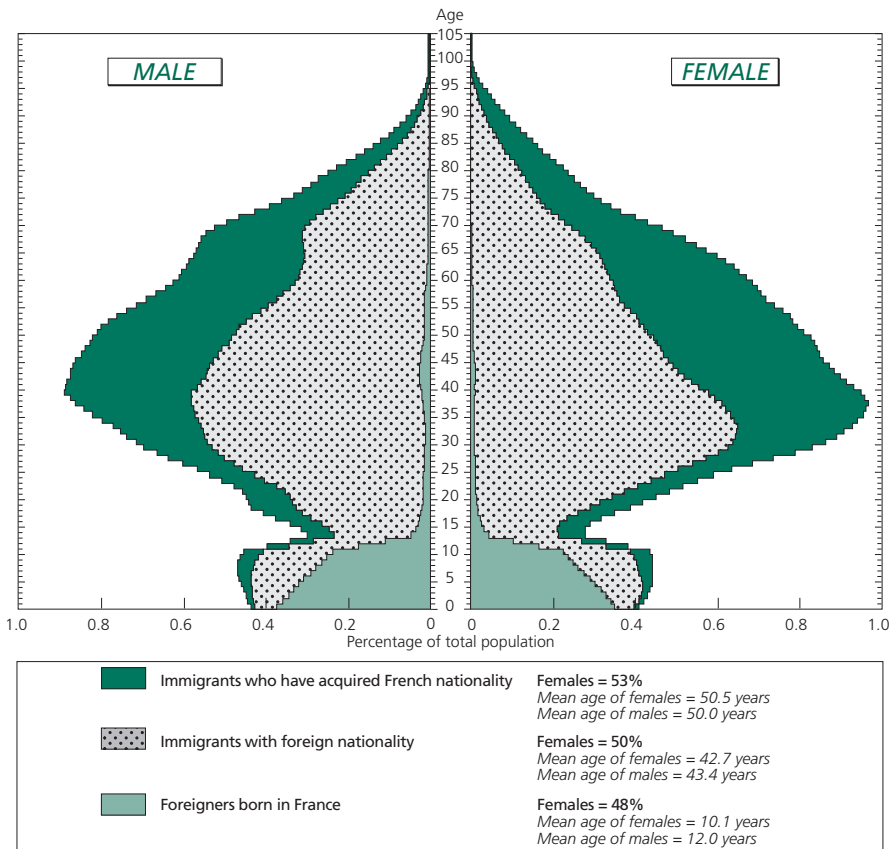
(5) This proportion represents 99.0% of the 86.2% of individuals with French nationality (by birth or by acquisition) and born in France (Table 2). This 99.0% is the proportion of French-born individuals among all people born in France and with French nationality at the 2018 census (most recent figure published by INSEE).



population (of whom 3.7% have become French by acquisition and 6.4% are foreign nationals). Foreigners account for an estimated 7.6% of the population. Two other categories represent a tiny proportion of the total: foreigners born in France (1.2%),<sup>(6)</sup> practically all of whom are minors, and individuals born abroad with French nationality (2.5%), whose profiles are similar to native-born French citizens (Kerjosse and Lê, 2020).

In 2018, the most recent year for which detailed, individual-level census data are available,<sup>(7)</sup> the populations defined by origin have different sex and age structures (Figure 4). With a mean age of 10.1 years for females and 12.0 years

**Figure 4. Sex and age structure on 1 January 2018 of the populations of immigrants and foreigners born in France**



**Coverage:** Whole of France (excluding Mayotte).

**Sources:** INSEE; authors' calculations.

(6) This proportion is substantially higher in some departments, such as Mayotte (16% in the 2017 census) or French Guiana (9.3% in the 2018 census). These are very young departments where foreign women account for a large share of births.

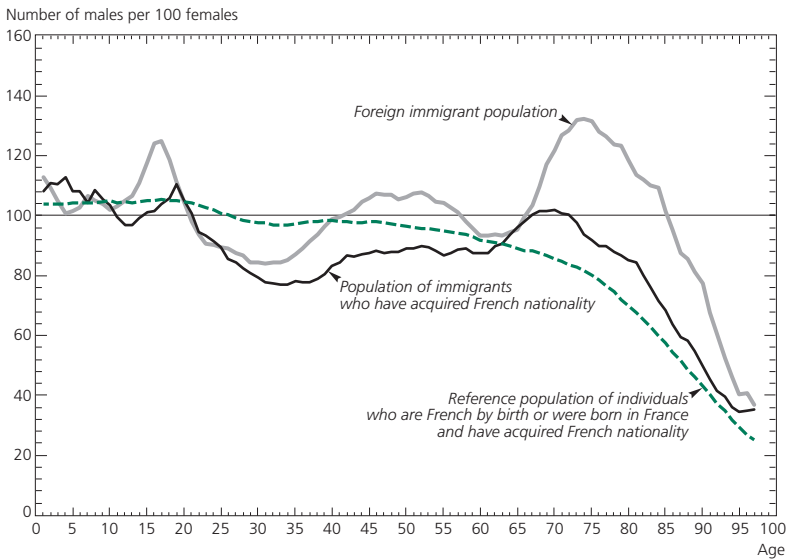
(7) INSEE does not publish detailed data until a cycle of five annual census surveys has been completed. The 2018 data correspond to the census survey cycle of 2016, 2017, 2018, 2019, and 2020 (in 2021, no population census was conducted because of the COVID-19 pandemic).

for males, foreigners born in France are the youngest category, as most of them acquire French nationality when or before they reach age 18.<sup>(8)</sup> At the other extreme, the oldest category (mean age 50 years) is that of immigrants who have acquired French nationality (Figure 4). This is probably because naturalization is a lengthy process for people born in a foreign country, and immigrants who have been naturalized more frequently remain in France (selection effect).

The gender distribution is balanced in the foreign immigrant population, as is the case in the majority population. This is not the case for the population of foreigners born in France (48% females) and for the naturalized population (53% females).

The sex ratio varies by age, however (Figure 5). It decreases with age in the reference population but is more variable in the immigrant populations.<sup>(9)</sup> While the levels are different, the shape of the curves is identical for foreign immigrants and naturalized French immigrants, with a peak (more males than females) among young adults, a trough at around ages 30–35 and another peak at around age 70. These variations are linked to age effects, but above all to cohort effects: 10 years earlier, a trough was observed around ages 20–25 and

**Figure 5. Sex ratios in the immigrant and non-immigrant populations of France, 2018**



Coverage: France, excluding Mayotte.

Source: INSEE; authors' calculations.

(8) Under Article 21-7 of the French Civil Code, a child born in France to two foreign parents must have lived in France continuously or discontinuously for 5 years from age 11 to automatically acquire French nationality at age 18. French nationality can also be acquired from age 13 by declaration. Automatic acquisition is confirmed by a certificate of French nationality granted by the head clerk of the competent district court (Ministry of the Interior).

(9) The sex ratios of foreigners born in France are not shown in Figure 5 as very few adults are in this category and the high ratios obtained are not significant.

again around ages 60–65. This 10-year shift shows that these are migrant populations with specific demographic characteristics (here, their sex distribution), with some members opting to remain in France in old age.

## II. Immigration from third countries

This section describes recent trends in immigration from third countries whose adult nationals must obtain a residence permit to live in France.<sup>(10)</sup> It does not concern inflows from the countries of the European Economic Area (EEA) and Switzerland.<sup>(11)</sup> To ensure consistency of comparisons over time, the statistics are established for constant geographical areas. We do not count people of nationalities that were formerly required to hold a residence permit but are now exempt.<sup>(12)</sup>

Flows of third-country nationals arriving legally in France to establish residence in the country are estimated here from the statistics on long-term residence permits and visas valid as residence permits. They are based on data extracted from the system used by the French Ministry of the Interior to track the status of foreigners residing in France (AGDREF) that are transmitted annually to INED. The method developed by d'Albis and Boubtane (2015) is used to construct these flows. It applies the basic principle whereby people are counted in the flows of the year they receive their first residence permit valid for 1 year or more.<sup>(13)</sup> This is generally the same as the year of entry, although in some cases it may be later (notably because the person previously held a more short-term residence permit). It is thus the entry into permanent migrant status (long-term legal residence) that is measured, rather than the physical entry into France. The inflows considered here cover the entire French territory, although large disparities are known to exist across different departments (Breton et al., 2017; d'Albis and Boubtane, 2018b).

Due to the delays in registering certain types of residence permits, migration flows cannot be accurately determined beyond 2019. The disruption caused by the COVID-19 pandemic is estimated based on provisional data for 2020. And the effect of the United Kingdom's departure from the European Union will not be known until statistics for 2021 can be analysed.

(10) Immigrants are defined as persons born outside France to non-French parents, whether or not they subsequently acquire French nationality.

(11) Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom. The United Kingdom became a third country on 1 January 2021. As only statistics up to 2020 are used for this article, flows from the UK are not counted.

(12) The nationalities considered may vary from one demographic report to the next in response to legislative changes in rights of residence. Appendix Table A.3 takes account of changes in scope.

(13) The Ministry of the Interior also publishes a complementary series of migration flow statistics based on a count of all first residence permits issued to adults. Its scope is different because it includes residence permits valid for less than 1 year which will not necessarily be renewed by a longer-term permit. The inflows calculated by the Ministry thus include temporary migration.

## 1. A steady increase in inflows from third countries up to 2019

Table 2 shows inflow data for the years 2014 to 2019. In 2019, the number of people who received a first residence permit was 257,137—the highest number since this data series was first established (i.e. since 2000; Appendix Table A.3). Inflows in 2019 were 3% higher than in 2018 and 28.6% higher than in 2014.

**Table 3. Inflows of third-country nationals by first year of validity and period of validity of first residence permit of 1 year or more**

Period of validity	2014	2015	2016	2017	2018	2019
Less than 10 years	178,677	187,626	193,163	208,772	222,155	227,409
10 years or more	21,210	22,414	25,191	28,969	27,319	29,728
Total	199,887	210,040	218,354	237,741	249,474	257,137
Share of permits of 10 years or more in the total (%)	10.6	10.7	11.5	12.2	11.0	11.6

*Coverage:* Permits granted in France and abroad to foreign nationals, excluding citizens of the EEA and Switzerland (constant geographical area from 2014 to 2019). Permits granted in year  $n$  and included in the AGDREF data extracted in July of the year  $n + 2$ . Permits of less than 10 years are valid for between 364 and 3,649 days; permits of 10 years or more are valid for more than 3,649 days.

*Source:* Calculations by H. d'Albis and E. Boubtane based on AGDREF data transmitted to INED by the Ministry of the Interior.

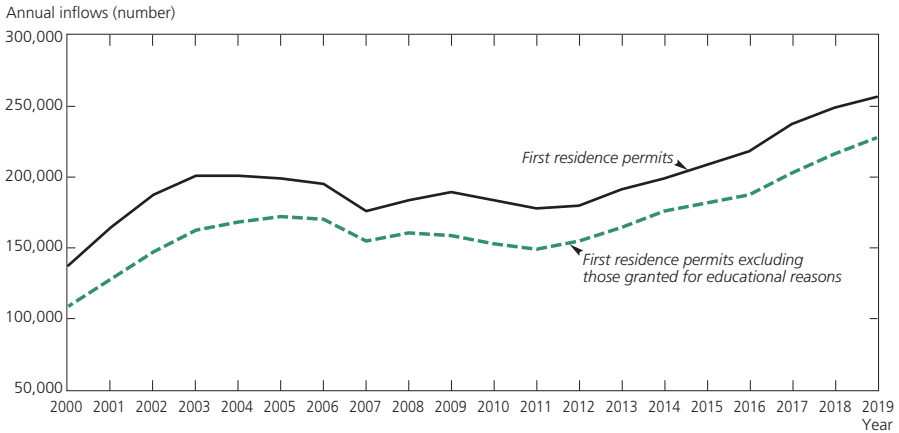
Among the individuals counted, the share of immigrants receiving a residence permit valid for 10 years or more remained low, at close to 11.6% in 2019. These permits (typically a resident card) are generally granted after one or more permits of less than 10 years.

Inflows of foreigners can also be estimated using other statistical sources. INSEE uses population censuses and specifically a question on the place of residence in the year preceding the census survey. According to Eurostat, which disseminates INSEE data, 175,817 nationals from third countries entered France in 2019.<sup>(14)</sup> This low estimate is probably due partly to the non-exhaustive coverage of foreign students in the census survey, even if they remain in France for more than a year. Counting students in migration flows is a complex problem. Under certain statistical conventions, they should be counted if they stay for at least a year in the host country; this is the approach applied here. Other conventions, based on the rules of the National Account System, consider that they should not be counted unless they plan to stay in the host country after completing their education. This is the convention applied by the Organisation for Economic Co-operation and Development. Flows based on this convention can be estimated using the method proposed by d'Albis and Boubtane (2021b) by applying the rule of the first residence permit valid for more than 1 year to all permits except those granted for educational reasons. Hence, while people who hold a student permit throughout their stay

(14) Variable MIGR\_IMM1CTZ available for the period 2013–2019 on the Eurostat website at the following address: <http://ec.europa.eu/eurostat/en/data/database> (accessed 23 August 2021).

in France are not counted (even if they stay for more than 1 year), those who receive a permit for another reason after holding a student permit are counted in the year of their first change of status. Figure 6 shows inflows since 2000 measured with these two methods. When first residence permits granted for educational reasons are ignored, annual flows are smaller, but the 20-year uptrend remains unchanged.

**Figure 6. Annual inflows based on number of residence permits, including or excluding those granted for educational reasons**



Coverage: See Table 3.

Source: Calculations by H. d'Albis and E. Boubtane based on AGDREF data transmitted to INED by the Ministry of the Interior.

## 2. More than 6 in 10 permits granted to young adults

Recent immigrants are young. People aged 18–34 represented 62.5% of all arrivals (Table 4) and 71.2% of all immigrants who were adults when they received their first residence permit. The year 2019 was marked by a sharp increase in the share of minors, whose number reached 31,491, up from 27,059 the previous year, and who accounted for 12.2% of admissions. The annual increase in minors alone represented 58.6% of the total annual increase in inflows. However, this figure should be treated with caution: only minors with a residence permit are counted in inflows.<sup>(15)</sup> Foreign minors do not have to hold a residence permit but may need to obtain one if, for example, they wish to travel outside France. So the increase may not be due to a rise in inflows but rather to a growing number of residence permits granted to minors already living in France. Minors born in France to foreign parents are, by definition, not counted as immigrants. The first row of Table 4 thus only includes minors born abroad who hold a residence permit.

(15) In most cases, this permit is called a *document de circulation pour étranger mineur*. It was instituted by a decree published on 24 December 1991.

**Table 4. Distribution (%) of first residence permits valid for 1 year or more by first year of validity and age group**

Age group	2014	2015	2016	2017	2018	2019
0–17 <sup>(a)</sup>	10.3	10.2	10.3	10.3	10.8	12.2
18–34	62.2	62.5	63.1	64.5	64.0	62.5
35–64	25.7	25.5	24.9	23.7	23.5	23.6
65+	1.7	1.7	1.8	1.6	1.6	1.7
Total	100	100	100	100	100	100

(a) Foreign minors are not required to hold a residence permit. The first row of Table 4 counts minors born abroad who hold a residence permit.

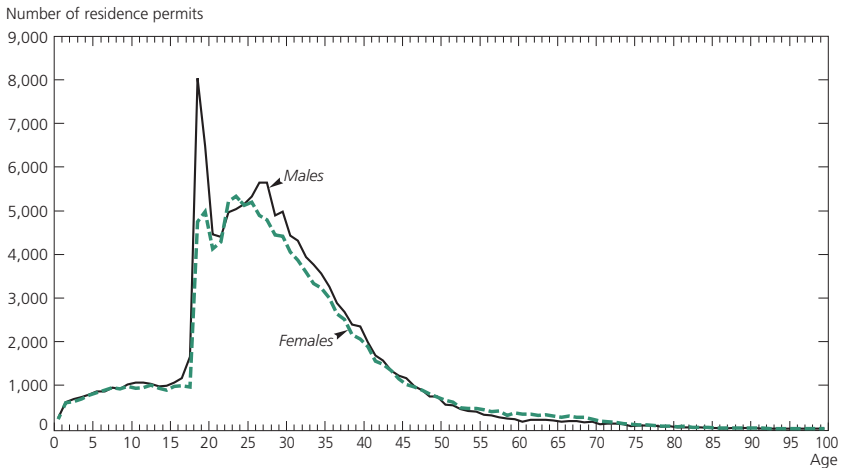
**Coverage:** See Table 3.

**Source:** Calculations by H. d’Albis and E. Boubtane based on AGDREF data transmitted to INED by the Ministry of the Interior

Figure 7 gives a more detailed representation of flows by age and sex in 2019. The peak at age 18, very pronounced for males, corresponds to people who arrived as minors and who apply for a residence permit when they reach age 18, notably to work. In all, 23.2% of males and 20.0% of females with a new residence permit are under age 20. Students also contribute to the large share of young people in the age distribution of inflows. The female and male distributions are similar overall, although the latter is more markedly bimodal. Mean ages at entry into France were 28.9 years for females and 27.9 years for males in 2018, a decrease compared to 2015 when they were 29.3 and 29.1 years.

A majority of incoming migrants (excluding those from the EEA and Switzerland; Box 1) are African nationals. Their share increased sharply in

**Figure 7. Age and sex distribution of first residence permits valid for at least 1 year granted in 2019**



**Coverage:** See Table 3.

**Source:** Calculations by H. d’Albis and E. Boubtane based on AGDREF data transmitted to INED by the Ministry of the Interior.

### Box 1. Estimating inflows from the countries of the EEA and Switzerland

By definition, nationals of these countries cannot be counted using data from residence permit registers. INSEE estimates these entries using census data. According to Eurostat, these flows totalled 78,422 people in 2019 compared with 87,742 in 2014. While trending downward, migration from these countries represents a large share of migration towards France. We can thus estimate that more than 90,000 people enter France each year from across the whole of Europe (EEA countries and those included in Table 5), a figure equivalent to slightly below 60% of inflows from African countries, and more than a quarter of total inflows from all countries of the world. It is nonetheless hazardous to sum estimates from different sources, especially for migration flows, because estimates for the same geographical area vary across sources.

2019, accounting for 61.4% of total inflows, the highest percentage since 2005 (Table 5; d'Albis and Boubtane, 2015). The share of nationals from other continents is correspondingly lower.

Since 2017, females no longer account for the majority of inflows, and in 2019 they represented only 48.0% of total entries versus 52.3% in 2014 (Table 6). In 2018, while there were fewer females than males among inflows from Africa (46.4%) and Asia (46.5%), they formed a large majority among inflows from the Americas (57.6%) and Europe (57.7%). The rising share of inflows from Africa partly explains the drop in the share of females in overall inflows.

**Table 5. Breakdown and distribution (%) of first residence permits valid for 1 year or more by first year of validity and continent of origin**

Continent of origin	2014	2015	2016	2017	2018	2019
<b>Numbers</b>						
Africa	115,920	122,294	126,171	138,921	147,611	157,886
America	20,975	21,835	20,437	21,146	22,961	21,977
Asia <sup>(a)</sup>	49,050	51,301	55,920	61,315	63,224	61,735
Europe <sup>(b)</sup>	12,530	13,266	14,541	15,036	14,423	14,251
Oceania	805	809	803	924	927	805
Total <sup>(c)</sup>	199,887	210,040	218,354	237,741	249,474	257,137
<b>Proportion (%)</b>						
Africa	58.0	58.2	57.8	58.4	59.2	61.4
America	10.5	10.4	9.4	8.9	9.2	8.5
Asia <sup>(a)</sup>	24.5	24.4	25.6	25.8	25.3	24.0
Europe <sup>(b)</sup>	6.3	6.3	6.7	6.3	5.8	5.5
Oceania	0.4	0.4	0.4	0.4	0.4	0.3
Total <sup>(c)</sup>	100	100	100	100	100	100

(a) Turkey is included in Asia.

(b) Europe includes all European countries outside the EEA and Switzerland.

(c) The total is not equal to the sum due to missing values (origin of person unknown).

**Coverage:** See Table 3.

**Source:** Calculations by H. d'Albis and E. Boubtane based on AGDREF data transmitted to INED by the Ministry of the Interior.

**Table 6. Share of females (%) among recipients of a first residence permit by first year of validity and continent of origin**

Continent of origin	2014	2015	2016	2017	2018	2019
Africa	49.9	49.3	48.3	46.7	47.5	46.4
America	57.7	56.7	57.3	58.1	57.7	57.6
Asia	53.8	53.0	51.3	48.5	47.9	46.5
Europe	60.2	60.0	58.6	58.1	58.3	57.7
Oceania	50.1	52.7	53.5	54.8	52.5	48.8
Overall	52.3	51.6	50.6	48.9	49.2	48.0

*Note:* See Table 5.  
*Coverage:* See Tables 3 and 5.  
*Source:* Calculations by H. d'Albis and E. Boubtane based on AGDREF data transmitted to INED by the Ministry of the Interior.

### 3. A sharp increase in the share of inflows from third countries for employment reasons

A total of 106,213 people were admitted to France for family reasons—still the main reason for admission—in 2019, an increase of almost 13% in a year. Their contribution to total flows increased in 2019 (41.3%) but remained well below that of 2014 (45.9%) (Table 7). The share of admissions for educational reasons (25% in 2019) has been falling slightly since 2017 (but numbers are relatively stable), while admissions for employment reasons, representing 12% of total inflows (30,888 people), increased sharply over the period observed. In two-thirds of cases, the people concerned were in wage employment or non-wage employment. The remaining third were holders of the *Passeport Talent* permit<sup>(16)</sup> (7,054 people in 2019), whose numbers have risen strongly since 2011—reflecting a policy designed to attract qualified workers (d'Albis and Boubtane, 2021a)—and seasonal workers (3,515 people), also on the increase. Admissions for humanitarian reasons increased slightly, accounting for 13.1% of total inflows. They mainly concern two types of immigrants: foreigners who are ill (4,153 people in 2019) or admitted as refugees, stateless persons, or beneficiaries of territorial asylum or subsidiary protection (29,403 people).<sup>(17)</sup> The number of permits granted on this second set of grounds is nearing the peak reached in 2017, when 30,180 permits were granted because of the increase in asylum applications registered since 2014, notably due to the war in Syria (d'Albis and Boubtane, 2018a).

Predictably, the reasons for admission vary by sex. Females are still over-represented among immigrants admitted for family reasons and under-represented among those admitted for humanitarian and, above all, employment reasons (Table 8). Among students, females are only slightly outnumbered by males.

(16) Permits granted to highly qualified people, to those who wish to set up a company or invest in France, and to artists and performers.

(17) Admissions for humanitarian reasons only include people whose asylum application has been processed and approved, so this figure does not include all asylum seekers.



**Table 7. Breakdown and distribution (%) of first residence permits valid for 1 year or more by first year of validity and reason for admission\***

Reason for admission	2014	2015	2016	2017	2018	2019
Family	91,655	93,069	89,169	89,849	93,969	106,213
Education	47,547	53,069	56,507	63,809	65,786	64,262
Humanitarian	17,962	19,490	25,866	34,233	31,883	33,800
including refugee <sup>(a)</sup>	11,050	13,265	19,581	30,180	27,887	29,403
Employment	14,313	16,287	18,151	21,812	27,518	30,888
Various and unspecified	28,410	28,125	28,661	28,038	30,318	21,974
<b>Total</b>	<b>199,887</b>	<b>210,040</b>	<b>218,354</b>	<b>237,741</b>	<b>249,474</b>	<b>257,137</b>
Family (%)	45.9	44.3	40.8	37.8	37.7	41.3
Education (%)	23.8	25.3	25.9	26.8	26.4	25.0
Humanitarian (%)	9.0	9.3	11.8	14.4	12.8	13.1
including refugee <sup>(a)</sup> (%)	5.5	6.3	9.0	12.7	11.2	11.4
Employment (%)	7.2	7.8	8.3	9.2	11.0	12.0
Various and unspecified (%)	14.2	13.4	13.1	11.8	12.2	8.5
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

\* Tables 7, 8, and 9 are updated annually to take account of new information on reasons for admission communicated by the Ministry of the Interior.  
(a) The 'refugee' line covers permits granted on the following grounds: refugee and stateless, territorial asylum, and subsidiary protection.  
**Coverage:** See Tables 3 and 5.  
**Source:** Calculations by H. d'Albis and E. Boubtane based on AGDREF data transmitted to INED by the Ministry of the Interior.

**Table 8. Share of females (%) among recipients of first residence permits valid for 1 year or more by first year of validity and reason for admission**

Reason for admission	2014	2015	2016	2017	2018	2019
Family	61.4	61.1	61.2	61.3	62.4	60.0
Education	50.0	49.0	49.4	48.1	49.2	48.1
Humanitarian	41.5	41.3	38.9	34.8	34.6	35.3
Employment	29.9	30.2	21.5	16.9	22.9	22.9
<b>Overall</b>	<b>52.3</b>	<b>51.6</b>	<b>50.6</b>	<b>48.9</b>	<b>49.2</b>	<b>48.0</b>

**Coverage:** See Table 3.  
**Source:** Calculations by H. d'Albis and E. Boubtane based on AGDREF data transmitted to INED by the Ministry of the Interior.

Reasons for admission are distributed very differently across continents of origin (Table 9). Family reunification is the main reason for admission, and its share in total flows is increasing for all continents. However, it is under-represented among Asians (29.5% in 2019 vs. 41.3% on average) but over-represented among Europeans (47.7%), Africans (45.2%), and North and South Americans (42.5%). Educational reasons are under-represented among Europeans observed with these data, i.e. from outside the EEA and Switzerland (9.9% vs. 25% on average) and over-represented among Americans (27.4%), Asians (27.1%), and Africans (25.3%). Humanitarian reasons account for a large share of permits

**Table 9. Breakdown and distribution (%) of first residence permits valid for 1 year or more by first year of validity, continent of origin and reason for admission**

Continent of origin and reason for admission	2014	2015	2016	2017	2018	2019
<b>Africa</b>						
Family	63,363	64,852	60,895	61,468	64,204	71,432
Education	23,416	27,858	31,321	38,288	38,891	39,986
Humanitarian	8,432	8,209	11,329	14,357	13,583	15,563
Employment	6,411	7,026	8,440	10,939	15,307	18,933
<b>Africa (%)</b>						
Family	54.7	53.0	48.3	44.2	43.5	45.2
Education	20.2	22.8	24.8	27.6	26.3	25.3
Humanitarian	7.3	6.7	9.0	10.3	9.2	9.9
Employment	5.5	5.7	6.7	7.9	10.4	12.0
<b>America</b>						
Family	8,526	8,228	7,518	7,653	8,279	9,343
Education	6,063	6,504	6,113	6,427	6,806	6,024
Humanitarian	385	389	416	709	789	980
Employment	2,193	2,922	2,514	2,717	3,075	3,055
<b>America (%)</b>						
Family	40.6	37.7	36.8	36.2	36.1	42.5
Education	28.9	29.8	29.9	30.4	29.6	27.4
Humanitarian	1.8	1.8	2.0	3.4	3.4	4.5
Employment	10.5	13.4	12.3	12.8	13.4	13.9
<b>Asia</b>						
Family	14,333	14,342	14,791	14,990	15,536	18,192
Education	16,321	16,834	17,261	17,291	18,464	16,749
Humanitarian	6,362	7,882	10,399	15,257	14,366	14,468
Employment	4,683	5,273	6,107	6,901	7,779	7,468
<b>Asia (%)</b>						
Family	29.2	28.0	26.5	24.4	24.6	29.5
Education	33.3	32.8	30.9	28.2	29.2	27.1
Humanitarian	13.0	15.4	18.6	24.9	22.7	23.4
Employment	9.5	10.3	10.9	11.3	12.3	12.1
<b>Europe</b>						
Family	4,972	5,268	5,581	5,359	5,554	6,801
Education	1,627	1,743	1,685	1,674	1,495	1,409
Humanitarian	2,599	2,775	3,527	3,700	2,947	2,533
Employment	801	868	909	1,004	1,127	1,190
<b>Europe (%)</b>						
Family	39.7	39.7	38.4	35.6	38.5	47.7
Education	13.0	13.1	11.6	11.1	10.4	9.9
Humanitarian	20.7	20.9	24.3	24.6	20.4	17.8
Employment	6.4	6.5	6.3	6.7	7.8	8.4
<b>Note:</b> See Table 5.						
<b>Coverage:</b> See Tables 3 and 5.						
<b>Source:</b> Calculations by H. d'Albis and E. Boubtane based on AGDREF data transmitted to INED by the Ministry of the Interior.						

granted to Asians (27.1% vs. 13.1% on average)—notably due to the impact of the Syrian war—and to Europeans (17.8%), and are under-represented among Africans (9.9%) and above all Americans (4.5%), for whom employment-related reasons are over-represented (13.9% vs. 12.0% on average), while Europeans are under-represented (8.4%).

Among Africans admitted to France in 2019, the share admitted for educational reasons decreased, while shares of admissions for all other reasons increased. Among migrants from America, admissions for family reasons increased while admissions for educational reasons declined. Among Asians, the share admitted for humanitarian reasons rose again in 2019 after a downturn in 2018. Finally, migration of the Europeans observed here was marked by a very sharp increase in migration for family reasons in 2019, while admissions for educational and humanitarian reasons (especially high in 2016 and 2017) declined.

#### 4. Asylum seekers admitted for residence account for more than 18% of inflows from third countries

Asylum seekers may be admitted for residence in France (i.e. receive a residence permit of 1 year or more) in several ways. In the first case, if their application is accepted, they obtain a permit on humanitarian grounds and are counted as ‘refugees’ (Table 7, Row 5). The second case concerns those whose application is rejected, some of whom may be admitted for residence on different grounds, most often family reasons. The rates of admission for residence by date of submission of the asylum application are provided in d’Albis and Boubtane (2018a). The perspective here is different. Table 10 shows

**Table 10. Number of asylum seekers by first year of validity of first residence permit valid for 1 year or more, and distribution by sex, continent of origin, and reason for admission**

	2014	2015	2016	2017	2018	2019
Numbers	25,703	27,507	35,262	46,174	44,470	47,353
Share of females (%)	41.5	41.1	39.7	36.6	36.5	36.7
Continent of origin (%)						
Africa	37.9	35.9	36.9	38.2	38.8	42.2
America	4.7	4.1	3.0	2.8	2.8	3.0
Asia	41.4	44.0	43.9	45.5	46.0	43.4
Europe	14.5	14.9	15.3	12.9	11.9	10.7
Reason for admission (%)						
Family	29.9	27.1	24.2	21.2	24.0	24.8
Education	0.6	0.5	0.3	0.3	0.3	0.2
Humanitarian	52.6	57.8	62.9	68.9	65.3	65.2
Employment	6.2	6.2	6.3	5.1	5.8	5.5
<b>Coverage:</b> Permits granted in France and abroad to foreign nationals who applied for asylum between 1985 and the first year of validity of the first residence permit valid for 1 year or more. Permits granted in year $n$ and recorded in the data extracted in July of the year $n + 2$ ; Tables 3 and 5.						
<b>Source:</b> Calculations by H. d’Albis and E. Boubtane based on AGDREF data transmitted to INED by the Ministry of the Interior.						

the annual number of people having submitted an asylum application to the French Office for the Protection of Refugees and Stateless Persons and who have been admitted for residence, for any reason. They totalled 47,308 in 2019 and represented 18.4% of overall inflows. This number of admissions is higher than the previous peak observed in 2017 that followed the increase in applications by Asian nationals.

The share of females among asylum seekers (36.7% in 2019) is lower than among the general population admitted for residence. This proportion has been stable since 2017. Since 2014, the largest share of asylum seekers has been of Asian origin, representing more than 43.4% of the total in 2019. The share of African nationals increased sharply in 2019, reaching 42.2% of the total. Asylum seekers are not admitted solely on humanitarian grounds, so the total number of admissions is higher than the number admitted for this reason alone; 24.8% of asylum seekers who entered France in 2019 were admitted for family reasons.

## 5. The COVID-19 pandemic reduced inflows from third countries in 2020

With border closures and the slowdown in economic activity, migration flows were undeniably affected by the COVID-19 pandemic. As yet, however, it is difficult to establish a precise estimate of its effects due to the time required for permits granted by prefectures or French consulates abroad to be registered in the AGDREF national database, and hence the corresponding delay in producing residence permit statistics. More fundamentally, the problem arises because a large share of permits are granted abroad; long-term visas valid as residence permits (VLS-TS) represented more than 45% of first permits granted in 2019. To ensure these permit holders have actually arrived in France, the method developed by d'Albis and Boubtane (2015) recommends that these permits be counted only after holders have registered at a prefecture. Since 1 January 2009, however, some permit holders (students, employees, spouses, etc.) do not necessarily register at the prefecture in the year of arrival in France, as holders of a valid VLS-TS visa are not immediately required to apply for a residence permit. For this reason, the AGDREF data analysed in June 2021 only provide accurate information on entries in 2019. For flows in 2020, it will not be possible to determine the impact of the COVID-19 pandemic until 2022. This precaution is especially important because the pandemic may have affected the travel plans of prospective migrants, including those who received a VLS-TS visa in 2020. Meanwhile, we can examine the statistics on first residence permits published by the Ministry of Interior. These statistics cover all residence permits granted, whatever their period of validity, including those granted abroad and validated online. Their scope is different from that of the data used by INED to calculate migration flows. According to the Ministry of the Interior (2021), the number of first residence permits fell by 20.9% between 2019 and

2020; above all, those granted for employment reasons (–32.1 %) and, to a lesser extent, those granted for family (–16.6%) and humanitarian (–18.8%) reasons. In proportional terms, the share of first permits granted for family reasons increased between 2019 and 2020. Thus, the COVID-19 pandemic not only reduced migration but also changed its composition.

### III. Births and fertility

#### 1. Births at their lowest level since the Second World War

In 2020, a year in which COVID-19 had little impact on births,<sup>(18)</sup> 736,000 children were born in France, of whom 697,000 in mainland France and Corsica. This is the lowest recorded number since 1945. Between 2019 and 2020, birth numbers fell by 2.3% for the whole of France and 2.4% for metropolitan France, 1 percentage point more than the annual average over the last 10 years (–1.2% and –1.4%). The trend that began a decade ago is accelerating; excluding 2014 for the whole of France (when Mayotte was included in national statistics), the number of births has declined each year since 2010. In 2020, there were 97,000 fewer births (–11.6%) across the whole of France, and 105,000 fewer births (–13.1%) in mainland France and Corsica than in 2010 (Appendix Table A.1). This decrease will have direct effects on French society. Over the very short term, it will reduce jobs in the childcare sector, for home-based childminders especially. Over the medium term, the number of classes or, more optimistically, the number of students per class will decrease. In a more long-term perspective, some 20 or 25 years from now, while labour market pressures should ease, there will be fewer contributors to fund the pay-as-you-go pensions system. Adaptations will be needed.

This ‘sustained’ downtrend in births is explained by the decrease in both the numbers of women of reproductive age (structural effect) and in fertility (behavioural change). But in 2020, the fall is explained solely by the latter. For the first time since 2010, while the size of the ‘mean cohort’<sup>(19)</sup> increased, the recorded number of births declined (Figure 8).

#### 2. Fewer than 1.8 children per woman in 2020 in metropolitan France

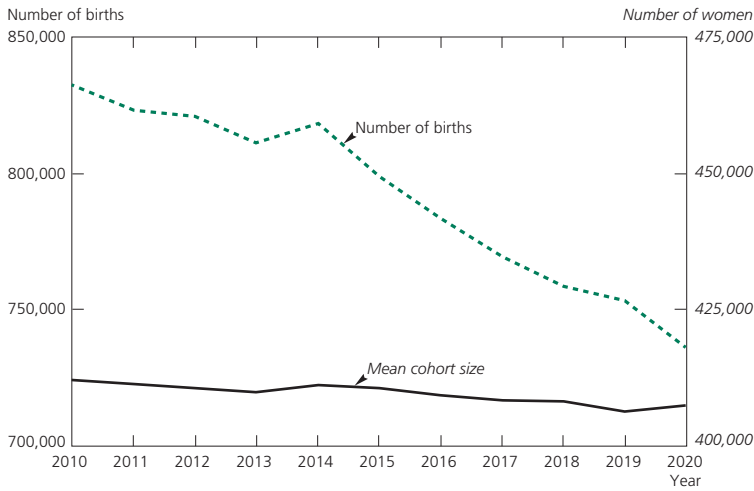
In 2020, the total fertility rate was 1.83 children per woman in the whole of France and 1.79 in mainland France and Corsica.<sup>(20)</sup> While trending downward

(18) Only births from late November and December 2020 were affected by the lockdown (see below).

(19) This is the mean size of the cohorts exposed to the risk of childbearing (Calot, 1984), i.e. the weighted mean of the numbers of women at each reproductive age, with the weighting coefficients being the age-specific fertility rates of the year considered.

(20) The total fertility rate is calculated as the sum of age-specific fertility rates over the period considered.

Figure 8. Numbers of births and size of the mean cohort of women in France, 2010–2020



Coverage: Whole of France.

Sources: INSEE, civil registration and population census; authors' calculations.

since 2010, it is still above the historical low—not counting the First World War—reached in 1993 (1.66 in metropolitan France; Appendix Table A.4). Between 2019 and 2020, for the whole of France, fertility rates decreased at all ages below 40 (Table 11). In absolute terms, it is at ages 25–29 that levels dropped the most, but in relative terms the decrease was largest before age 25:  $-7\%$  at ages 15–19 and  $-5\%$  at ages 20–24, the two age groups in which almost all births are first births.<sup>(21)</sup>

The ageing of the fertility schedule becomes evident when the age profile of fertility in 2020 is compared with those of 1999 and 1989, 2 years in which the total fertility rate was identical. At almost 31 years, the mean age at childbearing in 2020 is 1.5 years later than in 1999 and 2.6 years later than in 1989 (Figure 9). The increase in mean age at childbearing is ongoing, driven mainly by later first births. This makes a future possible catch-up slightly more uncertain, unless we assume that fertility rates under age 30 increase in the future—an unprecedented turnaround—or that rates over age 30 rise to levels rarely observed in other countries (Breton et al., 2020).

Despite this decrease, France was still the most fertile European country in 2020, and its lead even appears to be increasing.<sup>(22)</sup> Three of the five countries

(21) As the birth order reported on the birth certificate is not always accurate (Breton et al., 2020), only indirect census-based methods can be used to estimate these proportions. Before age 25, the share of first births is increasing as fertility rates decrease. It reached 72% for the cohort born in 1980 (Breton, 2010) and will probably exceed 75% for the 1995–2000 cohorts aged 20–24 in 2020.

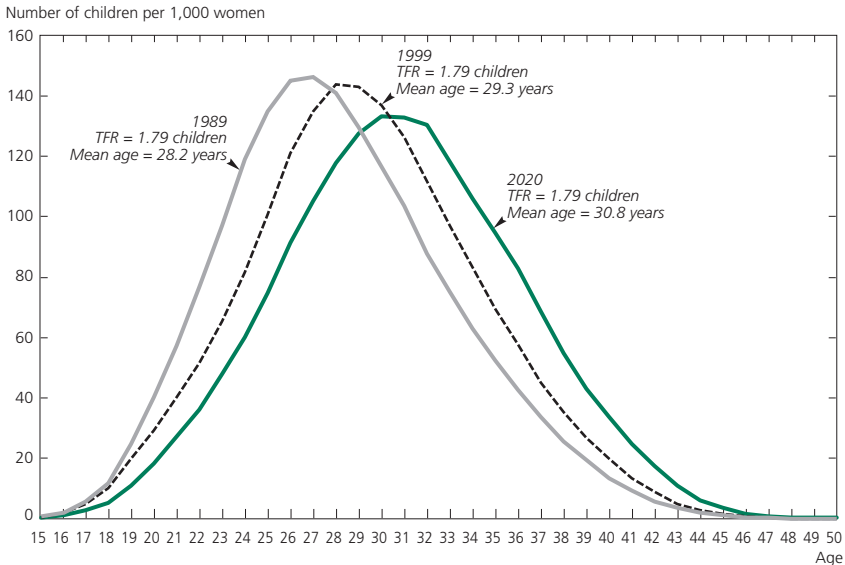
(22) The total fertility rates of European countries have not yet been published by Eurostat for 2020, but most are available on the websites of the respective national statistical offices.

Table 11. Fertility by age group from 2015 to 2020

Age reached	Sum of age-specific rates (per 1,000 women)						Absolute variation				
	2015	2016	2017	2018 (p)	2019 (p)	2020 (p)	2015–2016	2016–2017	2017–2018 (p)	2018–2019 (p)	2019–2020 (p)
Under 20	35	32	30	29	28	26	-3	-2	-1	-1	-2
20–24	241	232	224	215	213	203	-9	-8	-9	-2	-10
25–29	592	575	559	545	538	526	-17	-16	-14	-7	-12
30–34	648	645	636	633	632	623	-4	-9	-3	-1	-9
35–39	347	345	345	347	350	348	-2	0	2	3	-2
40–44	87	89	92	94	96	96	2	3	2	2	0
45+	6	6	6	7	7	7	0	1	0	0	0
Total (TFR)	1,955	1,924	1,895	1,869	1,864	1,829	-32	-29	-26	-5	-35
Mean age	30.4	30.5	30.5	30.6	30.7	30.8	0.1	0.0	0.1	0.1	0.1

(p) Provisional data.  
**Note:** TFR = total fertility rate (sum of age-specific fertility rates), expressed as a mean number of children per 1,000 women. Due to rounding, the total may differ slightly from the sum, and the variations may not correspond exactly to apparent differences.  
**Coverage:** Whole of France.  
**Source:** INSEE; authors' calculations.

Figure 9. Age-specific fertility rates, 1989, 1999, and 2020



**Coverage:** Metropolitan France.  
**Source:** INSEE; authors' calculations.

with the highest total fertility rate (TFR) after France also recorded a fertility decline, often larger than that observed in France:

- Romania:<sup>(23)</sup> a decrease from 1.77 to 1.70 children per woman between 2019 and 2020;
- Sweden:<sup>(24)</sup> a decrease from 1.70 to 1.66 children per woman;
- Denmark:<sup>(25)</sup> a decrease from 1.70 to 1.67 children per woman;
- Czech Republic:<sup>(26)</sup> stability at 1.71 children per woman;
- Ireland: data are not yet available, but the TFR has been trending downward for at least 10 years (from 2.06 in 2009 to 1.71 in 2019).

With slightly above two children per woman, France is one of the few countries where completed fertility will remain at replacement level up to the 1980s cohorts and probably slightly beyond (Appendix Table A.5). But with the further increase in mean age at childbearing in 2020 (30.8 years) and in age at first birth in 2019 (28.8 years), completed fertility will very likely decrease in accordance with the relationship between first birth postponement and cohort fertility decline presented in Breton et al. (2020). This relationship has recently been confirmed for Scandinavian countries, where fertility remained relatively high for many years (Hellstrand et al., 2021). In these countries, the recent decline in fertility before age 30 will probably not be followed by a catch-up effect such as that observed in the mid- and late 1990s in France. However, other authors have shown that there is no positive relationship, or even a negative relationship, at the national level between first birth postponement and total fertility decline in the cohorts born between 1952 and 1972 (Beaujouan and Toulemon, 2021). It appears highly probable that France is at a stage where this relationship is reversing and becoming positive.

### 3. Male period fertility: still later but also higher than that of women

By convention, fertility rates are calculated in the female population, but they can also be calculated for men (Brouard, 1977; Schoumaker, 2019; Dudel and Klüsener, 2021). Recently, men's fertility has followed the same downward trend as that of women. The age difference between men and women at childbearing is 3 years (33.7 vs. 30.7), corresponding to the age difference at entry into union (Mazuy et al., 2015).

Gender differences in fertility levels are rare, except in countries where polygamy is practised (Schoumaker, 2019). Male fertility is difficult to measure because certain births are not associated with a father, the case for around 5% of births in France (Toulemon, 2013; INSEE, 2016). To avoid underestimation,

(23) <https://insse.ro>

(24) <https://www.scb.se>

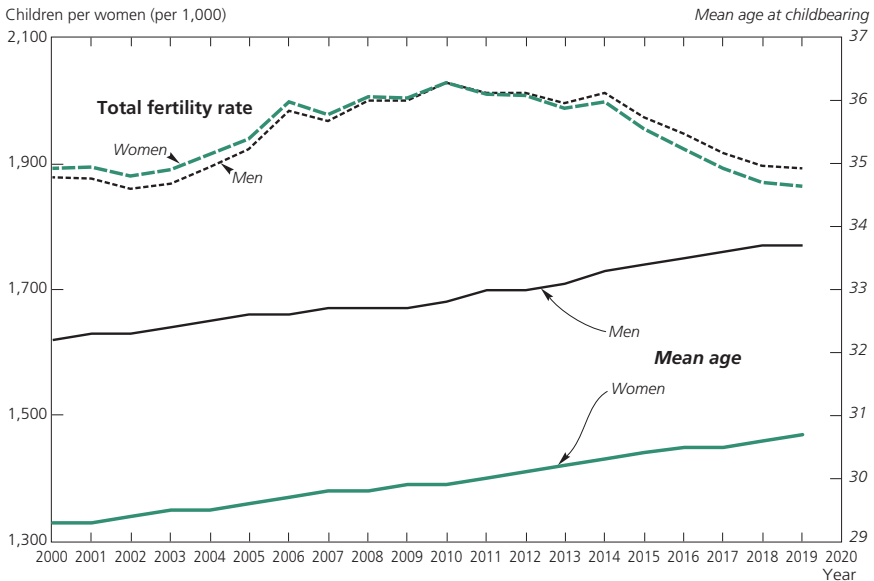
(25) <https://www.dst.dk>

(26) <https://www.czso.cz>



the distribution of ‘children with no registered father’ is considered identical to that of births with a registered father. Differences in TFR remain nonetheless. Three factors explain these differences: a sex ratio imbalance, an effect of age differences at entry into union combined with cohort size differences, and gender differences in the pattern of change in birth timing across cohorts (Dudel and Klüsener, 2021). In France, before 2010, the male TFR was slightly below the female rate, but the gap was narrowing. According to available data,<sup>(27)</sup> the gender difference in TFRs in France is very small, as it is in Great Britain and Portugal (Dudel and Klüsener, 2021), probably due to more balanced sex ratios and to changes in birth timing across cohorts that are similar for men and women. Since 2011, however, the TFR of men has become slightly higher than that of women (1.89 vs. 1.86) (Figure 10). This reversal is observed in many European countries and may reflect a change in one or more of these dimensions.

**Figure 10. Number of children and mean age at childbearing, men and women, 2000–2020**



Coverage: Whole of France.

Source: INSEE.

#### 4. A sharp drop in births 9 months after the first lockdown

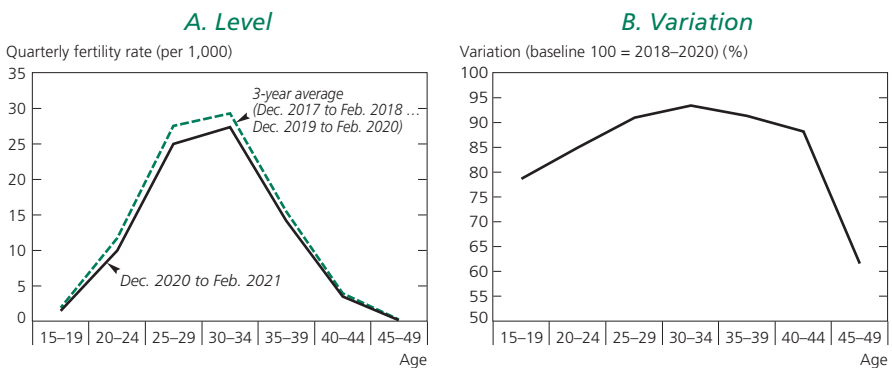
The COVID-19 pandemic explains just a small fraction of the decrease in births in 2020. Only births in late November and December correspond to children conceived during the first wave and lockdown imposed from March to May 2020. On a monthly level, however, the decrease was considerable, with a drop of 6% in November and 8% in December with respect to the average of

(27) Male fertility indicators are now published in some industrialized countries, but not by Eurostat.

these same months in the 3 previous years. In early 2021, births fell by 14% in January and 6% in February. This historic and unprecedented decline was initially unexpected as it was assumed that the lockdown of March and April 2020 would produce a boom in births, as couples spent more time together. Yet the complete opposite was observed. An analysis by *département* shows that it was in the regions most affected by the first wave of the pandemic (the East, the North, and the Paris region) that births decreased most sharply in the winter of 2020–2021. But other factors linked to living standards and to economic and social stress may have had an impact, as the decrease was strongest in the poorest municipalities (Brée et al., 2021).

Quarterly age-specific fertility rates<sup>(28)</sup> from December 2020 to March 2021 (Figure 11A) show that all ages were concerned. In relative terms, however, the youngest and the oldest cohorts were most affected (Figure 11B), for different reasons. The reduction among the youngest cohorts (under age 30) reflects a postponement of childbearing plans, first births in particular, which are often conditional upon financial and emotional stability (Régnier-Loilier and Solaz, 2010), two factors threatened by the pandemic. Survey data soon brought to light the sharp reduction in family formation plans, notably among the youngest populations, not only in France but also in countries such as Spain and Italy where their labour market situation at the time of lockdown was especially precarious (Luppi et al., 2020). For the oldest cohorts, whose fertility is particularly low, the reduction is probably due in part to difficulties in accessing services for medically assisted reproduction (ESHRE COVID-19 Working Group, 2021). A slight catch-up in births was observed in the spring but was limited in duration and intensity (+2% in March, +3% in April). From May

Figure 11. Quarterly age-specific fertility rates from December to March and variation, 2017–2021



Coverage: Whole of France (excluding Mayotte).

Sources: INSEE, civil registration and population census; authors' calculations.

(28) These fertility rates are in fact an approximation of the rates calculated by dividing the number of births to women of a given age by the number of women of the same age on 1 January of the year, considered as the mean populations over the period. They correct for population age structure effects.

2021, birth numbers started falling again, at a rate similar to that observed between 2019 and 2020. The number of births in 2021 should reach a new historic low, probably close to 725,000 for the whole of France.<sup>(29)</sup>

France is no exception among industrialized countries. Nine months after the start of lockdown, birth numbers fell sharply in most developed countries, including Western Europe and the United States. No significant variation in birth numbers was observed in the countries of Northern Europe, however (Sobotka et al., 2021). In certain Southern countries where fertility could be measured, such as Bangladesh, an opposite effect was observed, with an increase in births due, among other things, to the difficulty, or even the impossibility, of accessing modern contraception during lockdown (UNFPA, 2021).

## 5. Fertility more closely linked to education than to origin

Fertility in France is analysed by cross-matching data from censuses and civil records. Many items of census data concerning women are not included in civil records, so possibilities for analysis of fertility differentials are limited. This is the case for education, for example. That said, indirect methods based on census data alone can be used for this purpose.<sup>(30)</sup> These methods underestimate fertility levels but can be used to determine the effects of different variables by combining them: origin and educational level, for example. Whatever their origin, the lower a person's educational level, the higher their cumulative fertility at age 35 by comparison with the total population (Figure 12), although the effect of education seems to be stronger in the migrant or foreign population. For example, among women with no educational qualifications, the cumulative fertility of immigrant women of French nationality at age 35 is 1.60 times higher than that observed in the total population; for immigrant women of foreign nationality, it is 1.51 times higher; and for native-born women with French nationality, it is 1.31 times higher (Figure 12). Conversely, the corresponding ratios for women with 5 or more years of higher education are 0.80, 0.66, and 0.73. If the structure by educational level was equivalent for the different populations of women, the disparities in cumulative fertility would be smaller and different from those observed, with respective ratios of 1.05, 1.2, and 0.98 (dotted line) versus 1.2, 1.1, and 0.98 before standardization by educational level.<sup>(31)</sup>

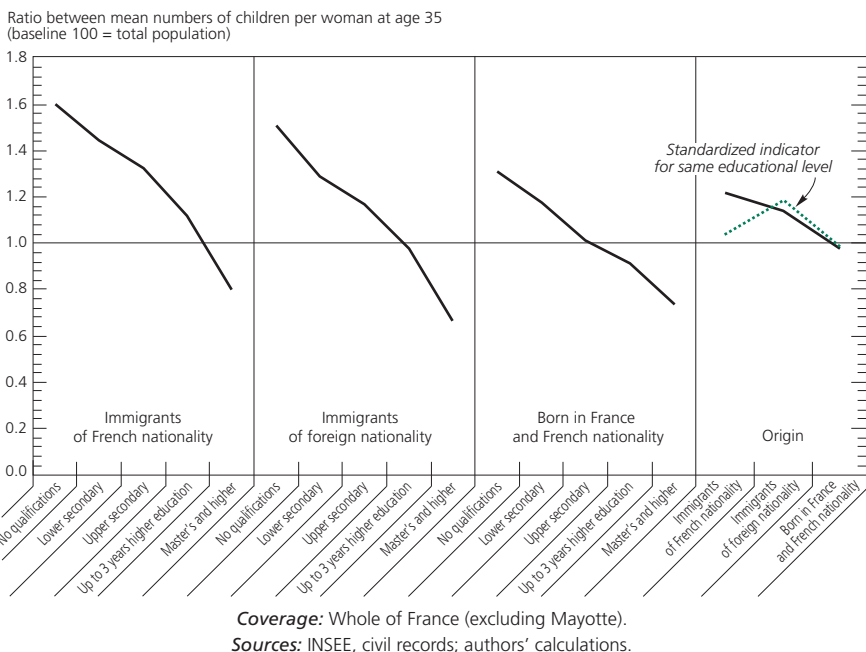
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(29) Estimated by adding births from January to July 2021, known at the time this article was written, to births in August to October 2020, and in November and December 2019, to which a coefficient is applied to take account of the decline observed between 2018 and 2020.

(30) See Box 1 in Breton et al. (2020). This method provides good estimates up to age 35.

(31) The distributions by educational level are very different for women of different nationalities and origins. According to census data, in 2018, the proportion of women aged 35 reporting no educational qualifications was 5.2% among native-born French women, 13.6% among immigrants with French nationality, and 27.5% among immigrants with foreign nationality. The shares reporting 2 years of higher education or more were 53.8%, 48.4%, and 41.4%.

Figure 12. Women’s cumulative fertility at age 35 by origin and educational level, 2018 (Reference: all women)



## 6. Children’s surnames

As of 2005, children can take the surname of one or both of their parents, and since 2013, the name of both parents is automatically given if they are in disagreement. Consequently, while most children still take their father’s name (81.5%), their proportion is decreasing. This trend continued in 2019 for children born to both married and unmarried parents (Table 12).<sup>(32)</sup>

Naming choices differ by the mother’s age at birth. The proportion of children with their father’s name only is largest between ages 25 and 37 (above 80%) when fertility is highest (Figure 13). Taking the father’s name is the default option in France, but the situation may evolve, with both parents’ names becoming the norm. As in 2013, a proposal for a government decree was submitted in May 2021 to simplify procedures, notably after a separation or family recomposition, but also to allow children to choose their surname when they reach their majority.

At the regional level, the proportion of children with their mother’s name only (6.6% in 2019) is correlated with that of non-marital births ( $R^2 = 0.71$ ), suggesting that this choice may be linked to situations of lone parenthood or

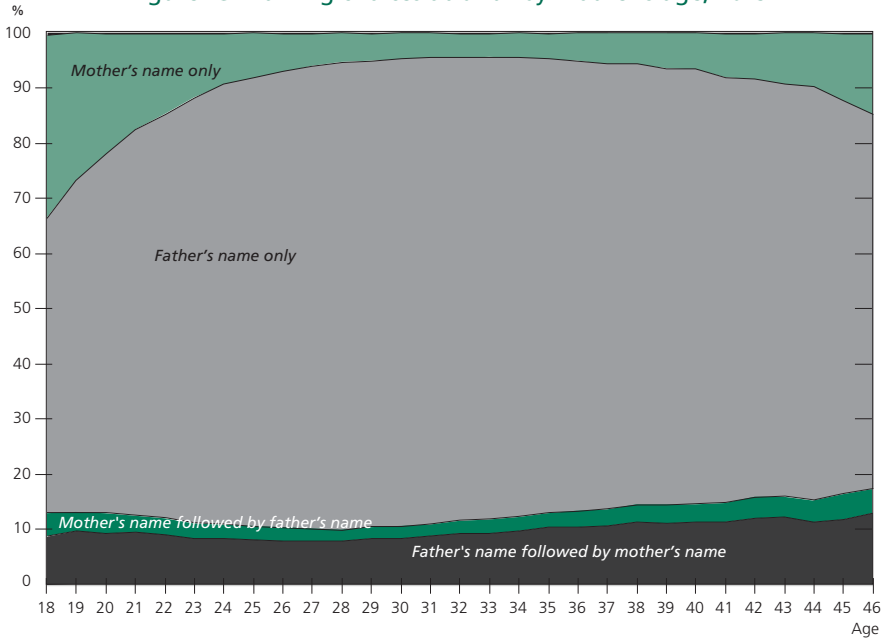
(32) In 2020, 62.2% of births were outside marriage, up from 61.0% in 2019. This is the largest increase since that of 2013–2014, which was partly attributable to the inclusion of Mayotte in national statistics in 2014. France is still the European Union country with the highest proportion of non-marital births. In all of Europe, only Iceland has a higher proportion (69.4%).

**Table 12. Distribution of children's surnames by parents' marital status in 2018 and 2019**

	2018			2019		
	Born within marriage	Born outside marriage	Overall	Born within marriage	Born outside marriage	Overall
Father's name	94.2	74.1	82.1	93.9	73.5	81.5
Mother's name	0.3	10.1	6.2	0.4	10.6	6.6
Father's name followed by mother's name	4.0	12.3	9.0	4.1	12.4	9.2
Mother's name followed by father's name	1.4	3.3	2.6	1.5	3.3	2.6
Other name or coding problem	0.1	0.2	0.1	0.1	0.2	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

*Coverage:* Whole of France.  
*Sources:* INSEE, civil records; authors' calculations.

**Figure 13. Naming choices at birth by mother's age, 2019**



*Coverage:* Whole of France.  
*Sources:* INSEE, civil records; authors' calculations.

female same-sex parenthood, although this cannot yet be verified via civil records. To measure the true prevalence of double surnames, we can calculate the proportion of children with a double surname among those taking their father's name (father's name only or father's and mother's name). This proportion is 12.6% for all births and varies with the mother's age at birth. It decreases from 19.7% to 10.4% between ages 18 and 28, then increases steadily to peak at 20.4% after age 45.

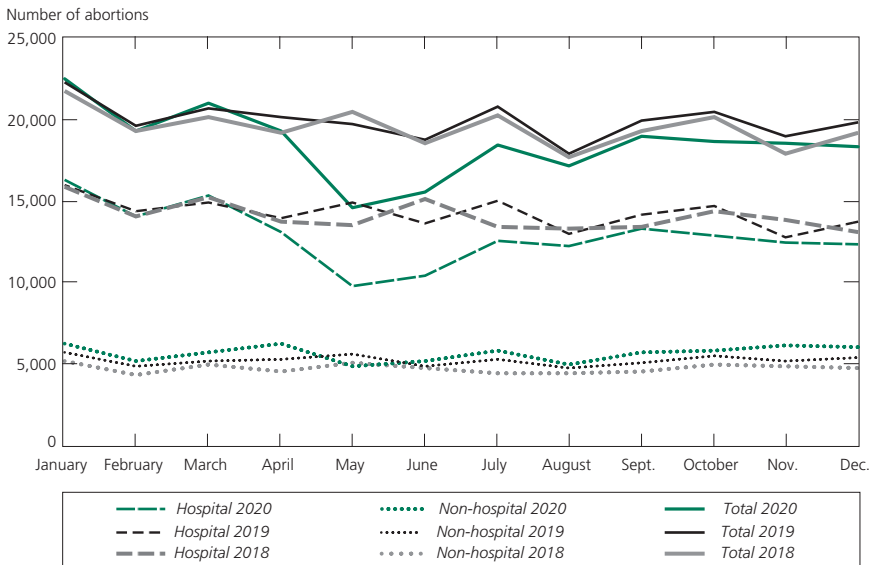
## IV. A decrease in induced abortions in 2020

### 1. Fewer abortions in 2020: a substantial decrease after the first lockdown

After increasing in recent years (2016 to 2019), the number of abortions fell in 2020. Over the year, slightly more than 220,000 abortions were performed in France, of which 207,000 in metropolitan France (Appendix Table A.6, compared with more than 230,000 in 2019, a decrease of 4%). This downturn is directly linked to the COVID-19 pandemic: while the total number of abortions in January, February, and the first half of March remained similar, or even higher, than that observed in the same period of 2019, this number decreased in May and June following the strict lockdown in March and April 2020, and again in November and December, following the second lockdown (Figure 14). An upturn was observed in July and August, with levels slightly exceeding those of 2019 in September and October before dropping once again. They did not start rising again until the very end of 2020.

The downturn in births observed in late 2020 and early 2021 (see above) and that of abortions in 2020,<sup>(33)</sup> in the months of May and June 2020 especially, correspond to the same conception periods, suggesting that fewer pregnancies

Figure 14. Hospital, non-hospital, and total abortions performed in 2018, 2019, and 2020



Coverage: Whole of France.

Sources: SNDS data (PMSI-MCO and CNAM).

(33) The number of abortions was lowest in the first week of June (around 3,000 abortions in that week compared with nearly 5,000 in the same week of 2019 and 2018).

began during the weeks of lockdown (Vilain et al., 2021). Mainly young women were concerned. The under-30s account for almost 80% of this decrease, and a variety of factors explain this decline. They include postponement of child-bearing plans, geographical separation of partners (especially for the youngest couples who spent the lockdown with their respective families), the extra workload of women working in healthcare and/or looking after small children due to the closure of schools and day-care centres, strong uncertainty about the future due to the health and social crisis, etc. The abortion rate among women aged over 38 in 2020 was quite similar to that observed in 2019. The decline in the total number of pregnancies, abortions, and births thus seems to correspond to a decrease in conceptions, among the youngest women especially, during the first strict lockdown.

## 2. Increase in medical non-hospital abortions, 2-week extension of the legal deadline

In 2020, a quarter of pregnancy terminations were surgical abortions, performed almost exclusively in public hospitals. Almost 75% were medical abortions, 41% of which took place outside a hospital setting. Slightly more than 30% of abortions were non-hospital abortions. Data sources are provided in Box 2.

The decrease mainly concerned hospital abortions, both surgical and, to a lesser extent, medical (Figure 14). There were more non-hospital abortions in 2020 than in 2019, despite a slight downturn observed after the first lockdown. The steady year-on-year increase in non-hospital medical abortions was amplified by the health crisis and by the long-awaited government decision to extend the legal deadline (from mid-April) from 7 to 9 weeks of amenorrhoea (as was already the case in hospital) and to authorize remote consultations, as advocated by numerous professionals and experts.<sup>(34)</sup> This extension provided extra time for women whose access to abortion care may have been delayed due to the closure of abortion services during lockdown, especially if they were unable to terminate a pregnancy during that period. It also enabled them to receive care at a time when hospital services were already overloaded, notably in regions where COVID-19 infection rates were high. The 2-week extension also gave greater flexibility to community physicians and midwives in the context of an unforeseen and acute health crisis.<sup>(35)</sup> A 2-week extension of the legal deadline for surgical abortions, demanded by numerous professionals

(34) A series of legal texts and decrees have modified the legal framework of access to abortion, with a 2-week extension of the legal deadline for medical abortions and authorization to conduct remote consultations under specific conditions. See decision 2020.0092/DC/SA3P/SBPP of the French National Authority for Health dated 9 April 2020, adopting rapid responses to COVID-19; non-hospital medical abortion in the 8th and 9th week of amenorrhea; decree of 14 April 2020 supplementing decree of 23 March 2020; decree of 7 November 2020 modifying decree of 10 July 2020. For further details, see Mazuy et al. (2020).

(35) Since 2016, community midwives have been authorized to administer medical abortions (up to 7 weeks of amenorrhoea under the initial legal texts).

## Box 2. Data sources

Since the early 2000s, a diverse range of medical data sources has become available to establish abortion statistics and has progressively replaced the data obtained from abortion notifications. The data are now drawn from medical records kept by hospitals (both public and private) and by the French health insurance fund (Caisse nationale d'assurance maladie) for non-hospital abortions. The various sources are:

Since 2005: Number of refunds (doctor's fees or drug prescriptions) for non-hospital medical abortions, drawn from the general health insurance scheme (régime général), and the inter-scheme datamart (DCIR and DCIRS).

Since 2009: Health centres and family planning or education centres.

Since 2010: Data from the Mutuelle sociale agricole and the Régime social des indépendants health insurance schemes.

Since 2014: The programme de médicalisation des systèmes d'information (medical statistics database) for hospital abortions.

Coding instructions and data analysis procedures are regularly modified and improved, so raw data may be adjusted from one year to the next, without affecting annual trends (Breton et al., 2020; Vilain et al., 2021).

before the COVID-19 pandemic, and again during the health crisis, is still under discussion, as is the proposal to authorize midwives to perform them.<sup>(36)</sup>

Women also obtained medical abortions through remote consultations (slightly more than 700 in total, representing 1% of non-hospital abortions, mainly in the months of April, May, November, and December), in mainland France and Corsica almost exclusively. This mode of consultation doubtless made it easier for women to access abortions at a time of social distancing (also applicable to care personnel) and of severe disruption in the healthcare system. It also provides greater autonomy to patients and a means to address specific needs<sup>(37)</sup> (Aiken et al., 2016; Atay et al., 2021).

### 3. Fewer abortions in the private hospital sector and more administered by community midwives

While many actors (hospital personnel, physicians, midwives, associations, etc.) stepped up during the health crisis to maintain abortion services, fewer than 12,000 terminations were performed in private clinics in 2020. This

(36) In 2020, the High Council for Gender Equality pronounced in favour of extending the legal deadline for surgical abortions by 2 weeks and of authorizing midwives to perform them. [https://www.haut-conseil-egalite.gouv.fr/IMG/pdf/vigilance\\_egalite\\_ivg\\_le\\_monde\\_demain.pdf](https://www.haut-conseil-egalite.gouv.fr/IMG/pdf/vigilance_egalite_ivg_le_monde_demain.pdf)

The National Consultative Ethics Committee (Comité consultatif national d'éthique) also delivered a favourable opinion on extending the legal deadline. [https://www.ccne-ethique.fr/sites/default/files/communiquede\\_presse\\_ivg\\_site.pdf](https://www.ccne-ethique.fr/sites/default/files/communiquede_presse_ivg_site.pdf)

Following a report submitted in September 2020 by the delegation for women's rights (Battistel and Muschotti, 2020), a bill tabled in August 2020 was approved the National Assembly in October 2020. The text was finally rejected by the Senate in January 2021.

[http://www.senat.fr/les\\_actus\\_en\\_detail/article/droit-a-lavortement.html](http://www.senat.fr/les_actus_en_detail/article/droit-a-lavortement.html)  
<http://www.senat.fr/leg/ppl20-023.html>

(37) There was also greater demand for the services of Women on Web during the pandemic (Atay et al., 2021).



represents 8% of the number performed in hospitals and around 5% of the total (3% of medical abortions, 2% of surgical abortions).

In France, the share of abortions performed in private-sector hospitals has declined steadily in recent decades. They performed one-third of all terminations in 2001 but just 17% in 2011 (Vilain et al., 2021). It is still unclear whether this decrease is linked to improved coverage by the public sector and/or to a lack of profitability of these procedures for the private sector. The scale of this downtrend varies across the regions of France. The share of private-sector abortions is higher and exceeds 15% in some parts of Île-de-France, southern France, Corsica, Lorraine, Guadeloupe, and Réunion.

At the same time, the use of medical abortion has increased since the 1990s and now represents a growing share of the overall total. The range of practitioners authorized to administer them is also becoming more diverse. They were initially provided exclusively in a hospital setting, but authorization was extended to non-hospital physicians in 2004, followed by family planning centres and, from 2016, community midwives certified with a hospital. Within just 4 years, the share of abortions administered by midwives has increased markedly. In 2020, they provided a quarter of all non-hospital abortions, almost 18,000 in all. The share of abortions provided by midwives varies substantially across *départements*, probably due to differences in supply (number of community midwives with the relevant training and certification) and demand (availability of hospital abortions) at the local level.

## V. Dynamics of unions

### 1. A first sharp decline in marriages and PACS unions in 2019

In 2019, 224,700 marriages were registered in France,<sup>(38)</sup> slightly below initial estimates,<sup>(39)</sup> further accentuating the anticipated downtrend (Papon and Beaumel, 2020). There were 10,000 fewer marriages in 2019 than in 2018 (−4.3%) (Figure 15, Table 13). This decrease almost exclusively concerns different-sex marriages and represents a trend break after a period of relative stability between 2013 and 2018 (around 230,000 weddings per year; Appendix Table A.7). While the number of same-sex marriages has been decreasing since 2014, the drop was slightly smaller in 2019 (−8% with respect to 2018).

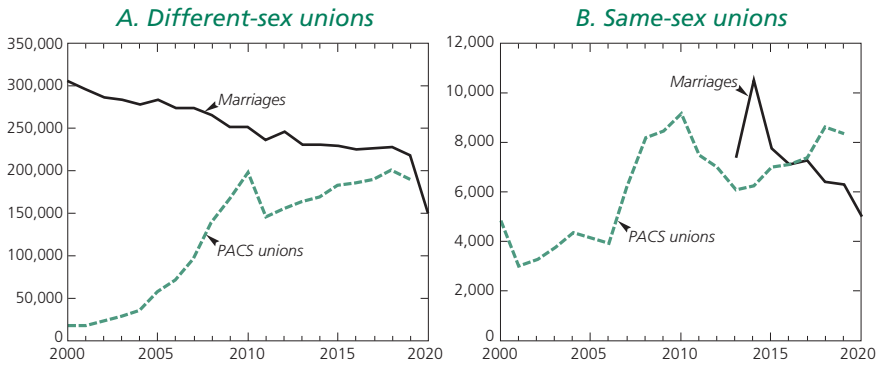
With 196,370 unions registered in 2019, the number of PACS unions (*pacte civil de solidarité*) also decreased for the first time since 2011 (Figure 15). However, unlike 2011, this drop did not result from a change in the law.<sup>(40)</sup> It may be linked to the transfer, in late 2017, of PACS registration from magistrate courts to town

(38) Whole of France.

(39) Initial estimates published by INSEE in 2020 gave a figure of 227,000 marriages in 2019.

(40) In 2011, the tax break enjoyed by couples in the year of their marriage or PACS union was abolished.

Figure 15. Annual numbers of marriages and PACS unions by partners' sex, 2000–2020



Note: Provisional data for marriages in 2020 and PACS unions from 2017 to 2019.

Coverage: Whole of France.

Sources: Civil records, INSEE, Ministry of Justice.

Table 13. Numbers of marriages and PACS unions by partners' sex, 2013–2020

Year	Marriages					PACS unions				
	Between a man and a woman	Between men	Between women	Total	Percentage same-sex	Between a man and a woman	Between men	Between women	Total	Percentage same-sex
2013	231,225	4,307	3,060	238,592	3.1	162,714	3,354	2,734	168,802	3.6
2014	230,770	5,666	4,856	241,292	4.4	167,487	3,519	2,745	173,751	3.6
2015	228,565	4,085	3,666	236,316	3.3	181,949	3,933	3,085	188,967	3.7
2016	225,612	3,672	3,441	232,725	3.1	184,444	3,863	3,251	191,558	3.7
2017	226,671	3,637	3,607	233,915	3.1	188,233	4,084	3,252	195,569	3.8
2018	228,349	3,268	3,118	234,735	2.7	200,282	8,589		208,871	4.1
2019	218,468	3,061	3,211	224,740	2.8	188,014	8,356		196,370	4.3
2020	150,000		5,000	155,000	3.2					

Note: Provisional data for marriages in 2020 and PACS unions from 2017 to 2019.  
 Coverage: Whole of France.  
 Sources: INSEE, Ministry of Justice.

halls.<sup>(41)</sup> This simplified and probably accelerated their registration in 2018—a year marked by a sharp increase in PACS unions—and potentially reduced the number of couples wishing to enter a PACS in 2019.<sup>(42)</sup> While the total number of PACS unions fell more sharply than that of marriages between 2018 and 2019 (–6%), the decrease was smaller for same-sex couples (–2.7%).

(41) Law no. 2016-1547 of 18 November 2016.

(42) This hypothesis cannot be confirmed due to the absence of detailed data on PACS unions registered since 2018 (age, place of registration).

In 2019, for the first time since the legalization of same-sex unions (via the PACS in 1999 and marriage in 2013), the number of female same-sex marriages (3,211) was higher than that of male same-sex marriages (3,061). This trend is consistent with the patterns observed in most European countries where same-sex unions have been legalized (Festy and Cortina, 2019). As female same-sex couples more often have children, they have more reason to formalize their union than male couples (Meslay, 2019).

## 2. A spectacular decrease in marriages in 2020 to levels not seen since the Second World War

For 2020, the most recent estimates stand at around 155,000 marriages, a spectacular drop of 70,000 (–31%) with respect to 2019. Weddings were prohibited during the spring lockdown,<sup>(43)</sup> and at the end of the year, the authorized number of guests was limited, so many weddings planned for 2020 were postponed or cancelled. With the exceptions of 1915 and 1916 (with 86,000 and 125,000 marriages, in metropolitan France) the number of marriages has never been so low since the early 19th century. The marriage rate<sup>(44)</sup> was 2.4 marriages per 1,000 population in 2020, below that of 1916 (3.1 per 1,000) but nonetheless higher than that of 1915 (2.1 per 1,000), an all-time low due to mobilization at the start of the First World War.

This sharp decrease in marriages in 2020 is spread very unequally across the months of the year (Figure 16). January was stable with respect to previous years, while February, which exceptionally included five Saturdays—the most popular day for weddings—had more daily weddings than in previous years (Papon, 2021). With the first lockdown in March, the number of weddings fell dramatically. Some went ahead in June and July, but their number was substantially lower than in the same months of a normal year. From August, marriages returned to normal levels, but without any catch-up effect, with the exception of October (+28% with respect to October 2019). The second lockdown at the end of the year again produced a 39% drop in marriages in November and a 50% drop in December.<sup>(45)</sup>

As many couples postponed their weddings due to the lockdowns, the limits on guest numbers, and COVID-19 public health measures, there may be a partial catch-up in 2021 and perhaps in subsequent years. Meanwhile, some of these couples may have entered a PACS union to obtain the legal status it procures (e.g. to take out a joint mortgage) and postponed their wedding to a future date when public health measures have been lifted. This is a plausible hypothesis given that it remained possible to register a PACS remotely with a notary in compliance with the rules limiting the size of public gatherings. This was not possible for marriages,

(43) Except under certain very specific conditions after authorization by the public prosecutor (military personnel before a foreign mission, administrative requirements linked to a job transfer, etc.).

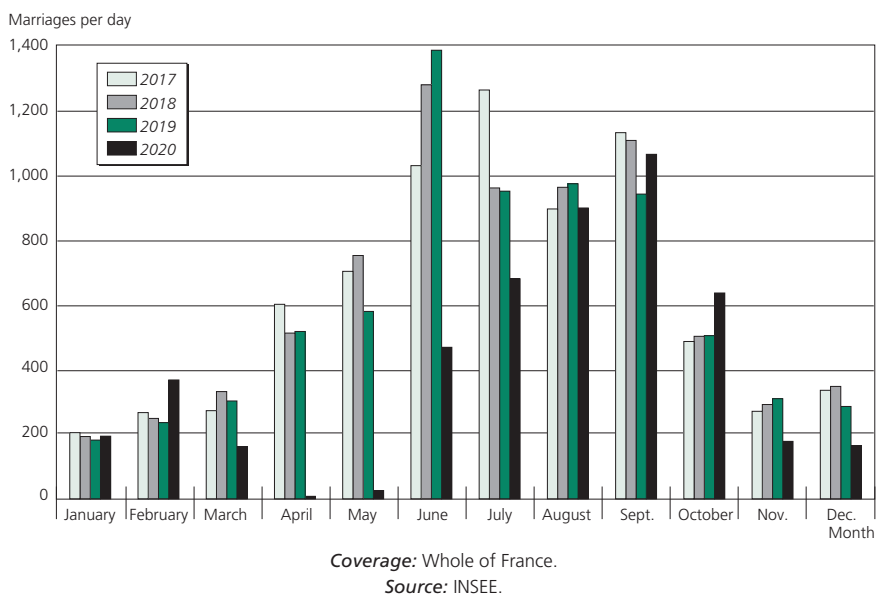
(44) Ratio of annual marriages to the mean population of the year.

(45) 2020 was a leap year.

which can only be registered in a town hall, so it would not be surprising to observe a more moderate decrease in PACS unions in 2020.<sup>(46)</sup> It is also possible that some couples who had planned to marry in 2020 cancelled their wedding because they separated or changed in their minds because of the pandemic.

Restrictions on weddings varied in their strictness and duration from one country to another, depending on the severity of the successive COVID-19 waves and the political decisions that ensued, so their impact on marriages also varied. France occupies an intermediate position in Europe: between 2019 and 2020, marriages decreased by 10% in Germany, by 21% in the Netherlands, but by 43% in Portugal and more than 45% in Spain.

Figure 16. Daily number of marriages by calendar month, 2017–2020



### 3. An increase in age at marriage for different-sex couples and a decrease for same-sex couples

Like the total number of marriages, the total marriage rate<sup>(47)</sup> fell in 2019 with respect to 2018 to a level of 551 marriages per 1,000 men and 542 per 1,000 women (Table 14). This decline mainly concerns different-sex marriages, primarily first marriages but also remarriages of divorcees.

The mean ages at marriage remained stable with respect to 2018, at 37.9 years for men and 35.4 years for women. A slight increase in age at first mar-

(46) Figures not yet available.

(47) The total marriage rate corresponds to the number of marriages that would be observed in a cohort of 1,000 people if at each age (including after age 50) they experienced the same marriage frequencies as those observed in a given year.

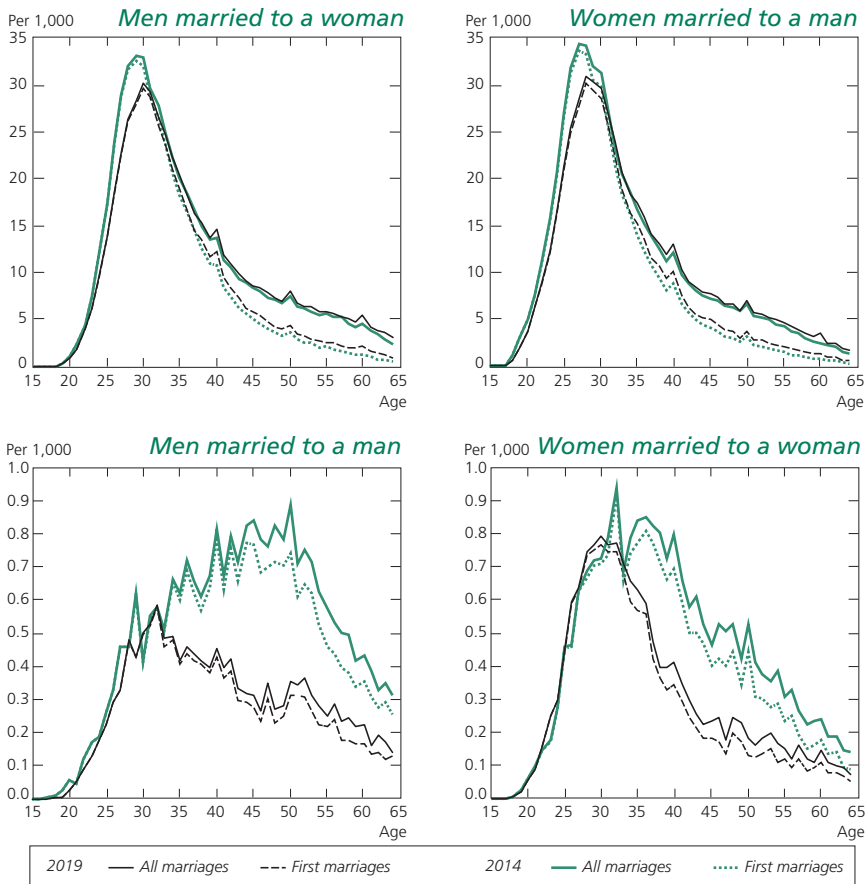
Table 14. Number of marriages per 1,000 people\* and mean age at marriage by partners' sex and marital status at the time of marriage, 2014–2019

Year	Different-sex marriages							
	Men				Women			
	Overall	of which first marriages	of which remarriages		Overall	of which first marriages	of which remarriages	
of widowed men			of divorcees	of widows			of divorcees	
Marriages per 1,000 people								
2014	560	453	6	101	551	451	6	94
2018	559	457	5	97	548	452	5	91
2019	536	441	5	90	527	437	5	84
Mean age at marriage (years)								
2014	36.9	33.7	59.2	49.6	34.3	31.7	52.6	45.6
2018	37.8	34.9	59.3	50.3	35.3	32.8	52.9	46.5
2019	37.8	35.0	59.3	50.4	35.4	33.0	53.2	46.7
Year	Same-sex marriages							
	Men				Women			
	Overall	of which first marriages	of which remarriages		Overall	of which first marriages	of which remarriages	
of widowed men			of divorcees	of widows			of divorcees	
Marriages per 1,000 people								
2014	26	24	0.1	2.5	22	20	0.1	2.6
2018	15	14	0.0	1.5	15	13	0.0	1.5
2019	15	13	0.1	1.2	15	14	0.0	1.5
Mean age at marriage (years)								
2014	45.3	44.5	55.7	53.1	40.6	39.5	51.6	48.6
2018	42.9	41.9	57.9	52.7	37.8	36.7	56.0	46.9
2019	42.1	41.1	52.9	52.1	37.1	36.1	50.2	46.3
Year	All marriages							
	Men				Women			
Marriages per 1,000 people								
2014	586				573			
2018	574				563			
2019	551				542			
Mean age at marriage (years)								
2014	37.2				34.3			
2018	37.9				35.4			
2019	37.9				35.4			
* Total marriage rates at all ages.								
Coverage: Whole of France.								
Sources: INSEE, civil records; authors' calculations.								

riage between different-sex partners (+0.1 years for men and +0.2 years for women) is offset by a decrease in age for same-sex couples (−0.8 years for men and −0.7 years for women). The difference in marriage timing between different-sex and same-sex couples is narrowing as a result, even though different-sex couples are still younger when they marry: 4.3 years younger for men and 1.7 years younger for women in 2019 compared with 8.4 years and 6.3 years in 2014, the first full year after the legalization of same-sex marriage.

Comparing 2019 with 2014, the frequency of marriage has decreased before age 30 for both men and women who marry a different-sex partner, but it has increased slightly after age 30 (Figure 17). The frequency of same-sex marriages is the same before age 30 but decreases considerably after. In 2019, the curves of age-specific same-sex and different-sex marriage rates moved closer together, for women especially. A tendency to marry at an age ending in 0 (40, 50,

**Figure 17. Age-specific marriage and first marriage rates (per 1,000) by the partners' sex in 2014 and 2019**



Coverage: Whole of France.

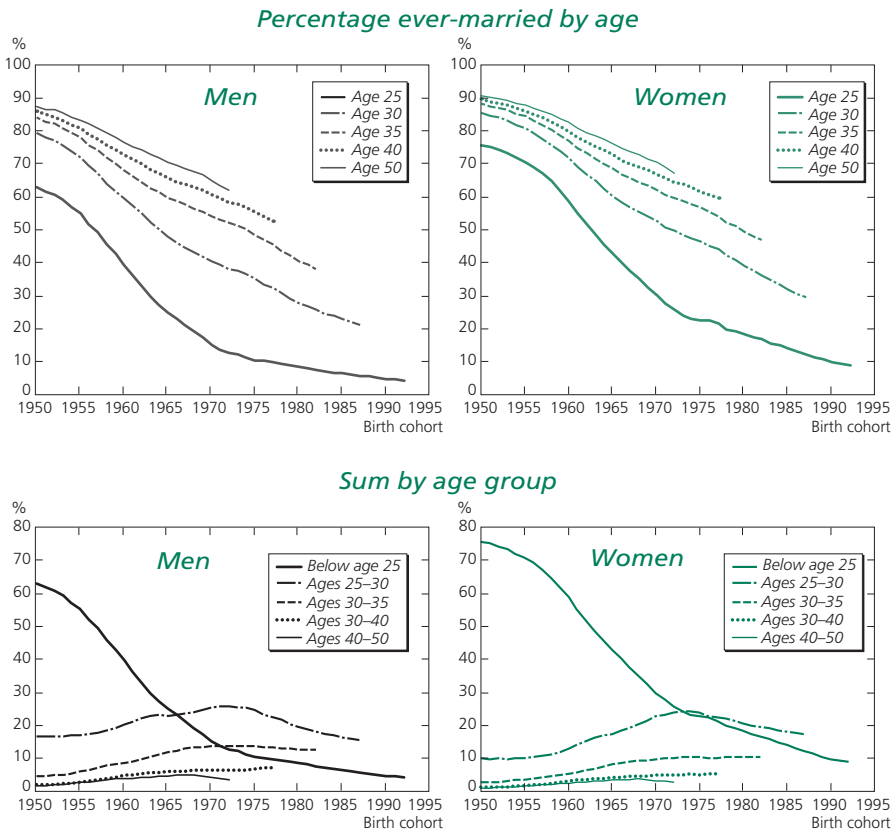
Source: INSEE.

60 years) is continuing: marriages are slightly more frequent at ‘rounded’ ages for both men and women in different-sex marriages.

#### 4. First marriages continue to decline across cohorts before age 30 and are no longer increasing at later ages

Longitudinal analysis of first marriages<sup>(48)</sup> (Figure 18; Appendix Table A.9) reveals a growing disinterest in marriage across cohorts from the 1950s, with a decrease in the proportion ever-married before age 50, an increase in mean age at first marriage, and a reduction in the proportion ever-married at all ages (Figure 18). This drop in the proportion ever-married is most visible in the cohorts born between 1950 and 1970, with a sharp decrease in first marriages before age 25 that continued at a slower pace up to the cohorts born in the 1990s.

Figure 18. Percentage ever-married by age and sum of first marriages for each age group, by sex and cohort



**Interpretation:** In the 1950 birth cohort, 17% of men experienced a first marriage between ages 25 and 30.

**Coverage:** Metropolitan France.

**Source:** INSEE; authors’ calculations.

(48) These are marriages of never-married persons.

Among these cohorts, first marriages took place at later ages, mainly between ages 25 and 35. However, for the cohorts born from 1975, first marriages also become less frequent between ages 25 and 30, for men and women alike, and the increase after age 35 is marginal. In other words, the decrease in first marriages before age 30 is no longer offset by an increase at later ages, as was the case for the 1950 to 1975 cohorts. First marriages after age 30 level off from the 1975 cohort, thus contributing to an upward shift in the age distribution of first marriage and a continuous decline in first marriage intensity.<sup>(49)</sup> For the cohorts born from 1990 onwards, according to the most recent estimates, around 49% of men and 52% of women will experience a first marriage before age 50 (Appendix Table A.9).

## 5. Divorce and PACS dissolution statistics remain incomplete

As of 2017, certain divorces are no longer settled in court, and the statistics of the Ministry of Justice do not include these non-judicial divorces (registered by notaries).<sup>(50)</sup> These divorce numbers have still not been processed by the administration, so statistics remain incomplete. The figures for 2019 stand at 66,116 divorces, but these are only contested divorces<sup>(51)</sup> since those by mutual consent, which represented a large majority until 2016 ( $n = 72,000$ ), had almost disappeared from the statistics by 2019 ( $n = 94$ ). Trending downward from 2010, contested divorces have increased considerably since the 2017 reform (Figure 19). This increase is mainly attributable to the rise in accepted divorces (+34%) and, to a lesser extent, that of divorces for irretrievable marriage breakdown, while fault divorces have fallen by 17%. The number of divorces registered by notaries since 2017 is not known, but it is likely that a share of these accepted divorces would have been by mutual consent in the absence of the 2017 reform. It is still too early to assess the effects of the COVID-19 pandemic and successive lockdowns on divorce.

Divorce statistics do not provide the gender composition of couples who separate, so it is impossible to measure the frequency of divorce among same-sex couples who have been able to marry since 2013.<sup>(52)</sup> Moreover, no data have yet been published for PACS dissolutions since 2018; the latest estimate is 82,345 in 2017 for the whole of France (Breton et al., 2019). A rise in the annual number of PACS dissolutions is to be expected, however, given the high

(49) First marriage intensity corresponds to the proportion of people in a cohort who marry for the first time before age 50.

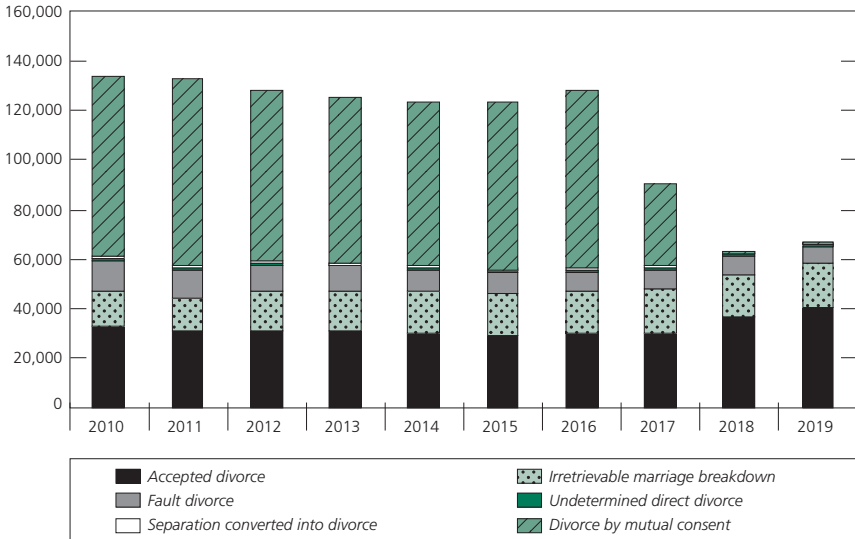
(50) Law no. 2016-1547 of 18 November 2016. As of 1 January 2017, non-judicial divorces are possible if the spouses agree on the divorce conditions and if none of the couple's children ask to appear before a judge.

(51) There are three types of contested divorce: fault divorce, divorce for irretrievable marriage breakdown, and divorce by acceptance of the principle of marital breakdown.

(52) Likewise, in the years after the PACS was introduced, the sex of the partners was not recorded when a PACS union was registered in order to avoid stigmatizing same-sex partners. We can only hope that, as with the PACS, data collection methods will rapidly evolve to include the partners' sex.



Figure 19. Annual number of divorces settled in court by grounds for divorce, 2010–2019



Coverage: Metropolitan France and overseas departments.

Source: Ministry of Justice SDSE: Statistical analysis of the *Répertoire général civil*.

and increasing number of PACS unions registered during the 2010s. But the decrease in marriages in 2019 and the further sharp drop in 2020 should have a negative effect on PACS dissolutions, as almost half of these dissolutions are due to marriage between the partners.<sup>(53)</sup>

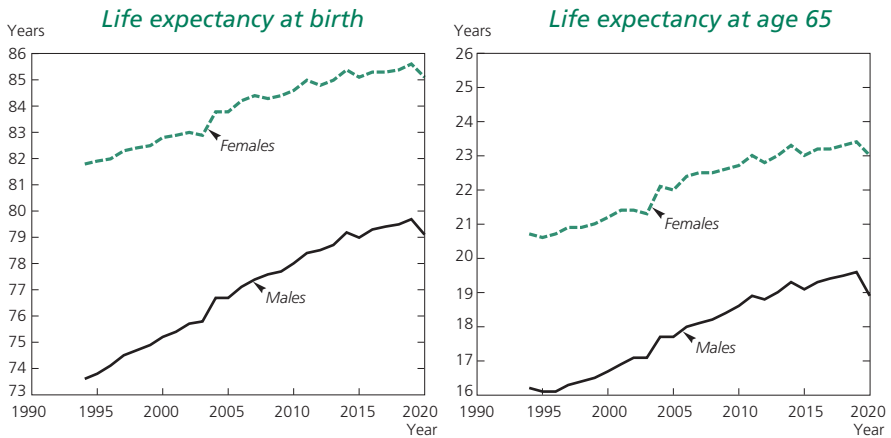
## VI. Mortality: the impact of COVID-19 at national and regional levels

Mortality increased sharply in 2020, with 668,922 deaths in the year, or 56,000 more than in 2019 according to the final figures published by INSEE (2021). This number corresponds to a life expectancy at birth of 79.1 years for males and 85.1 years for females in 2020, a decrease of 0.58 years and 0.45 years, respectively, compared to the previous year. This decline is equivalent in amplitude to the progress in life expectancy observed over the previous 6 years, taking life expectancy back to a level below that of 2014. Mean remaining years of life at age 65 have also decreased by 0.7 years for males and 0.4 years for females. Consequently, life expectancy at age 65 is now the same as in 2011 (18.9 years) for males and as in 2015 (23.0 years) for females (Figure 20).

In 2020, male excess mortality exceeded that of females, and the gender gap in life expectancy widened, rising from 5.89 years in 2019 to 6.02 years in 2020. This interrupted a period of gradual convergence that began in the early 1990s.

(53) Among the 84,662 PACS union dissolutions registered in 2016, 40,670 preceded a marriage of one or both partners.

Figure 20. Life expectancy at birth and at age 65 by sex, 1994–2020



Coverage: Whole of France.

Source: INSEE; Papon and Beaumel (2021).

While the mortality crisis observed in 2020 is mainly attributable to the COVID-19 pandemic associated with the SARS-CoV-2 virus,<sup>(54)</sup> detailed data on causes of death in 2020 are not yet available, so it is difficult to assess the precise role and consequences of COVID-19 on mortality. Unlike previous annual reports, we will focus this year on mortality in France over the year 2020, based on the partial data available so far.

## 1. Measuring COVID-19 excess deaths

Ideally, to measure the exact impact of SARS-CoV-2 on mortality, one needs to identify COVID-19 deaths with certainty and to compare their numbers with the deaths that would have occurred without the pandemic. This raises questions regarding cause-of-death data (how should a COVID-19 death be defined based on available data? Are these deaths over- or underestimated?) and the methods used (how should the pandemic's overall effects on mortality be measured, and what is the best basis of comparison for determining what the level and structure of mortality would have been in the absence of a pandemic?).

In France, the National Institute for Health and Medical Research (INSERM) and, more specifically, the Epidemiology Centre on Medical Causes of Death (CépiDc) are responsible for recording and codifying death certificates for the entire population, whatever the place of death, and for disseminating official information about causes of death. It is thus the task of CépiDc to count the deaths attributable to COVID-19. The COVID-19 mortality statistics published by CépiDc are based on the analysis of all death certificates on which at least

(54) The only other major health crisis in 2020 was a succession of heat waves between late July and late August, which caused an estimated 1,924 deaths according to Santé publique France (2021).

one of the listed causes of death is defined by the International Classification of Diseases (ICD) as linked to the SARS-CoV-2 virus. The ICD was drawn up by the World Health Organization (WHO), which is responsible for revising its content periodically. Since January 2020, WHO has added the following codes to the list of diseases and conditions to which a death can be attributed: U07.1 (COVID-19, virus identified or not identified), U08 (Personal history of COVID-19), U09 (Post COVID-19 condition), and U10 (Multisystem inflammatory syndrome associated with COVID-19). The WHO definition thus includes not only deaths linked to an infection confirmed by laboratory tests or clinical examination but also likely or suspected cases of death from COVID-19. Unlike some other European countries, France has not changed its definition of COVID-19 deaths since the start of the pandemic, thus ensuring consistency in comparisons over time (Garcia et al., 2021).

However, the transmission of death certificates to CépiDc and the coding of the causes listed by certifying physicians is a lengthy process. While electronic certification has developed rapidly in recent years, it is still not universal, especially in small municipalities, and the automatic coding system launched in 2000 has still not completely replaced human coders. CépiDc does not publish statistics on COVID-19 deaths until it has received at least 90% of death certificates for a given period (so with a delay of several months), while INSEE provides more rapid information on total numbers of deaths but without indicating the cause. Exhaustive cause-of-death statistics are not yet available for 2020 (or for 2017, 2018, and 2019) due both to delays that predate the health crisis and to the subsequent priority given to deaths occurring in 2020.

In this context, it is Santé publique France that monitors the COVID-19 pandemic on a daily basis, providing the government with the real-time data it needs to implement effective measures for controlling the pandemic and preventing the spread of infection. The information it provides on COVID-19 mortality is not based on an exhaustive death count. Hospital and intensive care deaths are counted, but not those occurring in the home or in long- or medium-term care facilities (Courtejoie and Dubost, 2021). Until April 2020, deaths in nursing homes were not included either, even though they represented 51% of the excess mortality recorded during the first wave of the pandemic (Canoui-Poitrine et al., 2021). The subsequent inclusion of nursing-home deaths produced a sudden jump in the COVID-19 mortality curve, abruptly placing France among Europe's most affected countries, alongside Spain and Italy (Garcia et al., 2021). Compared with the exhaustive CépiDc data (that include all COVID-19 deaths wherever they occur), we now know that the partial data issued by Santé publique France underestimate COVID-19 mortality by around one-third; they are nonetheless vital for monitoring the spread of the pandemic in real time. They show, for example, that alongside the 77,400 COVID-19 deaths (all places of death) counted by CépiDc for

2020, more than 45,000 hospital deaths directly attributable to COVID-19 occurred between 1 January and 2 October 2021 (these are the most recent available figures, although incomplete).<sup>(55)</sup>

Information can also be obtained indirectly by comparing deaths from all causes in 2020 with those of previous years to estimate the scale of excess mortality directly or indirectly attributable to the pandemic. Estimates of this kind can be produced as soon as a country has counted all deaths, a process that can be quite rapid. Another advantage of this method, which can also be a disadvantage depending on the way the statistics are used, is that excess mortality encompasses not only deaths directly attributable to COVID-19 (including those whose medical cause is ill-defined, due to a lack of laboratory tests, for example) but also those indirectly caused by the pandemic. These indirect deaths include those due to delayed treatment of other medical conditions or the cancellation of operations, either because the emergency and intensive care services reorganized their activities and changed their priorities to deal with the massive and sudden inflow of COVID-19 patients at the height of the successive waves, or because patients did not come into hospital for treatment for fear of getting infected by the virus. Research has shown that fewer people with chronic diseases (cardiovascular diseases or cancer in particular) have been seen by hospital physicians since the start of the pandemic. In other high-income countries, it has even been estimated that deaths due to postponement or cancellation of treatment, or refusal to come into hospital, could account for up to 40% of deaths directly attributable to COVID-19 (Cutler and Summers, 2020; Hanna et al., 2020; Wu et al., 2021). The difficulty with this approach lies in identifying the baseline mortality level above which any additional deaths are counted as excess deaths.

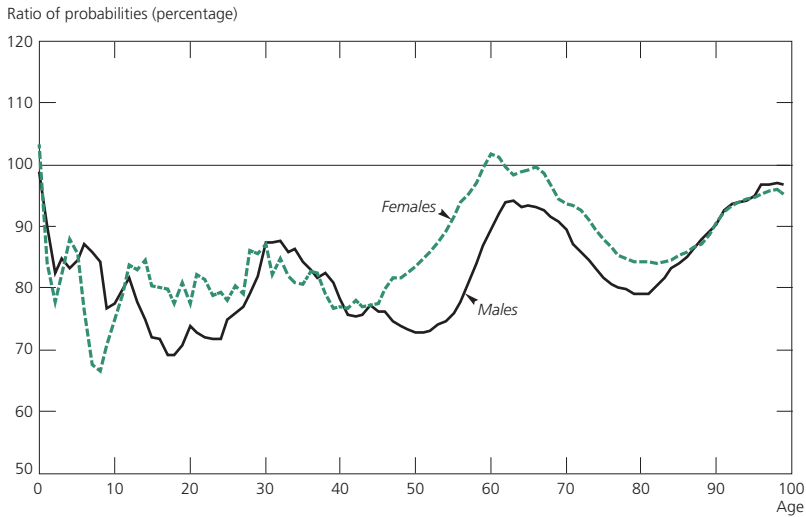
To estimate COVID-19 excess mortality (as for all types of excess mortality), it is important to consider not only the total number of deaths during the pandemic by comparison with the number observed during a reference period, but also total population increase over time, changes in the age structure of deaths and of the population, and general mortality trends. It is logical to expect more deaths in 2020 than in 2019 as a simple consequence of population ageing (Breton et al., 2020; Guillot and Khlal, 2020; Pison and Meslé, 2020). As the large baby-boom cohorts now reaching ages of high mortality start to replace the depleted cohorts that preceded them, the share of the population exposed to a high risk of death increases mechanically, even if the risk of death at each age remains unchanged. It is therefore essential to take account of changes in population age structure to make a meaningful comparison of mortality in 2020 with that of previous years. The

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(55) As reported in Cépide data on the daily number of deaths with COVID-19 mentioned on the death certificate ([https://opendata.idf.inserm.fr/cepidc/covid-19/data/decès\\_quotidiens\\_avec\\_mention\\_de\\_covid.csv](https://opendata.idf.inserm.fr/cepidc/covid-19/data/decès_quotidiens_avec_mention_de_covid.csv)). Retrieved 1 October 2021.

expected decrease in the risk of dying at each age, as observed during the reference period, must also be included in the equation. This decrease has an opposite effect to that of population ageing as it results in lower mortality. According to the 3-year life tables published by INSEE, the probability of dying fell at practically all ages between 2007–2009 and 2017–2019, and progress was expected to continue at a similar annual pace between 2019 and 2020 (Figure 21).

**Figure 21. Decrease in mortality at each age between 2007–2009 and 2017–2019 (ratio of age-specific probabilities smoothed over 3 years of age, except age 0)**



**Interpretation:** The ratio of probabilities indicates the probability of dying over 3 years of age for each sex in the 2017–2019 life table by comparison with its level in the 2007–2009 life table. For example, in 2017–2019, for a man aged between 18 and 20, the probability of dying in the year had fallen to 70% of the level observed in 2007–2009.

**Coverage:** Metropolitan France.

**Source:** INSEE, 2007–2009 and 2017–2019 life tables.

Last, it is precisely because of these demographic trends (change in age structure and progress in human health) that measures of excess mortality in 2020 vary according to the reference period used. An INSEE study has shown that after accounting for population ageing and seasonal fluctuations (severity of the flu epidemic in the reference year), excess deaths can be estimated at 55,800, 75,400, or 87,400, depending on whether the chosen reference year is 2019, 2015, or the average of the years 2010 to 2019 (Blanpain, 2021). Taking account of French population growth and the rising share of older adults, of the fact that 2020 was a leap year (with 1 extra day), and of the predicted decrease in probabilities of dying, this same study considers that 621,900 deaths would have occurred in 2020 in the absence of the pandemic. With 669,000 deaths actually registered in 2020, a total figure of 47,000 excess deaths is obtained. This is below the 78,200 deaths directly attributed to COVID-19

based on statistics drawn from death certificates.<sup>(56)</sup> The difference is due to the disruptive effect of COVID-19 on mortality: infection by the SARS-CoV-2 virus killed people who would have died from other causes in 2020 because of advanced age or other health problems. We know that the risk of death from severe forms of COVID-19 is especially high for people with diabetes, obesity, cardiovascular diseases, and other diseases of the respiratory system. This ‘harvesting effect’, whereby the mortality of the most fragile individuals is brought forward by several weeks or months during a health crisis, is familiar to epidemiologists.

The difference is also due to lower-than-usual mortality from other causes of death, such as influenza and other contagious respiratory diseases, thanks to the hygiene and social distancing measures introduced to combat COVID-19. This was also the case, although to a lesser extent, for road traffic deaths, which fell slightly during the periods of lockdown and travel restrictions, and potentially for deaths linked to atmospheric pollution.

## 2. Mortality curves that follow the successive COVID-19 waves

The COVID-19 pandemic has evolved in a series of waves, each one less deadly than its predecessor. Before late September 2021, when this article was written, three separate waves had occurred, each separated by a ‘return to zero’, or almost, in the numbers of deaths directly attributable to the virus. Each wave corresponds to a mortality peak, with the first one extending from March to May 2020. The daily number of COVID-19 deaths peaked in the middle of this period, reaching a maximum of 1,067 on 3 April according to the most recent CépiDc figures (2021). The death toll was exceptionally high, with more than 500 deaths recorded each day between 25 March and 22 April. After a pause in the summer of 2020 (fewer than 15 or so daily deaths between late July and mid-August), COVID-19 mortality started rising again from early September (Table 15). This second wave was less severe but lasted much longer than the first, with a daily death toll that did not fall below 100 until the very end of May 2021. It was marked by three mortality peaks: on 10 November 2020 with 729 deaths; on 1 February 2021 with 573 deaths; and on 9 April 2021 with 396 deaths. Last, the third wave was closer to a ripple. Much less deadly than the previous ones, it began in late July 2021, but we do not have sufficient hindsight to determine when it ended. A total of 128,039 COVID-19 deaths were registered between 1 March 2020, when the first death directly attributable to the virus occurred in France, and 2 October 2021, when the most recent

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(56) This is the total number of deaths with COVID-19 mentioned on the death certificate, as either an underlying cause or a contributing cause of death. This figure may overestimate the actual number of these deaths given that some deaths from a different underlying cause, and which would have occurred in any case, are attributed to COVID-19. As indicated by CépiDc, ‘the published statistics are provisional and must be interpreted with caution’ (<https://www.cepide.inserm.fr/actualites-et-evenements/nouvelles-donnees-de-mortalite-sur-la-covid-19>, consulted on 13 October 2021), so the final figure will probably be different.

**Table 15. COVID-19 deaths (underlying or contributing cause)  
from 1 March 2020 to 2 October 2021**

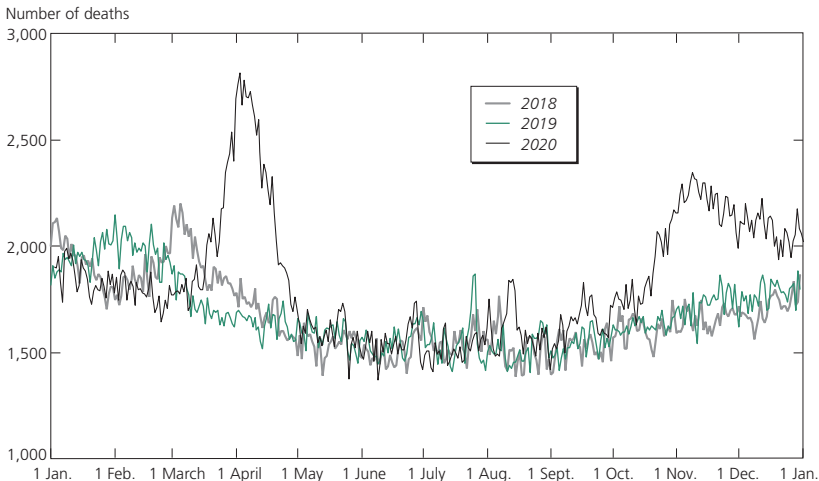
Period	Number	Proportion (%)
March–May 2020	34,387	25.4
June–August 2020	2,271	1.7
September–November 2020	27,214	20.1
December 2020 – February 2021	39,151	29.0
March–May 2021	25,016	18.5
June–October 2021	7,107	5.3
Total	135,146	100.0

*Sources:* CépiDc-INSERM for deaths from 1 March 2020 to 31 May 2021; Santé publique France for those from 1 June to 2 October 2021 (incomplete data).

available figures were published. By comparison, the deadliest recent flu epidemics killed between 5,000 and 15,000 people (Bernard-Stoecklin, 2018).

The numbers of daily deaths (all causes) in 2020, compared with those of 2018 and 2019, evolve in close parallel with the successive COVID-19 waves, as shown in Figure 22, constructed from daily death data published by INSEE for these 3 years. This simple comparison clearly shows the death spikes in the spring and autumn of 2020 that contrast with the patterns of the previous 2 years. The summer peak is less visible.<sup>(57)</sup> Seasonal flu epidemics produce relatively high levels of excess mortality (slightly more than 13,000 deaths during the winter of 2017–2018, with peaks in January and March 2018, and

**Figure 22. Daily numbers of deaths in 2018, 2019, and 2020**



*Coverage:* Whole of France.

*Source:* INSEE.

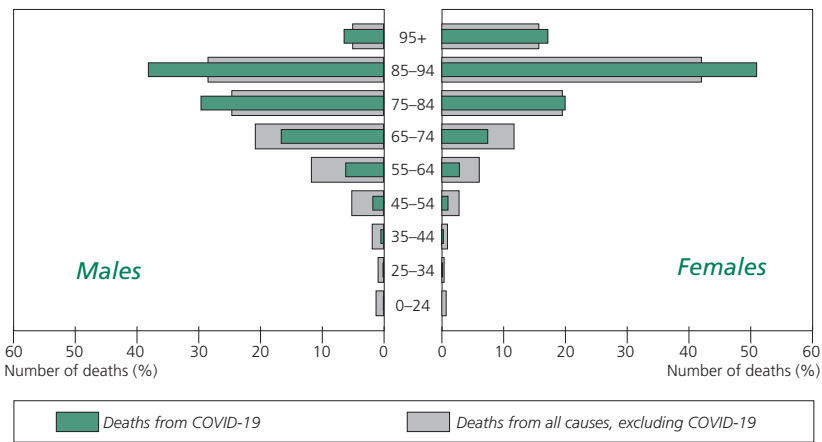
(57) Doubtless due to the compensating effects of below-average mortality and a possible harvesting effect (people with a health problem who would have died during the summer had already been killed by COVID-19 in the spring).

8,000 during the winter of 2018–2019, concentrated in the months of January and February), but are much less deadly than COVID-19.

### 3. Variations in mortality by sex and age

By comparison with 2019, the number of deaths measured by INSEE for 2020 increased more sharply for males (+10%) than for females (+8%), and, above all, there were large variations across age groups. Among the under-25s, mortality even fell with respect to 2019, probably due to a drop in fatal accidents during the successive lockdowns when travel restrictions were in place. It will not be possible to confirm the exact reasons for this below-average mortality until detailed data for 2020 become available, notably data on medical causes of death by sex and age. At ages 25–49, mortality in 2020 was very similar to that of 2019. It is only above age 50 that mortality in 2020 exceeded that of the previous year. It was slightly higher at ages 50–70 (+2.3% at ages 50–59 and +4.2% at ages 60–69) and much higher among the oldest age groups (+13.6% at ages 70–79, +8.7% at ages 80–89, and +11.8% at ages 90 and over; Le Minez and Roux, 2021). It was among people in their 70s that the highest level of excess deaths was observed. Among the over-80s, COVID-19 doubtless hastened certain deaths that would have occurred in any case without the pandemic, as these older adults tend to be more fragile and more often suffer from comorbidities. This explains why the difference with respect to 2019 is less pronounced for this age group. The age structure of COVID-19 deaths in 2020 is very similar to that of deaths from all causes in previous years. However, compared with 2019, there are more deaths beyond age 75 than before that age, for both males and females alike (Figure 23).

Figure 23. Age-sex structure of deaths (%) in 2020 from COVID-19 and all other causes combined



Coverage: Whole of France.

Source: CépiDC, [https://opendata.idf.inserm.fr/cepidc/covid-19/data/deces\\_hebdomadaires\\_avec\\_mention\\_de\\_covid\\_par\\_sexe\\_et\\_age.csv](https://opendata.idf.inserm.fr/cepidc/covid-19/data/deces_hebdomadaires_avec_mention_de_covid_par_sexe_et_age.csv) (data downloaded on 11 October 2021).

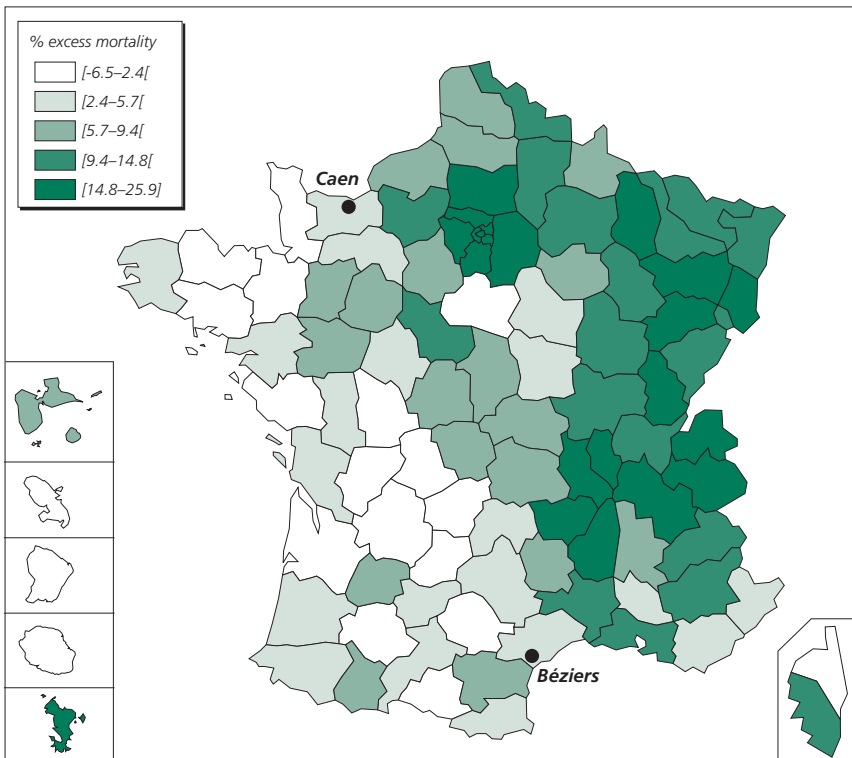


As COVID-19 deaths were concentrated among the over-75s, the drop in life expectancy at birth is mainly attributable to an increase in mortality at these ages. It accounts for 85% of the 7.0 months of life lost by males and for 91% of the 5.4 months lost by females in 2020 with respect to 2019. However, we will need to wait until CépiDc has finished codifying all the death certificates issued in 2020 (and those of previous years) to measure how the direct and indirect effects of COVID-19, including those resulting from postponement or cancellation of treatment, contributed to the decrease in life expectancy.

#### 4. Large geographical disparities in COVID-19 mortality

COVID-19 has not affected all the French departments (*départements*) equally. Differences in the contagious spread of the disease and in population composition (in terms of age, sex, prevalence of comorbidities, and spatial distribution of economic activities, etc.) produced diverse patterns of transmission across the country (Figure 24).

**Figure 24. Relative difference between numbers of deaths from all causes in 2019 and 2020 by department (departments grouped into five classes of similar size)**



**Note:** Change in relative number of deaths between 2019 and 2020 by department of residence.

**Source:** INSEE; Papon and Beaumel (2021).

The three regions of metropolitan France most affected by pandemic-related excess deaths in 2020 were the Paris region (Île-de-France), Grand Est, and Rhône-Alpes. Only six departments had no excess mortality in 2020 with respect to 2019: Ariège, Charente, Corrèze, Côtes d'Armor, Lot, and French Guiana. They were probably less affected by the pandemic, and a decrease in deaths from other causes may have offset the excess mortality due to COVID-19. Some of these departments remained free of the pandemic for longer than the others. Levels of excess mortality were very variable across the country. Mainland France can be roughly divided into two halves separated by a line stretching from Caen to Béziers. The departments to the west of this line recorded excess deaths that were above zero but below the average for the whole of France, while in those to the east, excess mortality was above the national average. Excess mortality was above 20% in six departments of metropolitan France: Haut-Rhin, Savoie, Haute-Savoie, Essonne, Seine-Saint-Denis, and Val d'Oise. The highest excess mortality was in the overseas department of Mayotte, with 24.2% more deaths in 2020 than in 2019.

The map of 2020 may have changed substantially in 2021, as the timing of the epidemic has also varied from one region to another. The final statistics for mortality across the different departments will not be known until the relevant data become available.

## 5. France on a par with other developed countries

Excess mortality in France is around the average level observed in other developed countries. The largest declines in life expectancy at birth were recorded in the United States (2.2 years of life lost) and in Lithuania (−1.7 years), Spain, Poland, Belgium, Slovenia, Bulgaria, Czech Republic, and Italy. By contrast, life expectancy remained relatively stable in Germany and Finland in 2020, and even continued to increase in Norway and Denmark (Le Minez and Roux, 2020; Aburto et al., 2021).

The timing of the epidemic varied considerably from one country to another, however. France was among the most hard-hit European countries during the first wave, with 28% excess mortality between March and May 2020. This was nonetheless below the levels observed in the United Kingdom (+43%), Belgium (+43%), Italy (+47%) and, above all, Spain (+70%). In all these countries, the second wave (from the autumn of 2020) was equally deadly. Other countries, notably Portugal, Germany, and several Eastern European countries, were relatively untouched in the spring of 2020 but severely affected in the autumn of that year.<sup>(58)</sup>

(58) See the INED mini-website (<https://dc-covid.site.ined.fr/en/>), which publishes weekly updates on COVID-19 mortality in 21 countries where the necessary data are available.

## 6. An uncertain final epidemic death toll

The SARS-CoV-2 virus is still circulating, and the health crisis is far from over. COVID-19 deaths in 2020 and 2021 totalled more than 115,000 by early October 2021, according to provisional figures published by Santé publique France. New, more virulent and deadly virus mutations may emerge as the pandemic continues. However, effective vaccines and large-scale vaccination campaigns in France have limited the most dramatic consequences of the pandemic since the summer of 2021. A complete and precise assessment of COVID-19 mortality will need to be conducted once detailed data become available. Both the immediate and the deferred effects of the pandemic will need to be taken into account, notably the long-term after-effects of infection by the virus. Its indirect impact on mortality at each age will also need to be examined. Most of these effects on longevity are negative (producing an increase in deaths), but some are positive. How many people will be killed by the SARS-CoV-2 virus in 2021 and in the years to come? How will survivors of severe forms of the disease be affected over the long term? How will mortality from causes other than COVID-19 be impacted by postponement of treatment or reluctance to attend hospital appointments? Will there be a harvesting effect, i.e. a period of below-average mortality due to selection by COVID-19 of the most vulnerable individuals who were destined to die in the following weeks or months even if the pandemic never occurred? Will the measures imposed to combat COVID-19 (such as face masks and social distancing) be effective in preventing the spread of other infectious diseases such as influenza, thereby reducing winter mortality among the oldest adults over the medium and long term? More generally, in the aftermath of a pandemic that exploited the structural weaknesses in our society, will the lessons learned from the crisis provide an opportunity to rethink the organization of healthcare systems, to better prepare for and anticipate future health crises, and to develop more effective epidemiological surveillance systems that would also contribute to reducing mortality from other causes? It will be several years before we can appreciate the full impact of this health crisis and its effect on mortality. Will the pandemic merely represent a temporary spike or will it also affect long-term tendencies, be it negatively (with a slowing of progress in life expectancy) or positively. As was the case after other crises, e.g. the 2003 heatwave, the answers to these questions may well provide new insights for fighting not only the current pandemic, but also future health disasters.





## APPENDIX

The appendix tables are available on INED's website and on the Archined open archive:

[http://hdl.handle.net/20.500.12204/AX3JfgRDQw0312HDrH\\_V](http://hdl.handle.net/20.500.12204/AX3JfgRDQw0312HDrH_V)

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**Didier BRETON, Nicolas BELLIOU, Magali BARBIERI, Hippolyte d'ALBIS, Magali MAZUY**  
• **RECENT DEMOGRAPHIC TRENDS IN FRANCE. THE DISRUPTIVE IMPACT OF COVID-19 ON FRENCH POPULATION DYNAMICS: FEWER BIRTHS AND MARRIAGES, A DOWNTURN IN MIGRATION, MORE DEATHS...**

On 1 January 2021, the population of France was 67.4 million, 120,000 more than on 1 January 2020. Unlike many European countries, the French population did not decline, but growth slowed sharply due mainly to the COVID-19 pandemic, which affected all components of population change. Provisional data indicate that the number of residence permits valid for at least 1 year granted to third-country nationals likely fell in 2020 (-10,000), particularly among immigrants from Africa and those entering France for family or humanitarian reasons. Births also fell sharply, with a spectacular dip 9 months after the lockdown. This drop reflects a decrease in the number of conceptions and not an increase in abortions, whose number fell in 2020, notably in the months following the first lockdown. But the two demographic events most affected by the pandemic were marriages, which became impossible because of strict social distancing rules imposed during lockdown (-70,000), and, as expected, mortality. Life expectancy fell by 0.56 years for males and 0.45 years for females, dropping back to the levels observed 6 years previously.

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• **L'ÉVOLUTION DÉMOGRAPHIQUE RÉCENTE DE LA FRANCE : MOINS DE NAISSANCES, DE MARIAGES ET DE MIGRATIONS, PLUS DE DÉCÈS... LA COVID-19 BOULEVERSE LA DYNAMIQUE DE LA POPULATION FRANÇAISE**

Le 1<sup>er</sup> janvier 2021, la France comptait 67,4 millions d'habitants soit 120000 de plus qu'au 1<sup>er</sup> janvier 2020. Contrairement à de nombreux pays européens, la population de la France n'a pas diminué, mais marque un très fort ralentissement, du fait principalement de la crise sanitaire engendrée par la pandémie de Covid qui a eu des effets sur toutes les composantes démographiques. Les données provisoires indiquent en 2020 une diminution du nombre de titres de séjours d'au moins un an délivrés à des personnes des pays tiers (- 10000), notamment ceux en provenance de pays d'Afrique et ceux pour cause « familiale » et « humanitaire ». Le nombre de naissances a également fortement baissé, particulièrement 9 mois après le confinement. Cette baisse s'explique par une diminution de nombre de conceptions et non une augmentation des interruptions volontaires de grossesses qui sont en recul, notamment les mois suivant le premier confinement. Mais les deux phénomènes les plus fortement affectés sont, d'une part, les mariages rendus impossibles du fait des règles sanitaires (- 70000) et, comme on pouvait s'y attendre, la mortalité avec une diminution de l'espérance de vie de 0,56 an pour les hommes et 0,45 an pour les femmes, soit un retour au niveau de mortalité observé 6 ans auparavant.

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• **LA EVOLUCIÓN DEMOGRÁFICA RECIENTE DE FRANCIA: MENOS NACIMIENTOS, MATRIMONIOS Y MIGRACIONES, MÁS MUERTES... LA COVID-19 CAMBIÓ COMPLETAMENTE LA DINÁMICA DE LA POBLACIÓN FRANCESA**

El 1<sup>o</sup> de enero de 2021 Francia contaba con una población de 67,4 millones de habitantes, es decir 120 mil más que el 1<sup>o</sup> de enero de 2020. Contrariamente a otros muchos países europeos, la población de Francia no ha disminuido pero ha frenado considerablemente su crecimiento, a causa principalmente de la crisis sanitaria provocada por la pandemia de Covid, que ha tenido repercusiones sobre todos los componentes demográficos. Según las cifras provisionales, el número de permisos de residencia de al menos un año, expedidos a personas de terceros países disminuyó en 2020 (- 10.000), en particular a las procedentes de países de África e igualmente los permisos por motivos « familiares » o « humanitarios ». El número de nacimientos también ha disminuido considerablemente, especialmente nueve meses después del confinamiento. Esta disminución se debe a una baja del número de concepciones y no a un aumento de los abortos, que están disminuyendo especialmente en los meses posteriores al primer confinamiento. Pero los dos fenómenos más afectados son, por una parte, los matrimonios, imposibles debido a las normas sanitarias (- 70.000) y, como era de esperar, la mortalidad con una disminución de la esperanza de vida de 0,56 años para los hombres y 0,45 años para las mujeres, es decir, un retorno al nivel de mortalidad observado 6 años antes.

**Keywords:** France, demographic situation, migration, fertility, induced abortion, marriage, civil union, divorce, separation, same-sex couple, ageing, mortality, cause of death, COVID-19, pandemic

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