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Recent Demographic Developments in France: Relatively Low Mortality at Advanced Ages

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Abstract

France had 65.3 million inhabitants as of 1 January 2012, including 1.9 million in the overseas *départements*. The population is slightly younger than that of the European Union as a whole. Population growth continues at the same rate, mainly through natural increase. There are now more African than European immigrants living in France. Fertility was practically stable in 2011 (2.01 children per woman), but the lifetime fertility of the 1971–1972 cohorts reached a historic low in metropolitan France (1.99 children per woman), nevertheless remaining among the highest in Europe. Abortion levels remained stable and rates among young people are no longer increasing. The marriage rate is falling and the divorce rate has stabilized (46.2 divorces per 100 marriages in 2011). The risk of divorce decreases with age, but has greatly increased among the under-70s over the last decade. Life expectancy at birth (78.4 years for men, 85.0 for women) has continued to increase at the same rate, mainly thanks to progress at advanced ages. Among European countries, France has the lowest mortality in the over-65 age group, but it ranks less well for premature mortality.

Keywords

France; demographic situation; European comparisons; age structure; fertility; abortion; marriage; divorce; mortality; causes of death

I. Overall pattern of change and population age structure

Still positive growth

The French population grew by an estimated 332,000 in 2011 – of which 320,000 in metropolitan France (mainland France and Corsica) – a figure just 4,000 lower than in 2010. The estimated total population on 1 January 2012 was thus 65.3 million inhabitants, including 63.4 million in metropolitan France and 1.9 million in the overseas *départements*⁽¹⁾ (Bellamy and Beaumel, 2013). As in the preceding years, this increase was mostly due to natural growth, i.e. the difference between births and deaths, with net migration representing less than one-fifth of the total. This is based on provisional estimates indicating that net migration remained stable in 2010 and 2011 (64,000 for France as a whole). Any revision of this figure should not fundamentally change the population growth rate, which remained at 5.1 per 1,000 in 2011 in metropolitan France, of which 4.1 per 1,000 of natural growth (Appendix Table A.1).

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(1) These figures do not include Mayotte, which became an overseas *département* on 31 March 2011 and which had 186,500 inhabitants at the time of the last census (1 July 2007).

According to Eurostat,⁽²⁾ in Europe, only Ireland and Iceland have higher natural growth rates than France (respectively 10 per 1,000 and 8 per 1,000), while rates in the United Kingdom, Norway, Cyprus and Liechtenstein are at similar levels (between 3.8 and 5 per 1,000). Eleven countries now record more deaths than births each year: Bulgaria, Croatia, Estonia, Germany, Hungary, Italy, Latvia and Romania, joined recently by Portugal (since 2009) and Greece (in 2011). Apart from Germany and Italy, where net migration offsets this deficit, the population of these countries decreased in 2011, in some cases quite severely, notably in Latvia and Lithuania, at estimated rates of –16.0 and –14.8 per 1,000, respectively, corresponding to a decrease of around 1.5%.

Population ageing becomes more marked

This positive natural growth is largely due to France's relatively high fertility rate, with the annual number of births in metropolitan France remaining at around 800,000. But it is also a consequence of the population age structure (Figure 1), and notably the still relatively small share of individuals at the most advanced ages, such that the number of deaths (535,000 in 2011) remained well below the number of births (793,000). The number of deaths is increasing however (there were only 509,000 in 2004), and this tendency will grow more marked in coming years with the ageing of the baby-boom cohorts.

The arrival of the 1946 baby-boom cohort in the over-65 age group is now producing more marked growth in the share of the total population at these ages (+0.4 percentage points) (Appendix Table A.2). The stable number of births, at around 800,000, in recent years has steadied the base of the population pyramid (Figure 1), with the proportion of under-20s remaining stable since 2010. It is the proportion at intermediate ages (20–64 years) that has decreased (–0.4 points), falling from 58.2% in 2011 to 57.8% in 2012. This new tendency – strong growth in the proportion of over-65s at the expense of 20–64-year-olds – will continue in coming years: from 2018, more than one in five people (20%) will be over 65 (Chardon and Blanpain, 2010).

Moderate ageing in France compared to other European countries

In Europe in 2011, this 20% threshold had already been surpassed in Germany (20.6%) and Italy (20.3%), with Greece progressively approaching it (19.3%). Among the countries of the European Union, France occupies a middle position. Ireland has the youngest population in the EU, with the lowest proportion of over-65s (11.6%) and the highest proportion of under-20s (27.8%). Ireland is followed by France, where the under-20s represented 24.6% of the population in 2011 (24.5% in metropolitan France), with Denmark close behind (23.3%). Today the populations of Germany and Italy, with the lowest proportion of young people (18.4% and 18.9% respectively), are the oldest in Europe. The decisive influence of births in explaining these differences between countries can be seen here, although the mortality decline can also be invoked to explain the top-down ageing of the population pyramid.

Comparing the population pyramid of France with that of the EU (Figure 2) highlights its relatively younger age structure compared to that of Europe as a whole.⁽³⁾ The particularities of French demographic history can be clearly seen: a more marked birth deficit in the years 1935–1944, a stronger baby boom immediately after the war, less concentrated on the 1960s, and a less pronounced, more short-lived fertility decline. The

⁽²⁾Site consulted on 8 October 2012.

⁽³⁾The population pyramid of the EU as a whole is largely shaped by the most populous countries: Germany (81.8 million inhabitants), France (65.4 million), the United Kingdom (63.0), Italy (60.8), Spain (46.2) and Poland (38.2), which represented 70.7% of the total EU-27 population on 1 January 2012.

European pyramid, in contrast, is characterized by a sharp drop in births between 1965 and 2000, followed by a slight recovery: its base is thus narrower than that of France.

According to Eurostat projections (2010), the EU population is set to age very quickly, with the proportion aged 65 or older reaching 26.8% in 2040. Germany will remain the oldest country in Europe, with 31.7% of over-65s, followed by Italy (29.8%) and Greece (28.1%); Ireland will remain the youngest (20.2%), with France remaining close to the median position (25.6%). The proportion of over-65s will increase most markedly – by between 10 and 12 points – in certain countries of the south (Malta, Spain and Portugal), the west (Germany, Austria, the Netherlands) and the east (Poland, Romania, Slovakia, Slovenia); the increase will be smallest in Sweden (+5.9 points), with France lying below the median position (+8.9 points).

Although the proportions actually observed in 2040 will depend on future fertility and mortality trends in each country,⁽⁴⁾ European population ageing is ineluctable, as it is built into the population pyramid.

II. Immigration

Greater uncertainty in measuring migration flows

INED no longer directly processes AGDREF⁽⁵⁾ residence permit files. The data used to present the main trends in legal immigration over the years 2009 and 2010, and to describe them in relation to the preceding years, are drawn from a statistical report published under the aegis of the ministry in charge of immigration.⁽⁶⁾ These statistics are not entirely comparable with those previously published by INED, notably in terms of authorized length of stay:⁽⁷⁾ in keeping with the recommendations of the United Nations and the European Union on the harmonization of migration statistics (Thierry, 2008), INED considered only first residence permits delivered for a period of at least one year, whereas the ministry also takes temporary permits into account (3 months or more). For this reason, our overview is limited to a brief outline of broad trends in immigration, covering only immigration from countries outside the European Economic Area (citizens of EEA countries are not required to hold a residence permit). Since 2009, the ministry statistics have included “long-term visas equivalent to a residence permit”; these are visas delivered for a period of 3 months to 1 year to foreigners holding the status of “visitor”, “student” or “temporary worker”, and to spouses of French citizens (“private and family life” status) who, until expiry of their visa, are exempted from the requirement to apply for a residence permit upon arrival in France.⁽⁸⁾

Over the three years for which we have access to the two series (Table 1), the trends are the same, but the relative changes are slightly smaller in the ministerial statistics: the number of permits delivered in 2007 went down by 6.2% relative to 2006 (–8.3% in the INED statistics), and then increased by 7% in 2008 (versus 7.9%). These statistics indicate a small increase in 2009 (+1.9%) and near-stabilization in 2010 (+0.5%). Like INED, the ministry found a large decrease in family immigration in 2007 (–11.3%), followed by a more moderate decrease in 2008 (–4.7%); in 2009, this type of migration increased slightly (+2.4%) before a return to the negative in 2010 (–3.8%). It remains the most common

⁽⁴⁾These projections are based on the assumption of a progressive but fairly slow fertility increase in the countries where it is lowest, and a stabilization or very slight decrease in those where it is highest. For mortality, it is assumed that the continuing downtrend will continue, at a higher rate in the countries where mortality is highest today.

⁽⁵⁾The application used to manage the files of foreign residents in France.

⁽⁶⁾Ministère de l'Intérieur, de l'outre-mer, des collectivités territoriales et de l'immigration [Ministry of the Interior, Overseas Territories, Territorial Collectivities and Immigration], MIOMCTI.

⁽⁷⁾For this reason, Appendix Table A.3 cannot be updated.

⁽⁸⁾In 2010, 82,000 visas of this type were counted in the statistics of the Ministry, mainly for students (58%) and family members (28%). When the visa expires, the first application for a residence permit is treated as a renewal.

reason for admission (45.6% in 2009, 43.7% in 2010), although its relative weight has been decreasing for several years (53.8% in 2006).⁽⁹⁾ The second reason is for educational purposes; the total number of students admitted increased sharply in 2008 (+11.6%) and 2010 (+12.5%), and represented nearly a third of admissions for residence in 2010 (31.7%). The proportions of admissions for employment reasons and on humanitarian grounds (refugees and persons with health problems) in 2010 were similar (9.5% and 9.3%, respectively).

The most represented nationalities remain Algeria and Morocco (each with around 24,000 permits issued in 2010), followed by China (14,000) and Tunisia (12,500); all other nationalities received fewer than 10,000 new residence permits. The majority of permits for citizens of the three Maghreb countries (Algeria, Morocco and Tunisia) and Turkey (the sixth-largest country in terms of flows, just below the United States) are issued for family reasons, whereas for China, the bulk of permits are for students: for a number of years Chinese students have been the largest group admitted on these grounds (9,700 in 2010), followed by Moroccans (5,800) and Algerians (4,600), with the number of Americans exceeding that of Tunisians in 2010 (3,400 versus 2,700). Americans are also the largest⁽¹⁰⁾ group of labour migrants (2,100), ahead of Moroccans and Malians (1,600 each). Finally, permits on humanitarian grounds were granted mainly to Sri Lankans (2,200 in 2010), Congolese from the Democratic Republic (1,300) and Russians (1,200).

African immigrants are now the largest group

Whatever their level of precision, the AGDREF statistics shed no light on immigration from countries whose nationals are not required to hold a residence permit. Data from annual census surveys should soon partially fill this gap by making it possible to identify all persons who have recently arrived on French territory. The census form now includes a question on place of residence one year earlier (introduced in 2011).⁽¹¹⁾

The “censuses” which, since the 2000s, have been based on data from five annual census surveys, offer a picture of the changing composition of the immigrant population⁽¹²⁾ residing in France. At the time of the 2009 census, there were 5.434 million immigrants in France, including 5.325 million in metropolitan France, representing 8.5% of the resident population. Their number has thus increased by nearly a quarter in ten years (4.309 million immigrants were counted in 1999), and 3.7% since 2006 (5.137 million) (Prioux et al., 2010).

Figure 3 shows the numbers of immigrants from the most represented origin countries in 2009, compared with the numbers in 1999 and 2006. The countries topping the list are the same as in 2006, and the number of immigrants from Algeria (721,000 in 2009) and Morocco (664,000) has continued to increase. The next country on the list is Portugal, with 584,000 immigrants counted in the 2009 census, and whose numbers have increased slightly following a period of stagnation between 1999 and 2006. Immigrants from Italy (311,000) and Spain (252,000) remain in fourth and fifth positions, although their numbers continue to decrease. Spain will soon be overtaken by Turkey (242,000) and Tunisia (236,000). The progression of the United Kingdom (151,000) continues, with a doubling of immigrant numbers since 1999. They are followed by three European countries (Germany, Belgium,

⁽⁹⁾The share of family migration was slightly higher in INED statistics (57.2%) in 2006, as residence permits with a duration of less than one year are issued less frequently for family migration than for students, for example.

⁽¹⁰⁾However, in 2010, nearly 4,000 permits were issued to Romanians, who are still required to hold a residence permit if they wish to work in France.

⁽¹¹⁾INSEE is currently testing a method for measuring immigration flows using the annual census survey.

⁽¹²⁾That is, individuals born as foreigners abroad and living in France, even if they have acquired French nationality.

Poland) with little change since 1999 (between 92,000 and 126,000 immigrants), and then China (83,000) and Senegal (78,000), whose numbers are increasing rapidly; they have recently overtaken Vietnam, whose numbers have levelled off.

Table 2, where the origin countries of immigrants present in 1999 and 2009 are grouped by continent and region, shows a certain diversification in migration flows over the last decade. While the number of European immigrants, and in particular immigrants from countries outside the European Union (notably Russia, Serbia and Switzerland), was higher in 2009 than in 1999, immigrants of African origin are now the most numerous (43% of the total immigrant population in 2009). Among these, immigrant populations from the three Maghreb countries continued to grow, but their share of the total remained stable at around 30%. The strongest population increase (+73%) over these ten years was among immigrants from other African countries – principally sub-Saharan Africa – who now represent nearly 13% of the total immigrant population. After Senegal (Figure 3), the list of countries is topped by Côte d'Ivoire, Cameroon and Mali, each with a little over 60,000 immigrants residing in France, followed by the two Congos (each around 55,000) and Madagascar (45,000). Populations of Asian origin in France have also increased, both from Turkey and from the rest of Asia (and notably China). In 2009, one in ten immigrants were from this region.

III. Births and fertility

A slight decrease in births and fertility in 2011

After peaking in 2010 at 832,800 births (of which 802,200 in metropolitan France), the number of births fell slightly in 2011, to 823,400 (793,000 in metropolitan France) (Beaumel et al., 2012), a decrease of 9,000. The downturn began in the second quarter of 2011 (Figure 4). While it seems to have abated in the first months of 2012, according to provisional monthly figures published on the INSEE website, it is tempting to interpret this drop as an effect of the economic crisis and the rise in unemployment. However, according to DARES statistics,⁽¹³⁾ the employment situation in France deteriorated most rapidly between July 2008 and the end of 2009, yet this was not followed by a drop in births in 2009 and early 2010. The further rise in unemployment in the second half of 2011 is too recent for any effects to be observed as yet; in any case monthly data on births in 2012 are still highly provisional. More generally, it is quite difficult to demonstrate an immediate effect of economic crises on the number of births in France (Pailhé, 2010). Since the 2000s, the uptrend in births has undergone several temporary reversals (Figure 4), but no clear link with changes in economic activity and unemployment has been established.

The slight drop in births in 2011 reflects a decline in fertility, with a total fertility rate (TFR) of 2.01 children per woman, 2.00 in the metropolitan *départements* (Appendix Table A.4). This decrease was quite similar to that of 2007 (Table 3): it did not concern the oldest women (35 years or older), whose fertility rebounded slightly in 2011, and primarily affected women aged 20–30. However, at ages 30–35, the drop was more marked than in 2007, after a fairly strong increase in 2010. The TFR thus almost fell back to its 2008 level, and the share of fertility over age 30 continued to increase: it represented 53.4% of the TFR in 2011 versus 52% in 2008. Since 2005, fertility after age 30 has accounted for over half⁽¹⁴⁾ of the TFR.

⁽¹³⁾ Directorate for Research, Studies, and Statistics: site consulted on 16 October 2012: <http://travail-emploi.gouv.fr/etudes-recherches-statistiques-de,76/statistiques,78/chomage,79/les-series-statistiques,265/>

⁽¹⁴⁾ Because of the definition of age in French statistics (age reached in the child's year of birth) "over-30" fertility in reality includes births occurring before the mother's 30th birthday.

Towards an annual estimation of parity-specific fertility in France?

The analysis of fertility trends in France is generally limited to TFR and its age distribution, because no reliable data on order-specific fertility are available in the civil records.⁽¹⁵⁾ To fill this gap, the INSEE recently proposed a method for adjusting vital records on the basis of census data (Davie, 2012; Davie and Niel, 2012) using the own-children method, which can be used to calculate various fertility indicators over the years preceding the census⁽¹⁶⁾ (Desplanques, 2008; Davie and Mazuy, 2010). This yields a decomposition of the TFR by birth order for each year preceding a census or an annual census survey, as well as the mean age at childbearing by birth order for the same years (Figures 5A and 5B). Although the data from complete censuses give only fragmentary indications of how these indicators evolve (for example, we do not know which birth orders were most affected by the fertility decline of the early 1990s because there are no observations between 1989 and 1998), they show that the fertility rebound after 1994 is due to first- and second-order fertility, with fertility at birth orders three and above having at best stabilized over this period.⁽¹⁷⁾ With data from the annual census surveys, changes can now be monitored on an annual basis, starting in 2004. They show that the slight decrease in TFR in 2007 was due mainly to first-order fertility and that fertility at birth orders three and higher has recovered somewhat since 2004. But the most striking finding concerns the high levels of first- and second-order fertility, very close to those estimated for the 1960 cohorts (Toulemon, 2001): over the period 2006–2010, an average of 0.88 first births and 0.70 second births per woman were observed. If these values were transposable to all cohorts of reproductive age, this would mean that childlessness remains low in France⁽¹⁸⁾ (12% of women in a birth cohort) and that the proportion of women with an only child is stable (18%).

This reconstitution also provides estimates of mean age at childbearing by birth order (Figure 5B), and in particular at the first birth (Davie, 2012), which largely determines both age at subsequent births and the overall pattern. After the large increases of the 1980s and early 1990s, the rise in age at first birth has continued, but at a somewhat slower pace since the 2000s. The same is true for higher order births, and still more so for age at childbearing for all orders combined, because of the shrinking share of high-order births. The intervals between births have decreased slightly in recent years, after increasing substantially in the 1980s: for women who had a second child in 1998, the interval between first and second birth was 4.1 years on average, and for those who had a third, the interval between second and third birth was 4.5 years; among women who had a child in 2007, these intervals were 3.9 and 4.3 years, respectively (Davie, 2012). This slight shortening of intervals is probably also partly responsible for the increase in TFR in the 2000s.⁽¹⁹⁾

Completed fertility falls to a historic low

Although the slight decrease in TFR in 2011 does not counteract the general trend of increasing fertility in the oldest women, it does inflect it slightly, leading to a downward revision in the projected trend in completed fertility for certain cohorts (Appendix Table A.

⁽¹⁵⁾We attempted, several years ago, to adjust the statistics by birth order from vital records (Prioux, 2003), but this adjustment, based on a hypothesis which was not verified (constancy of bias in vital records), led to an overestimation of first-order births.

⁽¹⁶⁾Children born during the year before the census are linked to their mother who lives in the same dwelling. Their birth order and their mother's age at the time of their birth can thus be determined.

⁽¹⁷⁾Third-order fertility may have stabilized or even recovered while orders four and higher continue to decline, but data published by INSEE do not distinguish third-order births from those of higher orders.

⁽¹⁸⁾The adjustment of vital records with the own-children method based on census data may overestimate first-order fertility because children born previously to a mother may be living elsewhere, and are not counted in the dwelling. The results of the 2011 Family and Housing Survey (Enquête familles et logements, EFL) should make it possible to verify this (Rault et al., 2010).

⁽¹⁹⁾At identical completed fertility, a simple slowdown in the postponement of births suffices for TFR to recover. This slowdown may be the consequence of shorter intervals between births and/or to a lesser postponement of first births. This second factor certainly also played a role since, even though mean age at first childbirth has continued to increase, the decline in fertility rates at young ages has practically levelled off since the second half of the 1990s.

5). This is the case for the 1971 and 1972 cohorts especially, whose completed fertility (1.99 children per woman in both projections) thus drops slightly below the symbolic threshold of 2 children per woman. This represents a historic low: until now, completed fertility had never fallen below that level. The same low point had been reached by women born in 1895, whose children were born during a period of very low fertility (the 1920s and 1930s), before the strong recovery of the baby boom (Daguet, 2002). Note, however, that because of high mortality, the 1895 cohort was much further from replacement level than the 1971–1972 cohorts (its net reproduction rate at birth was below 0.7 daughters per woman),⁽²⁰⁾ particularly after factoring in immigration, which will probably compensate for the slight deficit. This drop below the symbolic threshold is transitory, as the completed fertility of the following cohorts increases slightly: that of the 1977 cohort should be between 2.03 and 2.07 children per woman, depending on whether fertility rates above age 34 remain at their 2011 level or continue to increase at the same pace, and mean age at childbearing will be between 30.0 and 30.2 years (Appendix Table A.5).

Fertility has stopped increasing in central Europe

For a decade, there was a marked upward trend in fertility in the ten central European countries that have joined the European Union: after falling to very low levels at the end of the 1990s, TFR in these countries recovered in the 2000s (Figure 6D). With the exception of Slovenia, however, this increase came to an end in 2008 or 2009. TFR then levelled off or even started to fall, in particular in Hungary and Latvia, the two European countries with the lowest TFRs in 2010 (1.25 and 1.17 children per woman, respectively) (Appendix Table A.6). Estonia remains the country in this group with the highest TFR (1.63 in 2010, a figure that has been virtually stable since 2007), but could soon be joined by Slovenia (1.57). It was in northern Europe that fertility was highest in 2010 (between 1.87 children per woman in Denmark and Finland and 2.20 in Iceland), with mainly upward trends, particularly in Sweden and the United Kingdom (Figure 6B), whose TFR reached nearly 2 children per woman in 2010 (1.98). In southern Europe, fertility is much lower – with TFR between 1.36 in Portugal and 1.51 in Greece – and has remained fairly stable in the last three years (Figure 6C): downward trends in Portugal, Cyprus and Malta have come to an end, as have upward trends in Spain, Greece and Italy. Finally, western Europe continues to be the region with the most heterogeneous fertility levels (Figure 6A): between 1.39 children per woman in Germany and 2.01 in metropolitan France. They are increasing in three countries (France, Belgium and Switzerland) and fairly stable in the four others.

Common trends, but different patterns of age-specific fertility

When the TFR is broken down by age group, the same trends can be seen throughout Europe, with a decrease in fertility below age 25 and an increase above age 30; only in the intermediate age group (25–29 years) are divergent trends seen in different countries and periods.

In the ten new EU countries, the decrease in fertility among the under-25s, very rapid in the 1990s, slowed markedly in the 2000s, and even stopped in certain countries (such as Romania). But it is mostly in western countries, where this downtrend started considerably earlier, that young women's fertility has stabilized. It has even slightly increased since 1998 in Spain, but starting from Europe's lowest level: total fertility at these ages was barely 0.15 children per woman in 1998 and reached just 0.22 in 2010, a level 2.6 times lower than in Bulgaria (0.58) and 2.2 times lower than in the United Kingdom (0.48).

⁽²⁰⁾Under current mortality conditions, the completed fertility required for generation replacement is 2.08 children per woman: each woman needs to have 1 girl + 1 boy + 0.05 boys to account for the sex ratio at birth + 0.03 girls to account for female mortality before age 30 years, the mean age at childbearing (Festy, 2011).

The fertility increase among women over 30 is quite general, and almost completely offsets the decrease at young ages, so TFR in these countries is now levelling off or decreasing more slowly. In countries where young women's fertility is no longer falling, TFR is increasing, as in France (see above). The share of fertility above age 30 in the TFR has thus increased everywhere, but it remains lower in the former communist countries of the east than in western countries: just above 32% in Bulgaria and Romania in 2010, versus over 60% in Spain, Ireland and Switzerland.

Despite these common trends, there are considerable differences between countries in age-specific fertility and its distribution. We have chosen five countries whose fertility in 2010 differs in this respect (Figure 7A): Bulgaria and the United Kingdom, where young women's fertility is among the highest in Europe (with Romania); France and Sweden, whose fertility curves are almost symmetrical and concentrated around a maximum at ages 29–31; and Spain, where fertility is particularly low at ages 20–30 and the modal age is slightly later (32 years).

In order to neutralize the effect of differences in fertility levels – the TFR, the total of these age-specific rates, is markedly lower in Bulgaria and Spain than in the three other countries – we compare the age distribution of these rates (Figure 7B). While each of these curves has a single mode (from age 26 in Bulgaria to age 32 in Spain), they are much less concentrated in Bulgaria and the United Kingdom, and a discontinuity in the slope around age 20 or 25 clearly distinguishes the age structure of fertility in these two countries and Spain from those of France and Sweden. This discontinuity is observed in all the former Eastern Bloc countries which have joined the EU, apart from Slovenia; it is a well-known characteristic of British and Irish fertility (Chandola et al., 1999). This “swelling” or “distortion” in the curve of age-specific fertility rates, which is also seen in other English-speaking countries, reflects the juxtaposition of two age patterns of fertility arising from the segmentation of society into two sub-populations with distinct behaviours, and the numerical weight of population groups where early pregnancies are frequent, among whom the share of births outside marriage is thought to be determinant (Chandola et al., 2002). This explanation can probably also be applied to the former Eastern Bloc countries, where the emergence of a market economy has led to large inequalities in living standards between social classes, and where births outside marriage have increased sharply, in particular among the least educated women, who have children at the youngest ages.

It is interesting to observe that these countries are not the only ones to have developed this “distorted” fertility profile: it appeared in Spain in the 2000s (Figure 7) and is already clearly discernible in Portugal and Greece. With the general increase in age at childbirth, the group of early mothers becomes more specific and thus more visible. Apart from the United Kingdom and Ireland, no other country in northern or western Europe presents this type of pattern.

Spain is now the least fertile country in Europe

Taking fertility in 2009 and 2010 into account, new projections for completed fertility in 27 European countries can be established for cohorts that have not yet reached the end of their childbearing life (Appendix Table A.7). Compared to projections issued two years ago, almost all the ranges of values calculated for the completed fertility of the 1974–1975 cohort have been revised upward, with the minimum of the new range often above the maximum of the previous one (Mazuy et al., 2011, Appendix Table A.7): the fertility rates of women above age 33 – the age of this cohort in 2008, the last observation year used for the earlier projections – thus increased more in 2009 and 2010 than the preceding trend had suggested. This is notably the case in the ten former Eastern Bloc countries, but also in seven other countries (Austria, Greece, Iceland, Norway, the United Kingdom, Sweden and

Switzerland), where the “recuperation” of births has thus been stronger than anticipated. The inclusion of data from a further two years makes the projections for the 1974–1975 cohort more certain, with the trend hypothesis appearing to be the most probable.

While in most countries of western and northern Europe completed fertility has been fairly stable since the 1964–1965 cohort, or has even risen slightly since the 1969–1970 cohort, fertility continues to fall in southern Europe, and most of all in Greece, Spain and Portugal, where the number of children per woman has fallen by between 0.21 and 0.25 over 10 cohorts (Appendix Table A.7). The decrease is even more pronounced in certain central European countries: Hungary (−0.27), Bulgaria (−0.28), Slovakia (−0.32) and most of all Romania (−0.39) and Poland (−0.24 in just 5 cohorts). It is the ten countries whose ranking dropped the furthest in these ten years that account for the difference between the two cohorts (1964–1965 and 1974–1975) (Figure 8). The record for low fertility, long held by Germany and then Italy, now belongs to Spain, with an estimated fertility of 1.41 children per woman for the 1974–1975 cohort, whereas the countries of northern Europe and France are grouped together at the top of the ranking.

For the same cohorts, mean age at childbirth has increased everywhere. The increase is generally smaller in western and northern Europe (between +0.8 years and +1.5 years over ten cohorts), where it prolongs a previous trend, than in the countries of central Europe where it began more recently (as high as +3.0 years in the Czech Republic and +3.1 years in Slovenia). It is also very large in southern Europe (+3.0 years in Greece, +2.6 years in Spain), although the shift has been under way for some time. Spain is now the country with the oldest mothers (a mean age of 31.8 in the 1974–1975 cohort); two other countries also have a mean age above 31 years (Ireland and Italy), and eight above 30. In central Europe, and above all in Bulgaria and Romania, mothers are still markedly younger (26.0 and 26.3 years, respectively); these are countries where fertility among women under 25 remains very high (see above).

I V. Abortions

Abortions at young ages have levelled off since 2006

A total of 225,127 induced abortions were recorded in France in 2010, representing a very small increase (+1%) with respect to 2009 (Vilain and Mouquet, 2012), of which 211,985 in metropolitan France (+1%) and 13,142 in the overseas *départements* (+2%). The abortion frequency indicators are thus quite stable (Appendix Table A.8): while the overall abortion rate per 1,000 women aged 15–49 increased by 1% in metropolitan France with respect to 2009 (14.8 per 1,000 in 2010), the total rate, or mean number of abortions per woman, remained stable at 0.53. Note that this indicator does not mean that 53% of women have abortions, as some women abort several times in their lives. Currently, in metropolitan France, given that a little over a third of the women who underwent induced abortions in 2010 had already done so before, the proportion of women having had at least one induced abortion in their lives can be estimated at around 35%. In the overseas *départements* (DOMs), repeat abortions are more frequent and the proportion of women having aborted at least once is higher: the total rate is slightly above one abortion per woman, and around 60% of women terminate a pregnancy at least once in their lifetime (Mazuy et al., 2011).

In the 1990s, while abortion rates among women over 25 were decreasing, abortion among younger women increased due to a higher propensity to terminate pregnancies at these ages (Rossier et al., 2009; Kafé and Brouard, 2000). As abortion rates among women under age 20 continued to increase in the 2000s, this topic became a focus of concern for health professionals and the public authorities (Nisand and Toulemon, 2006). Figure 9A shows that this upward trend halted in 2006, with a stabilization of abortion rates among minors and

women aged 18–20. From 2000, this rise was only partly due to an increased proportion of aborted pregnancies (Figure 9B), as conception rates among women under 18 went up slightly during the same period. Comparing the two most recent five-year periods (Table 4), we see that mean conception rates among minors increased slightly in 2006–2010 with respect to 2001–2005. But the relative increase in these rates is smaller than that of abortion rates; a slightly higher proportion of pregnancies were terminated. Since 2006, the conception rates of minors have been stable, as have their abortion rates (Figure 9B), so the contraceptive coverage of female minors does not seem to have fallen in recent years, although the pill has lost some ground to other hormonal methods (Bajos et al., 2012).

A highly uncertain European comparison

Using the statistical data published by Eurostat on abortions by age group, we can attempt to compare the total frequency of abortions in 2010 (total rate, Figure 10A) and the rate among women under age 20 (Figure 10B) in 21 European countries: the countries compared are the same as in Figure 8, except those which do not or no longer provide statistical data on legal abortions (Austria, Greece, Luxembourg, the Netherlands), along with Ireland where abortion remains illegal other than to save the mother's life, Portugal where its legalization is very recent, and Poland where abortion became illegal in 1997, save in exceptional cases. Among the countries considered here, France is ranked sixth for the two indicators. In terms of total frequency, Estonia (0.74 abortions per woman), Sweden (0.64), Romania (0.63), Bulgaria (0.61) and Hungary (0.58) have higher rates than France (0.52), while rates in Norway (0.52), the United Kingdom (0.50) and Denmark (0.47) are very similar. It may seem surprising, however, to find certain former Eastern Bloc countries (Latvia, Lithuania, Czech Republic, Slovakia and Slovenia) near the bottom of the ranking, and other countries in this region (Estonia, Romania, Hungary and Bulgaria) at levels very comparable to those of western countries. After all, it is known that abortion was very widespread in this region of Europe, where it was used as the principal means of birth control due to a lack of modern contraceptive methods (Blayo, 1991; Stloukal, 1999). Since the 1990s, several countries in this region have sought to limit access to abortion, or even to prohibit it, as in Poland, and published statistics everywhere indicate a rapid drop in the number of induced abortions: between 1990 and 2010 the number was divided by 10 in Romania, by 7 in Lithuania, and by between 4 and 5 in all the others apart from Hungary (2.2) and Slovenia (3.5). Although improvement in contraceptive availability and practices since the 1990s has certainly led to fewer abortions, these spectacular decreases suggest possible under-recording of abortions, notably due to poor record-keeping in the private sector, which has developed rapidly in all of these countries (David, 1999). According to analyses by David and colleagues on contraception and abortion in the various countries of central and eastern Europe, Hungary and Estonia are the only ones whose statistics are not suspiciously low. It is thus practically certain that the frequency of abortion is still higher in Bulgaria and Romania than it appears in Figure 10, and that it is also underestimated in almost all the countries in this region.

Among western countries, where recording is, in principle, more exhaustive, available data ranks France in second place behind Sweden for total frequency, and in third place behind the United Kingdom and Sweden for the rate among the youngest women. Sweden's top ranking may seem surprising, as the country is known as the first to have introduced obligatory sexual education and family planning courses in schools.⁽²¹⁾ Frequencies in Denmark and Norway, countries that are close to Sweden in cultural terms, are also similar to those of France, and two to three times higher than those in Germany and Switzerland. The latter did not liberalize access to abortion until 2002, and the number of procedures

⁽²¹⁾However, this knowledge of contraception may lead to the more frequent choice of abortion in case of accidental pregnancy. In Sweden, the proportion of pregnancies among minors terminated by an abortion is higher than in France.

reported each year rapidly stabilized at a very low level, with half of all terminations performed on women of foreign nationality (Swiss Federal Statistical Office, 2011). Moreover, the characteristics of women who have abortions in Switzerland (age, partnership status, number of children, contraceptive practices, etc.) are fairly similar to those in France, as indicated by analysis of statistical bulletins (Rossier et al., 2009) and a specific survey performed in 2007 (Vilain, 2011). It is thus quite difficult to understand why abortions are so rare in comparison to countries where contraceptive coverage is reputed to be good, Sweden in particular.

V. Civil unions (PACS), marriage and divorce

PACS statistics have become incomplete

Since the law of 28 March 2011, court clerks (*greffiers des tribunaux d'instance*) are no longer the only officials qualified to register PACS unions (*pacte civil de solidarité*, civil union between partners of the same or opposite sex): they can now be signed before the notary who drafts the agreement. While the implementing decree of this law stipulates that information on PACS unions concluded before a notary, along with any modifications or termination of PACS unions, are to be communicated in the form of anonymous statistics by the Conseil supérieur de notariat, these data have not yet reached the Ministry of Justice, which continues to publish its statistics on PACS unions recorded by court clerks (Table 5).

The data suggest that registration of PACS unions before a notary became a very popular choice as soon as the law came into force (29 March 2011), and that the number of PACS unions continued to increase in 2011. The number registered in courts continued its rise in the first quarter of 2011 (+15% relative to the same period in 2010), before falling drastically over the following three quarters (between a third and half of the number of PACS signed over the same period in 2010), leading to an apparent drop of 30% in 2011 with respect to 2010 (Table 5). Note that this observation pertains to all types of couples, as the gender distribution of persons in new PACS unions remained almost the same as in 2010: 95.3% heterosexual couples, 2.6% same-sex male couples, and 2.1% same-sex female couples.

The number of PACS dissolutions continued to increase (+18% in 2011), but this statistic too may not be exhaustive, as notaries are also authorized to register dissolutions.⁽²²⁾ While the majority of dissolutions are still by mutual consent (58%), the share of PACS dissolved because the couple decides to marry is still increasing (38%).

Marriage in decline again?

The number of marriages decreased sharply in 2011. A total of 236,800 marriages were celebrated, of which 231,100 in metropolitan France (Bellamy and Beaumel, 2013), representing a drop of more than 14,000 and nearly 6% relative to 2010 (Appendix Table A. 9). This too is a historic record: the number of marriages in France has never been so low in peacetime. After levelling off in 2010, this new drop confirms couples' growing disaffection with marriage, despite a short-lived rebound at the end of the 1990s. Since its last maximum, attained in 2000 – 305,200 marriages, including 297,900 in metropolitan France – the number of marriages has dropped by more than a fifth, while more and more couples seem to have opted for a PACS union (196,400 heterosexual PACS unions were registered in 2010, versus 251,700 marriages), although in certain cases, these PACS are followed by marriage (Table 5).

⁽²²⁾It is probable, however, that those wishing to dissolve a PACS signed before a court will continue to return to the court rather than go to a notary.

The number of mixed marriages between a French national and a foreign national rose rapidly between 1994 (23,900) and 2003 (47,500), thus contributing to the marriage uptrend from 1994 to 2000, then helping to slow its decline. Since 2003, this has no longer been the case: in 2010,⁽²³⁾ only 30,765 mixed marriages were celebrated in France, including 30,019 in metropolitan France, representing a drop of more than a third in seven years.⁽²⁴⁾ The proportion of mixed marriages among marriages celebrated in France thus fell from 17% in 2003 to 12.2% in 2010. The marriages that have declined are mainly those between a woman of French nationality and a foreign husband – a configuration accounting for most of such marriages in 2003 – primarily for non-EU nationalities (–47% since 2003, according to Beaumel and Pla, 2012, Table T9 bis), with the reverse configuration (French husband, wife from a non-EU foreign country) having declined somewhat less (–27%). However, mixed marriages with a spouse who is an EU national have also decreased substantially since the 2000s, notably for French women.

With share of marriages between two foreign nationals remaining fairly stable (around 3%), the proportion of marriages between two French nationals has increased since 2003: it reached 84.9% in 2010 versus 80.1% seven years earlier (79.9% in metropolitan France). The total number of marriages between French citizens has also gone down since 2003 (–6% in metropolitan France), and particularly since 2000 (–19%), despite a slight rise between 2009 and 2010. Mixed marriages and marriages between French citizens have thus both contributed to the marriage decline in France.

A growing proportion of never-married in successive cohorts

The number of marriages stabilized in 2010 due to a slight rise in the number of first marriages (Appendix Table A.9), while remarriages of widows/widowers and divorced people continued to decrease. The share of marriages of never-married individuals thus increased slightly in 2010: 79.4% of men and 81.5% of women who married in 2010 had never previously married (+0.2 percentage points with respect to 2009), and 71.4% of marriages united two never-married individuals. This probably represents only a momentary break in the downward trend, both in the number and in the share of first marriages: in 2000, there were far more first marriages (almost 300,000 in metropolitan France) and the share of never-married individuals among newlyweds was still 81.5% for men, 82.4% for women, and 73.4% for both spouses.

This slight increase in first marriages in 2010 does not, however, reflect an upturn in marriages among never-married people, and total first marriage rates have stabilized (Appendix Table A.9): the sum of rates remained below 50 first marriages per 100 men or per 100 women, and overall probability, which offers a better measure of the marriage probabilities of never-married people, remains at the lowest level ever observed: 54% for men and 56% for women. These last values are probably close to the likely frequency of first marriages before age 50 among men and women born in the 1980s. These frequencies, with a current estimate of 63% of men in the 1973 cohort, and 65% of women from the 1975 cohort, have continued to decrease by nearly one percentage point per year of birth (Appendix Table A.10). Mean age at first marriage (before age 50) in the same cohorts is estimated at 30.6 years for men and 28.9 years for women, and continues to increase at a rate of more than 0.1 year per year of birth.

⁽²³⁾Detailed data on marriages in 2011 are not yet available.

⁽²⁴⁾This drop in mixed marriages in France, which followed a tightening of the conditions required to celebrate these marriages (law of 26 November 2003) was initially offset by an increase in the number of marriages celebrated abroad and then registered in France. This has no longer been the case since 2006, following a considerable reinforcement of formalities and controls on such marriages. Nevertheless, the overall decline in registrations of marriages contracted abroad is small compared to that of mixed marriages in France since 2003: according to the *Rapport au Parlement* [Report to Parliament] (2011), 50,360 foreign marriages were registered in 2006 and 46,661 in 2010.

The share of divorces by mutual consent continues to increase

After increasing in 2010, the number of divorces levelled off in 2011, with 132,977 divorces pronounced (direct divorces and conversions of legal separations), of which 129,802 in metropolitan France, around 1,000 fewer than in 2010 (Appendix Table A.9). The shift in types of procedures continues, with a further increase in the number of divorces by mutual consent in 2011, representing 57.2% of divorces pronounced that year. They have partly replaced contested divorces, whose number dropped by 4,100 in 2011 (−6.7%) and above all fault-based divorces, which represented only 8.1% of divorces pronounced in 2011, and are now less numerous than divorces on grounds of “irretrievable marriage breakdown”.

The slight decrease in the number of divorces pronounced in 2011 corresponds to a stabilization of the total divorce rate, which stood at 46.2 divorces per 100 marriages in 2011, as in 2010 (Appendix Table A.9). However, this stability conceals a decrease in divorce rates for the most recent marriages (marriage duration below 6–7 years) and a slight increase in rates at intermediate durations (10–30 years), with rates for longer durations remaining stable.

Divorce risks are lower among the oldest age groups, but have increased sharply

We know that the probability of divorce reaches its maximum around 5 years after marriage, and then decreases progressively as the marriage duration increases; but we also know that it is among the longest marriages that the risk has increased most since the 1980s (Mazuy et al., 2011). How does the risk of divorce evolve with age? Is there a “critical age” for divorce? Have divorce risks really increased much more among the oldest people?

We estimate divorce risks (or probabilities) at each age for married men and women on the basis of age-specific divorce rates, calculated using the relation between the number of newly divorced people by age⁽²⁵⁾ and the mean number of married people in the same cohort at the beginning and end of the year.⁽²⁶⁾ Figure 11A shows that the probability of divorce is highest among the youngest married women, and decreases with age, although since the 2000s a pause in the downward trend with age is observed at around age 35. For men (figure not shown), the pattern is slightly different. The youngest men are slightly less likely to divorce than those aged 30–35, with a small peak at around age 30 in the 1980s and around age 35 since the 2000s, followed by a progressive decrease in risk. Among the youngest women, the probability of divorce is thus higher than for men of the same age, but then falls slightly below that of men, starting at age 30 in the 1980s and around 40 today.

For both men and women, risks at each age have evolved in a fairly comparable fashion since 1970. The increase was first seen in the youngest age groups, thus accentuating differences by age among women. Over the 1980s and 1990s, the highest relative increase in divorce risk shifted towards later ages, and in the 2000s, up to the age of 70 years, the relative risk increased with age. Thus, in forty years, divorce risks have been multiplied by more than 5 at ages 40–70 for women, and at ages 45–70 for men, by 4 to 5 for women under 40, and by 3 to 5 for men under 45. Above age 70, the coefficient of multiplication drops rapidly with age, falling to below 3 after age 75. However, given that these coefficients apply to risks that decrease with age, divorce risk among septuagenarians remains fairly low. But around age 60, it is now far from negligible: in 2010, a 60-year-old married woman had a 4.6 per 1,000 probability of divorce, the same as a woman aged 55 in

(25) As INSEE does not publish statistics on divorce by year of age above age 55, we thank Sophie Pennec (INED) for providing us with an estimated age distribution of divorces at these ages established for a study of her own (Pennec and Gaymu, 2011). Starting in the 2000s, we use the more detailed statistics provided by the Ministry of Justice.

(26) We use populations by age and marital status published by INSEE: http://www.insee.fr/fr/methodes/sources/pdf/revision_des_estimations_population.pdf

2000, 52 in 1990, 45 in 1980 and 37 in 1970. At the same age, a man's probability of divorce is currently 6.0 per 1,000, the same as that of a 31-year-old man in 1970.

Figure 11B presents the risks of divorce at each age for women across birth cohorts. While the trend of decreasing risks with age is confirmed overall, there are some noteworthy exceptions. Between the cohorts of 1940 and 1955, a maximum risk seems to emerge, but it is not very pronounced and occurs at an increasingly early age (45 years in the 1940 cohort, 30 years in the 1955 cohort). The curves of the following cohorts are strongly affected by social developments, particularly by the sharp increase in divorces in 2005, the year after a new divorce law was introduced to simplify procedures for divorce by mutual consent. The after-effects of this exceptional rise led to a temporary criss-crossing of these curves, before a return to the pattern of decreasing risk with age. These curves provide scant evidence of a critical age for divorce, and the same is true for men, whose divorce trends over time are very similar, with no sign of a peak in divorces around age 50 or 60.

This figure also demonstrates the existence of a certain “generation gap” in female divorce trends. While each cohort divorces more than the preceding ones (apart from exceptions linked to the year 2005), a clearer gap can be observed between the curves for the cohorts of 1945 and 1950, supporting the idea that the first baby boom cohorts pioneered these new behaviours (Bonvalet et al., 2011). Among men, this break is less marked, however, and extends over a longer period, between the 1935 and 1945 cohorts, born before the baby boom.

VI. Mortality

Continuous progress in life expectancy at birth

The number of deaths in 2011 is provisionally estimated at 545,100 for all of France, of which 534,000 in metropolitan France and 11,000 in the overseas *départements*. The crude mortality rate was 8.5 per 1,000 inhabitants. For the country as a whole, life expectancy at birth is estimated at 78.4 years for men and 85.0 years for women (78.5 and 85.0 years in metropolitan France), which represents a gain of 5 and 4 months, respectively, since 2010 and a gender gap that remains stable (Appendix Table A.11). The year 2011 was particularly favourable due to the absence of large epidemics. By contrast, the extent of the flu epidemic in early 2012 suggests that life expectancy is likely to have stagnated in 2012.

The regularity of the increase in life expectancy at birth since 1970 is striking (Figure 12). After particularly rapid growth in the post-war period, followed by a slowdown in the 1960s, life expectancy has returned to a pattern of rapid progress, with around 3.4 months of life gained per year for women and 3.7 months for men (Pla and Beaumel, 2012). The heat wave of 2003, which led to 15,000 excess deaths, briefly interrupted this progression, but the measures implemented in its aftermath enabled life expectancy at birth not only to catch up but also to durably establish a new and more favourable trajectory (Toulemon and Barbieri, 2008).

France near the European average

In 2010, the most recent year for which we have comparative data, France was close to the European average for life expectancy at birth (Appendix Table A.12), with no notable change with respect to 2009. The country continued to occupy a position near the top of the ranking for women (84.6 years),⁽²⁷⁾ just behind Switzerland (84.8) and Spain (85.3) (Figure 13).

²⁷This figure is based on data from all *départements*. In metropolitan France, female life expectancy was 84.7 years in 2010.

The French position has long been less favourable for men (life expectancy at birth of 78.0 years in 2010 for the country as a whole).⁽²⁸⁾ Several countries in western Europe (Ireland, the Netherlands, the United Kingdom and Switzerland), northern Europe (Iceland, Norway, and Sweden) and even southern Europe (Spain, Greece and Italy) – a region that had long lagged behind – have higher male life expectancies than France. Germany has a similar ranking. On the other hand, all the countries of eastern Europe, along with a few countries which are relatively well-off in economic terms, such as Austria, Belgium, Denmark and Finland, have lower male life expectancies than France (Figure 13).

Relatively high premature mortality

An analysis by age group shows that France is particularly well-placed in terms of mortality at advanced ages, but that it is closer to the mean for mortality before age 65.⁽²⁹⁾ For mortality in the youngest groups (below 15 years and 15–25 years), France ranked ninth in 2009 (out of 20 countries)⁽³⁰⁾ for males, and eighth and seventh, respectively, for females. Although its European ranking for young adult mortality has improved, its ranking for child mortality has fallen (see also Appendix Table A.13). In 1980, France stood in sixth and fifth place, respectively, for male and female mortality in the youngest age group, but in fifteenth and seventeenth place, respectively for mortality at 15–25 years.

At ages 25–65, the French position remains stable, close to the European median. At ages 25–45 years, it has fluctuated between eighth and twelfth place since 1980. The following age group (45–65 years) is the only one whose situation differs greatly between the sexes. While male mortality has long remained close to the median, as for the 25–45 group, women in this age group have been much nearer to the top of the ranking (between second and fourth places) throughout the period under consideration (1980–2009).

Particularly low mortality at advanced ages

Among European countries, France has had the lowest female probability of dying at ages 65–80 for more than thirty years, and has been vying with Sweden for the top of the male ranking since 1987 (Figure 14).

France has also been at the top of the European ranking for life expectancy at age 80 since 1986 for women and, in competition with Spain, since the same date for men (Figure 15).

A decreasing gender gap in life expectancy

The gender gap in life expectancy (6.6 years in 2011, as in the two previous years) remains higher in France than in most other European countries, apart from the countries of eastern Europe, where it ranges from 6.7 years in Slovenia to 10.9 years in Lithuania (Appendix Table A.12). As shown in Figure 16, the gender gap has nevertheless narrowed since the mid-1990s, having remained above 8 years over the preceding 15 years.

The narrowing of the gender gap in life expectancy in France is due mainly to differences in male and female mortality trends at ages 30–75. Specifically, it results from an improvement which has accelerated for men and slowed down for women (Meslé, 2006). Male life expectancy was 5.3 years higher in 2008–2010 than in 1988–1990, versus only 3.8 years for females.

²⁸78.0 years for metropolitan France.

²⁹The analysis covers all European countries for which a continuous series of mortality tables is available for the period 1980–2009 in the Human Mortality Database (see Figure 13).

³⁰Ranked by increasing order of mortality at a given age (the top-ranking country has the lowest mortality at that age).

Figure 17 illustrates excess male mortality at each age based on INSEE three-year life tables for the years 1978–1980, 1988–1990, 1998–2000 and 2008–2010. For all periods, the gap in favour of females is particularly marked among young adults (ratio above 3.0 at ages 22–27 in the 2008–2010 table) and again around age 60 (ratio above 2.3 at ages 55–66 years). The gap is smallest at very young and very advanced ages (ratio of 1.2 for probability of dying before age 5 and at age 98+). Over time, the curve has progressively shifted to the right, and excess male mortality has decreased in children and around age 60. The narrowing of the gender gap in life expectancy at birth can thus be attributed to slower progress in survival probabilities for women than for men at these ages (Table 6). Among the oldest people (from around 80 years), by contrast, the gender gap in favour of women continues to grow.

Improvement at all ages since 1980

Table 6 presents probabilities of dying by sex and age for the years 1978–1980 and 2008–2010, as well as their relative decrease over this thirty-year period. The greatest drop in mortality was for those under age 25: the risk of dying between birth and the 25th birthday dropped from 33 per 1,000 to 12 per 1,000 for men and from 19 per 1,000 to 7 per 1,000 for women, i.e. between 60 and 70% (see also Beaumel and Pla, 2012).

Gains at ages 25–80 were also considerable, with the risks of death falling by between 35% and more than 45% over this period. A boy born today who was exposed to the 2008–2010 mortality conditions throughout his entire life would have a 55% chance of celebrating his 80th birthday, versus a 31% chance thirty years earlier. For a girl, these proportions would be 75% and 57%, respectively. Among those reaching their 65th birthday, 66% of men and 82% of women will live to age 80 according to the 2008–2010 life table, versus 44% and 66%, respectively, according to that of 1978–1980.

Again according to the INSEE three-year life tables, in 2008–2010, men reaching the age of 80 years could expect to live another 8.3 years and women 10.6 years, whereas in 1978–1980 life expectancy at age 80 was 6.1 and 7.6 years, respectively. This represents a gain of 2.3 and 3.0 years, respectively, in thirty years.

Despite considerable progress in mortality among the under-25s, the effect on life expectancy at birth of mortality gains at these ages is decreasing steadily because the risks of death among the youngest people have reached a very low level. Table 7 presents the contribution of each age group, in years, to life expectancy gains over the three ten-year periods for each sex. Only 8% of the gains over the last period in men, and less than 6% in women, are attributable to mortality gains below age 45. Conversely, 75% of the years of life gained by men and 85% of those gained by women over the same period were due to progress in mortality above age 65, most of which occurred above age 80: respectively 42% and 66% of the total years gained. These considerable proportions reflect the growing weight of mortality at advanced ages in the overall trend.

The specific case of infant mortality

France's falling European ranking in terms of probability of dying before age 15 years is partly explained by a stagnation, or even a slight rise, in infant mortality over the years 2005–2009 (Niel, 2010), which contrasts with the continuous progress recorded in many other European countries. However, according to provisional INSEE data, French infant mortality started decreasing again in 2010, falling from 3.7 to 3.5 per 1,000 between 2009 and 2010, and then to 3.4 per 1,000 in 2011. Despite a less auspicious period in the 2000s, the infant mortality rate has fallen by a quarter in ten years, disproving expectations of a

slower pace of decrease after the extremely low level attained in 2001 (4.5 per 1,000) (Table A.11).

This progress mainly concerns the post-neonatal period (from 28 days to the first birthday), with neonatal mortality (first four weeks of life) having stabilized since 2005 at around 2.3–2.4 per thousand. These trend differences in the components of infant mortality are in keeping with a long-term trend (Barbieri, 1998); since the 1950s, mortality gains during the first month of life have been achieved more slowly than those in the post-neonatal period. The period 1980–1990 constitutes an exception, however, with an acceleration of the decrease in neonatal mortality, while post-neonatal mortality stagnated or even increased slightly. Mortality at ages 1–11 months over this period very closely followed that of sudden infant death syndrome (SIDS), the leading cause of death in this age range, which increased considerably over the 1980s as a result of recommendations to parents to lay infants on their stomachs. It then stabilized at a high level for a decade before dropping sharply thanks to information campaigns initiated in 1994 advising parents to lay infants on their backs or sides (Mésle, 2000; Sénécal et al., 1999) (Figure 18).

Cancer mortality in slow decline

An examination of causes of death sheds some light on recent mortality trends. The distribution of deaths by medical cause of death is known thanks to statistics established by the National Institute of Health and Medical Research (INSERM) up to 2009, the most recent year for which data is available (Table 8).

Since 1992, cancers have surpassed cardiovascular diseases as the leading cause of death in France. This shift occurred a decade earlier in men (1988) than in women (1999). While the standardized mortality rate from cardiovascular diseases reached a peak around 1940 for both sexes and has been decreasing steadily ever since, the cancer mortality rate increased until 1951 in women and 1979 in men, and has since been dropping at a much slower rate. The standardized mortality rate from cardiovascular diseases was 161 per 100,000 in men and 91 per 100,000 in women in 2009, a 61% drop for men and a 63% drop for women in thirty years, whereas cancer mortality rates remained at 239 and 121 per 100,000 in 2009, i.e. 25% and 18% lower than in 1980 (Appendix Table A.14). Today, a quarter of overall mortality is attributable to cardiovascular diseases and more than a third to cancers, with very similar proportions for both sexes (Table 8). Lung cancer and colorectal cancer are two of the three most lethal cancers in both men and women, with the third being prostate cancer in men and breast cancer in women. “Other diseases”, whose composition varies considerably between age groups, were the third major group of causes of death in 2009.

The principal causes of death by age group

In 2000, as in 2009, the majority of infant mortality (76% and 83%) was attributable to causes listed in just two of the twenty chapters of the International Classification of Diseases (10th revision): conditions originating in the perinatal period (principally complications of pregnancy, labour and delivery, respiratory diseases and infections; Aouba et al., 2011) and congenital malformations, deformations and chromosomal abnormalities. Excluding deaths whose cause is unknown or was improperly declared, these two groups of causes represent around half and a quarter of infant mortality, respectively, and their share is constantly growing, reflecting the increasing contribution of mortality in the first days of life to overall infant mortality. They are also the two leading causes of death at ages 0–15 years, with 70% of all deaths in this group concentrated in the first twelve months of life.

At ages 15–24 years, deaths from external causes are predominant, with three-quarters of the standardized rate attributable to this group of causes in men, and over half in women. Traffic

accidents account half of this mortality at these ages for both sexes, and suicides a quarter in men and a third in women. In this age group, female mortality is around three times lower than that of males, however.

Deaths from external causes also account for the highest proportion of male deaths in the 25–44 year age group, with a particularly high prevalence of suicide and a smaller contribution from traffic accidents than in the 15–24 age group. For women, cancers are already predominant. It is between the ages of 45 and 80 years, however, that cancer takes the heaviest toll, representing 45–60% of mortality at these ages for both sexes, versus 25% for men and 18% for women after age 80, the age at which cardiovascular diseases become the biggest killer.

The hierarchy of cancers varies from one age group to another. Among men, lung cancer accounts for more than a third of cancer mortality at ages 45–65, slightly more than a quarter at ages 65–80, and 15% above age 80. Colorectal cancer represents 7–12% of cancer deaths starting at age 45, and the share of prostate cancer rises from 2% in the 45–65 age group to 20% at age 80 and above. Among women, the most frequent cancer sites are the breast (24% of all cancers at ages 45–65 and 18% at ages 65–80), followed by the lung (20% and 12%) and finally the colon/rectum (8% and 11%) but the latter becomes predominant from age 80 (16% of cancer mortality versus 14% for breast cancer and less than 7% for lung cancer). These differences between age groups reflect both age effects (prostate cancer in particular) and cohort effects (notably due to differences in smoking behaviour).

Starting at age 80, the greatest concern is the rise in mortality due to “other diseases” and, in particular, to senile dementias, of which Alzheimer’s disease accounts for 60%. While over the last thirty years the standardized mortality rate from cardiovascular diseases has gone down by nearly half and the cancer death rate has remained very stable, the mortality rate from senile dementias has been multiplied by nearly five (from 185 per 100,000 in 1980 to more than 844 in 2009). It is difficult, however, to distinguish between the contributions of diagnostic improvements, changes of practice in medicine and certification, and real growth in the prevalence of this pathology.

Overview

The growth of the French population in 2011 (+347,000 inhabitants) was very similar to that of 2010, and was again due mainly to natural growth. The country thus had a population of 65.4 million inhabitants on 1 January, including 2.1 million in the overseas *départements*. The age structure of the French population is slightly younger than that of the European Union as a whole, thanks to a mean birth rate that has remained above the EU average for 20 years.

On 1 January 2009, 5.3 million immigrants were counted in metropolitan France (8.5% of the resident population), representing an increase of one million since 1999. Africa is now the leading continent of origin of immigrants to France (43%), ahead of Europe. While Algeria, Morocco and Tunisia are still the principal countries of origin (30% of the total), sub-Saharan Africa makes up an increasing proportion of the total (13% of all immigrants in 2009).

Fertility decreased slightly in 2011, with a total fertility rate of 2.01 children per woman, 1.99 in metropolitan France – a decrease of 1.1%. The relatively high level of fertility in France is explained, at least partly, by the low proportion of women who remain childless: in 2006–2010, the total first-birth fertility rate was 0.88 children per woman on average. Completed fertility reached an all-time low in the 1971 and 1972 cohorts, however, at 1.99 children per woman. The subsequent cohorts have a somewhat higher number of offspring

(2.04 children per woman), putting France in third place in Europe, behind Iceland and Ireland.

The number of abortions remained virtually stable in 2010 (225,000, or +1%). The total rate remained stable (0.53 abortions per woman), and abortion rates among women under 20 stopped increasing in 2006. While the total frequency of abortions and the abortion rate among women under 20 are lower than those of Sweden and close to those of the United Kingdom, they are relatively high in comparison to other European countries, according to statistics published by Eurostat.

The number of PACS unions probably continued to increase in 2011, but the statistics published by the ministry are currently incomplete as they do not include PACS contracts signed before a notary, an option that became legally possible on 29 March 2011. The number of marriages (241,000 in 2011) reached a historically low level. The proportion of men and women who marry at least once in their lives continues to decrease from one cohort to the next, and age at marriage continues to rise.

The number of divorces was stable in 2011 (133,000), as was the total divorce rate (46.2 divorces per 100 marriages); the proportion of divorces by mutual consent continued to rise. Analysis of divorce risk by age (among those still married at that age) shows that it decreases with age, and that there is no critical age for divorce. However, over the last decade, up to the age of 70 years, the relative increase in risk has been greater among the oldest people.

With a life expectancy at birth of 78.4 years for men and 85.0 years for women, mean life expectancy continued to increase in 2011. While France is still highly ranked in Europe for women, its position for men is not as good. For both sexes, premature mortality (before 65 years) is close to the European mean, whereas mortality at advanced ages has remained the lowest or among the lowest for thirty years. The gender gap in mean length of life remains relatively large, despite a narrowing over the last fifteen years. Excess male mortality has fallen at ages 40–70, but has increased slightly above age 70, progress having been faster in this age range for women. The ongoing increase in life expectancy at birth is mainly attributable to decreasing mortality above age 65; while mortality among younger people continues to fall for both sexes, it has become so low, particularly among women, that it no longer substantially affects trends in mean length of life.

Cancers have become the leading cause of death, ahead of cardiovascular diseases. While deaths from external causes dominate mortality at young ages, cancer is the leading cause of death starting in the 25–44 age group in women, and the 45–64 age group in men. Beyond age 80, cardiovascular diseases predominate, and “other diseases,” particularly senile dementias, including Alzheimer’s disease, account for a growing proportion of deaths.

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Statistical Appendix

Table A.1

Population change (in thousands) and crude rates (per 1,000)(¹)

Year	Mid-year population	Live births	Deaths	Growth			Crude rates (per 1,000)			
				Natural increase	Net migration	Total	Birth rate	Death rate	Growth	
									Natural increase	Total
1985	55,284	768	552	+216	+38	+254	13.9	10.0	+3.9	+4.6
1990	56,709	762	526	+236	+80	+316	13.4	9.3	+4.1	+5.6
1995	57,844	730	532	+198	+40	+238	12.6	9.2	+3.4	+4.1
2000	59,062	775	531	+244	+70	+314	13.1	9.0	+4.1	+5.3
2001	59,476	771	531	+240	+85	+325	13.0	8.9	+4.1	+5.5
2002	59,894	762	535	+226	+95	+321	12.7	8.9	+3.8	+5.4
2003	60,304	761	552	+209	+100	+309	12.6	9.2	+3.4	+5.1
2004	60,734	768	509	+259	+105	+364	12.6	8.4	+4.2	+6.0
2005	61,181	774	528	+247	+95	+342	12.7	8.6	+4.1	+5.6
2006	61,597	797	516	+281	+115	+395	12.9	8.4	+4.6	+6.4
2007	61,965	786	521	+265	+75	+340	12.7	8.4	+4.3	+5.5
2008	62,300	796	532	+264	+67	+331	12.8	8.5	+4.2	+5.3
2009	62,615	793	538	+255	+44	+300	12.7	8.6	+4.1	+4.8
2010 *	62,927	802	540	+262	+62	+324	12.7	8.6	+4.2	+5.1
2011 *	63,249	793	544	+258	+62	+320	12.5	8.5	+4.1	+5.1

¹ Population and rates revised after the 2010 census.

* Provisional.

Population: Metropolitan France.

Source: INSEE, Demographic Surveys and Studies Division, Bellamy and Beaumel (2013).

Table A.2

Age distribution of the population on 1 January (%)

Age group	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011*	2012*
0–19	29.2	27.8	26.1	25.6	25.0	24.9	24.8	24.7	24.6	24.5	24.5	24.5
20–59	52.7	53.2	53.8	53.8	54.1	54.0	53.8	53.3	53.0	52.7	52.2	51.8
60+	18.1	19.0	20.1	20.6	20.9	21.1	21.4	22.0	22.4	22.8	23.3	23.7
<i>including:</i>												
65+	12.8	13.9	15.0	16.0	16.5	16.6	16.5	16.6	16.7	16.8	16.9	17.3
75+	6.3	6.8	6.1	7.2	8.1	8.3	8.5	8.6	8.8	8.9	9.0	9.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Provisional.

Population: Metropolitan France.

Source: INSEE, Demographic Surveys and Studies Division, series revised after the 2010 census.

Table A.3

Legal long-term immigration of foreign nationals (adults and minors) from the European Economic Area (EEA) and from countries without freedom of movement rights in Europe

Year admitted for residence	EEA nationals*			Non-EEA nationals			Total admissions
	Adults	Minors	Total	Adults	Minors	Total	
1994	43,885	3,812	47,697	60,272	11,594	71,866	119,563
1995	41,118	3,305	44,423	54,123	7,634	61,757	106,180
1996	40,082	3,176	43,258	55,676	7,052	62,728	105,986
1997	38,485	2,821	41,306	78,620	7,505	86,125	127,431
1998	40,092	2,941	43,033	99,638	13,208	112,846	155,879
1999	40,064	2,727	42,791	89,698	12,631	102,329	145,120
2000	40,325	2,957	43,282	105,263	11,883	117,146	160,428
2001	39,406	3,146	42,552	127,287	12,855	140,142	182,694
2002	39,729	3,015	42,744	148,536	14,427	162,963	205,707
2003	39,012	3,073	42,085	158,504	14,808	173,312	215,397
2004	39,273	3,944	43,217	153,035	15,611	168,646	211,863
2005			52,600	151,396	13,291	164,685	207,285
2006			51,765	150,983	9,972	160,955	212,720
2007			55,000	134,859	9,799	144,658	199,658
2008			55,000	146,550	9,506	156,056	211,056

* European Union member states + Iceland, Liechtenstein and Norway; enlargement from 14 to 24 countries from 2004; from 24 to 26 from 2007 with the entry of Bulgaria and Romania.

Pursuant to the Act of 26 November 2003, foreign nationals of the 14 old EU member states are no longer required to hold a residence permit. A provisional estimate of 40,000 admissions of these EU nationals from 2004 to 2007 was introduced to correct the resulting under-estimation. From 2005, figures are estimated from annual census survey data.

Sources: First residence permits with a validity of at least one year granted to foreign nationals arriving in France as adults: Ministry of the Interior (AGDREF) (calculated by INED). From 2006, entries of minors are also counted on the basis of data collected by the Ministry of the Interior (and no longer by the ANAEM, Agence nationale de l'accueil des étrangers et des migrations, as previously).

Table A.4

Fertility since 1970

Year	Sum of age-specific rates (per 100 women)			Mean age at childbearing		Non-marital fertility	
	15-27	28 and over	Total (TFR)	All births	First births ⁽¹⁾	Sum of age-specific rates (per 100 women)	Share in total fertility (%)
1970	143	104	247	27.2	23.9	16	6.4
1975	118	74	193	26.7	24.1	16	8.5
1980	116	78	194	26.8	24.5	22	11.4
1985	99	82	181	27.5	25.2	36	19.6
1990	84	94	178	28.3	26.0	53	30.1
1995	69	102	171	29.0	26.8	65	37.9

Year	Sum of age-specific rates (per 100 women)			Mean age at childbearing		Non-marital fertility	
	15–27	28 and over	Total (TFR)	All births	First births ⁽¹⁾	Sum of age- specific rates (per 100 women)	Share in total fertility (%)
2000	69	119	187	29.4	27.4	81	43.2
2001	69	119	188	29.4		83	44.3
2002	67	119	186	29.5		84	44.7
2003	66	121	187	29.5		86	45.6
2004	67	123	190	29.6	27.6	89	46.8
2005	66	126	192	29.7	27.7	92	47.9
2006	67	131	198	29.8	27.8	98	49.7
2007	65	131	196	29.8	27.9	100	50.9
2008	66	133	199	29.9	27.9	103	51.6
2009	66	134	199	29.9	28.0	104	52.9
2010 *	66	136	202	30.0	28.1	109	54.2
2011 *	64	136	200	30.1		110	55.2

* Provisional.

Coverage: Metropolitan France.

Sources: INSEE, Surveys and Demographic Studies Division. Series revised after the 2010 census except :

¹ 1970–1995: Laurent Toulemon, from EHF (Study of Family History) 1999; 2000: estimate based on vital records; 2004–2010: Davie and Niel (2012) Table 3.

Table A.5

Cohort fertility: cumulative fertility up to selected ages, estimated completed fertility (mean number of children per 100 women), and mean age of childbearing (in years and tenths of years)

Birth cohort	Cumulative fertility per 100 women (age in completed years)				Projection at constant rate *		Trend projection **	
	24	29	34	39	Completed fertility	Mean age at child- bearing	Completed fertility	Mean age at child- bearing
1930	90	177	231	256	263	27.5	263	27.5
1935	89	181	233	254	258	27.1	258	27.1
1940	96	181	225	238	241	26.4	241	26.4
1945	99	174	206	219	222	26.0	222	26.0
1950	89	154	192	207	211	26.5	211	26.5
1955	77	148	190	209	213	27.0	213	27.0
1960	66	139	184	206	212	27.7	212	27.7
1961	63	135	181	203	209	27.9	209	27.9
1962	60	131	179	202	208	28.1	208	28.1
1963	56	127	176	200	207	28.3	207	28.3
1964	53	122	173	198	205	28.5	205	28.5
1965	49	118	170	196	204	28.7	204	28.7

Birth cohort	Cumulative fertility per 100 women (age in completed years)				Projection at constant rate*		Trend projection**	
	24	29	34	39	Completed fertility	Mean age at child-bearing	Completed fertility	Mean age at child-bearing
1966	46	114	168	195	202	28.9	202	28.9
1967	44	111	167	194	202	29.1	202	29.1
1968	42	109	166	193	201	29.2	201	29.2
1969	39	105	163	192	200	29.4	200	29.4
1970	37	103	162	192	200	29.5	200	29.6
1971	35	100	160	191	199	29.7	199	29.7
1972	33	98	159	191	199	29.8	199	29.9
1973	32	97	159		200	29.9	201	29.9
1974	31	96	160		200	29.9	202	30.0
1975	30	96	161		201	30.0	204	30.1
1976	30	95	160		201	30.0	205	30.2
1977	31	96	161		203	30.0	207	30.2
1978	31	95						
1979	31	96						
1980	31	95						
1981	32	96						
1982	32	96						
1983	31							
1984	32							
1985	31							
1986	31							
1987	31							

* For the 1930–62 cohorts, observed completed fertility and mean age of childbearing; for later cohorts, unobserved rates are assumed equal to rates observed at the same age in 2011.

** For the 1930–62 cohorts, observed completed fertility and mean age of childbearing; for later cohorts, unobserved rates have been estimated by extrapolating the trend of the last 15 years.

Population: Metropolitan France.

Source: Calculations and estimates based on data from INSEE, Demographic Surveys and Studies Division.

Table A.6

Total fertility rates in Europe (children per woman)

	Year											
	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011 ⁽¹⁾
Austria	1.65	1.47	1.46	1.42	1.36	1.40	1.40	1.38	1.41	1.39	1.44	1.42
Belgium	1.68	1.51	1.62	1.56	1.67	1.76	1.80	1.81	1.86	1.84		
Bulgaria	2.05	1.97	1.82	1.23	1.26	1.32	1.38	1.42	1.48	1.57	1.49	1.51
Cyprus	–	–	–	2.03	1.64	1.42	1.45	1.39	1.46	1.51	1.44	1.35
Czech Republic	2.10	1.96	1.90	1.28	1.14	1.28	1.33	1.44	1.50	1.49	1.49	1.43
Denmark	1.55	1.45	1.67	1.80	1.78	1.80	1.85	1.84	1.89	1.84	1.87	1.75

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	Year											
	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011 ⁽¹⁾
Estonia	–	–	2.05	1.38	1.38	1.50	1.55	1.63	1.65	1.62	1.63	1.52
Finland	1.63	1.65	1.78	1.81	1.73	1.80	1.84	1.83	1.85	1.86	1.87	1.83
France	–	–	–	–	1.89	1.94	2.00	1.98	2.01	2.00	2.03	<i>2.01</i>
France (metropolitan)	1.95	1.81	1.78	1.71	1.87	1.92	1.98	1.96	1.99	1.99	2.01	<i>2.00</i>
Germany	1.56	1.37	1.45	1.25	1.38	1.34	1.33	1.37	1.38	1.36	1.39	1.36
Greece	2.23	1.67	1.40	1.31	1.26	1.33	1.40	1.41	1.51	1.52	1.51	<i>1.43</i>
Hungary	1.91	1.85	1.87	1.57	1.32	1.31	1.34	1.32	1.35	1.32	1.25	1.23
Ireland	–	–	2.11	1.84	1.89	1.86	1.89	2.01	2.07	2.07	2.07	<i>2.05</i>
Italy	1.64	1.42	1.33	1.19	1.26	1.32	1.35	1.37	1.42	1.41	1.41	
Latvia	–	–	–	–	–	1.31	1.35	1.41	1.44	1.31	1.17	<i>1.34</i>
Lithuania	1.99	2.08	2.03	1.55	1.39	1.27	1.31	1.35	1.47	1.55	1.55	<i>1.76</i>
Luxembourg	1.38	1.38	1.60	1.70	1.76	1.63	1.65	1.61	1.61	1.59	1.63	1.52
Malta	–	–	–	–	1.70	1.38	1.39	1.37	1.44	1.43	1.38	
Netherlands	1.60	1.51	1.62	1.53	1.72	1.71	1.72	1.72	1.77	1.79	1.79	1.76
Poland	–	–	2.06	1.62	1.35	1.24	1.27	1.31	1.39	1.40	1.38	<i>1.30</i>
Portugal	2.25	1.72	1.56	1.41	1.55	1.40	1.36	1.33	1.37	1.32	1.36	<i>1.35</i>
Romania	2.43	2.31	1.83	1.33	1.31	1.32	1.32	1.30	1.35	1.38	1.33	<i>1.25</i>
Slovakia	2.31	2.25	2.09	1.52	1.30	1.25	1.24	1.25	1.32	1.41	1.40	<i>1.45</i>
Slovenia	–	1.71	1.46	1.29	1.26	1.26	1.31	1.38	1.53	1.53	1.57	1.56
Spain	2.20	1.64	1.36	1.17	1.23	1.35	1.38	1.40	1.46	1.39	1.38	1.36
Sweden	1.68	1.74	2.13	1.73	1.54	1.77	1.85	1.88	1.91	1.94	1.98	1.90
United Kingdom	1.90	1.79	1.83	1.71	1.64	1.78	1.84	1.90	1.96	1.94	1.98	
Iceland	2.48	1.93	2.30	2.08	2.08	2.05	2.08	2.09	2.15	2.23	2.20	2.02
Norway	1.72	1.68	1.93	1.87	1.85	1.84	1.90	1.90	1.96	1.98	1.95	1.88
Switzerland	1.55	1.52	1.58	1.48	1.50	1.42	1.44	1.46	1.48	1.50	1.52	1.52

¹ Numbers in italics are provisional estimates communicated to Eurostat by national statistical offices.

Source: Eurostat (site accessed in September 2012).

Table A.7

Cohort fertility in Europe

Cohort	Completed fertility (per woman)					Mean age at childbearing (years)					Last avail- able year
	1954-1955	1959-1960	1964-1965	1969-1970	1974- 1975(¹)	1954-1955	1959-1960	1964-1965	1969-1970	1974- 1975(¹)	
Austria	1.77	1.71	1.66	1.61	1.63-1.64	25.8	26.5	27.3	28.2	28.8-28.9	2010
Belgium	1.83	1.87	1.84	1.84	1.83-1.87	26.7	27.4	28.3	29.2	29.6-29.8	2009
Bulgaria	2.04	1.96	1.84	1.66	1.56	24.0	23.7	23.6	24.3	26.0	2010
Czech Rep.	2.08	2.03	1.95	1.87	1.77-1.78	24.5	24.5	24.9	25.7	27.7-27.9	2010
Denmark	1.84	1.88	1.93	1.98	1.96-1.98	27.2	28.4	29.2	29.7	30.2-30.3	2010
Estonia				1.91	1.83-1.86				26.4	27.7-27.9	2010
Finland	1.88	1.95	1.92	1.89	1.89-1.90	27.9	28.6	29.2	29.6	30.0-30.1	2010
France (metro.)	2.13	2.12	2.04	1.99	2.01-2.04	27.0	27.6	28.6	29.5	29.9-30.1	2010
Germany	1.66	1.66	1.56	1.50	1.54-1.56	26.4	27.1	28.1	29.0	29.5-29.6	2010
Greece	2.02	1.97	1.79	1.64	1.55-1.58	25.9	26.0	27.0	28.7	29.9-30.0	2010
Hungary	1.96	2.02	1.98	1.88	1.70-1.71	24.9	25.0	25.5	26.4	27.7-27.8	2010
Ireland			2.21	2.12	2.06-2.12			30.2	31.0	31.3-31.6	2010
Italy	1.80	1.69	1.55	1.47	1.42-1.45	27.1	27.9	29.3	30.6	31.2-31.4	2010
Latvia(²)	-	-	-	-	-	-	-	-	-	-	
Lithuania	1.97	1.92	1.72	1.77	1.72-1.73	26.3	26.0	26.1	26.0	26.8	2010
Luxembourg	1.67	1.75	1.83	1.85	1.80-1.82	27.6	28.6	29.2	29.7	29.9-30.0	2010
Netherlands	1.88	1.86	1.79	1.77	1.78-1.80	28.1	29.2	30.0	30.6	30.7-30.8	2010
Poland				1.85	1.61-1.62				26.1	27-3-27.4	2010
Portugal Romania	2.03 2.33	1.90 2.16	1.83 1.94	1.69 1.63	1.57-1.58 1.55	26.2 25.0	26.4 24.5	27.4 24.2	28.3 25.2	29.0-29.1 26.2-26.3	2010 2010
Slovakia	2.23	2.17	2.05	1.92	1.73	25.2	25.0	25.0	25.4	26.8	2010
Slovenia			1.79	1.71	1.66-1.67			25.9	27.3	28.9-29.0	2010
Spain	1.93	1.80	1.65	1.50	1.37-1.41	27.2	27.8	29.2	30.6	31.6-31.8	2010
Sweden	2.02	2.05	2.03	1.98	1.96-1.99	27.9	28.6	28.9	29.6	30.6-30.7	2010
United Kingdom	2.01	1.97	1.92	1.88	1.90-1.93	27.1	27.8	28.4	28.9	29.4-29.5	2010
Iceland	2.55	2.46	2.39	2.32	2.26-2.27	26.6	27.4	28.0	28.4	29.3-29.4	2010
Norway	2.05	2.09	2.07	2.05	2.00-2.01	27.0	28.0	28.6	29.1	29.7-29.8	2010

Cohort	Completed fertility (per woman)							Mean age at childbearing (years)			Last avail- able year
	1954-1955	1959-1960	1964-1965	1969-1970	1974-1975(<i>I</i>)	1954-1955	1959-1960	1964-1965	1969-1970	1974-1975(<i>I</i>)	
Switzerland	1.75	1.78	1.69	1.65	1.63-1.65	28.0	28.7	29.5	30.2	30.7-30.8	2010

¹Two estimates are proposed. One is based on rates that remain unchanged with respect to the last observation year, the other on a continuation of the trend at each age over the last 15 observed years.

²The series of published rates (2002–2010) cannot be used to calculate and estimate completed fertility.

Sources: Calculations and estimations based on age-specific fertility rates published on the Eurostat website (site accessed in September 2012).

Table A.8

Number of induced abortions and annual indices since 1976

Year	Abortions reported in notifications ⁽¹⁾	Abortions recorded in SAE ⁽²⁾	Abortions estimated by INED ⁽³⁾	Abortions per 100 live births ⁽⁴⁾	Annual abortions per 1000 women aged 15–49 ⁽⁴⁾	Mean number of abortions per woman ⁽⁴⁾
1976	134,173		246,000	34.1	19.6	0.66
1981	180,695		245,000	30.4	18.7	0.62
1986	166,797		221,000	28.4	16.1	0.53
1990	170,423		209,000	27.4	14.8	0.49
1991	172,152		206,000	27.1	14.4	0.48
1992	167,777		206,000	27.7	14.3	0.48
1993	166,921		206,000	28.9	14.3	0.49
1994	163,180		207,000	29.1	14.3	0.49
1995	156,181	179,648	207,000	28.4	14.2	0.50
1996	162,792	187,114	207,000	28.2	14.2	0.50
1997	163,985	188,796	207,000	28.5	14.2	0.50
1998		195,960	207,000	28.0	14.2	0.51
1999		196,885	206,000	27.7	14.2	0.51
2000		192,174	206,000	26.6	14.2	0.51
2001		202,180	206,000	26.7	14.3	0.51
2002	137,497	206,596		27.1	14.3	0.51
2003		203,300		26.7	14.0	0.50
2004		210,664		27.4	14.5	0.52
2005	166,985	206,311		26.6	14.2	0.51
2006	174,561	215,390		27.0	14.9	0.53
2007	185,498	213,382		27.1	14.7	0.53
2008	180,108	209,245		26.3	14.5	0.52
2009	171,152	209,987		26.5	14.6	0.52
2010	172,505	211,985		26.4	14.8	0.53

¹ Statistics from notifications including elective and therapeutic abortions.² Hospital statistics (elective abortions only). *Source:* DREES.³ INED estimate (elective abortions). From 2002, the hospital statistics are considered exhaustive.⁴ Based on INED estimates up to 2001 and on hospital statistics from 2002.*Coverage:* Metropolitan France.*Source:* C. Rossier and C. Pirus (2007).

Table A.9

Characteristics of nuptiality and divorce since 1985

Year	Number Of marriages	Total first marriage rate				Number of divorces ^(c)	Total divorce rate per 100 marriages	Number of PACS unions	Number of PACS dissolutions
		Overall rate ^(a)		Overall probability(b)					
		Men	Women	Men	Women				
1985	269,419	0.53	0.54	0.69	0.73	107,505	30.5		
1986	265,678	0.52	0.53	0.68	0.71	108,380	31.1		
1987	265,177	0.51	0.52	0.67	0.70	106,526	31.0		
1988	271,124	0.52	0.53	0.67	0.71	108,026	31.3		
1989	279,900	0.54	0.55	0.67	0.71	107,357	31.5		
1990	287,099	0.55	0.56	0.68	0.71	107,599	32.1		
1991	280,175	0.54	0.55	0.66	0.70	106,418	33.2		
1992	271,427	0.52	0.53	0.65	0.68	107,994	33.5		
1993	255,190	0.49	0.50	0.62	0.65	110,757	34.8		
1994	253,746	0.48	0.49	0.61	0.64	115,785	36.7		
1995	254,651	0.48	0.50	0.60	0.63	119,189	38.2		
1996	280,072	0.53	0.55	0.64	0.67	117,382	38.0		
1997	283,984	0.54	0.56	0.64	0.67	116,158	38.0		
1998	271,361	0.52	0.54	0.62	0.65	116,349	38.4		
1999	286,191	0.56	0.58	0.64	0.67	116,813	38.9	6,151	7
2000	297,922	0.58	0.60	0.65	0.68	114,005	38.2	22,276	624
2001	288,255	0.57	0.59	0.64	0.66	112,631	37.9	19,632	1,872
2002	279,087	0.55	0.57	0.62	0.65	115,861	39.2	25,311	3,185
2003	275,963	0.55	0.56	0.62	0.64	125,175	42.5	31,585	5,292
2004	271,598	0.53	0.55	0.60	0.63	131,335	44.8	40,093	7,043
2005	276,303	0.54	0.55	0.60	0.63	152,020	52.3	60,473	8,690
2006	267,260	0.52	0.53	0.58	0.61	135,910	46.9	77,362	9,583
2007	267,194	0.51	0.52	0.58	0.60	131,320	45.5	102,023	22,782
2008	258,749	0.50	0.51	0.57	0.58	129,379	45.1	146,030	23,657
2009	245,151	0.47	0.48	0.54	0.56	127,578	44.7	174,562	26,933
2010	245,334	0.47	0.47	0.54	0.56	130,810	46.2	205,596	35,060
2011	231,100					129,802	46.2	144,098 ^(d)	41,732

¹ Ratios of number of first marriages to number of persons of same age, summed to age 49.² Ratios of number of first marriages to (estimated) number of never-married persons at the same age, combined to age 49.³ Direct divorces and separations converted into divorces.⁴ Only PACS signed in court. Since April 2011 notaries have been empowered to register PACS unions. These PACS are not yet included in the statistics of the Ministry of Justice.**Coverage:** Metropolitan France.**Sources:** INSEE, Division of Demographic Surveys and Studies; French Ministry of Justice.

Table A.10

Characteristics of nuptiality by birth cohort

Male birth cohort	Men			
	Proportion ever-married at age 49 [*]	Mean age at first marriage [*] (years)	Proportion ever-married	
			At age 24	At age 30
1943	0.88	24.5	0.55	0.81
1948	0.87	24.5	0.56	0.80
1953	0.85	25.0	0.52	0.75
1958	0.79	26.4	0.39	0.64
1963	0.72	28.2	0.23	0.52
1965	0.70	28.9	0.19	0.47
1967	0.68	29.4	0.16	0.44
1969	0.66	29.9	0.12	0.41
1971	0.64	30.4	0.09	0.39
1973	0.63	30.6	0.08	0.37
1975			0.06	0.34
1977			0.06	0.32
1979			0.06	0.29
1981			0.05	
1983			0.05	
1985			0.04	
Female birth cohort	Women			
	Proportion ever-married at age 49 [*]	Mean age at first marriage [*] (years)	Proportion ever-married	
			At age 22	At age 28
1945	0.92	22.3	0.59	0.86
1950	0.90	22.6	0.57	0.83
1955	0.87	22.9	0.53	0.77
1960	0.82	24.3	0.42	0.67
1965	0.75	26.3	0.24	0.54
1967	0.73	26.9	0.19	0.50
1969	0.70	27.5	0.15	0.46
1971	0.68	28.1	0.12	0.43
1973	0.67	28.6	0.09	0.40
1975	0.65	28.9	0.07	0.38
1977			0.07	0.36
1979			0.06	0.33
1981			0.06	0.30
1983			0.05	
1985			0.05	
1987			0.04	

^{*} Unobserved marriage probabilities are assumed to be stable at the average level observed in 2010.

Coverage: Metropolitan France.

Source: Calculations and estimates based on INSEE dat

Table A.11

Characteristics of overall mortality since 1985

Year	Life expectancy (years)				Mortality rate (per 1,000 live births)		Survivors at age 60 (per 1,000 at birth)	
	At birth		At age 60		Infant ⁽¹⁾	Neonatal ⁽²⁾	Male	Female
	Male	Female	Male	Female				
1985	71.3	79.4	17.9	23.0	8.3	4.6	803	913
1986	71.5	79.7	18.1	23.2	8.0	4.3	807	915
1987	72.0	80.3	18.4	23.7	7.8	4.1	814	918
1988	72.3	80.5	18.7	23.9	7.8	4.1	816	919
1989	72.5	80.6	18.8	24.0	7.5	3.8	818	920
1990	72.7	81.0	19.0	24.2	7.3	3.6	822	923
1991	72.9	81.2	19.2	24.4	7.3	3.5	824	923
1992	73.2	81.5	19.4	24.6	6.8	3.3	827	925
1993	73.3	81.5	19.4	24.6	6.5	3.1	828	924
1994	73.7	81.9	19.7	25.0	5.9	3.2	832	926
1995	73.9	81.9	19.7	24.9	4.9	2.9	836	928
1996	74.1	82.1	19.7	25.0	4.8	3.0	841	929
1997	74.6	82.3	19.9	25.2	4.7	3.0	847	931
1998	74.8	82.4	20.0	25.3	4.6	2.9	850	931
1999	75.0	82.5	20.2	25.3	4.3	2.7	852	932
2000	75.3	82.8	20.4	25.6	4.4	2.8	855	933
2001	75.5	82.9	20.6	25.7	4.5	2.9	855	933
2002	75.8	83.1	20.8	25.8	4.1	2.7	857	934
2003	75.9	83.0	20.8	25.6	4.0	2.6	859	935
2004	76.7	83.9	21.5	26.5	3.9	2.6	867	937
2005	76.8	83.9	21.5	26.5	3.6	2.3	868	939
2006	77.2	84.2	21.8	26.8	3.6	2.3	871	939
2007	77.4	84.4	21.9	26.9	3.6	2.4	874	941
2008	77.6	84.5	22.0	26.9	3.6	2.4	877	940
2009 *	77.8	84.5	22.2	27.0	3.7	2.4	876	940
2010 *	78.0	84.7	22.4	27.1	3.5	2.4	879	942
2011 *	78.4	85.0	22.7	27.4	3.3	na	883	943

* Provisional.

na: not available.

¹Deaths under one year per 1,000 live births.

²Deaths before 28 days per 1,000 live births.

Coverage: Metropolitan France.

Source: INSEE, Demographic Surveys and Studies Division.

Table A.12

Life expectancy at birth in Europe in 2010

	Life expectancy at birth (years)		
	Male	Female	Difference (F – M)
Austria	77.9	83.5	5.6
Belgium	77.6	83.0	5.4
Bulgaria	70.3	77.4	7.1
Czech Republic	74.5	80.9	6.4
Denmark	77.2	81.4	4.2
Estonia	70.6	80.8	10.2
Finland	76.9	83.5	6.6
France	78.0	84.6	6.6
Germany	78.0	83.0	5.0
Greece	78.4	82.8	4.4
Hungary	70.7	78.6	7.9
Ireland	78.7	83.2	4.5
Italy (2009)	79.4	84.6	5.2
Latvia	68.6	78.4	9.8
Lithuania	68.0	78.9	10.9
Luxembourg	77.9	83.5	5.6
Netherlands	78.9	83.0	4.1
Poland	72.1	80.7	8.6
Portugal	76.7	82.8	6.1
Romania	70.1	77.6	7.5
Slovakia	71.7	79.3	7.6
Slovenia	76.4	83.1	6.7
Spain	79.1	85.3	6.2
Sweden	79.6	83.6	4.0
United Kingdom	78.7	82.6	3.9
Croatia	73.5	79.9	6.4
Iceland	79.8	84.1	4.3
Norway	79.0	83.3	4.3
Switzerland	80.2	84.8	4.6

Source: Eurostat, except France (INSEE).**Table A.13**

Infant mortality in Europe (rate per 1,000 live births)

	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011
Austria	14.3	11.2	7.8	5.4	4.8	4.2	3.6	3.7	3.7	3.8	3.9	3.6
Belgium *	12.1	9.8	8.0	6.0	4.8	3.7	4.0	3.9	3.7	3.5	3.6	3.3
Bulgaria	20.2	15.4	14.8	13.3	13.3	10.4	9.7	9.2	8.6	9.0	9.4	8.5
Czech Republic	16.9	12.5	10.8	7.7	4.1	3.4	3.3	3.1	2.8	2.9	2.7	2.7

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	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011
Denmark	8.4	7.9	7.5	5.1	5.3	4.4	3.8	4.0	4.0	3.1	3.4	3.5
Estonia	17.1	14.1	12.3	14.9	8.4	5.4	4.4	5.0	5.0	3.6	3.3	2.5
Finland	7.6	6.3	5.6	3.9	3.8	3.0	2.8	2.7	2.6	2.6	2.3	2.4
France(¹) [*]				5.0	4.5	3.8	3.8	3.8	3.8	3.9	3.6	3.5
France metro(¹) [*]	10.0	8.3	7.3	4.9	4.4	3.6	3.6	3.6	3.6	3.7	3.5	3.3
Germany [*]	12.4	9.1	7.0	5.3	4.4	3.9	3.8	3.9	3.5	3.5	3.4	3.5
Greece [*]	17.9	14.1	9.7	8.1	5.9	3.8	3.7	3.5	2.7	3.1	3.8	3.8
Hungary [*]	23.2	20.4	14.8	10.7	9.2	6.2	5.7	5.9	5.6	5.1	5.3	4.9
Ireland	11.1	8.8	8.2	6.4	6.2	4.0	3.6	3.1	3.8	3.2	3.8	
Italy	14.6	10.5	8.2	6.2	4.5	3.8	3.6	3.5	3.3	3.4	3.4	
Latvia	15.3	13.0	13.7	18.8	10.4	7.8	7.6	8.7	6.7	7.8	5.7	6.6
Lithuania	14.5	14.2	10.2	12.5	8.6	6.8	6.8	5.9	4.9	4.9	4.3	4.2
Luxembourg	11.5	9.0	7.3	5.5	5.1	2.6	2.5	1.8	1.8	2.5	3.4	4.3
Netherlands	8.6	8.0	7.1	5.5	5.1	4.9	4.4	4.1	3.8	3.8	3.8	
Poland	25.4	22.1	19.4	13.6	8.1	6.4	6.0	6.0	5.6	5.6	5.0	4.7
Portugal [*]	24.2	17.8	11.0	7.5	5.5	3.5	3.3	3.4	3.3	3.6	2.5	3.1
Romania	29.3	25.6	26.9	21.2	18.6	15.0	13.9	12.0	11.0	10.1	9.8	9.4
Slovakia	20.9	16.3	12.0	11.0	8.6	7.2	6.6	6.1	5.9	5.7	5.7	4.9
Slovenia [*]	15.3	13.0	8.4	5.5	4.9	4.1	3.4	2.8	2.4	2.4	2.5	2.9
Spain [*]	12.3	8.9	7.6	5.5	4.4	3.8	3.5	3.5	3.3	3.3	3.2	3.4
Sweden	6.9	6.8	6.0	4.1	3.4	2.4	2.8	2.5	2.5	2.5	2.5	2.1
United Kingdom	13.9	11.1	7.9	6.2	5.6	5.1	4.9	4.7	4.6	4.7	4.3	
Croatia					7.4	5.7	5.2	5.6	4.5	5.3	4.4	
Iceland	7.7	5.7	5.9	6.1	3.0	2.3	1.4	2.0	2.5	1.8	2.2	0.9
Norway	8.1	8.5	6.9	4.0	3.8	3.1	3.2	3.1	2.7	3.1	2.8	2.4
Switzerland [*]	9.0	6.7	6.7	5.0	5.3	4.2	4.4	3.9	4.0	4.3	3.8	3.8

^{*} Provisional data for 2011.

Source: Eurostat, except (¹).

¹ INSEE for the whole of France in 1995 and 2009 and for metropolitan France in 2010.

Table A.14

Standardized death rates (per 100,000) by sex and groups of causes of death^(a)

Cause of death	Males														
	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
<i>23 groups of causes</i>															
Lung cancer	63	67	70	70	66	65	64	63	63	64	63	62	60	60	
Stomach cancer	20	17	14	12	10	9	9	9	9	8	8	8	7	7	
Cancer of the intestine	31	29	29	28	25	25	25	24	24	24	23	22	22	22	
Prostate cancer	28	30	32	29	26	26	26	26	24	23	22	22	21	20	
Other neoplasms	176	180	171	160	152	151	149	146	140	139	136	134	131	129	
Ischaemic heart diseases	117	118	96	85	76	72	70	68	64	62	58	56	54	51	
Other heart diseases	130	115	93	90	81	79	78	78	72	71	69	69	68	66	

Cause of death	Males														
	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Cerebro-vascular diseases	123	103	71	59	47	45	44	43	38	37	35	34	33	31	
Other diseases of the circulatory system	38	35	29	26	21	21	20	19	17	16	16	15	15	13	
Tuberculosis (all forms)	5	3	2	2	2	2	1	1	1	1	1	1	1	1	
AIDS	0	0	8	13	3	3	3	2	2	2	2	2	2	1	
Influenza	2	2	3	1	2	0	1	1	0	1	0	0	0	0	
Other infectious and parasitic diseases	11	12	10	11	12	11	12	12	10	11	11	11	11	11	
Other diseases of the respiratory system	83	79	71	69	53	50	50	52	44	47	42	42	42	42	
Alcoholism and cirrhosis of the liver	56	46	35	29	28	28	27	27	25	24	24	23	23	22	
Diabetes	11	11	9	9	15	15	14	15	14	14	13	13	13	13	
Other mental disorders and diseases of the nervous system	28	28	31	30	40	42	41	45	39	42	41	41	42	42	
Other diseases of the digestive system	41	35	29	25	20	20	20	21	19	19	19	18	18	18	
Other diseases	56	50	40	37	36	36	35	37	33	32	32	31	32	31	
Motor-vehicle accidents	30	26	26	20	19	19	18	15	13	13	12	12	11	11	
Suicides	29	34	30	29	26	25	25	26	25	25	24	23	23	24	
Other deaths from external causes	63	54	51	44	36	35	34	36	32	31	31	31	31	31	
Unspecified or ill-defined causes of death	74	70	56	48	46	49	49	51	44	45	43	44	46	47	
6 broad groups of causes															
Cancer	318	324	317	300	280	275	272	267	260	258	251	247	241	239	
Cardiovascular diseases	409	371	288	260	225	217	211	208	190	187	177	173	169	161	
Infectious and parasitic diseases, diseases of the respiratory system	101	97	95	95	72	65	66	69	58	62	56	56	56	55	
Other diseases	193	169	143	131	138	140	138	144	130	132	129	126	128	126	
Injuries and poisoning	123	114	106	93	81	79	78	77	70	69	67	66	66	66	
Unspecified or ill-defined causes of death	74	70	56	48	46	49	49	51	44	45	43	44	46	47	
All causes	1,217	1,145	1,005	928	842	826	814	815	751	753	723	713	705	694	
Cause of death	Females														
	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
23 groups of causes															
Lung cancer	6	7	8	9	10	11	12	13	13	14	14	15	15	16	
Stomach cancer	9	7	6	5	4	4	4	3	3	3	3	3	3	3	
Cancer of the intestine	19	18	17	16	15	14	14	14	14	14	13	13	13	13	
Breast cancer	27	28	29	29	27	26	26	26	26	25	25	24	24	24	
Cancer of the uterus	11	10	8	7	6	7	6	7	6	6	6	6	6	6	
Other neoplasms	76	74	70	69	67	67	67	65	63	63	62	60	61	60	
Ischaemic heart diseases	51	51	42	35	30	29	28	27	24	23	22	21	20	19	

Cause of death	Males														
	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Other heart diseases	93	81	64	61	54	53	53	53	47	47	45	45	45	44	
Cerebro-vascular diseases	88	74	52	41	33	32	31	31	27	26	25	23	23	23	
Other diseases of the circulatory system	19	17	14	12	9	9	8	8	7	7	6	6	6	6	
Tuberculosis (all forms)	1	1	1	1	1	1	1	1	1	1	0	0	0	0	
AIDS	0	0	1	3	1	1	1	1	1	1	1	1	0	0	
Influenza	2	2	2	1	1	0	0	0	0	1	0	0	0	0	
Other infectious and parasitic diseases	7	7	6	7	8	7	7	8	6	7	6	6	7	7	
Other diseases of the respiratory system	33	33	31	30	24	21	22	23	19	21	18	19	19	19	
Alcoholism and cirrhosis of the liver	19	15	12	10	9	9	9	9	8	8	8	7	7	7	
Diabetes	10	9	8	7	10	10	10	10	9	9	8	8	8	8	
Other mental disorders and diseases of the nervous system	22	22	24	24	32	33	34	37	31	33	33	33	34	34	
Other diseases of the digestive system	27	23	18	16	13	13	13	13	12	12	11	11	11	11	
Other diseases	38	34	29	28	27	27	27	29	25	24	24	23	24	23	
Motor-vehicle accidents	10	9	9	7	6	6	6	4	4	4	3	3	3	3	
Suicides	11	12	10	10	8	8	9	8	9	8	8	8	8	7	
Other violent deaths	36	31	27	23	19	19	19	20	17	16	16	16	16	15	
Unspecified or ill-defined causes of death	48	44	35	31	28	29	30	32	26	27	26	26	27	27	
<i>6 broad groups of causes</i>															
Cancer	147	143	138	135	129	128	128	127	125	124	123	121	123	121	
Cardiovascular diseases	250	223	172	148	126	123	119	119	106	104	98	95	95	91	
Infectious and parasitic diseases, diseases of the respiratory system	43	43	42	41	34	30	31	33	27	30	26	26	27	27	
Other diseases	116	103	91	85	91	92	93	98	85	85	84	83	84	83	
Injuries and poisoning	57	53	46	40	34	34	33	33	29	28	27	26	26	26	
Unspecified or ill-defined causes of death	48	44	35	31	28	29	30	32	26	27	26	26	27	27	
All causes	662	609	525	480	442	436	434	442	398	399	384	377	381	375	

^aStandardized rate calculated from mortality rates by five-year age group (in completed years) and from standard European population (according to the structure proposed by the WHO). Thanks to a new analysis of INSERM data, the age groups now have the same definition for all years. The contents of the cause-of-death groups are defined in *Table A.15* (item numbers refer to ICD-9 for 1980 to 1999 and ICD-10 from 2000).

Coverage: Metropolitan France.

Source: F. Meslé from INSERM dat

Table A.15

Cause-of-death groups and the corresponding items in the International Classification of Diseases (ninth and tenth revisions)

	ICD-9	ICD-10
Cancer	140 to 239	C00 to D48
Lung cancer	162	C33 to C34
Stomach cancer	151	C16
Cancer of the intestine	152 to 154	C18 to C21
Breast cancer	174, 175	C50
Cancer of the uterus	179 to 180; 182	C53 to C55
Prostate cancer	185	C61
Other neoplasms	140 to 150; 155 to 161; 163 to 173; 181; 183 to 184; 186 to 239	C00 to C15; C17; C22 to C32; C37 to C49; C51; C52; C56 to C60; C62 to D48
Cardiovascular diseases	390 to 459	I00 to I99
Ischaemic heart diseases	410 to 414	I20 to I25
Other heart diseases	390 to 405; 415 to 429	I00 to I15; I26 to I51
Cerebro-vascular diseases	430 to 438	I60 to I69
Other diseases of the circulatory system	440 to 459	I70 to I99
Infectious and parasitic diseases, diseases of the respiratory system	000 to 139; 460 to 519	A00 to B99; J00 to J98
Tuberculosis (all forms)	010 to 018	A15 to A19; B90
AIDS	042 to 044	B20 to B24
Influenza	487	J10 to J11
Other infectious and parasitic diseases of ICD Chapter I	001 to 009; 020 to 041; 045 to 139	A00 to A09; A20 to B19; B25 to B89; B91 to B99
Other diseases of the respiratory system	460 to 586; 490 to 519	J00 to J06; J12 to J98
Other diseases	240 to 389; 520 to 779	D50 to D89; E00 to H95; K00 to Q99
Alcoholism and cirrhosis of the liver	291; 303; 305.0; 571.0 to .3; .5	F10; K70; K73 to K74
Diabetes	250	E10 to E14
Other mental disorders and diseases of the nervous system	290; 292 to 302; 304; 305.1 to 389	F00 to F09; F11 to H95
Other diseases of the digestive system	520 to 570; 571.4; 571.6 to 579	K00 to K67; K71; K72; K75 to K93
Other diseases	240 to 246; 251 to 289; 580 to 779	D50 to D89; E00 to E07; E15 to E89; L00 to Q99
Injuries and poisoning	800 to 999	V01 to Y89
Motor-vehicle accidents	810 to 819; 826 to 829	V01 to V9
Suicides	950 to 959	X60 to X84
Other deaths from external causes	800 to 807; 820 to 825; 830 to 949; 960 to 999	W00 to X59; X85 to Y89
Unspecified or ill-defined causes of death	780 to 799	R00 to R99
All causes	001 to 999	A00 to R99; V01 to Y89

Figure 1. Population pyramid of France on 1 January 2012

Coverage: Metropolitan France.

Source: INSEE.

Figure 2. Population pyramids of France and the European Union on 1 January 2011
Sources: INSEE and Eurostat.

Figure 3. Immigrants residing in metropolitan France in 1999, 2006 and 2009 by country of birth*

* Most represented countries in 2009.

Coverage: Metropolitan France.

Source: INSEE, population censuses of 1999, 2006 and 2009.

Figure 4. Monthly births* since 1990

* Monthly numbers adjusted to a uniform period of 30.4 days per month. Moving averages over 13 months.

Coverage: Metropolitan France.

Source: INSEE.

Figure 5. Decomposition of the total fertility rate by birth order (A), and mothers' mean age by birth order (B) since the 1970s

Coverage: Metropolitan France.

Sources: Davie and Niel (2012), Table 3, p. 31; Beaumel and Pla (2012).

Figure 6. Total fertility rate in Europe since 1990

Source: Eurostat (site consulted in September 2012).

Figure 7. Age-specific fertility rate in 2010 (A) and age distribution of the TFR in 2010 (B) in five European countries

Source: Eurostat (site consulted in September 2012).

Figure 8. Ranking of 27 European countries by completed fertility of the 1964–1965 (A) and 1974–1975 (B) cohorts

* 1969–1970 cohort in Estonia and Poland.

Source: Authors' calculations and estimates from data published on the Eurostat website.

A. Abortion rates

B. Abortions per 100 conceptions

Figure 9. Trend since 1998 in abortion rates at ages 14–20 years (A) (per 1,000 women) and in percentage of pregnancies terminated (B)

Coverage: Metropolitan France

Sources: Calculations and estimates of conceptions based on induced abortions (estimates by Rossier and Pirus (2007) up to 2002, then Vilain and Mouquet (2012)), and births (INSEE statistics).

Figure 10. Ranking of 21 European countries by frequency of legal abortions in 2010. Total rate (sum of rates by age, per 1,000 women) (A) and abortion rate of women aged under 20 (per 1,000 women ages 15–19) (B)

* Data for 2009.

Sources: Authors' calculations based on statistical data published on the Eurostat website and by national statistical institutes.

Figure 11. Female probability of divorce by age from 1970 to 2010 (A) and from the 1925 birth cohort to the 1975 birth cohort (B)

Note: Probabilities are smoothed over 3 ages.

Coverage: Metropolitan France, direct divorces and separations converted into divorces.

Sources: Calculations and estimates based on statistics from INSEE and the Ministry of Justice.

Figure 12. Life expectancy at birth by sex, 1946–2010

Coverage: Metropolitan France.

Source: INSEE, Demographic Surveys and Studies Division.

Figure 13. Male and female life expectancy at birth in France and 19 other European countries, 1980–2009

Construction: The graphs represent the distribution of the 20 countries on the relevant indicator (here, life expectancy at birth) for each calendar year. The rectangular box captures half of the observations (those which fall between the first and third quartiles). It is cut by a thick green line representing the median. The “whiskers” located on either side of the rectangle correspond to the lower and upper limits, known as “adjacent values,” of the normal distribution, except when the extreme values are close to the median, in which case the whiskers end at the extreme value. The adjacent values are calculated from the interquartile range (which is multiplied by 1.5, and then subtracted from the first quartile and added to the third). The high and low values not included in this range are represented by circles positioned below or above the whiskers (for an example see Figure 16).

Interpretation: In 1980, the median male life expectancy among the countries considered here was 69.1 years; the values of the first and third quartiles were 66.4 and 70.3 years, and the adjacent values were 63.7 and 72.8 years. There were no outliers in the distribution of countries.

Coverage: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Hungary, Ireland, Latvia, Luxembourg, Lithuania, Netherlands, Poland, Portugal, Slovakia, Spain, Sweden, United Kingdom. Among the countries in Appendix Table A.12, Greece, Romania and Slovenia are excluded due to a lack of data.

Source: Human Mortality Database, www.mortality.org, 2012.

Figure 14. Male and female probability of dying at ages 65–80 in France and 19 other European countries, 1980–2009

Construction: See Figure 13 for further details.

Coverage: See Figure 13.

Source: Human Mortality Database, www.mortality.org, 2012.

Figure 15. Male and female life expectancy at age 80 in France and 19 other European countries, 1980–2009

Construction: see Figure 13.

Coverage: see Figure 13.

Source: Human Mortality Database, www.mortality.org, 2012.

$e(0)^f - e(0)^m$ (in years)

Figure 16. Gender gap in life expectancy at birth in France and 19 other European countries, 1980–2009

Construction: see Figure 13.

Coverage: see Figure 13.

Source: Human Mortality Database, www.mortality.org, 2012.

Ratio of probabilities (M/F)

Figure 17. Excess male mortality by age in 1978–1980, 1988–1990, 1998–2000 and 2008–2010

Coverage: Metropolitan France.

Source: INSEE, Demographic Surveys and Studies Division

INED
05813

Figure 18. Absolute and relative change in infant mortality and its components in France, 1980–2010

Coverage: Metropolitan France.

Source: INSEE, Situation démographique 2010, Table 70.

Table 1

Admissions for residence of citizens of non-EEA countries based on two sources

Source	2006	2007	2008	2009	2010 (provisional)
INED	157,720	144,658	156,056	–	–
Interministerial committee	183,261	171,907	183,893	187,381	188,387

Coverage: Permits delivered in metropolitan France to persons who are not citizens of the European Economic Area as defined by its 2007 borders (EU-27 + Switzerland, Iceland, Norway and Liechtenstein).

Sources and specific coverage: INED: first residence permits of a duration of at least one year. Interministerial committee: first residence permits, including those for a duration of under one year, and long-term visas equivalent to residence permits (since 2009).

Table 2
Distribution of immigrants by continent and region of origin in 1999 and 2009

	1999		2009		Change 1999–2009 (%)
	Number (thousands)	Proportion (%)	Number (thousands)	Proportion (%)	
<i>Europe</i>	<i>1,934.8</i>	<i>44.9</i>	<i>2,045.6</i>	<i>38.4</i>	<i>+6</i>
EU-27	1,778.3	41.3	1,814.2	34.1	+2
Other European countries (including Russia)	156.4	3.6	231.5	4.3	+48
<i>Africa</i>	<i>1,692.1</i>	<i>39.3</i>	<i>2,302.9</i>	<i>43.2</i>	<i>+36</i>
Maghreb	1,298.5	30.1	1,621.0	30.4	+25
Other African countries	393.6	9.1	681.9	12.8	+73
<i>Asia</i>	<i>550.2</i>	<i>12.8</i>	<i>768.5</i>	<i>14.4</i>	<i>+40</i>
Turkey	176.0	4.1	242.2	4.5	+38
Other Asian countries	374.2	8.7	526.2	9.9	+41
<i>America and Oceania</i>	<i>131.5</i>	<i>3.1</i>	<i>208.4</i>	<i>3.9</i>	<i>+58</i>
Total	4,308.5	100.0	5325.4	100.0	+24

Coverage: Metropolitan France.

Source: INSEE, population censuses of 1999 and 2009.

Table 3

Fertility by age group since 2006 (per 1,000 women)

Age reached in the year	Sum of age-specific fertility rates						Absolute variation [*]					
	2006	2007	2008	2009	2010	2011	2006– 2007	2007– 2008	2008– 2009	2009– 2010	2010– 2011	
Under 20	37	36	36	35	35	34	–1	0	–1	–1	–1	
20–24	279	271	276	271	272	262	–8	+5	–5	+1	–10	
25–29	655	641	643	639	642	634	–14	+2	–4	+3	–8	
30–34	642	638	650	653	665	657	–4	+13	+3	+12	–8	
35–39	298	300	308	314	322	327	+2	+9	+5	+8	+5	
40+	70	73	76	76	80	83	+3	+3	0	+4	+3	
Total [*] (TFR)	1,980	1,959	1,990	1,989	2,016	1,997	–21	+31	–1	+27	–19	

*. Because of rounding, the total may slightly differ from the sum, and variations may not correspond to the apparent differences.

Coverage: Metropolitan France.

Source: INSEE and authors' calculations.

Table 4

Age-specific abortion and conception rates at ages 14–20 years (per 1,000 women), and percentage of pregnancies terminated Mean of the years 2001–2005 and 2006–2010

Completed age (years)	Abortion rate			Conception rate			% terminations	
	2001–2005	2006–2010	Increase (%)	2001–2005	2006–2010	Increase (%)	2001–2005	2006–2010
14	1.6	1.9	+24	2.1	2.5	+20	76.1	79.2
15	4.8	6.1	+28	6.7	7.9	+19	71.3	76.8
16	9.3	11.9	+27	14.3	16.4	+15	64.8	72.1
17	13.6	16.8	+23	24.4	26.6	+9	56.0	63.1
18	19.8	22.2	+12	41.1	41.5	+1	48.2	53.5
19	24.2	25.8	+7	56.2	56.1	0	43.0	45.9
20	26.5	27.9	+5	69.3	68.9	–1	38.2	40.5

Coverage: Metropolitan France.

Sources: Calculations and estimates of conceptions based on induced abortions (estimates by Rossier and Pinus (2007) up to 2002, then Vilain and Mouquet (2012)), and births (INSEE statistics).

Table 5

PACS unions and PACS dissolutions since 2007

	2007	2008	2009	2010	2011 [*]
PACS registered (total)	102,023	146,030	174,562	205,596	144,098
Of which PACS in the DOMs	953	1,182	1,443	1,640	1,360
PACS registered by partners' sex					
Man-man	3,708	4,780	4,895	5,209	3,717
Woman-woman	2,510	3,423	3,542	3,937	3,092
Man-woman	95,707	137,820	166,120	196,441	137,288
Unknown	98	7	5	9	1
Number of dissolutions (total)	22,782	23,657	26,933	35,060	41,732
Reason for dissolution of PACS:					
Mutual agreement of partners	10,847	12,776	16,273	20,779	24,053
Unilateral request by one partner	747	715	913	1,144	1,285
Marriage	10,783	9,790	9,426	12,758	16,008
Death	371	351	293	350	384
Other cases and unknown	34	25	28	29	6

^{*} Only agreements signed in courts (figures in italics).

Population: All of France.

Source: Ministry of Justice, DSSED.

Table 6
Probabilities of dying at selected ages by sex between 1978–1980 and 2008–2010 in France

Probability of dying between ages:	Probability (per 1,000)			Change (%)
	1978–1980	1988–1990	1998–2000	2008–2010
Males				
0–15 years	18.1	12.9	7.8	5.8
15–25 years	15.2	12.1	8.9	6.0
25–45 years	46.2	45.0	36.7	26.9
45–65 years	233.4	197.6	162.8	140.0
65–80 years	563.5	477.1	422.8	336.5
Females				
0–15 years	13.4	9.6	6.1	4.8
15–25 years	5.4	4.1	3.3	2.1
25–45 years	21.3	18.5	16.1	12.4
45–65 years	100.6	80.8	70.2	64.8
65–80 years	339.8	268.8	225.3	180.4

Coverage: Metropolitan France.

Source: Authors' calculations based on the three-year life tables of the INSEE Demographic Surveys and Studies Division.

Table 7

Contribution by age group to life expectancy gains (years) from one ten-year period to the next by sex in France, 1978–1980 to 2008–2010

Age group	Period					
	1978–1980 to 1988–1990	1988–1990 to 1998–2000	1998–2000 to 2008–2010*	1978–1980 to 1988–1990	1988–1990 to 1998–2000	1998–2000 to 2008–2010*
	Men			Women		
0–14 years	0.06	0.07	0.02	0.05	0.05	0.01
15–24 years	0.07	0.06	0.03	0.05	0.04	0.02
25–44 years	0.15	0.25	0.17	0.12	0.11	0.08
45–64 years	0.47	0.52	0.45	0.30	0.20	0.16
65–79 years	0.95	0.86	0.95	0.72	0.45	0.38
80+ years	0.79	0.75	1.16	1.29	1.03	1.27
Total gain	2.50	2.50	2.79	2.52	1.87	1.92
Life expectancy at end of period	72.5	75.0	77.8	80.7	82.6	84.5

* Provisional data.

Coverage: Metropolitan France.

Source: Authors' calculations based on the three-year life tables of the INSEE Demographic Surveys and Studies Division.

Table 8

Standardized mortality rates by broad age group in 2009* (per 100,000) and distribution by cause of death (%)

Cause of death	Age group						All ages
	0-14	15-24	25-44	45-64	65-79	80+	
Males							
Standardized rates all causes (per 100,000)	4	6	13	69	233	1137	663
Infectious diseases	2.6	0.9	2.0	1.7	1.7	2.2	1.9
Cancers	7.2	8.4	17.2	47.7	47.3	24.7	36.9
Cardiovascular diseases	2.7	3.7	11.3	17.1	23.7	34.9	24.6
Respiratory diseases	1.8	1.2	2.0	3.0	6.0	10.3	6.4
Diseases of the digestive system	0.8	0.9	5.7	8.1	4.9	3.8	5.3
Other diseases	72.7	10.3	12.6	10.0	11.2	18.5	14.3
Deaths from external causes	12.3	74.6	49.1	12.3	5.2	5.6	10.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Females							
Standardized rates all causes (per 100,000)	3	2	6	31	110	764	356
Infectious diseases	2.7	2.1	2.4	1.5	2.0	2.3	2.1
Cancers	8.8	15.7	41.5	57.1	45.7	18.0	35.1
Cardiovascular diseases	3.3	6.3	9.7	11.6	21.9	38.7	25.8
Respiratory diseases	2.3	2.7	2.4	2.8	4.7	7.9	5.5
Diseases of the digestive system	1.1	1.5	4.2	6.7	5.0	4.2	4.9
Other diseases	71.9	17.7	14.5	10.6	15.6	23.7	19.1
Deaths from external causes	10.0	54.2	25.3	9.7	5.0	5.2	7.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* These rates differ slightly from those in Appendix Table A.14 due to the calculation method used. Moreover, ill-defined causes of death were distributed across the groups of specific causes. For a definition of the major groups of causes and the method of distribution of ill-defined causes, see Meslé (2006).

The reference population used is the one for Europe proposed by the World Health Organization (www.euro.who.int/hfad/b).

Source: Authors' calculations based on INSERM data (CépiDc).