

Fertility among immigrant women: new data, a new approach

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The contribution made by migration to French population dynamics is not confined to arrivals: immigrants have children after they arrive in France. These children by definition do not appear in the net migration count, but in the rate of natural increase [1]. How do we account for them in estimating the share of the French birth rate due to immigration? There are three ways of doing so, corresponding to three distinct questions. First, what is the proportion of children born in France to at least one immigrant parent? Second, how does immigrant fertility compare with that of the countries of origin and destination? Third, what would be the level of fertility in France without immigration?

◆ One in eight births is to an immigrant mother

In France, birth registration records give the parents' nationality, so that the proportion of births to foreign parents, including undocumented migrants, can be estimated. This article refers only to metropolitan France (1) where, in the period 1991-1998, one birth in ten was to a

foreign mother (10.3%) and one in nine to a foreign father (11.4%) [2].

In the 1980s, a new statistical category was defined to clarify the impact of immigration on population change. To the existing categories of "étranger" (foreign national; a person who is not a French national but is settled in France) and "immigrant" (a person born abroad and settled in France, including those with French nationality by birth), demographers, endorsed by the French Council on Integration, suggested adding the category of "immigré", defined as a person born abroad who is not French by birth but has been settled in France for at least a year (2). The term "immigrant" will be used throughout this article, and in table 1, to refer to the latter category ("immigré"). The

Table 1 - Births in France, 1991-1998, by origins of father and mother (%)

Father	Mother			All mothers
	born in France	immigrant	other *	
born in France	76.6	3.8	2.6	83.0
immigrant	3.8	8.6	0.4	12.8
other*	2.8	0.5	0.9	4.1
All fathers	83.3	12.9	3.9	100.0

*: born French abroad or born in the French Overseas Departments and Territories (Dom-Tom)
Scope: live births in France, 1991-1998.

Note: births to at least one immigrant parent are greyed out: they account for 17.1% of all births (3.8+3.8+8.6+0.4+0.5).

Source: INSEE-INED, Study of Family History survey, 1999.

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(1) "Metropolitan France" is mainland France plus Corsica, excluding the French overseas territories. In the rest of the article, "France" will mean metropolitan France.

(2) The population of metropolitan France amounted to 58,518,000 at the 1999 census, of whom 3,260,000 foreign national, and 5,870,000 born abroad.

1999 census recorded 4,310,000 immigrants, of whom 1,560,000 (36%) had become French citizens [3]. With a third of immigrants having taken French nationality, immigrants outnumber foreign nationals and thus account for more births in total. The Study of Family History (3), a large-scale joint INSEE-INED survey linked to the 1999 census, found that 13% of births were to immigrant mothers in the period 1991-1998, compared to just 10% of births to a foreign mother.

◆ Half of children born to immigrants are of mixed descent

One in two children born to immigrants are of “mixed” descent, i.e., the product of one immigrant and one non-immigrant parent (table 1). This table distinguishes parents born in France, immigrant parents and “other parents”, born in the French overseas departments and territories (Dom-Tom) or born French abroad.

In the aggregate, more than one in six births (17.1%, figures greyed out in table 1) are to at least one immigrant parent, with mixed couples (one immigrant, one non-immigrant parent) level-pegging with immigrant couples: 8.5% and 8.6% of births, respectively. Births to mixed couples are themselves equally distributed between those with an immigrant father (4.2%) or mother (4.3%).

◆ The conventional picture of immigrant fertility: 2.5 children per woman in 1991-1998

How can it be that immigrants account for 12.9% of births in France when the share of immigrants has been broadly stable for 25 years at about just 7.4% of the population of France [3]? There are three explanatory factors for the discrepancy: the more youthful age structure of the immigrant population, higher fertility than the rest of the population, and fertility concentrated in the post-arrival period of life, so that lower fertility prior to migration is not taken into account.

Immigrant women have higher fertility than other women: 2.50 children per woman against 1.65, the national average being 1.72 (table 2) (bearing in mind that in 1991-1998, the period under study, the period total fertility rate (TFR) was lower than today). The excess fertility of immigrants therefore has little impact on the national average, raising it from 1.65 to only 1.72, or a

(3) The Study of Family History survey provides extremely detailed fertility data on immigrant men and women. It is a one-per-cent survey of adults done as part of the 1999 census (235,000 females and 145,000 males), and provides the first national-scale information on children's birth dates, nationality at birth, birthplace and date of entry into metropolitan France for those born overseas or abroad. To give a sufficient total number of births, the study covers the entire period 1991-1998.

Table 2 - Total period fertility rate, 1991-1998, by birthplace

	Average number of children per woman
All	1.72
Women born in France	1.65
Immigrant women	2.50
Other*	1.78

*: born French abroad or born in the French Overseas Departments and Territories (Dom-Tom).

Scope: women and live births in France, 1991-1998.

Source: INSEE-INED, Study of Family History survey, 1999.

modest 0.07 children. The reason for this minor contribution is that immigrants make up only 7.4% of the population, and 8.5% of women of reproductive age.

This synthetic calculation sums the observed age-specific fertility rates as demographers normally do when making period estimates. It assumes implicitly that fertility is a function of age, and that the age profile gives a reasonable idea of fertility through the life course. But this assumption is not valid for immigrants, whose fertility profiles are significantly influenced by the moment of migration, i.e., highly specific to their age at migration.

◆ Fewer children than native-born French before entry, more after

The Family History Study allows the births to immigrant women before and after immigration to be distinguished (figure 1). It shows that immigrant women who entered France at very young ages—under 13—have only slightly higher fertility than women born in France (under 0.4 additional births on average). By contrast, those who arrived at ages 25 to 30 have much higher fertility than other women, but with a very specific profile: at arrival in France, age-for-age they had on average *fewer* children than native-born Frenchwomen. In many cases, their arrival was associated with entry into a union [4], so it may be assumed that they waited to settle down before having children; it is also reasonable to assume that migration selects women with fewer dependent children. Whatever else, the year of migration marks a sharp break between pre-departure low fertility and immediately-post-arrival high fertility, after which it gradually aligns with the fertility of women born in France, particularly among those arriving at younger ages.

The finding of this discontinuous profile calls for a rethinking of the methods by which immigrant fertility is calculated. This is because, by discounting both the significant pre-settlement fertility low and the immediately post-settlement fertility surge, the classic calculation of the TFR that sums age-specific fertility rates

heavily over-estimates immigrant women's fertility. It amounts to attributing to them a lifelong fertility profile which is marked by a catch-up of births following migration. The assumption it reflects is of an endless stream of immigrant women settling in France and catching-up the deficit of births before migration.

◆ **A new immigrant total fertility rate: 2.16 children per woman**

A third of immigrant women to France between 1991 and 1998 were aged under 18, a third aged 18-27, and a third 27 and over. In order to account for the major behavioural changes related to entry into France, a correction must be made to standard period fertility rates [5].

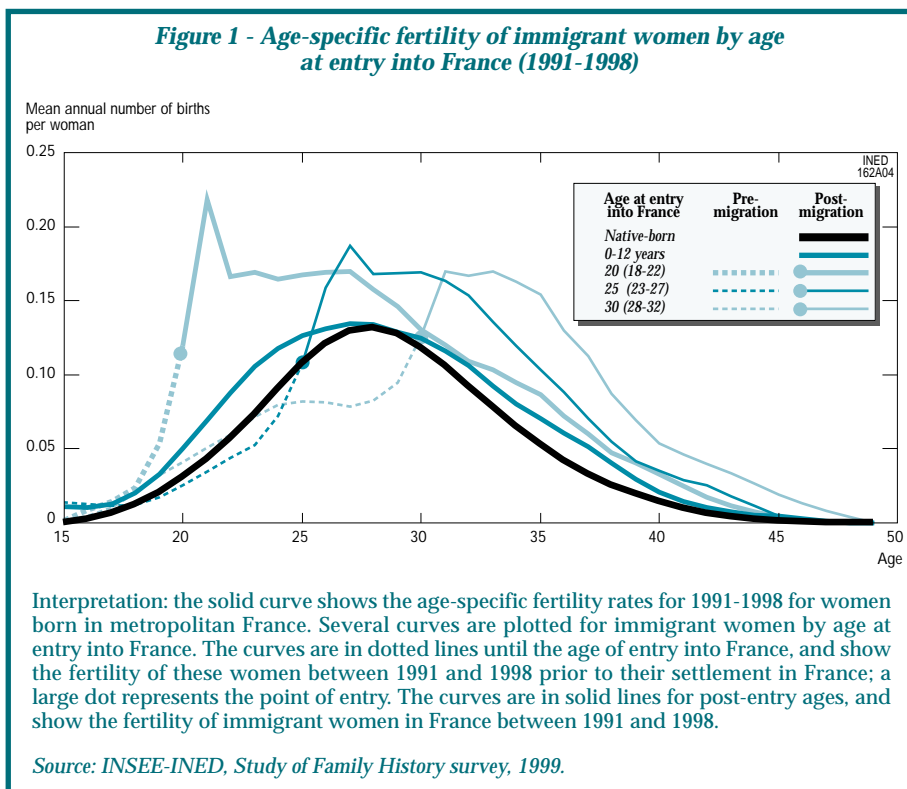


Table 3 - Fertility differentials between immigrant women and women born in metropolitan France

Birthplace	Average number of children per woman (1)	Fertility differential with women born in metropolitan France			Fertility of immigrant women in the country of origin
		Total differential	of which: pre-migration	post-migration	
All females	1.74	-	-	-	
Women born in metropolitan France	1.70	-	-	-	
Immigrant women	2.16	0.46	-0.09	0.55	
Other *	1.86	0.16	0.01	0.15	
Country of birth of immigrants					
Spain	1.52	-0.18	-0.26	0.08	1.23
Italy	1.60	-0.11	-0.34	0.23	1.24
Portugal	1.96	0.25	0.12	0.14	1.49
Other European Union country	1.66	-0.05	-0.32	0.27	1.44
Other European country	1.68	-0.03	-0.20	0.18	1.41
Algeria	2.57	0.87	0.08	0.79	3.64
Morocco	2.97	1.26	0.23	1.03	3.28
Tunisia	2.90	1.20	0.12	1.07	2.73
Other African country	2.86	1.16	0.06	1.10	5.89
Turkey	3.21	1.51	0.23	1.28	2.90
Other Asian country	1.77	0.07	-0.18	0.25	2.85
America or Oceania	2.00	0.29	-0.31	0.61	2.54

* born French abroad or born in Dom-Tom.

(1) total period fertility rate allowing for age at entry into France.

Scope: women and births, 1991-1998.

(2) Standard total period fertility rate, 1990-1999, source UN, 2003 [7].

Interpretation: in 1991-1998, immigrant women had 0.46 children more than women born in metropolitan France (2.16 compared to 1.70).

Note: For women born in France, this is the fertility rate of a group of women age distribution-matched with immigrant women, estimated by aggregating their existing children (cohort approach) with their assumed children at older ages "at that point in time" (period approach), producing an estimated fertility of 1.70 rather than 1.65. Likewise, all-women fertility for 1991-1998 is somewhat higher (1.74 instead of 1.72). These small differentials are due to the current lag between cohort and period indicators.

Source: INSEE-INED, Study of Family History survey, 1999.

This entails classifying immigrant women not by age, but by age at entry into France and duration of stay. The baseline is the number of children ever born at the time of arrival; then, fertility rates by length of time since arrival are calculated, and these are summed. In this way, the fertility indicator for immigrant women takes account of their entire fertility history. For each age at entry, the mean numbers of children ever born before and after migration are summed to estimate the total number of children. These totals by age at entry are then weighted by the breakdown of females arriving in 1991-98 by age at entry to give average fertility.

The result is significantly different from that yielded by the standard method (compare table 3 with table 2). While the total fertility of immigrant women was estimated at 2.50 using age-specific fertility rates alone, factoring in the breakdown of immigrant women by age at entry reduces this to 2.16. The excess fertility of immigrants compared to women born in France is thus decreased. After matching immigrant and native-born French women by standardizing on the same age structure, the fertility differential for the period 1991-1998 falls from 0.85 children on average to just 0.46 children. This gap arises from a combined deficit and surplus: on arrival, immigrant women of a given age have fewer births than French-born women (0.09 fewer children), but after arrival, they have 0.55 children more.

The method suggested here requires the detailed data that only a specialized survey can provide [5]. It is based on an indirect calculation which combines cohort (for pre-migration ages) and period (for fertility at post-entry ages) indicators. But the result is clear: once age at entry into France is allowed for, immigrant women are seen to have significantly lower fertility than suggested by the conventional method based purely on age-specific rates, and also the proposed method distinguishes between fertility before and after entry.

Note that age-specific fertility measurements of *foreign women* based on vital registration data suffer from an additional distortion. When immigrant women take French nationality, which often follows entry into France within a matter of years, they cease to be counted as foreign nationals. The fertility rates of foreign women account for the behaviour of

immigrant women between their entry into France and their change of nationality, i.e., the most highly fertile period of their life. The sum of age-specific rates of foreign women thus gives a figure of 2.8 children per woman [6], but this figure is artificial on two counts.

◆ Narrow gaps between countries of origin

How do these fertility differentials vary by nationality of origin? For immigrant women, the ranking of age-specific rates calculated by INSEE for foreign populations [6] shows immigrant women from European countries other than Portugal having lower fertility than French-born women, while immigrant women of other origins have higher fertility. The differential is low for women born in Asia, apart from those born in Turkey who, like women of African origin, have significantly higher fertility than women born in France.

Although the measurements are of variable quality, especially for the southern countries, it is clear that fertility of immigrant women lies between that of women living in the country of origin and that of women born in France, except for immigrants of Portuguese, Tunisian and Turkish origin (final column of table 3).

The new method of calculation used here yields two additional pieces of information. First, the fertility differentials with women born in France are reduced for all countries of origin, especially for women born in sub-Saharan Africa, whose estimated fertility is now 2.8 children. This is still 1.2 children more than women born in France, but only half the estimated 2.4 children differential yielded by the conventional age-specific rates method. On the other hand, the fertility of immigrant women from Italy and Spain seems not as low as that given by the conventional calculation.

Second, the excess fertility of immigrant women, once settled in France, is general and is found also among women of European origin. But while the latter have smaller completed families than women born in France, this is because they had fewer children on arrival, having regard to their age at entry. Lastly, Asian-born women who have fewer children on arrival have fertility levels only a little higher than women born in France.

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