# FAMILY FORMATION IN FRANCE IN THE PERIOD 1998-2003: INDIVIDUAL PREFERENCES AND SUBSEQUENT OUTCOMES

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#### **Abstract**

In France, as in all European countries, the birth of a first child has been increasingly delayed over time, but the reasons why individuals decide to postpone the time to become parents have not been deeply investigated at micro level yet. We use a longitudinal study to analyse fertility intentions as expressed by childless people, and subsequent reproductive behaviour, in a model that uses intentions and their related timing as key covariates. Results show that having a partner is a necessary pre-condition to desire a child and to actually become parent, while being young, single, and in a good economic condition are all factors encouraging the postponement of fertility plans. Once several background variables are controlled for, fertility preferences appear as one of the strongest predictors of subsequent chilbearing outcomes. This is particularly true for highly educated people who anticipate more precisely their future transition to parenthood, as compared to low educated people. Even in a more precise question wording, birth intentions do not improve the predictive power of the models aimed at estimating actual fertility, suggesting that intentions are not reliable indicator for fertility forecasts.

Keywords: fertility, fertility preferences, fertility intentions, postponement

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# 1. Introduction: delaying fertility or fertility choices? The relevance of time in the fertility intentions questions

The event of forming a family has been largely postponed in France as in many other Western European countries in the last decades. The mean age at the first birth has changed from 24 years in 1970 to 29 years in 2000 (Council of Europe, 2000). Fertility is declining at young ages and increasing at older ages when other events characterising the transition to adulthood, i.e., leaving parental home and entering a first union, have been already experienced.

The reasons of such a postponement are usually found in objective structural constraints linked to the higher educational level and the improved employment opportunities of women as well as in the new subjective beliefs concerning values and the desirability of having children.

While postponing childbearing have been widely investigated at the macro level, studies on the reasons of delaying family building at the micro level are relatively scarce.

We use a longitudinal study to investigate first the characteristics of childless people who wish to start a family<sup>1</sup>, and second, their subsequent actual behaviour in a model that uses intentions and related timing as a predictor variable, and controls for several external constraints.

We focus on people childless at the initial survey as the transition to parenthood has a remarkable importance on the whole reproductive process: A late start in the childbearing career may be associated with a low progression probability after the first child (Kohler et al. 2002). Moreover, the preferences for extreme family sizes, like the desire for no children as complementary to the desire for childbearing, may be particular informative of the attitudes towards fertility (Westoff, 1990). <sup>2</sup>

We assume that people decide about each birth one at a time according to the conditional, successive, or sequential approach (Miller and Pasta, 1995), and we disregard the information related to the total number of children desired, since it may well be that after the first birth people change their mind on their intended future reproduction career (Lee 1980).

Our prospective study considers fertility intentions within a specific time frame, i.e., five years following the interview. This is not only because intentions in a short time horizon are supposed to be more realistic, but also because respondents were followed-up to five years and it is then possible to see whether they have realised their wishes or not in the subsequent period. Since questions on fertility intentions are repeated at the second and third waves (3 and 5 years after the 1<sup>st</sup> wave of interviews), it is also feasible to analyze, at the individual level, the extent to which intentions on having a birth are revised over time.

The explicit indication of a time frame for intentions combined with the longitudinal observation enables us to distinguish among respondents who remain childless at the end of the period, those who did not want a baby or wanted one in a long run period, from those planning a family in the short run but failing to reach this target in the subsequent period. In the first case, people are delaying their childbearing choices, they are still presumably uncertain between childlessness or families with children and they prefer to leave the future open by not refusing completely the idea to become parent at a given point in life; in the second case, they delay the actual fertility due to some adverse circumstances, they are forced by external constraints to postpone the birth of their first child even though they had made a clear choice in favour of childbearing five years before. The distinction is very relevant in

<sup>2</sup> However, many of the results shown in our analysis on childless repsondents are consistent with those coming from an examination of individuals with children, that will be the object of another paper.

<sup>&</sup>lt;sup>1</sup> We assume in this paper that family formation starts with a birth of a first child, even though it may be meant to include marriage or union formation.

order to understand the nature of the current childlessness, and especially, whether it is a voluntary or endured phenomenon. Such a difference is full of implications in terms of policy measures, which are often based on the assumption that couples would rather have more children in absence of external constraints or difficulties. While it may be relatively easy<sup>3</sup> to adopt policies reducing the effects of impeding obstacles to childbearing, once these are clearly identified, it may not be so easy to implement a policy that changes the mind of childless people pushing them to revise their wish to remain childless at least temporarily.

As pointed out in other studies (Bhrolcháin and Toulemon, 2005), the term postponement is not always used with the same meaning. If the concept is considered at individual level, a behavioural meaning is assumed. In this case the phenomenon could be usefully investigated through questionnaire survey data on intentions and childbearing plans, in order to check the assumption whether it is the main factor behind the recent changes in the timing of actual fertility. Extensive longitudinal data would be required for such an investigation, and unfortunately we do not have such a huge panel study in France. However, the follow up survey on Fertility Intentions may help to bring a first inside on this topic.

The paper will be developed along the following hypotheses:

- (1) Specifying first child intentions in a temporal framework is a pre-condition to understand the meaning of fertility intentions and their impact on subsequent behaviour:
- (2) Fertility intentions are a relevant factor predicting subsequent reproductive outcomes:
- (3) The ability to predict future varies significantly across social groups;
- (4) Factors delaying the choice to become parent (*voluntary postponement*) are significantly different from those delaying only the actual start of a family (*involuntary postponement*).

The indication of a specific time in which intentions are supposed to become reality is a necessary pre-requisite to measure the consistency between desires and subsequent outcomes. Without such a specification the desire for children would be a rather vague notion in the people's mind and most individuals would tend to answer in a positive way, "Yes, I want a child", without being really intended to become parent, rather just not to close the door of a future childbearing. This circumstance would cause an inflation of false positive cases in a simple comparison between intentions and outcomes, as a consequence of the huge difference in the marginal distributions of those having a child and those only wanting a child: many would like to have a child once in their life, but only relatively few would actually reach the wished target.

#### SCHEME 1 ABOUT HERE

Our basic assumption is that reproductive intentions may become more indicative of subsequent actual childbearing only once they are precisely defined in a temporal frame, and their accuracy may further improve once they are specified in terms of firmness or strength, in terms of respondents' perceived chance to have a child, and in terms of couple's childbearing intentions. Having a birth is a joint decision of both partners and possible disagreements between them may lead to a lower correspondence of intentions with subsequent actual behaviour (Thomson 1997). Unfortunately, in our data partner's intentions are not reported by the partner him/herself, rather by the respondent, therefore they reflect only the perception of partner's attitude, and her/his level of agreement towards a future birth.

<sup>&</sup>lt;sup>3</sup> Here we are not making any assumption on the possible effects stemming from the implementation of policy measures.

In the period of observation considered, 1998-2003, the total fertility rate was slightly increasing in France, and this circumstance give us the possibility to investigate the predictive power of intentions in a privileged position. Indeed, if intentions mainly reflect prevailing norms and trends around the time of the interview, the amount of overestimation may be smaller in periods of increasing fertility than in periods of decreasing fertility, as stated in the literature (Noak and Østby 2002), and proved by some authors (Hendershot and Placek, 1981).

The rest of the paper is organized as follows: we first review the literature on the relationship between intentions and subsequent behaviors, next we present the longitudinal data used in the analysis and then we illustrate the models applied as well as the major findings, while some concluding remarks are given at the end.

# 2. How do fertility intentions contribute to predict and understand fertility?

#### 2.1 Toward a more refined definition of fertility intentions

The tradition to ask people in sample surveys whether they wish to have children in the future goes very back in the past. Prospective fertility plans have been measured in many different ways, as ideals, desires, intentions, expectations or preferences. These various operationalisations, although very similar, are not identical.

The idea that the way in which the questions are phrased is not relevant for the answers given by the respondents since respondents do not conceive the subtle differences between ideal, desired, and expected number of children (Westoff 1981), has been replaced by the conviction that even small modifications in the wording of the questions may cause large differences in the responses reported (Bongaarts, 1990). In the literature the ideal fertility has convetionally assumed a normative value, referring to the number of children that is considered right and normal at the societal level or within the group of pairs, belonging to the same social "milieu". The desired family size has been related to the personal sphere, and interpreted as the personalized value, or the individual norm. Intentions represents what someone actually plans to do, they are desires constrained by reality. An important distinction between desires and intentions is that a personal commitment to action is implicit in an intention but not present in a desire (Miller, 1994).

Microeconomic models on fertility and the demand for children are mostly based on the concept of desired or preferred family size assuming that they include constraints and trade-offs, while studies aimed at testing the reliability of fertility preferences to estimate subsequent behavior do refer to the concept of expectations, that gives emphasis to the number of children expected beyond the personal intentions, that do not include unwanted or mistimed births. The use of different concepts is funneled through a single psychological construct, such as the preference for a certain number of children or the intention to have a child (Miller, 1994).

In this analysis we consider these different terms as synonyms. A literal translation from the French questionnaire would lead us to use the term "wish".

On the search for a more appropriate question wording aimed at getting responses as realistic/concrete as possible, respondents have been asked whether they think they will have a baby in the future, rather than simply whether they would like to have a baby (see, for example, the General Household Survey). With this wording, individuals are requested to evaluate how much likely it is that their desires will come true. By doing so, they are pushed to include in their stated reproductive forecasts possible external constraints that they perceive as a brake for their future fertility. The specific framework of these questions implies a direct

reference to people's own personal experience rather than to general collective social norms (Smallwood, 2003).

A considerable improvement in the accuracy of the answers may be obtained by indicating a time frame to which intentions are referred. This approach finds its theoretical motivations in the Theory of Planned Behaviour (Azjen, 1985, 1988, 1991), which provides a comprehensive framework to explain the process that leads to the formation of a certain intention and to a subsequent possible correspondence between intentions and behaviors. The approach has been discussed and applied to the study of fertility intentions by Shoen et al. (1999) and Billari and Philipov (2005). As explicitly stated in the Azjen's decision-making model, the time frame established for carrying out intentions is a relevant determinant of whether or not such intentions will be carried out. This is because the longer the time frame is, the lower the predictability of intentions themselves, other things being equal. Moreover, vague intentions are less likely to result in consistent action than intentions involving strong commitment. Finally, intentions may also be revised in the light of changing circumstances, new information, or simply changing importance attached to rewards and costs, and this circumstance requires a definition of the period of time in which the future births will (are supposed to) happen.

In the French longitudinal survey the indication of a specific timing of intentions is present in both the questions on fertility preferences, the item related to the people's wish to have a child, as well as the question on the personal assessment of the probability to have a child.

#### 2.2 Previous longitudinal research on predictive value of intentions

Common to all of the different fertility intention questions is the assumption that individuals are able to make rational choices about if and when they would like to have children. A considerable literature has debated whether this is likely to be the case, and part of this literature is based on longitudinal studies.

In Europe there have been few longitudinal studies allowing to compare desired fertility with later outcomes. This is due to the lack of adequate data: panel data are needed for such analysis, but such research designs are highly expensive, time consuming and entail constant drop out problems.

A relevant prospective study has been conducted in Norway, by linking the information from the two Norvegian Fertility Surveys conducted in 1977 and 1988 with the individual birth histories derived from the Central Population Register (Noak and Østby, 1985 and 2002). The study documented a rather weak relationship between stated fertility expectations and subsequent births among women in reproductive ages, with both short-term and long-term expectations overestimating childbearing in later years. The authors of this extensive work found that background variables, such as educational level, do not have any significant effect on the ability of individuals to estimate their future fertility behaviour. On the contrary, such ability is well explained by the standard demographic variables, such as age, parity, and cohabitational status. The study avoids the high panel attrition intrinsec in longitudinal surveys, since it is based on a record linkage, but it shows some other limitations. First, all the additional children expected are considered altogether, while people make fertility plans one birth at a time and may not be able to predict the total number of children they will have in the whole reproductive career. Second, fertility expectations are not expressed with reference to a specific time and consequently respondents were not really committed to the answers given, rather they wanted to keep their options fully open, as the authors recognize.

A longitudinal survey conducted in the Athen area shows that the positive gap between actual and desired births among women in reproductive ages is combined with high level of consistency of fertility plans in the inter-survey period 1983-1997 (Symeonidou, 2000). According to this study the proportions of consistent respondents is higher among those who did not want and did not have a child (true negative) as compared to those reporting a positive intention. Moreover, the higher level of consistency is achieved by women who improved their economic and housing conditions in the years between the two surveys. This study, as the Norvegian one, considers all the children expected and we could assume that this influences the high level of negative consistency, even though a period of 15 years is long enough to realize families with as many children as desirable. However, similar results are also found in another study focused on intentions to have a(nother) child in a short time interval, the Italian Observatory on Fertility, a survey with interviews repeated every second year (Menniti 2001). In the Italian Observatory women in reproductive ages are asked about intentions to have a child in the next two years, and subsequent outcomes are monitored. According to the results of this study, most of the consistency observed between preferences and outcomes is due to people not intending and not having a child, while, on average, intentions over-estimate childbearing in the later years. The consistency rate improves with better economic perspectives but, consistently with the Noack and Østby's analysis, does not vary with educational level. This work puts intentions in a precise temporal framework, and consider the next intended child, but a period of two years may appear too short for a consistent developement of reproductive plans and possible inconsistencies have to be interpreted in light of the fact that there might have been a temporal shift in the realization of desired fertlity.

A different relationship between preferences and outcomes emerges if we take into account that people may change their mind over their life experience. The number of children a person wants may be constantly under reconsideration in response to changes in economic prospects and other important factors, such as the marital relationship (Ruokolainen and Notkola, 2001) and partners' preferences combination process (Thomson, 1997; Voas, 2003). But even without any external event, people might revise their preferences upwards or downwards. In this perspective, a discrepancy does not have to be necessarily viewed as an unmet demand for children (Smallwoods and Jefferies, 2003), as other authors have argued (Chesnais, 2000). Studies controlling for changing intentions show preferences as being a strong predictor of subsequent outcomes (Shoen et al., 1999; Qu et al., 2000). Indeed, often people seem to fail having their intended birth because they changed their mind (Heaton et al. 1999), and once these revisions are controlled for, the intentions appear a strong predictor of subsequent outcomes, as documented in the Australian Family Formation Survey, a ten years follow up study carried out between 1981 and 1991 (Ou et al. 2000). In this analysis positive fertility intentions show up to be fairly realiable and persistent over time among childless people: those who intended a child either met their desires, or mantained their intentions if they did not realise their wishes (Qu et al. 2000).

Evidence coming from the British Household Panel Survey suggets that women tend to overestimate their future fertility and this is particularly true for childless women. However, the study also shows that births intentions have the greatest power in predicting who will actually go on to have a birth (Berrington, 2004), consistently with outher studies (Schoen et al.1999).

In France a huge longitudinal study has been conducted on young mothers in the Seventies (Monnier, 1987), and, as most of the other studies mentioned here, documented a high consistency of responses to the fertility intentions questions together with and a systematic overestimation of future fertility due to the attitide of respondents to put in their answers only a vague possibility of future fertility plans, rather than a well thought out reproductive strategy.

As evidenced in the literature reviewed, intentions usually exceed subsequent fertility, and therefore, a general reluctance exists on their use in forecasting future fertility (Van Hoorn and Keilman 1997). If any, a forecast implementing intentions should be based on negative intentions since they prove to be more reliable, especially among people at the lowest parities (Westoff and Ryder 1977; Rindfuss et al. 1988; Monnier, 1989; Rovi 1994; Noak and Østby 2002).

Intentions indeed failed to predict reproductive behaviours both in a short term as well as in a long term, and both at the aggregate level and at individual level, even though at the aggregate level, or during an entire lifetime at the individual level, unintended and unachieved births (unexpected and unforeseen events), may cancel out and a higher accurancy in the predictive value of intentions may be achieved (Shaw, 1989; Toulemon and Leridon, 1999).

However, most of the studies mentioned above showed a strong consistency between responses to fertility intentions items and related outcomes, independently on how intentions are phrased in the different questionnaries. This evidence suggests that the value of fertility intentions and their contribution to understand actual fertility should not be limited to the extent to which they are able to predict actual fertility, even if considerable efforts should be made in order to refine the definition of fertility intentions and to improve in this way their predictive power. Finding the best wording is one of the main challenges for the future research on this area and the search for most suitable concepts should pay attention to the fact that the mechanism of translating intentions into behaviour becomes more complex in the presence of an increasing individualism that may erode all normative criteria in the decision-making process in favour of individual initiatives (Liefbroer, 1999).

We will test in this paper some different question wordings in order to see whether they produce significant differences in the predictive level of fertility preferences.

# 3. Data: A longitudinal study on fertility intentions

#### 3.1 Selecting the target sub-sample

We use data from a survey on fertility intentions "Enquête permanente sur les conditions de vies des ménages", conducted by INSEE (*Institut National de la Statistique et des Études Économiques*) on request of INED (*Institut National d'Études Démographiques*) in 1998. The whole sample includes 2 624 men and women aged 20 to 45, representative of the French population in 1998. Respondents who were not infertile and accepted to participate in the follow-up study (65% of the total) were re-interviewed by post and by telephone in 2001 and 2003. 1 082 people returned the questionnaire in 2001 and 783 did so in 2003. We use mainly the 1998 and 2003 rounds and look at the intermediate wave 2001 only instrumentally, i.e., to monitor changes in desires, as well as in conjugal or employment status occurred in between. In principle, we could have used also this wave to test the predictive power of intentions, but after only two years of observation there are too few people who may have realized their fertility desires.

Attrition was high mainly due to refusals, or to the following reasons: respondents moved without leaving a follow-up address (242), they had died or could not be surveyed (12), they could not be contacted by phone after failing to return the questionnaire (133). Ongoing research (De la Rochebrochard, Mazuy, and Razafindratsima, 2005) shows that the sample attrition is higher among persons not living in a couple, with low educational level, among the older persons, and among those who did not want a child. Although the results are not very robust, due to the substantial sample attrition between the 1998 and 2003 surveys, the orders of magnitudes obtained may be considered as reliable.

The selected sub-sample includes 363 childless people. Women and men sterilized or infertile are not asked any questions on fertility intentions and consistently are not used for the follow-up. We choose only respondents without children and not pregnant (or whose partner was not pregnant) at the time of the initial interview.

## 3.2 Measures of fertility intentions

Several questions on fertility intentions are included in the questionnaire of the initial survey. We use two main questions on fertility desires.

The first one reflects the classical item on the desire to have a(nother) child "Do you want any (more) children, now or later, eventually an adopted child?" This is analyzed with the timing of the desired birth, with the firmness of intentions themselves, as well as with the perceived partner's agreement on intentions. The three aspects are captured in the interviews through the following items: "When do you wish to have your next child?<sup>4</sup>", "Do you think you could change your mind, and finally desire (or not desire) a(nother) child?", "Does your partner desire a(nother) child now or later?"

By combining intended births with their timing, we construct a four-category measure of fertility intentions: "Yes, immediately"; "Yes, within the next five years"; "Yes, but later than in five years"; "No". The responses on the firmness and on the partner agreement of intentions are simply "Yes", or "No", and the relative indicator variables are codified together with intended fertility, and with partnership status respectively.

The second main question concerns the perception of the respondents about their likelihood to have a child. The two relative items are worded as follows: "In the next two years, do you think you will have a baby?" and "In the next five years, do you think you will have a baby?" The two items are integrated in one single variable, which does refer to a time frame of five years and in case of missing values it is complemented with information related to a frame of two years, if available. The response options are: "Yes, very likely", "Yes, probably", "Maybe 50:50", "No, probably not", "No, surely not", "Don't know".

At the completion of the longitudinal study, as well as in the intermediate wave, all births that occurred in the previous two or five years are recorded and the questions on fertility intentions are repeated. Women or men, whose partners, are pregnant in 2003 are treated as achievers, i.e., potential live births are counted as achieved children. Moreover, we consider as achievers all the people having at least one child, disregarding the information on the number of children actually born, even if people may have more than one child in the inter-surveys period.

People still intend to have a child at the completion of the study include those who are currently trying to have or to adopt a child, and those only desiring a child at the moment of the interview.

Few childless people answer "Don't know" and these people with uncertain fertility desires (1.9%) are grouped together with those who tend to leave their future open, assuming that they are closer to people expressing 'vague desires' than to respondents saying a categorical "No". 5

<sup>4</sup> The response options to this question are formulated as to build up an interval time, i.e.,: "not earlier and/or not later than two given points in time', which are optional and specified in terms of both months and years.

<sup>&</sup>lt;sup>5</sup> Uncertain answers may have a specific meaning (Morgan, 1981), but we not treat these cases separatly, since in our case there are only a few childless people with uncertain fertility intentions. Our exploratory analysis has shown that uncertainty is more often closer to to the positive responses than to the negative ones.

### 4. Measuring the 'crude' consistency between wanting and having a first child

As we see in Table 1, the large majority of childless people express a desire to become parent in 1998: 95%, of which 40% within the next five years, and 55% in a more remote future. Only 5% of respondents refuse completely the idea to form a family, and most of them are not really convinced about their decision, stating that they may change their mind: only 1% of all respondents say that they don't want any child and won-t change their mind. In general, positive intentions are more definitive than negative intentions and this supports the idea that (permanent) childless is mainly involuntary in France (Toulemon, 1996), while the deliberate choice to remain childless is a very rare option.

One out of four respondents had a child in the period of observation, and all these births come from people wanting a child five years earlier, either in a short or a long term future. Unplanned births are not observed, but the consistency rates between people wanting and having a child are nevertheless relatively low. The desire for a child, as stated in 1998, is translated in a subsequent birth for 61% of individuals wanting a baby without delay category that may identify those who have already stopped contraception -, and for 40% of those planning to have a baby within five years. Firmness of intentions does matter in the chance to meet the stated desire: almost two third of people having a child among those wanting, declared to be very firm in this intention. People postponing the choice to become parent in 1998 are not sterilized by their choice and experienced the transition to the parenthood in 12% of the cases. This group of respondents seems to be the most persistent over time in their desire to form a family, if they do not have yet one: in 2003, 81% of them are trying to have a child or do express a desire to become parent. The same percentage is only slightly lower among those who wanted a child within five years (76%), while a sort of discouragement effect is observed among people who were planning a child without delay in 1998 and did not succeed to see this desire realized five years later: only 57% keep going with their previous intention, this could be related to the obstacles encountered that may be more difficult to be overcome, since they miss the wished fertility target despite the immediate plans. Due to the very small number of respondents, these differences are not significant at the 5% level.

According to our results, positive intentions are expressed in a stronger way and are more stable over time than negative intentions. This evidence contrasts with the argument that those who do not intend to have children are less likely to change their mind as compared to those who intend to have children, as claimed by Rovi (1994). On the other hand, negative intentions appear to be more consistent with subsequent outcomes and this is in line with other literature (Westoff and Ryder, 1977; Rindfuss et al. 1988; Monnier, 1989; Rovi, 1994; Noack and Østby, 2002; Menniti, 2001).

The consistency between fertility preferences and subsequent outcomes does not improve if individuals are asked to assess their likelihood of having a child in the short-term future (Table 2). On the contrary, there are few unexpected births from respondents that had a child even though they thought not to have one five years before. Even if we restrict our attention to only positive intentions, we observe lower consistency between people wanting and having a child: 54% of those sure to have a child had actually one, 36% of those who considered probably to have a child had one, and 15% of uncertain respondents had a baby.

<sup>&</sup>lt;sup>6</sup> Interestingly, the percentage of those meeting their fertility desires found in our analysis is very close to that documented in other studies, carried out in other countries, based on different groups of respondents, and using different definitions of fertility intentions (Noak and Østby, 2002; Qu et al. 2000).

<sup>&</sup>lt;sup>7</sup> We should point out that a comparisons between positive and negative intentions, either in terms of consistency with subsequent outcomes, or in terms of persistence over time, is limited by the fact that people giving the two types of answers have a very different numerosity, respondents saying "No" being only a marginal proportion of all childless respondents.

Again the desire for a family is by far the most popular choice among the respondents: in 2003 the vast majority of those who did not have a baby do think to have one in a close future.

## 5. Logistic regression models

We estimate several logistic models where the response variable is in turn equal to 1 if respondents:

- 1) desire to start a family within five years;
- 2) think likely to have a child within five years;
- 3) have a child in the five years following the initial survey.

Several exogenous explanatory variables collected in 1998 are included in the models, namely: gender, age, marital and de facto conjugal status, enrolment in school, educational level, employment status, household income, religiousness, fecundity impairments. The same set of covariates is considered in the three models with the only exception of the intentions to have a child, included only in the last model as a covariate.

Age of the respondents and household income are the only two continuous variables. Both are centered, age at 30 years, and income at the average income category. The numerical variable "age 30" is equal to (age-30)/10, and the income variables takes 12 values from -1.5 to 1.25, the median value being set at 0.

All other covariates are categorical and transformed into dummy variables.

The marital status is codified using three categories: single, cohabiting, and married. The "single" group covers unmarried, separated, divorced, and widowed people. In some of the models estimated in the paper those who remain single for the whole period of the study are separated from those who are single in 1998 but declare to have a partner in 2003<sup>8</sup>. The relationship status has a relevant impact on men's and women's intentions about whether or not to have children, and not only having a stable partner, but also the changes in the relationship status may affect the fertility preferences and outcomes (Qu et al. 2000; McDonald, 2002).

The union duration, measured in years, is included with a set of dummy variables: 0-2 years, 3-6 years, and 7 years or more, and is related only to those into a partnership at the time of the first wave, in 1998.

The variable on education is referred to the highest level of completed study and contains three separate dummies denoting, respectively, people with low, medium, and high education, that correspond to unfinished secondary education, completed secondary studies, and university degree. A separate covariate indicates those who are still enrolled in the schools and not receiveing any paid remuneration, since in this last case they are classified according to their lower level of already accomplished studies.

The employment status distinguishes those who are employed from those who are not active or seeking for a job.

Religiousness characterizes those who are practicing a religion, either regularly or occasionally, from those having only a religious feeling or not religious at all.

Fecundity impairments are referred to difficulties in having a child in the period before the first wave of the interview. The relative group encompasses women, or partner, if men,

<sup>9</sup> In principle, a dynamic analysis of the partnership status would imply a control for those living in a couple who split up in the period between the three waves. Since the number of those married, or cohabiting at the initial wave are very low, we did not do it.

<sup>&</sup>lt;sup>8</sup> We do not consider as living in a union in 2003 those respondents entering the partnership after the conception of a child, because strictly speaking, we cannot assume that the new union is a 'cause' of a previous event, i.e., the birth of a child.

who failed a desired pregnancy, or doubt about their ability to have children, or use medical methods to try to have a birth, or experienced a pregnancy without a live birth. <sup>10</sup>

A description of the variable used in the models is reported in Table 3.

#### 6. Results

6.1 People wanting to start a family in the five years following the initial interview

As we see from the logistic regression models for wanting a first child within five years (Table 4), variables influencing the decision to become parent in a short time period are age, marital status, union duration, and income. Being single, as well as the length of the union duration for people in couple, decreases the chance to plan a child in the following five years. Similarly, income has a negative effect on the plans to start a family in the short-term future.

Individuals who have already encountered fecundity impairments are more likely to desire to start a family in the following five years, probably because of a selection effect: people already knowing the limits of their ability to reproduct are also those who presumably have already tried to have a baby, and are more likely to want a child at the time of the interview.

Age has a positive influence on short-term fertility plans. However, since the age effect is squared, it may be interpreted more clearly with a graph plotting the predicted probabilities by age. In Figure 1, we see how the likelihood of wanting a child within the next five years is increasing till the age of 30 years, and declining afterwards but only slowly, so that at 40-45 years there are still many respondents planning a family in a close future. People who have postponed the time to become parent may feel a strong desire for a fertility recuperation in later reproductive ages that does not always come true, due to the lower fecundity of people at these older ages, or to other external constraints. The phenomenon may also be related to the attitude of individuals to consider childbearing as an event always possible in life, by ignoring the limits imposed by their biological clock, a possibility that involves especially men, who are not separated from women in our analysis.

Respondents become a bit more realistic if they are asked to make a forecast of their fertility in the next 5 years: the proportion of those still considering childbearing, either surely or probably, as a possible event in the short term future becomes smaller at age 45, as compared to the proportion of those wanting a child at the same ages (Figure 1).

Interestingly, the gap between the probability of wanting and having a child is constant till the age of 30, then widening with age, and reaching a peak at the extreme reproductive ages, i.e., 40-45 years (Figure 1): not all the desires come true, especially if they are expressed by older people who may encounter more or stronger difficulties in meeting a positive outcome.

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<sup>&</sup>lt;sup>10</sup> We are not able to identify the extent to which partners have conflicting preferences for future fertility, since both partners were not interviewed, but the respondent reported the partner's preferences, and consequently, the responses may be biased by the respondent's view. Moreover, the question on partner's intentions does not contain any temporal reference. These two features cause that if a respondent did not want to have a child within five years, in most of the cases partner does not want either. However, this does not necessarily mean that an agreement within the couple is more often reached if the respondent does not intend to become parent. Since the respondent is not planning to have a child in the next future, she/he may not have a clear idea whether the partner wants or does not want a child, because she/he may have not put the question on the table. In order to avoid this problem, we have constructed a variable on partner's intentions only within the category of individuals wanting a child in five years, as contrasted by those wanting a child in more than five years. The effect of the related covariate – limited by such a construction - was never significant, and then not shown here.

Different results are obtained by looking at the total number of children desired. Findings coming from the Fertility and Family Surveys data that show that consistency between intentions and behaviors becomes particularly high as women move through their reproductive years (van de Kaa, 2001). The improved consistency is explained with the fact that older women are more familiar with the obstacles to childbearing, such as the costs of rearing children and competing demands from jobs, divorce, medical problems and so forth; and they are likely to make an ex-post rationalisation of their expected number of children, an adjustment typical for couples beyond the fertile age.

Here, on the contrary, we see how childless people increase their desire to become parent when they approach the late reproductive years, they have posponed till these ages and they know that they should start a family in the immediate future if they actually want to do it, but only part of them will be successfull in meeting their desire.

#### TABLE 4 ABOUT HERE

#### FIGURE 1 ABOUT HERE

#### 6.2 People starting a family in the five years following the initial interview

The factors predicting who will actually go on have a birth in the period of study are similar to those influencing the desire to form a family in a short run. The only relevant exception is constituted by the different influence of the economic conditions, which is mainly exerted by a negative significant effect of being unemployed in the models for having a child, and by a negative significant effect of household income in the models for wanting a child (Tables 4 and 5). Unemployment hinders the birth of a first child as other authors argued (Meron and Widmer, 2002), but does not prevent people to make short term fertility plans.

Consistently with other studies (Schoen et al. 1999; Qu et al. 2000; McDonald 2002), marital status is the most relevant life course variable influencing the childbearing outcome. Being single is decreasing the chance to have a child, and the effect appears only slightly lower for respondents finding a partner in the period between the two surveys, meaning that a child is not very likely at the beginning of a new relationship and it usually takes some time to plan and start a new family. Cohabitants have more often a child than married couples but the effects are not significant once controlling for union duration, even though more than half of all first children are born to unmarried couples in France.

Male respondents appear in our models less likely to have a child within the five years observed. This result would require a further investigation on the possible interaction effects between being male and the other explanatory variables, in order to see whether men evidence a completely different model of transition to parenthood as compared to women. However, we did not do it, because the already small sample size would question the significance of the relative results.

Fertility intentions appear to be one of the most important covariates explaining the transition to parenthood. This is particularly true if intentions are expressed as respondents's perceived likelihood to have a child within five years. The certainty of intentions does also matter, but its contribution to the predictive accuracy of intentions is limited: the effect of wanting a first child slightly increases if the wish is expressed in a stronger way, while the effect of the likelihood to have a child is the same if such a likelihood is considered very sure or only probably by the respondents. Once the intentions covariates are introduced in the models, the effects of the other covariates, both in terms of significance and magnitude, do not change substantially. This evidence supports the argument that fertility intentions contain additional information and do not simply mediate the effects of other variables (Shoen et

al.1999), even though the same factors predicting short-term fertility intentions are predicting also subsequent actual fertility.

A significant interaction effect exists between the perceived likelihood to have a child and the educational level. Highly educated respondents are more able to anticipate their future: if they consider likely to have a birth within five years they reach more often this target in the subsequent period. A similar interaction effect, although smaller, is observed when the intentions are codified with the wish to have a first child.

In the logistic regression analysis, differently from the bivariate analysis (tables 1 and 2), the question on the perceived likelihood of having a child does perfom better than the question on fertility desires, as we may argue from the better fitting of the model including this covariate, which is evidenced by the value of the Aic criterion (Table 5). However, the better performance of this variable has scarce consequences on the predictive power of fertility intentions (Table 6). The error rates from the model including the perceived likelihood of having a child as a covariate (Model V in Table 5) are not substantially different from the error rates derived from the model excluding such a covariate (Model I in Table 5): in both cases the probability to predict a child when the actual outcome is no child is around 5%, while the probability to predict no child when the actual outcome is a child is around 10%, meaning that the predictive power of the model does not increase once fertility plans are added in the list of the explanatory variables. The predictions are more precise for the following sub-groups of individuals: male, single, still studying, and younger people.

#### TABLES 5 AND 6 ABOUT HERE

6.3 Childless people postponing the birth of a first child in the whole follow up period

The factors characterizing persistent postponers are individuated in the models where the dependent variable is, respectively, equal to 1 if respondents:

- wanted a child in more than five years at the initial survey, in 1998, did not have a child in the years 1998-2003, and still want to have a child at the end of the follow up period (so called *voluntary postponers*);
- wanted a child within five years in 1998, did not have a child in the period 1998-2003, and still want a child in 2003 (so called *involuntary postponers*).

The most relevant covariates influencing voluntary postponement are age and marital status, with lower probability to keep over time long term childbearing plans for older people, and higher probabilities to delay fertility plans for single respondents (Model I in Table 7). Age and length of union duration are the most important factor determining involuntary postponement: those who failed to have a desired birth and still want to start a family five years later are probably those who cannot have a child due to the older ages and the consequent limited fecundity. While non statistically significant, the other covariates clearly oppose two stes of "postponers". Factors related to strong constraints, or low control on fertility, are associated with involuntary postponement: low education, low income, unemployment, strong religiousness. On the contrary, high education, high income, no religiousness, and absence of fecundity impairments are positively associated to voluntary postponement.

TABLE 7 ABOUT HERE

FIGURE 2 ABOUT HERE

#### 7. Discussion and concluding remarks

The French survey on Fertility Intentions (EPCV) has proved a valuable source of individual level data on fertility intentions and behavior. However, the small sample size prevents us to make a more stratified analysis by age and gender, and implies that our conclusions remain tentative.

The evidence contained into the data suggests that the desire to start a family is a quite pervasive one among childless people in France. However, short term fertility plans, as expressed by childless respondents in 1998, tend to overestimate the actual births occurred in the subsequent period, 1998-2003, and if intentions are expressed in terms of perceived likelihood to have a child, the "errors" are not only due to lack of births, but also to unexpected births.

The explicit indication of the time to which intentions are to be referred is a prerequisite to study the impact of intentions on subsequent reproductive behaviour (in accordance with our Hypothesis 1). For example, being single, or having a high income, has a negative effect on the desire to form a family within five years. Moreover, the likelihood to desire a birth in a short time period increases with age and decreases slowly only in the most mature reproductive ages, so that many people still plan a family at the age of 40-45 years, trying to recuperate the previously lack of fertility and ignoring the limits imposed by their biological clock.

Despite many childless people overestimate their future fertility, intentions do have a relevant influence in predicting who will actually go on having a birth (in accordance with our Hypothesis 2). In the logistic regression models, estimated fertility preferences show the largest odds ratio among all the covariates considered, and moreover, they leave the value of these other covariates almost unchanged. This finding is consistent with those of Schoen et al. (1999) who argued that intentions are not merely transient phenomena mediating the effects of other life course variables.

The influence of fertility intentions do improve when they are more precisely defined in terms of strength, or when respondents are asked to make themselves a forecast about their future reproduction, as we may argue from the better fitting of the models including the more refined covariates. However, the improvements obtained are not so relevant to change substantially the proportion of error rates generated by the models. Intentions have only little consequences on the predictive power of the models estimating the probability of having a first child, independently on how they are codified. This evidence supports the arguments which question the usefulness of fertility intentions in fertility forecasts.

Differently from evidence documented in other literature (Noack and Østby, 2002; Menniti, 2001), educational level turns out to improve the predicitve accuracy of intentions. People with high level of education are more likely to pospone the decision to become parent and less likely to plan a child within a short time horizon, but if they think likely to have a child in the close future, they have a child more likely in the subsequent period (in accordance with our Hypothesis 3). This is probably because they are more able to foresee the obstacles that they may encounter in the realization of their reproductive desires.

Among other demographic and socio economic factors influencing the transition to parenthood, marital status is the most relevant one. Having a partner is a key variable affecting the chance to start a family, since it turns out to be a pre-condition not only to have a family, but also to plan a family in a short time period. While for people in a couple the

duration of their union does matter: people living together since more than three years have less chance to have a child in the next five years.

An important negative effect on family formation is exerted by the unemployment status that hinders the probability to become parent, while it does not affect the likelihood to plan a child within the next five years. The role of the economic conditions, as captured by the level of household income, is rather complex: a good economic situation seems to encourage people to postpone fertility plans, but exerts also a positive effect, although not significant, on the chance to have a child, when controlling for fertility intentions.

Apart from the single status that is positively associated to either voluntary or involuntary postponement, most of the other demographic and socio economic factors considered have a different effect, although not statistically significant, on the two groups of childless postponers (in accordance with our Hypothesis 4). Age is a key variable influencing postponement: as people move through their reproductive ages they tend not to postpone longer their fertility plans, but the replacement of delaying childbearing plans (postponement) by the intention to start a family immediately occurs sometimes too late in the individuals life to be translated in actual fertility, and some of the childless people are then forced to remain without children, although they have made a clear choice to become parent late in their life.

Our analysis presents also some caveats. First, fertility intentions, like many other covariates in the models, are likely to be modified over the life course in response to changing socio-economic and demographic circumstances, and we are able to monitor such changes only partially, since we only have the information at the completion of the study, in 2003, if any. However, even if we could monitor the individuals, the sample size is not large enough to warrant the inclusion of these additional time-varying characteristics in our models.

Second, further research is required to investigate the extent to which those who did not achieve to have a birth were unable to do it for biological reasons as opposed to social or economic constraints.

Finally, in the literature it has been shown that having children is a couple joint decision (Thomson 1997; Voas, 2003; Weston et al. 2004), but with the data at hand we have limited scope to investigate this topic, since the partner's intentions are reported by the respondents and not directly stated by the partners themselves, and do not appear to be significant.

The meaning of intentions has to be interpreted beyond their usefulness in population projections. The circumstances that actual behaviour is not always consistent with earlier stated preferences has simply to do with the unforeseen obstacles intervening in the implementation of reproductive choices. After all, people may not be able to predict their future fertility as they cannot predict things in other domains. There is always a random component depending on other variables that makes projections and expectations distant from reality. This implies that fertility preferences are only one component in the fertility process, relevant though not completely predicting the future.

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#### **TABLES AND FIGURES**

Scheme 1 – Possible outcomes from the combination of childbearing intentions and subsequent behavior

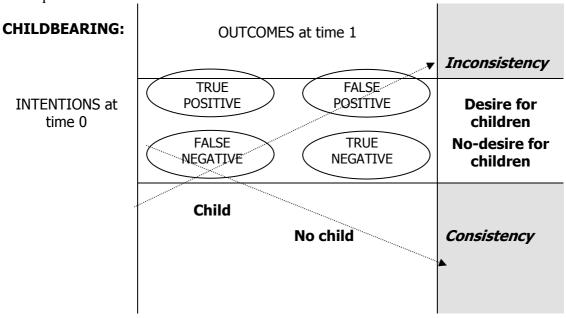


Table 1. Wanting a child in 1998 versus having a child in the five following years

DO YOU WANT A CHILD?	Distribution in	Have a child in	Want <sup>a</sup> a child
	1998	2003	in 2003
Yes, immediately	8.4	61.0	56.8
Yes, within five years	32.2	42.2	76.3
I may change my mind	8.9	12.4	18.9
I will not change my mind	23.3	29.8	57.4
Yes, but later on	54.9	11.6	81.8
No	4.5	0	13.6
I may change my mind	3.4	0	13.6
I will not change my mind	1.1	0	0
Total N=363	100	25.1	75.3

Note.(a) Figures are referred only to those who did not have a child by the end of 2003.

Table 2. Respondents' estimated likelihood of having a child in 1998 versus having a child in the five following years

DOU YOU THINK YOU WILL	Distribution in	Have a child in	Want <sup>a</sup> a child
HAVE A BABY IN THE NEXT	1998	2003	in 2003
FIVE YEARS?			
Yes, surely	28.4	53.5	83.4
Yes, probably	13.9	36.3	62.3
Maybe, 50:50	29.9	14.9	76.5
No, probably not	11.4	2.0	79.4
No, surely not	16.5	1.2	70.9
Total N=363	100	25.1	75.3

Note.(a) Figures are referred only to those who did not have a child by the end of 2003.

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Table 3 -	Description	of variables	appearing in	the model
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	nables appearing in the model.	Mean	Carp. Devi	Mar	Marr
VARIABLES	DESCRIPTION	MEAN	STD. DEV.	MIN	MAX
AGE (in years)	Age of respondents	0	0.71	-1.5	1.5
GENDER					
Female	1=female; 0 otherwise	57	0.50	0	1
Male	1=male; 0 otherwise	43	0.50	0	1
WANTING A CHILD					
No	1=no; 0 otherwise	5	0.21	0	1
Yes, within five years	1=in five years; 0 otherwise	41	0.49	0	1
Yes, within five years	1=five years and convinced; 0				
and firmly	otherwise	31	0.46	0	1
Yes, within five years	1=in five years and not convinced; 0	10	0.20	0	1
but not firmly	otherwise	10	0.30	0	1
Yes, but later	1=later; 0 otherwise	55	0.50	0	1
<u>LIKELY TO HAVE A</u> <u>CHILD</u>					
Yes, surely yes	1=surely yes; 0 otherwise	28	0.45	0	1
Yes, probably yes	1=probably yes; 0 otherwise	14	0.45	0	1
May be	1=may be; 0 otherwise	30	0.33	0	1
No, probably not	1=probably noT; 0 otherwise	11	0.40	0	1
No, surely not	1=surely noT; 0 otherwise	16	0.32	0	1
MARITAL STATUS	1-surery not, o otherwise	10	0.57	U	
WARTAL STATUS					
Married	1=married; 0 otherwise	10	0.31	0	1
Cohabiting	1=cohabiting; 0 otherwise	16	0.37	0	1
Single	1=single; 0 otherwise	74	0.44	0	1
Single in 1998, not in 2003 <sup>a</sup>	-	47	0.50	0	1
Single in the whole period <sup>b</sup>	1=single up to 2003; 0 otherwise	25	0.44	0	1
UNION DURATION	1 bingle up to 2005, 0 other wise		0.11		
Up to 2 years	1=0-2 years; 0 otherwise	12	0.32	0	1
3 to 6 years	1=3-6 years; 0 otherwise	9	0.29	0	1
7 years or more	1=7+years; 0 otherwise	6	0.23	0	1
EDUCATION					
Low level	1= low; 0 otherwise	10	0.50	0	1
Medium level	1=medium; 0 otherwise	17	0.30	0	1
High level	1=high; 0 otherwise	28	0.38	0	1
Enrolled	1=enrolled; 0 otherwise	46	0.45	0	1
<u>EMPLOYMENT</u>					
Employed	1= employed; 0 otherwise	43	0.50	0	1
Not employed	1=unemployed; 0 otherwise	9	0.28	0	<u>1</u>
HOUSEHOLD INCOME					
T ( ) ( ) ( ) ( )		_	0.60		1.05
Income (categorical)		0	0.69	-1.5	1.25
<u>RELIGIOUSNESS</u>					
Religious	1= religious; 0 otherwise	31	0.46	0	1
FECUNDITY	i rengious, o otherwise	31	0.40	U	1
ILCUNDITI					

FECUNDITY IMPAIRMENTS Fecundity impairments 1= impairments; 0 otherwise 14 0.34 0 1

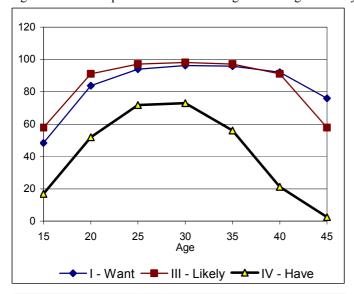
(a) Entering the union before the conception of the first child(b) Single at the first and at the third wave, or entering a union after the conception of the first child.

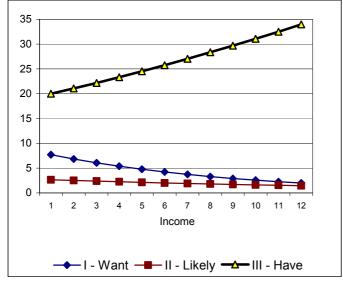
Table 4 Odds ratio for wanting, or thinking as likely, a first child within five years at the initial wave (1998), and for having a first child at the last wave (2003).

Models response variable						
	I - Wanting a child within five years		II – Likely to have a child within five years		III – Having a child within five years	
Wanting a child > 5 years					1	
Wanting a child < 5 years					2,6	*
Female	1		1		1	
Male	0.7		0.5		0.5	*
Age 30	1.5		1.0		0.5	
Age 30 squared	0.3	***	0.2	***	0.2	***
Married	1		1		1	
Single	0.1	**	0.1	***	0.1	**
Cohabiting	1.2		0.8		1.2	
Union of 0-2 years	1		1		1	
Union of 3-6 years	0.1	***	0.4		0.6	
Union of 7+ years	0.2	*	0.3		0.3	
Not enrolled	1		1		1	
Enrolled	0.3		0.4		0.6	
Low education	1		1		1	
Medium education	0.4		0.3	*	0.8	
High education	0.4		0.3		0.8	
Employed	1		1		1	
Unemployed	0.7		0.5		0.1	**
Income	0.6	*	0.8		1.3	
Not religious	1		1		1	
Religious	1.6		1.7		1.7	
No fecundity impairments	1		1		1	
Fecundity impairments	3.2	**	1.1		1.7	
Constant	25.8	***	51.4	***	2.7	
Log-L	-172.7		-168.9		-131.0	
N	363		363		363	

legend: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001

Figure 1 Predicted probabilities of wanting and having a child by age, and by income.





Note. Estimates from Models I, II, and III, in Table 4.

Table 5 Odds ratios for having a first child within five years, by 2003.

lable 5 Odds ratios for having a f	not cim	4 111		<i>y</i> ca	MOD					
	ı		II		III	LLO	IV		V	
Wanting a child in more than 5 years	''-		1							
Wanting a child in less than 5 years			2.5	*						
Wanting a child in more than 5 years			2.5				1			
Wanting a child < 5 years. firmly							2.8	*		
Wanting a child < 5 years. not firmly							2.1			
No likely or prob. a child in 5 years							2.1		1	
Likely or probably a child in 5 years									1.3	
Yes. very likely a child in 5 years					15.8	*			1.5	
					16.4	*				
Yes. probably					7.6					
May Be					0.7					
No. probably not										
No. surely not					1					
Female	1	*	1	*	1		1	*	1	*
Male	0.5		0.5		0.5		0.5		0.5	
Age 30	0.5	***	0.5	***	0.5	*	0.5	***	0.5	***
Age 30 squared	0.2		0.2		0.4		0.2		0.2	
Married	1	***	1	**	1	**	1	**	1	**
Single in 1998	0.1	***	0.2	**	0.2	**	0.2	**	0.1	**
Single in the whole period	0.1		0.1		0.1		0.1		0.1	
Cohabiting	1.4		1.2		1.2		1.2		1.2	
Union of 0-2 years	1		1		1		1		1	
Union of 3-6 years	0.4		0.6		0,6		0,6		0,5	
Union of 7+ years	0.2	*	0.3		0.3		0.3		0.2	*
Not enrolled	1		1		1		1		1	
Enrolled	0.5		0.5		0.5		0.5		0.5	
Low education	1		1		1		1		1	
Medium education	0.7		0.7		8.0		0.7		0.7	
High education	0.7		8.0		1.0		8.0		0.1	*
High education*Likely a child									11.7	**
Employed	1		1		1		1		1	
Unemployed	0.1	**	0.1	**	0.1	*	0.1	**	0.1	*
Income mean	1.1		1.2		1.3		1.2		1.2	
Income mean squared	0.9		0.8		0.9		0.8		0.9	
Not religious	1		1		1		1		1	
Religious	1.8		1.7		1.7		1.7		1.5	
No fecundity impairments	1		1		1		1		1	
Fecundity impairments	2.2		1.7		2.0		1.7		2.3	
Constant	7.1	*	2.7		0.3		2.7		4.6	
Log-L	-134.1		-131.0		-124.8		-130.3		-125.0	
Aic	302.3		297.0		291.6		298.7		288.0	
N	363		363		363		363		363	

Legend: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001

Table 6 Error rates from the estimated models with and without the variables on fertility intentions<sup>(a)</sup>

Variables	Without in	ntentions	With in	N	
	Pr(yes no)	Pr(no yes)	Pr(yes no)	Pr(no yes)	
Married or Cohabiting	9.9	10.2	14.9	8.5	99
Single	0.3	11.1	2.0	10.2	264
Male	3.2	8.3	3.2	7.7	141
Females	7.2	12.8	7.0	11.2	222
Aged up to 29	4.9	9.8	4.4	8.8	280
Aged 30 or more	8.1	16.1	10.2	14.3	83
High Education	11.2	14.4	8.6	10.0	111
Low or Medium Education	6.0	11.5	8.2	12.6	100
Enrolled	2.2	8.7	2.3	8.1	152
TOTAL	5.5	10.9	5.4	9.7	363

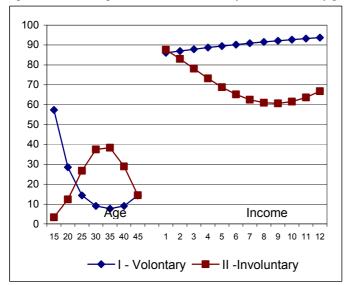
*Note.* <sup>(a)</sup> The table presents the probabilities Pr(predicted|outcome), where predicted is the prediction of the models. Models I and V from table 5 are used to estimate the error rates of the models without and with the fertility intentions. However, no relevant differences are observed if the other fertility intentions covariates are used.

Table 7 Odds ratios for persistent postponement of a first child, voluntary and involuntary (a)

	MODELS (a)				
	I – Voluntary postponement	II – Involuntary postponement			
Female	1	1			
Male	1.1	0.8			
Age 30	0.5	1.7			
Age 30 squared	2.0 *	0.4 *			
Married	1	1			
Single in 1998	18.0 **	1.2			
Single in 1998 and 2003	24.6 *	2.8			
Cohabiting	1.9	1.6			
Union of 0-2 years	1	1			
Union of 3-6 years	5.3 *	0.1 *			
Union of 7+ years		1.1			
Not enrolled	1	1			
Enrolled	1.4	0.5			
Low education	1	1			
Medium education	0.6	0.5			
High education	1.3	0.4			
Employed	1	1			
Unemployed	0.3	1.5			
Income mean	1.4	0.7			
Income mean squared	1.0	1.5			
Not religious	1	1			
Religious No fecundity	0.8	1.2			
impairments	1	1			
Fecundity impairments	0.3	1.0			
Constant	0.1 **	0.6			
Log-L	-167.9	-136.2			
N	363	363			

legend: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001

Figure 2 Predicted probabilities of voluntary and involuntary postponement by age, and by income.



Note. Estimates from Models I, and II, in Table 7.

# Appendix

Question wording of fertility intentions items from the French questionnaire:

Questions:	
Q71 Do you want any (more) children, now or later, eventually an adopted child?	«Souhaitez-vous avoir (encore) des enfants un jour, maintenant ou plus tard, éventuellement un enfant adopté?» (en plus de celui que vous attendez)
Q74 When do you wish to have your next child?	«Dans combine de temps souhaitez-vous avoir votre (prochain) enfant? »
Q75 and Q82 Do you think you could change your mind, and finally desire (or not desire) a(nother) child?	«Pensez-vous que vous pourriez changer d'avis, et finalement ne pas vouloir [or vouloir] un (autre) enfant? »
Q90 In the next two years, do you think you will have a baby?	«Dans les <u>deux ans</u> qui viennent, pensez-vous que vous aurez un (autre) enfant (en plus de celui que vous attendez)? »
Q91 In the next five years, do you think you will have a baby?	«Dans les <u>cinq ans</u> qui viennent, pensez-vous que vous aurez un (autre) enfant (en plus de celui que vous attendez)? »