

It wasn't expected: consequences of unplanned births for couple and employment trajectories

Preliminary draft

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Short abstract

Despite a decrease over the last decades, rates of unplanned births (either unwanted or mistimed) remain high, even in Western contexts of high contraception coverage and accessible abortion services. A rich literature has explored the negative consequences of unplanned births for children and parents' wellbeing. Much less is known about the subsequent demographic and socioeconomic trajectories.

This paper analyses the consequences of unplanned births for conjugal and employment trajectories in France. We use nine waves of the large epidemiologic Constances Cohort study on the subset of women who reported the arrival of a child (N = 3,011 women, with 14,533 observations), matched with administrative employment data. Unplanned births (N=736) are identified by the comparison between declared fertility intentions with their subsequent realization, avoiding bias linked to ex-post rationalization bias. We use event study model with control groups of mothers having a planned birth, or age-comparable childless women. We also consider heterogeneity in the response to unplanned birth, by parity and educational level.

The results show that, compared to mothers having a planned birth, women who have an unplanned birth are less likely to be in a partnership before giving birth and are more likely to experience union dissolution after. They are less likely to be employed before and have a bigger drop in employment rate (and income for those working) one year after the birth. While they recover to a similar employment rate two or three years after the birth, their income level remains lower.

1. Introduction

Rates of unplanned fertility remain surprisingly high, even in contexts of high contraception use, such as the French one (Finer and Zolna 2016; Mosher, Jones, and Ab 2012). An unplanned birth can be a disruptive event, as it changes women and couples' lives at a time when they might be unprepared for it. The consequences can affect virtually all life dimensions: health and wellbeing, partnership, employment.

A rich literature has explored the consequences of unplanned pregnancies and births for children and parents' wellbeing, suggesting that unplanned births can negatively affect a number of outcomes. First of all, women bearing an unplanned pregnancy are more likely, compared to women with a planned pregnancy, to receive insufficient or late antenatal care (Goossens et al. 2016; Chatterjee and Sennott, 2020). They also tend to

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experience higher levels of stress (Goossens et al. 2016) and more depressive symptoms during pregnancy (Yanikkerem et al. 2012; Faisal-Cury et al. 2015), and post-partum (Najman et al. 1991), and to engage in unhealthy behaviours such as smoking and drinking alcohol and caffeine during pregnancy (Joyce et al. 2000; Hellerstedt et al. 2011; Goossens et al. 2016). The few studies that examined the effects for parents' health and wellbeing after the perinatal period (Stidham et al. 2017) have suggested that unplanned births might also have important consequences in the longer run. Mothers who experienced an unplanned birth are more likely to suffer from depression and lower levels of happiness (Barber et al. 1999; Su 2012) and physical health (Barbuscia et al. 2024) in the years following the birth. They also show more negative relationships with their children (Barber et al. 1999) as well as reduced quality of relationship with their partners and higher risk of separating, compared to planned births (Guzzo and Hayford 2012).

While these results provide evidence that unintended fertility might be associated with several risk factors for women's employment and income trajectories, the existing research on the maternal outcomes of unintended childbearing has paid little attention to socioeconomic outcomes. Early studies on the effects of family planning (through the spread in the access to the contraceptive pill) showed that experiencing unplanned births at very young age might affect women's educational attainment and employment rates (e.g. Sonfield et al 2013). However, evidence on the consequences of unplanned births at adult ages for women employment trajectories is lacking.

In general, most studies on unplanned fertility have focused on the socioeconomic conditions where unplanned births are likely to occur, or on trajectories after birth although without taking into account pre-birth conditions. This limits their ability to draw conclusion on whether the observed outcomes are the consequences of experiencing unplanned births, or rather linked with the demographic and socioeconomic conditions where these births are more likely to occur. The evidence that unplanned births tend to occur mainly among younger, unpartnered women with lower education levels suggest that unplanned fertility (Finer and Henshaw, 2006; de La Rochebrochard and Joshi, 2013, Hayford and Guzzo 2016) might be linked with structural inequalities, and lead to process of cumulation of disadvantage.

In this study, we contribute to the existing evidence by examining the effect of having an unplanned birth for couple trajectories (formation and separation) and women's employment (employment participation and income). We contribute to the existing literature in several ways. First of all, no study has examined dynamically employment trajectories following an unplanned birth. Second, while most of the existing literature has relied on retrospective measures of unplanned birth, which may be at risk of recall or post-rationalization biases, we build a prospective measure of unplanned childbearing, based on declared fertility intentions and subsequent realization. Third, the study adopts a longitudinal design, which allows to disentangle the effects of experiencing an unplanned birth from pre-pregnancy conditions. Last, it is the first one to analyze the consequences of unplanned births in the French context.

2. Background

2.1. Childbirth as changing life event: couple relationship and employment

Childbirth is a main life event that affects virtually all life domains. First, it is strictly linked with partnership status. Despite an increase in non-cohabiting childbirth, marital or cohabiting relationships are still widely considered the appropriate context for having children (e.g. Kiernan, 1999). Hence, experiencing childbearing has consequences in terms of couple formation and dissolution. The existing studies on the effect of pregnancy and childbirth for family formation show that women who give birth outside of a relationship are very likely to start cohabiting with a partner and get married during pregnancy and shortly after delivery (Goldscheider and Waite 1986; Brien et al 1999; Baizan et al 2003). It is suggested that single women might enter a relationship because of the desire to offer their child the social and economic protection that is linked with a dual partner family, and because of normative pressure to “normalize” their childbirth. On the other hand, theories of marriage market search argue that cost of searching for a partner increase after having a non-marital birth, which means women might spend less time looking for a partner.

The literature on the effects of childbirth for couple dissolution is consistently more extended and seems overall to agree that childbearing has a protective effect for couple separation, at least for the first children, and while they are young (Lyngstad and Jalovaara 2010; Morgan and Rindfuss 1985; Waite and Lillard 1991). Results vary across countries, but the literature seems to agree on the general stabilizing effect of the first child and young kids (Andersson 1997; Heaton 1991), while it is much weaker for subsequent births and when the children are older (Andersson 1997; De Graaf and Kalmijn 2006; Waite and Lillard 1991). On the contrary, evidence from different European countries shows that childless unions tend to be relatively unstable, and a larger fraction dissolve compared to unions with children (Andersson and Philipov 2002).

The evidence on the effect of childbearing for women employment is wide. A huge body of research has analysed the impact of childbirth on maternal labour market outcomes and has identified a significant 'motherhood penalty' in terms of labour force participation, working hours and income (Budig & England, 2001; England et al., 2016; Killewald & Gough, 2013; Kleven, Landais & Sogaard, 2019). This penalty arises with the birth of the first child and increases with parity. It also varies depending on the age of the child; it is strong in the first two years after birth, then decreases, but does not disappear 10 years after birth (Kleven, Landais & Sogaard, 2019). Several factors explain this penalty. Difficulties in balancing work and family life can lead to withdrawal from the labour market or a switch to part-time work (Drobnič, Blossfeld & Rohwer, 1999). Mothers can also seek employment with more family-friendly companies, which may offer lower salaries but provide greater flexibility, allowing them to better balance work and family life (Goldin, 2014; Goldin & Katz, 2016).

Women who anticipate motherhood may opt for these child-friendly occupations prior to childbearing in order to minimize the expected career cost of children (Adda, Dustmann & Steven, 2017). Furthermore, employers' perceptions of mothers' lower productivity or commitment can result in mothers experiencing lower wages, less opportunity for professional advancement, and reduced access to employment opportunities (Jessen, Jessen & Kluge, 2019).

2.2 Stress and material hardship leading to more disruptive effects of unplanned births

We argue that experiencing unplanned births might represent a more disruptive event for women's couple and employment trajectories compared to experiencing a planned birth, because of a number of reasons. Unplanned births might have stronger psychosocial effects for mothers, in particular related to the high levels of stress they are exposed to both during pregnancy and after birth, and to feelings of powerlessness linked to life transitions out of the normative time. (Su 2012; Carlson, 2010). Norms and expectations create a socially prescribed order to life events; if pregnancy, childbirth and the first years of childrearing are often stressful, as demonstrated by the higher levels of stress and depression observed among mothers of young children, mistimed transitions may then be associated with more negative consequences (Elder and Shanahan, 2006). Furthermore, the discordance between fertility intentions and outcomes may be associated with mental health problems (Maximova and Quesnel-Vallée, 2009).

Experiencing an unplanned birth may also affect mothers' material conditions (Kavanaugh et al. 2017), at times leading to economic hardship (de La Rochebrochard and Joshi, 2013). Financial security is a main pre-condition for fertility decisions (Kreyenfeld 2010; Su and Addo 2018). Unplanned births might lead to higher risk of experiencing financial difficulties, as they can occur at a time when parents do not have the means to provide for child-rearing and -caring costs. Furthermore, they might have consequences in terms of family organization and time availability linked to child-caring, to a larger extent compared to planned births, as they women and couples could not prepare for the changes linked to an unexpected event.

The life-course consequences linked with the experience of any childbirth might thus be accentuated in the case of unplanned births, as women find themselves with less resources, both mental (powerlessness), material (financial strain) and organizational to face these consequences.

Couple stability

Stress accumulation and its consequences for maternal mental health, as well as financial and organizational struggles that may derive from an unplanned births, might have consequences for couple relationship and stability (Hayford and Guzzo, 2020; Biotteau et al. 2019; Monden and Unk 2013). In line with these expectations, the

empirical evidence shows that an unplanned birth at any parity is associated with increased risk of couple separation even when accounting for stable unobserved characteristics using fixed-effects models (Hayford and Guzzo 2012). This is partly due to the fact that many of the relationships in which unplanned births occur are unstable, especially if parents never marry (Gibson-Davis 2016). Furthermore, if women experiencing an unplanned birth tend to rush to enter in a partnership during pregnancy and right after birth (Baizan et al 2003), these relationship might be less “solid”, thus at higher risk of dissolution. An unplanned birth might also be associated with poorer mental health for men, which in turn has deleterious effects on the ability of first-time fathers to effectively co-parent with their partners, thus on mother–father relationship happiness, net of controls for parent characteristics, household characteristics, and child characteristics (Bronte et al 2009).

In light of the results of the literature, we expect women who experience an unplanned birth to be at higher risk of couple separation (HP1).

Employment trajectories

Empirical evidence as well as theoretical considerations suggest that unintended fertility is associated with a number of risk factors for maternal poor socioeconomic outcomes, including employment trajectories, both because of processes of stress accumulation and health effects, and because of the consequences on material conditions. However, only a few studies have specifically examined the effect of unplanned childbearing for maternal socioeconomic outcomes, and no study so far has looked at maternal employment and income. The literature examining the effects of unplanned fertility on education usually focused on teen pregnancies, assumed to be for the majority unplanned, mainly in the US context (Sonfield, Hasstedt, Kavanaugh, & Anderson, 2013). Historically, the effect of having access to contraception on educational attainment, workforce participation, and economic stability is widely established. For example, legal access to the contraceptive pill was positively associated with women’s postsecondary educational attainment, labor force participation, and earning power (Ananat & Hungerman, 2012; Goldin & Katz, 2002). Similarly, teen childbearing is linked with a lower educational attainment and teen labor force participation (Hofferth, Reid, & Mott, 2001; Klepinger, Lundberg, & Plotnick, 1999), although some of these relationships are partially due to the socioeconomically disadvantaged backgrounds of teen mothers (Furstenberg, 2007).

Another strand of literature, in economics, has looked at unplanned birth as an instrument to examine the impact of childbearing for employment as an exogenous event (not linked with selection of women according to fertility intentions). For instance, they estimate the effect of childbearing by comparing mothers who gave birth to (unexpected) twins with those who gave birth to singletons (Bronars & Grogger, 1994; Jacobsen, Møller & Mouritsen, 1999). In the same vein, Nuevo-Chiquero (2014) examine the impact of unplanned pregnancies on labor force participation and income. She finds that unplanned birth reduces female labor force participation, to the same extent regardless of the child's parity, regardless of the child's rank. This effect is

stronger than that found in other studies for planned pregnancies. The negative effect on income is found only for women with at least some college education. As far as we know, it is the only article that has examined the effect of unplanned births on career paths and income.

However, to our knowledge, research has not examined the relationship between unplanned childbearing as an event of interest itself and maternal income and occupation, considering adult mothers.

In light of the reviewed literature, we expect women who experience an unplanned birth to be at higher risk of separation in the few following years (H1).

2.3 Selection into unplanned births

The wide evidence that unplanned births tend to occur among more disadvantaged women and couples make it especially important to consider selection mechanisms when examining the socioeconomic consequences of unplanned births. Poor outcomes might at least partly be linked to the conditions where unintended births are more likely to occur (Brown and Eisenberg; Hayford and Guzzo, 2016).

There is consistent evidence that unplanned births are more common among young mothers, with low educational level and low income, and single mothers (Finer and Henshaw, 2006; de La Rochebrochard and Joshi, 2013), who are also at higher risk of poor mental health. Poor health itself has been shown to predict unintended pregnancy (Hall et al. 2017).

Despite early expectations that educational gradients in unplanned fertility would fade over time, there is some recent evidence of increasing social inequalities in rates of unplanned births. In the US, while in 1973 7.4 % of births were unwanted among women with a college degree, and 16% among women with lower education the proportion were 4% among women with college degree, 23% among women with lower education between 2006-2010 (Hayford and Guzzo 2016).

Women with income below the poverty line are twice as likely to have unintended fertility compared to those with higher income (Finer and Zolna 2016). Yet income is an insignificant factor once other characteristics, such as marriage, race/ethnicity, age, and education are taken into account (Abma and Mott 1994, Kost and Forrest 1995, Musick et al. 2009, Su and Addo 2018)

It is relevant to point out that, so far, most literature on unplanned births has focused on young mothers. However, in light of continued postponement of childbearing, the number of unplanned births occurring at more advanced ages are likely to be increasing too. In fact, there is already evidence that in some countries, including France, the recent increase in unplanned birth rates is due to those occurring at older ages (Bajos et al. 2014; Castiglioni et al. 2001). It is therefore important to examine the consequences of unplanned births in such context of delayed reproduction- with recent data, considering that these births might be occurring at later ages compared to the past, potentially with different consequences for women's life trajectories.

2.4. This study

In this study, we want to fill in the gap of knowledge on the consequences of unplanned births by examining the consequences of unplanned births for conjugal and employment trajectories in France. We advance the existing knowledge in several ways. First, despite evidence of increased risk of couple dissolution and other risk factors for poor employment outcomes, this is the first study to examine couple (both formation and separation) and employment (participation to the labor market and income) trajectories following unplanned, compared to planned births. Second, we rely on a prospective measure of unplanned births, based on the comparison between short-term fertility intentions and actual fertility behaviour, compared to most of the existing literature that has usually relied on retrospective measures of unplanned fertility. These are at risk of recall and ex-post rationalization biases. Third, we use longitudinal data, from a large epidemiological cohort. By applying event study models with control for pre-birth, as well as varying demographic and socioeconomic conditions, we are able to examine the consequences of unplanned births. Last, much of the research on the consequences of unplanned childbearing focuses on first births, or the transition to parenthood, as it is likely that the context of entering parenthood seems to ‘set the stage’ for subsequent trajectories of family well-being. Yet, unintended childbearing is not limited to first births (Guzzo 2021). We consider both first births and higher parities, and explore differences in the effects of unplanned births depending on whether they are first, or higher parity births.

3 Data and methods

We used data from the 9 available waves of the French Constances cohort study (Zins et al. 2015; Ruiz et al. 2016). The Constances cohort includes a representative sample of French individuals aged 18-69, randomly selected from adults covered by the French General Health Insurance Fund (CNAM, which represents around 85% of the French population). Recruitment in the cohort started in 2012, and, so far, more than 200,000 individuals have been included in the cohort over the years. At inclusion, respondents completed a series of questionnaires and went through a comprehensive health examination at a Health Screen Center. In addition, women completed an additional questionnaire about reproductive health, including fertility intentions and timing. Follow-up paper questionnaires carried out every year (the latest available in 2021) included information about personal events that occurred in the previous 12 months. Because respondents were included at different years, the number of available waves per respondent is varying. Participation rate to the Constances Cohort at inclusion was around 7.3 % - the same order of magnitude as other similar cohorts, like the UK Biobank. Participation to the annual follow-ups was high (more than the 80% in 2013 and 2014).

We selected women aged less than 45 when they were included in the survey, who were not pregnant, for whom valid information about fertility intentions was available and who were followed at least at wave 1 and 2. This left us with a sample of N= 46,608

women, for whom we have information at least at three points in time, and a total of 113,961 observations. The main analyses were based on the sub-sample of women who declared the arrival of a child at either wave 1 or 2, or to whom we assigned a placebo birth (N= 8,092 women for whom we have 39,888 observations).

Concepts and variables

Unplanned births

Measuring pregnancy intentions is complex and there are various ways of doing it (Mumford et al. 2016). We followed the main convention: planned pregnancies are defined as those occurring at the time when they were wanted or later; unplanned pregnancies are those that were not wanted at the time of conception. Unplanned pregnancies are further divided between unwanted and mistimed pregnancies: the first are those that occur to women who did not want (more) children at all. The second ones occur to women who did want a (another) child, but their pregnancy occurred sooner than desired (Gibson et al. 2008). Due to sample size issue, our main analysis combined unwanted and mistimed births, as most studies do (Pulley et al. 2002; D'Angelo et al. 2004); we distinguished them in additional analysis.

Most studies measured unintended births retrospectively, based on mothers' declaration –and eventually on previous use of contraceptive methods. Because of the sensitive nature of declaring a baby born as unexpected, this calls into question the validity of the answers. To avoid such reporting biases, our measures took advantage of the longitudinal aspect of the survey. We confronted fertility intentions declared at inclusion in the cohort (wave 0) and their subsequent realization. Fertility intentions were asked as part of the questionnaire on reproductive health through the question: “*Would you say that you intend to become pregnant?*”. Possible answers were: 1=“*yes, in the next 6 months*”; 2=“*yes, in between 6 months and 1 year*”; 3=“*yes, in between 1 and 2 years*”; 4=“*yes, in more than 2 years*”; 5=“*don't want any (more) children*”; 6=“*cannot have (more) children*”. At each wave, respondents were asked a series of questions about the events occurred between the previous wave and the moment of the interview. Among the possible events occurred, the one we were interested in was “*arrival of a child*”. Because fertility intentions can vary over time (Väisänen and Jones 2015; Trinitapoli and Yeatman 2018), we only considered births that occurred in the first two waves, and births occurring after wave 2 were not considered in our analysis.

We identified: **Unplanned births** (n=800) occurred to women at wave 1 or wave 2 while they declared at inclusion in the survey that they did not intend to have a child within that time span. Among them, 1) **Mistimed births** (n = 478), those occurring to women who declared at inclusion that they intended to have a child in more than 2 years, and declared the arrival of a child at wave 1 or 2, and to women who declared they intended to have a child in more than one year and declared the arrival of a child at wave 1; 2) **Unwanted births** (n = 322), those occurring to women who declared at inclusion they did not want any (more) children and declared the arrival of a child at wave 1 or at wave 2. We considered as **planned births** (n = 2,478) those occurring at

wave 1 or 2 to women who had declared at inclusion they wished to remain pregnant within 2 years. Unplanned births represent around the 20% of all births in our sample (25.9 % of all births at wave 1 and 15.9 % at wave 2). This is consistently higher than figures based on retrospective information (Bonnet et al. 2021), suggesting that ex-post rationalization might lead to underestimate the rates of unplanned births.

Outcome variables

To study couple trajectories, we consider the information on whether the respondent is cohabiting with a partner, (1 if yes and 0 if not). This information is provided by respondents at each wave of the survey. To study employment trajectories, we consider two outcomes provided by administrative employment data (CNAV) matched with the Constances cohort. The two outcomes are whether the respondent is employed and, among those employed in the private sector, their income level.

Methods

We began by describing the demographic and socio-economic characteristics at inclusion of women who had a planned, unwanted, or mistimed birth.

To study the effect of unplanned and planned births on the different outcomes of interest, we ran a series of event studies. The outcome variable is regressed on a set of time dummies $S_{it} = t - r_1$, where r is the relative time to and from the occurrence of the event of the birth (s), interacted by a variable that indicates whether the pregnancy was unplanned.

$$Health_{it} = \sum_s \gamma_s * 1(i = s) * unplanned\ birth + X_i' \alpha + \epsilon_i$$

where γ are coefficients for the time relative to the event (birth), which occurs at $s = 0$. For $s < 0$, they show pre-event trends. For $s \geq 0$, they capture the effective treatment effects, the dynamic impact of the event on the outcome. X include age and other individual controls, both at inclusion in the survey, and time changing; $t-1$, the omitted category, is the reference point.

The reference levels was that before the arrival of the child (as in Kleven et al. 2018). The time of the event was the wave when the woman declared the arrival of a child in the past 12 months- time 0 in our models. This means that time 0 could vary from 0 to 11 months after the occurrence of the event. $t-1$, our reference level, could similarly vary from 0 to 11 months before the arrival of the child. At $t-1$, some women could already be pregnant (with or without being aware). Since births in our study could occur at wave 1 or wave 2, and women were observed for a maximum of 6 waves, observations can go from $t-2$ to $t+5$. However, since only few women were observed on all waves, we merged the health observations from $t+5$ to $t+7$ to display the results. All models controlled for age, parity, education, and time-varying partnerships or employment status (depending on the outcome considered). In the main models, unwanted and mistimed births were categorized together as unplanned births and compared to planned births.

Following Kleven et al. (2018), we included individuals who did not experienced childbirth as a control group after assigning them a placebo birth (thus time-to-event set of variables) based on the age distribution at the arrival of the child of those who do have children in the considered period. This way, we could assess that the patterns observed were due to the birth, by comparing both planned and unplanned births to the health trends of those who do not have any child.

To check whether the effects of having and unplanned birth vs a planned birth varied by maternal education and parity, we ran the same analysis on the sample stratified by whether the respondent had tertiary education or below, and whether the birth was the first or higher parity.

4 Results

Selection into unwanted and mistimed births

Women who have unplanned births differ substantially in terms of demographic and socio-economic characteristics before the pregnancy from women who have a planned birth (Table 1). They are on average one year older (around 34 against 33), had more children, and are more often without a cohabiting partner (24% against 6%). Women who have an unwanted birth are, on average, older compared to women who have a planned birth (respectively 37.4 and 33.2 years on average), while women who have a mistimed birth are consistently younger compared to both groups (31.3 years). The share of unplanned births is highest at the two extremes of fertile life (Figure 1), with almost half unplanned births between ages 18 and 24, and very high percentages after age 40 (36% for 40-44 and 70% for 45 and +). The births are however rare at these ages range, and concern less than 10% of births. In addition, unplanned births (and particularly unwanted births) are much more frequent among mothers with at least 2 children than for childless women or mothers of an only child. There is also a clear educational gradient in the prevalence of unplanned births: the proportion of unplanned births decreases with woman's educational level, as unwanted birth are particularly less frequent for highly educated women. Women having unplanned birth are also less often employed than women having a planned birth, and have on average lower income (especially those experiencing mistimed births). Thus, women having an unplanned birth are more disadvantaged in different life domains.

Couple and employment trajectories following unplanned and planned births

Results from time-event studies (Figure 2) show, first of all, and in line with what observed in the descriptive table, that women who experience an unplanned births are less likely to be cohabiting with a partner at the time when they declare fertility intentions. Around the time of pregnancy and birth, however, they experience a steep increase in the probability of cohabiting, suggesting union formation as the result of unplanned pregnancies and births. Women who experience a planned birth are also likely to start cohabiting around birth, but the increase is substantially lower. In the years following the birth, the proportion of women cohabiting with a partner decreases both among women who experienced an unplanned and a planned birth. However, while

in the case of planned birth, the proportion of women cohabiting returns almost to the highest level observed around birth, in case of unplanned birth, levels remain lower at the end of the observation period (thus 6-7 years after birth). Concerning employment, women who experience unplanned births are also less likely to be employed at inclusion in the survey, compared to women experiencing planned births. However, among all mothers we observe a sharp decrease in the probability of employment following the birth, and, contrary to our expectations, the decrease is sharper among mothers who had a planned birth. Among all mothers, the probability of being employed bounces back up, but with a different timing: around two years after birth in case of planned birth, a year later or so in case of unplanned births. In line with what observed for employment, among the subsample of women working in the private sector we observe a significant baby income gap around the time and the first year after birth, and the decrease is more pronounced for women who experience a planned birth.

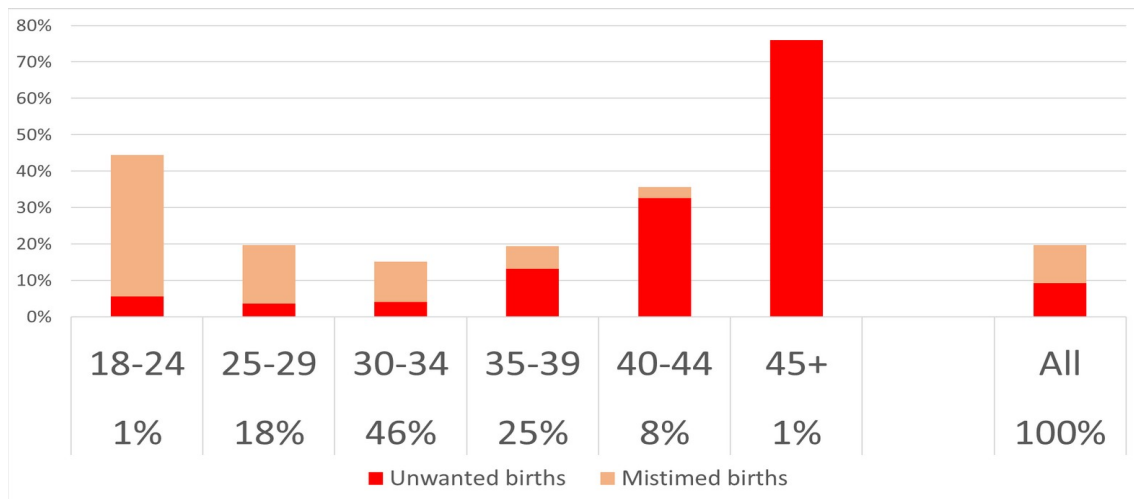
Looking at differences in the consequences of unplanned births depending on women's educational level, results on partnership status don't differ much (Figure 3). For employment, however, it is clear that for lower educated women the consequences of birth are significantly more pronounced than for higher educated ones (Figure 4). Surprisingly, highly educated women who experience an unplanned birth don't seem to suffer significantly in terms of employment, with the probability of being employed decreasing only slightly around birth, but bouncing back in a few years after birth to higher levels (although estimates have weak statistical significance probably because of the small subsample in this category). Similar differences with respect to educational level can be observed from model on income levels (Figure 5).

In terms of differences by parity, results show that, while trajectories of family formation and separation are similar among women with a planned birth, they differ substantially for those experiencing an unplanned birth. In case of first births, the proportion of women who are cohabiting at inclusion in the survey is substantially lower compared to higher parity births, and both the increase in cohabitation around pregnancy and birth and the decrease in the years after birth are significantly more pronounced (Figure 6). When looking at employment trajectories, women at all parities are less likely to be employed when they declare fertility intentions. However, while employment levels remain lower after the decrease around birth, for women having a first unplanned birth compared to a planned one, employment rates increase in the year after births for women who experience unplanned birth at higher parities, and levels converge to women who had a planned birth (Figure 7). For both women having a first birth or a higher parity one, while the drop in income level is similar for unplanned and planned births, the income of women experiencing unplanned births remain significantly lower in the year after births, while it recover quickly for women experiencing planned births (Figure 8).

Table1: Descriptive characteristics of the sample, by kind of childbirth

	Unwanted	mistimed	planned	No birth	Total
Age	37.41	31.36	33.20	36.74	36.68
Number of children	1.59	0.68	0.58	1.09	1.08
General Health	6.26	6.51	6.58	6.42	6.43
Income	22372.97	22114.08	23166.83	28055.19	27956.87
Age categories					
18-24 y	0.93%	5.02%	0.85%	6.05%	5.97%
25-29 y	7.14%	28.24%	16.71%	12.20%	12.30%
30-34 y	19.25%	48.12%	48.75%	18.81%	19.32%
35-39 y	34.78%	16.53%	25.59%	22.23%	22.29%
40-44 y	31.06%	2.09%	7.59%	26.41%	26.08%
45+ y	6.83%	0.00%	0.52%	14.30%	14.05%
Number of children					
0	19.25%	50.84%	54.36%	43.64%	43.77%
1	19.88%	32.43%	34.91%	15.12%	15.46%
2	43.48%	14.64%	9.44%	30.16%	29.85%
3	17.39%	2.09%	1.29%	11.08%	10.93%
cohabiting					
0	8.95%	6.64%	2.51%	25.84%	25.42%
1	91.05%	93.36%	97.49%	74.16%	74.58%
education					
secondary or lower	30.31%	20.04%	15.47%	22.40%	22.31%
tertiary higher education	39.69%	39.02%	40.50%	45.18%	45.09%
education	30.00%	40.94%	44.04%	32.41%	32.60%
employed					
0	17.39%	19.87%	13.03%	15.97%	15.94%
1	82.61%	80.13%	86.97%	84.03%	84.06%
N	322	478	2,478	4,818	8,092

Figure 1: Age profile of women experiencing unplanned and planned births



Results

Figure 2. Partnership, employment and income around unplanned and unplanned births. Result from event study models.

Partnership, employment and income trajectories around birth

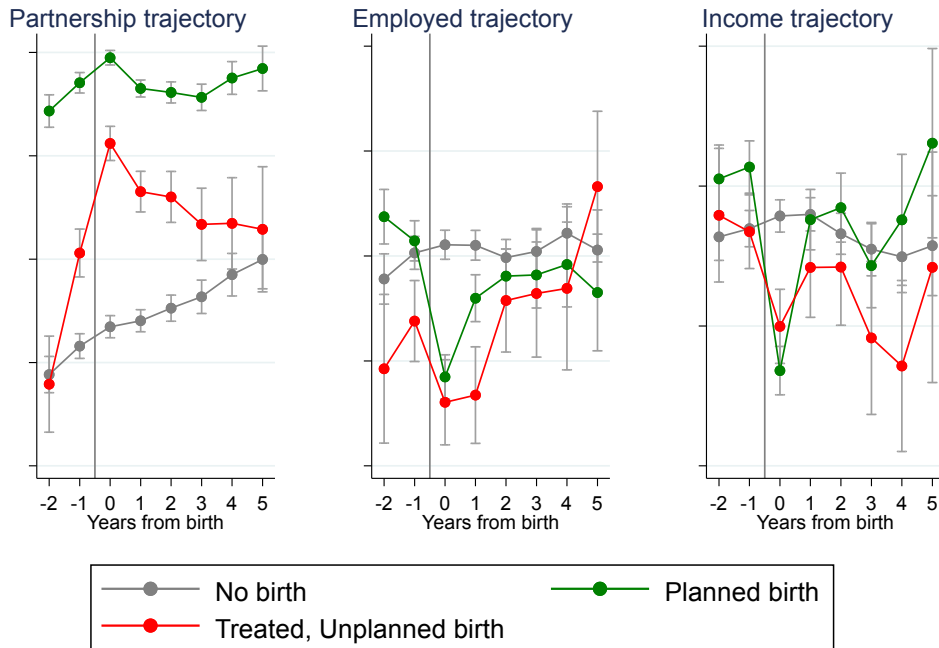


Figure 3. Predicted probability of cohabiting with a partner around unplanned and unplanned births, by whether the responded had tertiary education or lower. Result from event study models.

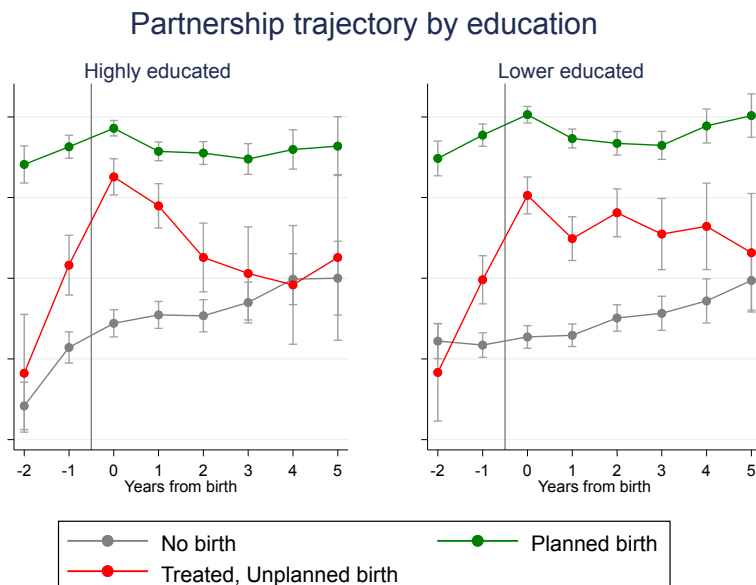


Figure 4: Predicted probability of being employed around unplanned and planned births, by whether the respondent had tertiary education or lower. Result from event study models.

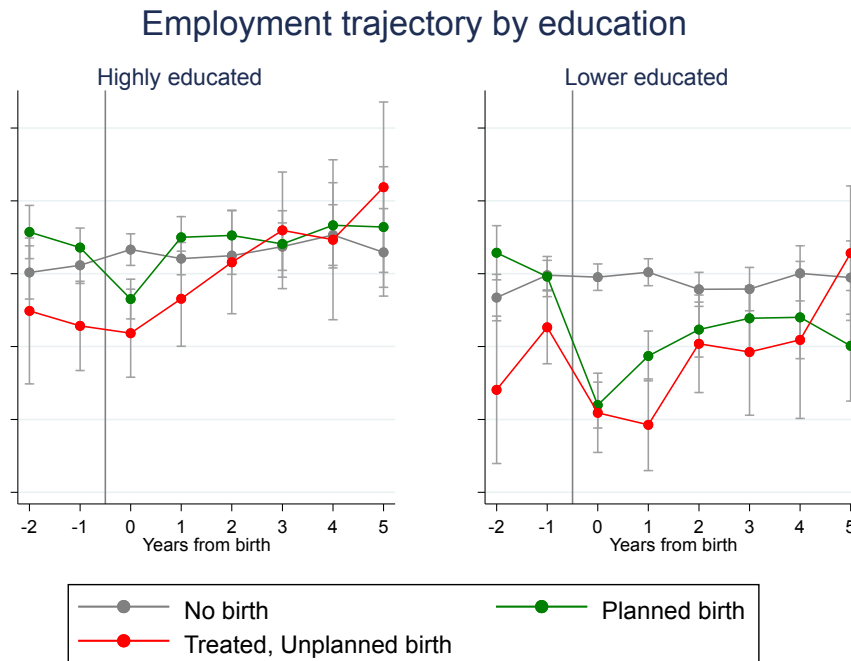


Figure 5: Predicted income levels around unplanned and planned births, by whether the respondent had tertiary education, or lower. Results of event study models on a sub-sample of women employed in the private sector.

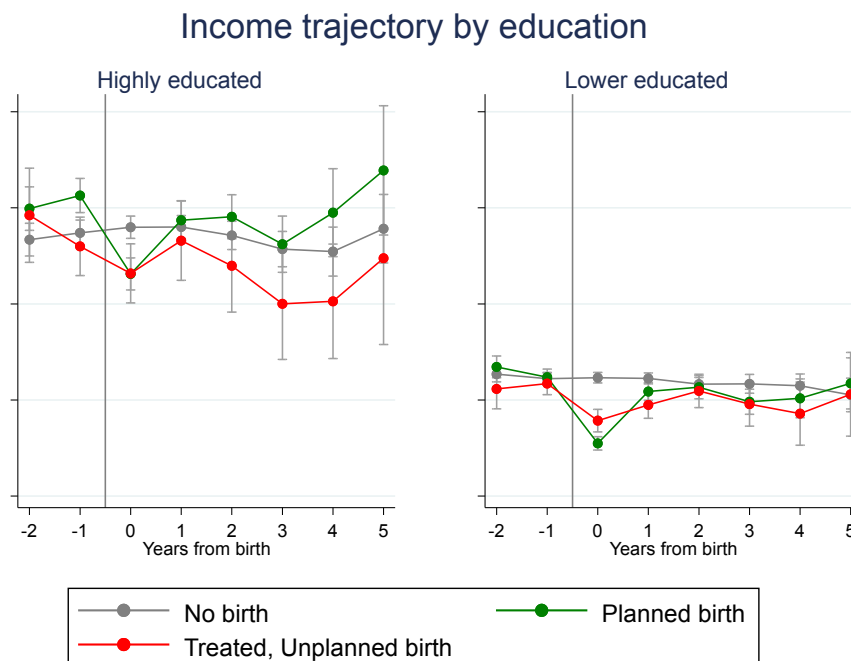


Figure 6: Predicted probability of cohabiting with a partner around unplanned and planned birth, by parity. Results from event study models

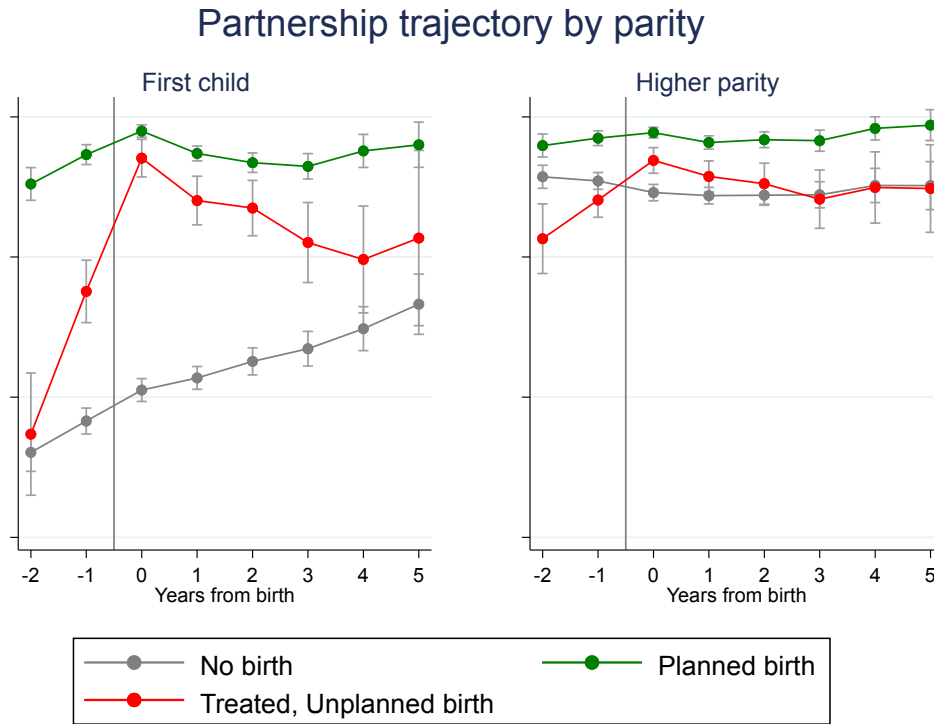


Figure 6: Predicted probability of being employed around unplanned and planned birth, by parity. Results from event study models

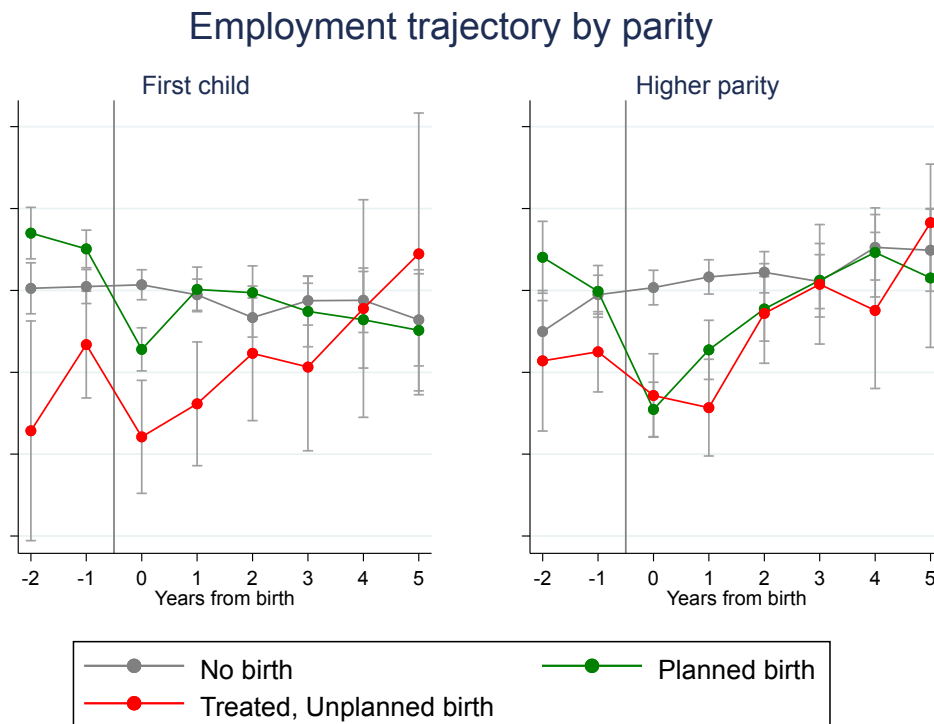


Figure 7: Predicted income level around unplanned and planned births, by parity. Results of event study models on a sub-sample of women working in the private sector

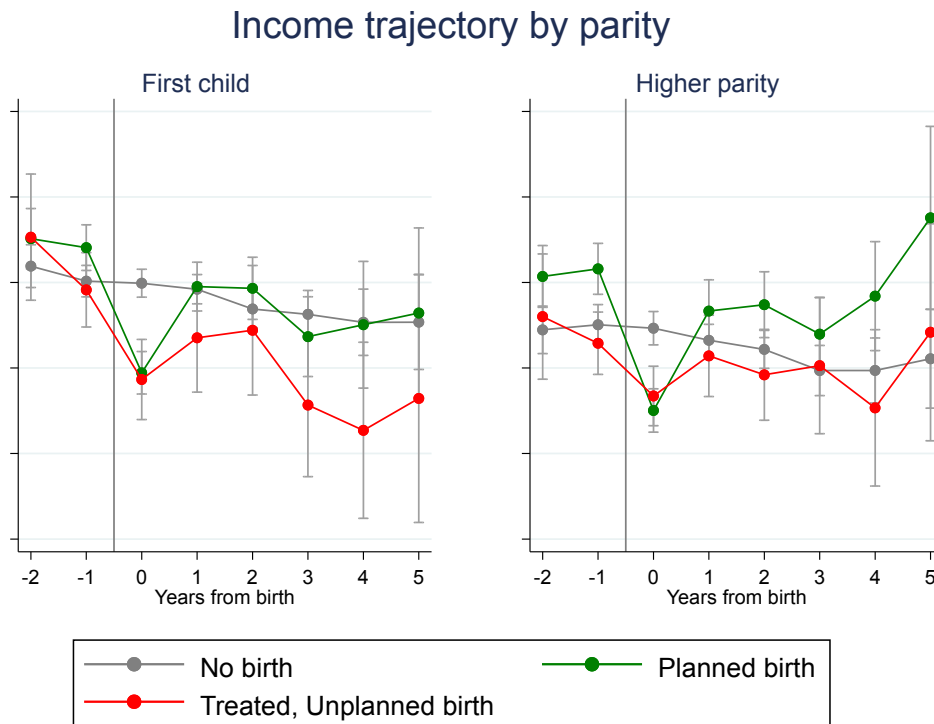
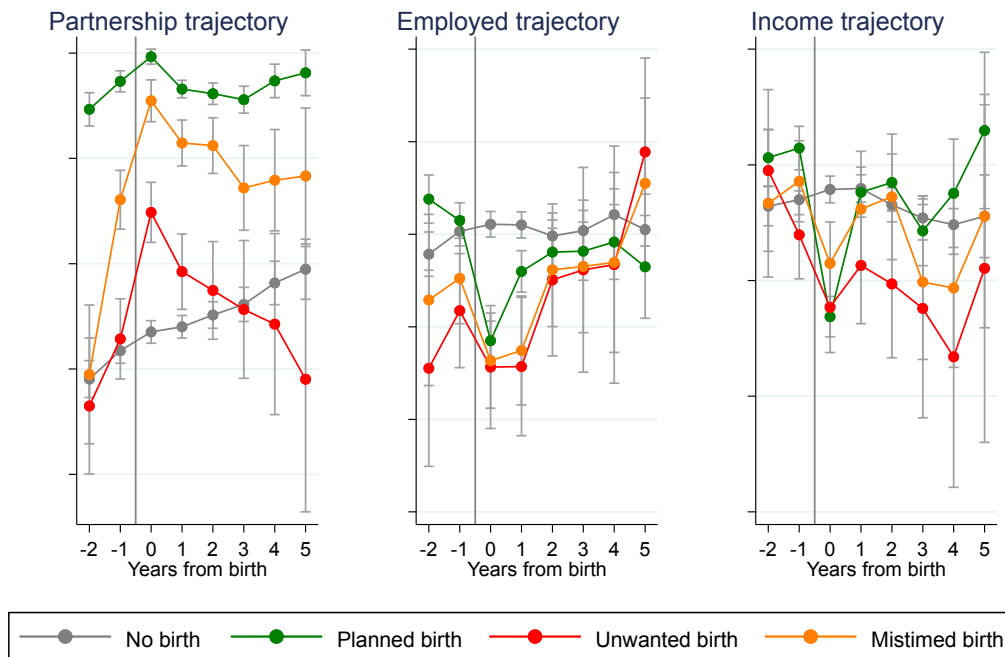


Figure 8: Predicted probability of cohabiting with a partner, being employed and income levels around unwanted, mistimed and planned births

Partnership, employment and income trajectories around birth



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