Fertility and Labor Supply: New Evidence from the UK

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Abstract

We analyse the impact of children on their mothers' labor market outcomes in the UK. We use time-to-conception of the first child as an exogenous variation in the probability of having a second child. We find that the impact of an additional child on labor force supply of high- and intermediate-skilled mothers is not significant whereas it is large and negative for low-skilled women in the long-run. We show that the selection into having a second child goes in different directions for low-skilled mothers as compared to high-skilled women. Women most attached to the labor market are also those that tend to have only one child among high- and intermediate-skilled women. The reverse is true for low-skilled women: women least attached to the labor market are also less likely to have a second child because they are more likely to break up from their partner.

Keywords: labor force supply of women, infertility shocks, time-to-conception

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JEL Classification: J13, J21, J22

1 Introduction

In this paper, we analyse the impact of children on their mother's labor force supply. In particular, we focus on a specific margin: we estimate the impact of having a second child on labor supply outcomes and working conditions of women who had a second child in comparison to women having only one child. To identify the effect of the second child, we use a novel instrument, based on the time-to-conception of the first child.[1] Experiencing secondary infertility when conceiving the first child (when the time-to-conception is larger than 12 months) is associated with a decrease in the probability of having subsequent children. In our data, women who experienced secondary infertility when conceiving their first child are 14 percentage points less likely to have a second child. Secondary infertility is often discovered by couples when they decide to have a child, and it is often related to gynecological factors such as ovulatory disorders, damage to the fallopian tubes, or male fertility problems. Time-to-conception is not related to preferences of parents and observed labor histories of women. It introduces exogenous variation in the number of children a woman has and can be used to estimate the causal effect of having an additional child on female labor supply.

The impact of children on their mother's labor force supply has been an important question in the 1990s, in a context of increasing female labor participation already mentionned in Browning (1992). It remains an important question today, in a context of high labor participation of women, low fertility rates and the persistent gender wage gap found in many countries. Low fertility rates are often seen as a consequence of high labor force participation but the correlation at the macro-level are changing: fertility rates are higher in countries where the participation rates of women are larger (Ahn and Mira, 2002; Del Boca and Locatelli, 2006).

[1] Miller (2011) uses the time-to-conception for the first birth as an instrument for the age of the mother at first birth.

The changing link between fertility and labor force supply of women has been explained by the changing institutional context, with the expansion of part-time work and childcare services (Del Boca et al., 2009) or by better labor opportunities for women (Feyrer et al., 2008). In this changing context, the relationship between labor force supply and fertility remains quite unclear.

While many women now combine work with family, in a recent paper Kleven et al. (2015) show that as much as 80% of the remaining gender wage gap in Denmark can be attributed to females' reductions in labour force participation, hours of work and wages after child birth. These effects work through changes in career paths and occupatonal choices after having children. Such findings underline the importance of being able to assess the causal impact of children on labor force decisions. They give an indication as to how much decisions might be driven by preferences, or selection, or whether they are likely to be due to constraints that arise with the birth of a child, which could be adressed by policies, for instance on work flexibility, improvements to child care provision and help with child care cost.

Estimating the effect of family size on female labor supply is difficult because of the potential bias that comes from selection of women into having larger families. The idea is that women with higher unobservable career aspirations may also be the ones that decide to have less children. The observed difference in labor force participation between women with low and high fertility may thus be overestimated. Disentangling the causal impact of children from the selection of women into motherhood requires the use of natural experiments. The sex-composition of the first two children has been used as an exogenous variation in the number of children, because parents having two children of the same sex are more likely to have a third one (Angrist and Evans, 1998). Labor force participation is much lower among mothers of three children than among mothers of two children (Blundell et al., 2011) and this instrumental variable allows to study the impact of the third child. However, families of three children tend to be less widespread today but studying the impact of the children of lower rank requires different source of variation. Multiple births exogenously increase family size and can be used to study the impact of the second child (Bronars and Grogger, 1994). However, this instrument can be criticized from an economic point of view: it can be argued that having two children at the same time is different from having two children spaced in time (Wagner, 2013) and from a statistical point of view: one requires very large samples to be able to observe enough families with twins.

In this paper, the source of variation we use allows us to study the impact the second child, and to explore heterogenous effects between low-skilled women and high- and intermediate-skilled women. We find that the impact of having an additional child is low and not significant among high and intermediate-skilled women. However, it is large and persistant for low-skilled women. By exploring heterogenous effects, we shed light on a different source of endogeneity. We expect the OLS estimates to overstate the negative effect on labor force participation because women who are less attached to the labor market are more likely to have children and to retreat from the labor market. The expected sign of the bias is observed for high- and intermediate- skilled women but the reverse is true for low-skilled women: here OLS understates the labor market effect of children. We provide a plausible explanation to this bias: among low-skilled women, women less-attached to the labor market are also more likely to have only one child because they break up from their partner.

The paper is structured as follows: section 2 gives a review of the literature, section 3 introduces the UK context, section 4 presents the data, section 5 describes the empirical strategy, section 6 provides the results and section 7 gives a discussion of the results. Section 8 concludes.

2 Literature review

Women's increasing participation in the labor market has been a major trend in the second half of the 20th century (Blau and Kahn, 2007; Goldin, 2006). Women's levels of education have caught up with that of males' (Goldin et al., 2006), and women have gained access to a large number of occupations (Goldin and Katz, 2002). In the 1970s, the introduction of the pill was the start of a "quiet revolution" (Goldin, 2006): it changed not only women's expectations about their careers and family lives but also their social role. In many industrialized countries, the participation of women, especially mothers, in the labor market has become quite common. However, most empirical work on the impact of motherhood on the labor market outcomes of women has found that mothers experienced worse outcomes than childless women. They work fewer hours and they are less likely to work for pay (Blundell et al., 2011; RAND, 2014), they are more likely to work part time (Joshi et al., 1996, 1999), have lower earnings (Waldfogel, 1998; Fernández-Kranz et al., 2013; Viitanen, 2014), which could be related to the occupational segregation due to their higher propensity to work part-time (Manning and Petrongolo, 2008).

Yet, the interpretation of the relationship between children and their mothers' labor market outcomes is not straighforward, and disentangling causality from adverse selection is challenging. Women are likely to self-select into motherhood and the decision to have children might be related to their performance on the labor market. It is commonly claimed that women who choose to have children have weaker labor force attachment or earnings performance than women who decide not to have a child. As a consequence, the correlation between fertility and labor supply is biased by selection: women with children would have earned less than childless women, even if they had decided not to have children (Browning, 1992; Lundborg et al., 2014). The same correlation has been observed for higher parities: the more children women have, the lower their labor force participation rate (Blundell et al., 2011).

In order to separate causation from selection, the empirical literature has looked for variations in the number of children which are not related to the mother's labor force supply, i.e. variations in fertility unrelated to the preferences and abilities of women. Different sources of variation have been used. The most common ones are positive shocks on fertility, because mothers end up with more children than expected: twins at first (or higher parity) birth (Rosenzweig and Wolpin, 1980) and the sex composition of the first two children (Angrist and Evans, 1998). Having twins clearly increases the number of children a woman has and it is obviously unrelated to her preferences and abilities.[2] Using the sex composition of the first two children relies on the parents' preference for mixed sex siblings: parents who have two children of the same sex are more likely to have a third child than parents who have two children of different sex. The birth of twins has been extensively used as a natural experiment in the literature. The authors tend to find that mothers with twins work less mothers with singletons (Cáceres-Delpiano, 2012) but the effects are not persistent over time (Bronars and Grogger, 1994; Jacobsen et al., 1999), and could also be slightly positive in the long run (Griffen et al., 2015). This positive impact could be interpreted as a timing effect: twin siblings will reach schooling age (which is associated to women returning to work) before siblings born at different points in time. Women who had twins have all their kids older than 6 before other women who had two children one after the other. Studies using the sex-composition of the

[2]People undergoing fertility treatment are more likely to conceive and give birth to twins. These treatments are known to be very costly and only in some countries covered by health insurance. Thus, there might exist a relationship between unobserables that affect labor market ouctomes and the likelihood of having twins.

first two children find similar results: mother decrease their labor force supply after having a third child, in different countries: Angrist and Evans (1998) for the US, Moschion (2009) for France, Cruces and Galiani (2007) for Argentina and Mexico, Iacovou (2001) for the UK, Hirvonen (2009) and Angelov and Karimi (2012) for Sweden.

Recently, other sources of variation due to negative shocks of fertility have been examined in the literature. Aguero and Marks (2008) and Aguero and Marks (2011) use information on self-reported infertility or subfecundity, available for a wide range of developing countries: women mentioned subfertility or infertility as their reason for not currently using contraceptives or nonsterilized women responded that they are unable to have more children when asked about their desire for future children. Similarly, Rondinelli and Zizza (2011) infertility shocks defined as women stating that they did not reach number of desired children because of biological problem in Italy. Infertility can be considered as exogenous to *ex ante* labor supply decisions of women, but self-reported information is likely to be badly measured. These studies conclude that if any, the impact of children on labor force outcomes is small and dissipates over time. In order to estimate the impact of having a child as a teenager on labor outcomes later in life, Hotz et al. (2005) and Goodman et al. (2004) use miscarriage as a source of exogenous variation in the number of children. Markussen and Strom (2015) also use miscarriage as a source of variation but they do not restrict their sample to teenagers. They also tend to find small if no effects of children on labor force outcomes.

Cristia (2008) studies a sample of women using unexpensive fertility treatment in the US and compares the employment status of those had a successful treatment to those who did not. He finds that having a child decreases employment in the short run but not in the long-run. Lundborg et al. (2014) study women who received IVF treatment in Denmark to compare the labor market supply of women who end up with one child to childless women. They find that having children has a large, negative and long lasting impact on the labor supply of the mother.

Very few papers use variation in fertility due to policies. Wang (2004) uses a unique framework: the One Child Policy (OCP) in China limited to one the number of children a family can have. However, the OCP was not applied equally depending on the ethnicity and the gender of the first child, introducing some exogenous variation in the probability to have a second child. The author finds that an additional child decreases mother's female labor force participation by 8-15 percentage points in rural China.

Different sources of variation mean different populations of compliers: positive and negative shocks of fertility as well as different parity of birth might affect different types of compliers. Moreover, the effect of the first child might be different from the effect of the second child or the effect of the third child. The variation introduced by multiple births enables to study the impact of the second or the third child. Cáceres-Delpiano (2012) distinguish the impact of the second from the impact of the third and find that the impact of the second child is stronger than the impact of the second child. However, the external validity of estimates of the impact of the second or third child using the variation due to multiple births is not clear, as having two children at the same time might have consequences different from having two children spaced in time (Wagner, 2013). The sex composition of the first two children is used to analyse the impact of the third child. Angrist and Evans (1998) and Bronars and Grogger (1994) use the same data from the 1980 US Census, but they focus on a different child parity. Angrist and Evans (1998) negative impact of the third child on the labor force participation of married women, and a stronger impact for all women. Bronars and Grogger (1994) find no impact of the second child for married women and a strong impact for unmarried women: their result point in the same direction, but they suggest the impact of the third child is stronger than the impact of the second child.

Variation in fertility due to infertility treatments as well as miscarriage permit to study the impact of the first child, although it can be used to study the impact of a child of higher parity. The results by Lundborg et al. (2014) suggest that the impact of having children (rather than remaining childless) in the labor market outcomes of the mother are much larger than the impact of a second or a third child. On the other hand, the results from Hotz et al. (2005) for the US and Goodman et al. (2004) for the UK using miscarriage as a source of variation for having children among teenagers suggest that the causal impact of children on future labor outcomes is not significant. Using the same source of variation on Norwagian data, Markussen and Strom (2015) distinguish the impact of an addition depending on the parity. They find a small, negative and significant impact of having an additional child, and the results are similar independently of the rank of birth. However, Bratti and Cavalli (2014) use miscarriage and stillbirth as a source of variation for the age at first birth, suggesting that these infertility shocks affect the *timing* of birth and not the total number of children a woman as.

When considering the impact of all children, whatever the parity, the literature finds consistent results: children have a small and negative impact on their mother's labor outcomes. However, when the focus is made on a specific rank of birth, the results are not as clear-cut and there is scope for more empirical work on the impact of an additional child considering her rank of birth. As Aguero and Marks (2011) state, variations due to infertility can be used to study the impact of childlessness and subfecundity can be used to study the impact of a child whatever her parity, which makes it an appealing source of variation in the number of children.

In developping countries, the most common family size are 0, 1 or 2 children, which makes it interesting to study the impact of the first or the second child separatly. In this paper, our motivation is to understand the impact of the second child. We apply a novel instrumental variable strategy using a measure of subfecundity based on the time to conception of the first child, to study the consequences of the second child for women on different labor market outcomes.

3 The UK context

Since 1975, the employment rate of 20-54 year-old women, especially mothers, has increased fastly. The employment rate of 20-54 year-old married mothers jumped from 40% to 70% while the employment rate of 20-54 year-old lone mothers remained stable at 60%. Among 25-54 year-old mothers of young children, the increase is even steeper, from 25% to 60% (Blundell et al., 2011).

This increase in the employment rate of mothers is related to the increase in the educational level of women, as well as a movement to promote equal opportunity and equal treatment of women. In the 1980s, childcare services were not available or very expensive but the expansion in part-time work made family life compatible with work (Fagan and Norman, 2012). Joshi et al. (1996) find that returning to work after having a child is associated with part-time work. So, in the 1980s, part-time work was the major way to reconciliate family life and labour participation in the UK. In the 1990, the Labour government initiated a series of work-family reconciliation policies, encouraging women to go back to work (Burgess et al., 2008). Since the 2000, policymakers have devoted increasing attention to the challenge of enabling parents to access high-quality, cost-effective early childhood education and care. It has developed policies in favor of a better access to childcare services in two major ways: provision of childcare service and support with chidcare costs (Brewer et al., 2014). The increase in the provision of childcare services resulted in over 920,000 childcare places being created since 1998 followed the launch of the National Childcare Strategy. Support with childcare costs is provided through employer-provided vouchers that are tax advantaged; support for low-income working families via tax credits; and access to a free part-time nursery place for all 3- and 4-year-olds and disadvantaged 2-year-olds.

This special attention to low-income families is related to the polarized social context in the UK: demographic behavior and employment conditions are different for low-skilled people compared to high-skilled people. Rendall et al. (2009) highlight the polarization of age at first birth in Britain: women in low-skilled occupations have their first child primarily in their late teen and early 20s, and women in other occupations have their first child increasingly later in life. Ní Bhrolcháin and Beaujouan (2013) show that in recent cohorts, low-educated people are more likely to be cohabiting rather than being married (if in a partnership) than high-educated people. So low-educated women are also more likely to have children while cohabiting, as they are younger when they have their first child. Moreover, working part-time reinforce the polarization of women across the type of occupation they have (Manning and Petrongolo, 2008), which has been boosted by technological changes (Goos and Manning, 2007). This polarization calls for studying heterogenous effects of children, depending of the type of occupation a woman has.

4 Data

4.1 The Millenium Cohort Study

We use data from the Millennium Cohort Study (Centre for Longitudinal Studies (2012)), a sample of babies born between September 2000 and November 2001 in the UK. In the first wave, the data contains detailed information on the babies' parents' education, labor force participation and wages, as well as family information including data on the pregnancy with the cohort baby and time-to-conception (TTC). In the following waves, the data also includes variables on the child's development. To date, five waves of the MCS have been collected, observing the mothers and their partners of cohort children at about 9 months, 3 years, 5 years, 7 years and 11 years of age. In the first wave, almost 19,000 families were interviewed. About 14,000 families are interviewed at wave 2 and 3, so about 22% of the families have attrited. At wave 4 and 5, about 12,500 families were interviewed, which means an attrition rate of about 33%. In the following, we study the impact of having a subsequent child in wave 3 (when the first child is 4-5 year-old), in wave 4 (when the first child is 6-7 year-old) and in wave 5 (when the first child is 10-12 year-old).

We select a sub-sample of relevant families to study the impact of having subsequent children on their mother's labor market outcomes. First of all, we select mothers for whom the millenium cohort child is the first child. We keep women between 20 and 36 year-old (included) at birth of their first child because we want to exclude teenage pregnancies and we want to keep mothers who are at risk of having a second child, so mothers who are not too old at the birth of their first child. As infertility is a couple issue, we exclude single mothers and those whose relationship status is unknown at wave 1, i.e. when the first child is on average 10 months old. We use the duration between moving in and the decision to have a child as a proxy for the stability of the couple, as infertile couples who eventually managed to have a child are likely to be more stable than fertile couples. We keep women who moved in with their partner between 11 years before the decision to have a child and 2 years after the decision to have a child. By doing so, we are able to observe fertile and infertile women for each duration of having lived together, for both low, intermediate and high-skilled women. We also exclude mothers whose pregnancy resulted in twins because it means that they already have two children when the survey starts. We use women who have no more than 3 children in total, as those who have more than 3 children might have very different unobserved characteristics than other women. To conclude, we exclude people for which we do not have information on basic characteristics such as education, their smoking behavior, on their age, and on whether or not they had a severe illness because we need this information to control for characteristics that are likely to be correlated with infertility. We end up with 3,582 observations when the first child is 4-5 year-old, 3,227 observations when the first child is 6-7 year-old and 3,084 observations when the first child is between 10-12 year-old.

In the following, we consider heterogenous effects by spliting our sub-sample into a sub-sample composed of high- and intermediate-skilled women, and a sub-sample composed of low-skilled women. The type of occupation is defined on the occupation women have at wave 1 or the occupation they had *during* or *before* pregnancy for those who are on leave, inactive or unemployed at wave 1. High- and intermediate-skilled women include women whose occupation is classified as large employer, high manager, higher professional, low professional/high technical, lower managers, high supervisory, intermediate. Never employed women who are in education during pregnancy are also classified as high- and intermediate-skilled women. Low-skilled women include women whose occupation is classified as small employers, self-employed non profitable, lower supervisors, lower technical, semi-routine, routine. Women who are not in education and whose occupation before pregnancy is not known are excluded from our sample. They represent about 2% of the weighted sample we would have if we were to include them. The occupation women have is likely to change over time. However, more than 80% of our sample of low-skilled women do not change from a low-skilled occupation to a high or intermediate skilled occupation more than once. More than 90% of our sample of high- and intermediate-skilled women do not change from a high or intermediate skilled occupation to a low-skilled occupation. So the type of occupation a woman has is quite stable over time.

4.2 Descriptive statistics

Descriptive statistics on the labor market outcomes we study are given in table 1. We study various measure of labor supply at the extensive and intensive margin: being active (i.e. being employed, on leave or looking for a job at the date of the interview), being employed or on leave (vs. inactive or unemployed), working more than 20 hours per week (vs. being inactive, unemployed, or working strictly less than 20 hours per week) and the number of hours worked per week (we set at zero the number of hours worked for inactive and unemployed women). The participation rate is high: 72.7% of women participate in the labor market when the first child is 4-5 year-old, and the rate of participation raises to 83.9% when the first child is 10-12 year-old. The rate is lower when it comes to more restrictive measure of labor supply: 57.7% of women work more than 20 hours per week when the first child is 4-5 year-old, and this rises to 69.3% when the first child is 10-12 year-old. Whatever the measure, the older the first child, the larger the labor supply for all women. High- and intermediate-skilled women are more likely to participate in the labor market, be employed and work more hours than low-skilled women. We also study some measures for working conditions: working during the week-ends (Saturday or/and Sunday) or by night (between 11 p.m. and 7 a.m.), at least once a week. The pattern is not as clear as for labor supply: the proportion of women working at least one night per week is stable over time for low-skilled women and tend to decrease for high- and intermediate-skilled women. The proportion are similar for high and intermediate and low-skilled women, about 6% of the sample. The proportion of women declaring working during the week-ends tends to be stable over time and is much higher for low-skilled (16%) than for high- and intermediate-skilled women (6-8%). Eventually, we study the change in annual household income. The household income includes earned income and unearned income such as in-cash benefits, for both partners. It increases from about 35,400 pounds annually when the first child is 4-5 year-old to 45,500 pounds when the first child is 10-12 year-old. Household income is about 60% higher for high- and intermediate-skilled women than for low-skilled women at all waves.

Descriptive statistics on the endogenous variables are given in table 2. Our key endogenous variable is a dummy variable indicating if the mother has had at least one additional child after the cohort child at the time of the interview. About 70% of women already had at least an additional child when the first child is 4-5 year-old. The proportion is higher for high- and intermediate-skilled women: 71.5% of them have had at least an additional child, while 64.9% of low-skilled women had one. The proportion of women having an additional child slightly increases with the age of the first child: when the first child is 10-12 year-old, 80.4% of high or intermediate skilled women have at least one additional child, while 77.2% of low-skilled women had one. The average duration between the first and the second child is 38.9 months for high- and intermediate-skilled women and 41.2 months for low-skilled women. At the end of the period we study, about 21.5% of women have had a third child and the proportion is similar for both low and high- and intermediate-skilled women.

Table 2 also gives some descriptive statistics on the control variables. Time-invariant controls include a dummy for being employed during pregnancy, for being non-white, the highest level of education of mothers, the country of residence at wave 1 and the relationship status between the parents at wave 1. The main difference between high- and intermediate-skilled and low-skilled women is that low-skilled women are less educated and more likely to be cohabiting than high- and intermediate-skilled women. Time-varying controls include the relationship status of the mother at each wave, and the mother's age. The proportion of married women declines over time, which is related to the increase in the proportion of single mothers, due to divorce. The proportion of cohabiting mothers is also declining over time, but this decline can be related to couples getting married or separated. The proportion of single or cohabiting mothers is always higher among low-skilled than among high- and intermediate-skilled women.

5 Empirical strategy

5.1 Time-to-conception of the first child

In the medical literature, secondary infertility corresponds to the failure to conceive after one year of regular intercourse without contraception for women with no known health condition. Primary infertility means that women are not able to conceive at all. Secondary infertility might result in primary infertility, but not necessarily. The risk of secondary infertility increases with age and other health conditions (obesity, chronic illnesses like diabetes). Apart from those obvious characteristics, secondary infertility is related to limited physical ability to conceive and carry a baby to term, and this limited ability is often unknown to the woman until she tries to conceive a child. Our data includes information on the cause for infertility for a sub-sample of women who experienced difficulties to conceive. The main causes of secondary infertility are: ovulatory disorders (25%), damaged fallopian tubes (20%), factors in the male causing infertility (30%), and uterine or peritoneal disorders such as endometriosis (10%). For the remaining 25% of cases, no additional investigations were carry out and the reason for infertility remained unknown. Secondary infertility can be assumed to be randomly assigned in the population.

In order to measure if a women is likely to experience difficulty to conceive, we can mimic the medical literature and use information on the time-to-conception for the first child. An ideal measure of the time-to-conception would be the number of menstrual cycles a women had between the time the couple started trying to conceive and the time she gets pregnant. The measure of time-to-conception we have is reconstructed from answers to two questions asked in wave 1.

(i) "Were you planning to get pregnant at that time or was it a surprise?" When they answer they were planning to get pregnant at that time, women are asked:

(ii) "How long did it take you to get pregnant with *name of the cohort member*?"

An additional module surveys women who received assisted fertility to get pregnant. We construct a variable "Time-to-conception" taking 6 values and described in table 3. We consider that a women suffers from secondary infertility if the time-to-conception for the first child is larger than (or equal to) 12 months or if she received assisted fertility treatment. Using our definition, we estimate that about 9.5% of our sample of first time mothers can be considered as secondary infertile. The share of infertile women is a bit higher among high- and intermediate-skilled women than among low-skilled women, especially because high- and intermediate-skilled women are more likely to have received fertility treatment. This could be explained by the high cost of fertility treatment. However, in the UK, public health services provide up to three cycles of fertility treatment free of charge for women below the age of 35. Long waiting times and ineligibility of older women may mean that those who can afford private treatment are more likely to get it than those who cannot afford it. Statistics for 2013 show that about 40% of fertility treatments undertaken in the UK were publicly funded, with the remainder being privately funded (HFEA, 2014). This is an issue here as it could mean that there is a selection of high- and intermediate-skilled women into pregnancy if among two equally (in)fertile women, high- and intermediate-skilled women are more likely to end up with a child because they are more likely to receive fertility treatment. We provide robstness check excluding women who received assisted fertility treatment in section 7.

Although the share of women experiencing secondary fertility is difficult to measure, our estimate of the population of secondary infertile women is similar to different benchmarks in the literature. The medical literature suggests that 10.5% of women world-wide can be considered as suffering from secondary infertility while 1.9% of women world-wide would suffer from primary infertility (Mascarenhas et al., 2012). Using data from English parishes during the Industrial Revolution in England, Klemp and Weisdorf (2011) show that about 20% of women had not conceived a child one year after their wedding. This estimation can be used as a broad measure of primary and secondary infertility as delaying pregnancy after marriage was uncommon in historical England.

Our time-to-conception variable is self-declared, thus it is subject to misreporting of the actual duration and to misunderstanding of the question. Being surprised could be interpreted as unplanned pregnancy but also as a unexpectedly short time-to-conception. This misunderstanding of the question is not an issue here: in both cases, women can be considered as fertile women. It would be a problem if women were surprised if they were not expecting to be pregnant anymore because they started to try a long time before getting pregnant. This would be an issue as we would classify women as fertile that are secondary infertile and it would reduce the strength of our instrument. We assume that this type of misunderstanding is low enough to be neglectable.

5.2 Time-to-conception as an instrument

Our empirical strategy relies on using secondary infertility, measured by a dummy variable indicating if the couple took more than 12 months to conceive the first child, as an instrument for having a second child. Our instrumental variable has to satisfy two conditions. First, it has to be correlated with the probability of having subsequent children. Second, the time-to-conception variable should not be correlated to the mother's labor market outcomes through channels different from the probability of having more kids.

The conditional correlation between the probability of having subsequent children and the dummy for secondary infertility is given by the first stage regression presented in the table 4. Women who experienced secondary infertility at the conception of their first child are 12.5% less likely to have an additional child when the first child is 4-5 year-old, and 13.7% less likely to have an additional child when the first child is 6-7 and 10-12 year-old. Low-skilled mothers are more affected than high- and intermediate-skilled mothers, which might be related to a better access to infertility treatment among high- and intermediate-skilled mothers. The instrument is strong: the F-stat is always larger than 20 on the whole sample, and always larger than 10 on both sub-samples.

Although it is impossible to check if the time-to-conception for the first child is related to the mother's labor market outcomes through channels different from the probability of having additional children, we can check if the instrument is as good as randomly assigned in our population by performing balancing tests between the fertile and infertile population. Infertility is related to some characteristics we observe: being overweight (Brewer and Balen, 2010) and having long standing illnesses, and the age at the decision to conceive the child. However, as we only keep in our sample women aged 20 to 36 at birth of their first child (i.e. the oldest are around 35 at the time of conception), they are too young to experience infertility problems due to age (Madankumar et al., 2003). So infertility should be as good as randomly assigned conditionally on the variables "being overweight" and "having a long standing illness". We use the same strategy as in Aguero and Marks (2011) to test for conditional independance and we estimate the following model:

$$V_i = \beta_1(1 - Infertile_i) + \beta_2 Infertile_i + \rho_2 BMI_i + \rho_3 Illness_i + \epsilon_i$$

where V_i is a characteristic of woman i, BMI_i is an indicator for being overweight before pregnancy, $Illness_i$ is a dummy variable indicating long-standing illness before pregnancy. Results for the balancing tests[3] are given in table 5. Balancing test on the sub-sample of high-

[3]We estimated the same equation adding age-at-decision group variables and the results were similar.

and intermediate-skilled women and on the sub-sample of the low-skilled women are given in the appendix.

It shows that being infertile is not related to the most important variables such as the mother's degree, being employed while pregnant, being non-white. However, infertile women's partners tend to be more educated, but only among high- and intermediate-skilled women. Moreover, infertile women are less likely to be cohabiting than fertile women, especially among low-skilled women. This could reflect that couples in the process of conceiving a child are likely to marry, indicating that those who took longer to conceive are more likely to be married at the birth of their first child. We provide test for exclusion restriction in the section 6.

5.3 Estimation strategy

We first divide our sample according to the age of the first child at the interview. Therefore, we are able to analyse the impact of having an additional child for different age of the first child. We distinguish three periods: when the first child is 4 or 5 year-old, when the first child is 6 or 7 year-old, and when the first child is between 10 and 12 year-old. It follows almost exactly wave 3, 4 and 5 of the Millenium Cohort Study. However, among those who have additional children, the age of the second child may vary as it depends on the timing between the first and the second child.

We estimate the following model for each sub-period:

$$Outcome_{it} = \alpha_t + \gamma_t K_{it} + X'_{it}\beta_t + H'_i\delta_t + \epsilon_{it} \tag{1}$$

where the subscript i refers to the individual, and the subscript t refers to the age range of the first child. $Outcome_{it}$ denotes the labor force outcome we study, K_{it} is a dummy variable indicating the mother had subsequent children after the first child and is potentially endogenous. X'_{it} are variables controlling for time-varying variables such as the relationship status and the education of the partner, which is changing if the partner changes, or time-invariant controls, such as demographic characteristics and the level of education of the mother when their first child was born. H'_i are variables controlling for health at the time of birth of the first child. We estimate the model by 2SLS, using a dummy for secondary infertility as an instrument for having subsequent children.

First, we estimate the model on the complete sample of mothers. Then, we estimate it on the subsample of high- and intermediate-skilled women and on the sample of low-skilled women separatly. Therefore, we assess the heterogeneity of the impact among the two sub-populations.

An alternative specification would be to pool all waves and all women and to allow the impact to vary over time and sub-populations by adding interaction variables. By doing so, we force the impact of the control variables to be equal whatever the wave and the sub-population. However, the correlation between the control variables and the outcomes might change by subpopulation and imposing the coefficient on control variables to be equal across sub-populations weakens our instrument. As a consequence, our specification is more flexible and it enables us to account for a larger share of the variability of the data.

6 Results

The results of the estimation of the equation 1 are shown in table 6, which is split into different panels that refer to different outcome variables. For each panel, the first line corresponds to the estimates when the first child is about 4-5 year-old, the second line corresponds to the estimate when the first child is 6-7 year-old, and the third line correspond to the estimate when the child is 10-12 year-old. Columns (1) and (2) refer to the sample of all women, columns (3) and (4) gives the results on the subsample of high- and intermediate-skilled women, and columns (5) and (6) on low-skilled women. Columns (1), (3) and (5) show the results of OLS regressions, and columns (2), (4) and (6) show the estimates using 2SLS. The average for each outcome is given in table 1.

6.1 Labor force supply

The OLS regressions show that those women who do have an additional child, whether they are high- or intermediate-skilled or low-skilled, exhibit a decline in participation. When the first child in 4-5 year-old, having at least one additional child is associated with a 19.3 percentage point decrease in their labor force participation for all mothers, with slight differences between high- and intermediate-skilled (18 pp. decrease) compared to low-skilled (20.6 pp. decrease). The estimates decrease as the first child gets older, especially for the high- and intermediate-skilled women: having additional children is associated with a reduction in labor force participation by 6.4 percentage points for these mothers, while low-skilled mothers participate 13.3 percentage points less when the first child is between 10 and 12 year-old. The picture changes when we look at the IV estimates. For high- and intermediate-skilled women the coefficient on having at least one more child becomes positive when the first child is 4-5 year old, but it is not significant. When the first child is between 10-12 year-old, the coefficient is large, positive but not significant, suggesting that women with more children are more likely to work. Among the low-skilled, IV estimates suggest the reverse, although they are not significant. Iacovou (2001) found similar results for the UK, using the BHPS data.

The second panel consider the impact of having additional children on being employed (or on leave), rather than unemployed or inactive. The OLS estimates are close to the OLS estimates of the impact on the participation rate. For high- and intermediate-skilled mothers, the IV estimates give a rather similar picture as for the participation to the labour market but the magnitude is smaller. Having an additional child has a positive impact on being employed but it is not as large as the impact on participation, although the impact is not significant. For low-skilled women, the magnitude is larger: having a second child make them even less likely to be employed than to participate.

Turning to the impact of having additional children on being employed more than 20 hours/week, the results are stronger. The OLS estimates indicates that women having more children are 22.5 pp less likely to work more than 20 hours per week than women who did not have any additional child. However, the difference tends to get smaller and having an additional child is associated with a 13.8 pp decrease in the probability of working more than 20 hours per week when the first child is 10 to 12 year-old. This decrease is mostly driven by the high- and intermediate-skilled women: when the first child is 4-5 year-old, having an additional child is associated with a 21.9 pp decrease in the probability of working more than 20 hours per week. When the first child is 10-12 years old, it is associated with a 11.3 pp decrease. For low-skilled women, having an additional child is associated with a 22.7 pp decrease in the probability of working more than 20 hours per week, while the difference remains 20.4% when the first child is 10 to 12 year-old. The IV estimates indicate that the impact of having an additional child is small and not significant for high- and intermediate-skilled women, but it is large and negative for low-skilled women: having an additional child decreases the probability of working more than 20 hours per week by 52 pp when the first child is 10 to 12 year-old.

The estimates of the impact of having subsequent children on the number of hours worked per week encapsulate the previous results. The OLS estimates shows that women with subsequent children work about 8 hours per week less when the first child is 4 to 7 year-old and 6.8 hours per week less when the first child is about 10 to 12 years old than women with one child. However, these estimates hide large differences between high- and intermediate-skilled women and low-skilled women. Among the high- and intermediate-skilled, the difference tends to decline with the age of the first child, from 8.4 to 5.5 hours per week. However, the difference tend to increase with the age of the first child among low-skilled women. When the first child is 4-5 year-old, having an additional child is associated with working 7.5 hours per week less, but when the first child is 10-12 years old, having an additional child is associated with working 9.2 hours per week less than women with one child. The IV estimates suggest that the impact of having subsequent children is not significant among high- and intermediate-skilled women, and the magnitude of the impact is decreasing over time. Among low-skilled women, the impact goes the other way round: the impact is large and negative, especially when the first child gets older. When the first child is 10-12 year-old, the coefficient indicates that mothers of two or more children work 19 hours less than mothers of one child, which represents the difference between a full time and a part-time job, which is coherent with the result on the probability to work more than 20 hours/week.

The results highlight the polarization of the labor market in the UK, especially when the first child is 10-12 year-old. The long-term effect of having an additional child depends on the type of occupation women have. On the one hand, the impact of having more children on the labor supply of high-skilled women is positive, but this effect seems to work entirely through part-time jobs. The IV estimates show that the impact of an additional child on labor market participation and being employed is large and positive (although not significant) but not on the probability to work more than 20 hours weekly. Therefore, they suggest that high-skilled women with one child are either inactive or working full-time, and the marginal impact of an additional child is to increase the probability for high- and intermediate-skilled women to work part-time, especially among inactive women. On the other hand, the impact of having more children on the labor supply of low-skilled women is negative, and this effect is driven by full-time jobs. The IV estimate indicates that the impact of having more children on participation and being employed is slightly negative, while the impact on the probability of working more than 20 hours per week is large and negative. So, they suggest that low-skilled women with one child are likely to be working full-time or part-time, and low-skilled women with two children are either inactive or are working part-time. The results are consistent with Joshi et al. (1996) and Del Boca et al. (2009): the availability of part-time jobs supports the labor force participation of mothers. Our results qualify this finding, as we show that this is true, in particular for mothers of two or more children.

The IV results suggest the OLS coefficients are downwardly biased for high- and intermediate-skilled women, and upwardly biased for low-skilled women. The sign of the bias for the high-skilled population is consitent with selection into larger families of less career oriented women. When we compare those that had two children with those that had only one child because they were infertile, we can control for the selection of the highly ambitious women into having a smaller sized family. The average participation among one-child women is contaminated by the presence of women with unobservable characteristics that make them more likely to participate in the labor market and have less children. This is the same type of selection as most papers found (To cite a few: Angrist and Evans, 1998; Aguero and Marks, 2011;

Goodman et al., 2004) With respect to low-skilled mothers, the bias works in the opposite direction. This is driven by the fact that the observed labor force supply of women with only one child is contaminated by the presence of a large amount of mothers who have broken up with the fathers of the first child. Table 7 shows that low-skilled women are more likely to break up. This is highly correlated with the relationship status at birth of the first child, as the coefficient on low-skilled tend to be not significant when the relationship status at wave 1 is controlled for. Table 7 also shows that women who break up are less likely to have an additional child. As a consequence, being more likely to be single, low-skilled mothers are also less likely to have additional children. Sorting into stable couples that do not break up is likely to be correlated with unobservables that also affect labor force participation. In order to test the impact of selection of low-skilled women into unstable couple on the sign of the OLS bias, we restrict our sample to married women at wave 1[4]. The OLS and the IV estimates are only slightly affected by this subsample restriction for high- and intermediate-skilled women. On the contrary, the IV estimates of the impact of having an additional child on participation and employment of low-skilled married women is negative, but much weaker than on the whole sample, suggesting that the bias is driven by unstable couples. The estimates on the probability of working more than 20 hours per week and on the number of hours worked weekly is only slightly different. This result sheds light on a different source of endogeneity and exhibit the nature of the population of compliers: people reacting to the IV are stable couples. The same sign of bias has been found in Angrist and Evans (1998) for women whose degree is strictly lower than high school graduate (table 10).

To sum up, women with one child among the high- and intermediate-skilled are women who choose to have one child, certainly for career reasons whereas low-skilled women with one

[4]Results are given in the web appendix.

child are those who broke up with their partners or fathers of their first child.

6.2 Working conditions

The OLS regressions show that those women who do have an additional child, whether they are high- or intermediate skilled or low-skilled, do not exhibit a decline in the probability of working by night al least once a week whatever the age of the first child. But they are slightly less likely to work during the week-ends as the first child gets older. The IV estimates show that having an additional child decreases the probability of being working by night by 33 pp among low-skilled women when the first child is 6-7 year-old, and by 31 pp and 23 pp respectively for high- and intermediate-skilled women and low-skilled women when the first child in 10-12 year-old. These results suggest that working by night is hardly compatible with having more kids and women adapt their working conditions when they have another child. Two channels might explain this adaptation: either women who work by night when they have only one child are more likely to retreat from the labor market or they are more likely to take another job, most likely a part-time job. The IV results suggest the OLS coefficients are upwardly biased. Reverse causality could explain the sign of the bias: women with one child may not have another child because they are working by night. Another interpretation is the selection of women into an unstable partnership. When restricted to the subsample of married women at wave 1, the estimates are still negative but much weaker for low-skilled women, indicating that women in unstable relationships are less likely to have a second child and more likely to work by night. This correlation may be causal: relationships might be unstable when the woman works by night, or it may explain that single women are more likely to take a job despite bad working conditions.

With respect to working during the week-end, the OLS estimates show that women having an additional child are slightly less likely to work during the week-ends than women with only one child, both among high- or intermediate skilled and low-skilled women. The IV estimates suggest that the negative impact of an additional child on the probability of working during the week-ends is stronger than observed with the OLS estimates, when the first child is 4-5 year-old, for high and intermediate-skilled women as well as for low-skilled women. This result is driven by the selection of women in an unstable relationship among women who have a single child.

6.3 Household income

We now turn to study the impact of having an additional child on household income. When the first child is 4 to 7 year-old, the OLS estimates indicate that having an additional child is not related to change in the household income. When the first child is 10-12 year-old, women who had subsequent children tend to live in slightly richer households, especially among high- and intermediate-skilled women. The IV estimates indicate that the impact of having more children tend to be large and positive for high- and intermediate-skilled women, although it is not significant. However, they give a large and negative impact of having more children on household income when the first child is less than 7, but large and positive when the first child is 10-12 years old. The impact of having subsequent children on household income can be explained by the change in the labor supply of mothers. The impact of having subsequent children on father's wages and labor supply could also explain the results when the first child is 10-12 year-old. The OLS estimates are downwardly biased, which is related to the fact that women who have additional children are also more likely to have a partner. When we restrict our sample to married women in wave 1, we find stronger results. These results are similar to Angelov and Karimi (2012) who find a fast recovery of income after a third birth in Sweden.

7 Discussion of the results

7.1 Exclusion restriction

Our results give the causal impact of having an additional child on the labor supply of mothers if the instrument can be considered as good as randomly assigned. In order to interpret our results as causal impacts, the instrument should impact the labor outcomes of the mother only through the its impact on the probability of having additional children. In this section we test this assumption.

First, we test if mother values toward family and work balance tend to shift because of their infertility. The results are presented in table 8. Data in wave 1 include information on values related to family and professional life. We consider how women observed in wave 3 in our sample answered to these questions in wave 1, controlling for their characteristics at wave 1. Notice that in wave 1, some women are still on maternity leave, while other have returned to work. Among women who returned to work, infertile women are not more likely to cite their career as the main reason to return to work, indicating that experiencing infertility did not impact their attachment to the labor force. On the contrary, among women who have not returned to work, infertile women are not more likely to state that they prefer taking care of their child as the main reason not to return to work. Yet, low-skilled infertile women tend to be less likely to agree with the statement "Family is happier if the mother works". However, they are not more likely to agree with the statement "Family suffers if the mother works". So, while infertile women are not strongly in favor of mothers working, they do not make a strong case against it. Being infertile does not change mothers' plans to have more children and they are not more likely to agree on "Couple should not separate if they have children". To sum up, it seems that being infertile is not related to large deviation in the mother's values.

Then, we test if family life after the birth of the child of infertile women tend to be different from that of fertile women. We test if the duration between the first and the second child tend to be larger for infertile women in comparison to fertile women, among women who had more than one child. If the timing is different, say that infertile women take more time to have their second child, it would mean that what we interpret as the effect of the second child is related to the fact that infertile women have younger children. We estimate a Cox duration model, controlling for family's characteristics at wave 1 and report the coefficient on infertile women in the first panel of table 9. The duration between the first and the second child tends to be lower, although not significantly, for high and intermediate-skilled infertile women, compared to high and intermediate-skilled fertile women. Among the low-skilled, there is no difference in the distance between first and second children for infertile and fertile women.

Infertility is stressful period for the couple, so it could be related to a higher risk of divorce. However, the medical and psychological literature shows that infertility tends to have a positive impact on the couple's stability (Schmidt et al., 2005). Unsuccessful fertility treatment could lead to a higher risk of divorce (Martins et al., 2014) but in our sample, all couples managed to have their first child. Indeed, we find that infertile women are not more likely to break up after the birth of the first child. We also test if infertility is related to attrition: infertile women are not more likely to attrite after wave 3 nor wave 4. To conclude, the behavior of infertile women after the birth of their first child does not seem to be different from the behavior of fertile women.

Finally, we test if infertile women tend to exhibit different attachment to the labor market around the birth of the first child. Indeed, infertility tend to increase pre-birth experience (Miller, 2011), so it could increase the labor market attachment as women have something better to go back to. If this were the case, we would interpret the impact of a different attachment to the labor market as the impact of having additional children. Results are presented in table 9. We find that infertile women are slightly less likely to be employed during pregnancy, although the negative impact is no longer significant when we split the sample into low-skilled and high- and intermediate-skilled women. Among women who were employed during pregnancy, the probability of having returned to work at wave 1 is not different for infertile women. Moreover, among women who have returned to work by wave 1, the length of the maternity leave taken as well as wages are similar between fertile and infertile women.

To conclude, we tend to reject all alternative explanations for our results. First, being infertile did not change dramatically the mothers' values related to work and family. Our estimates do not result from a shift in mothers' priorities in life subsequent to discovering they are infertile. Second, being infertile is not related to different life events after the birth of the first child. So it seems that the stress related to the conception period does not strongly affect family events afterward. Lastly, being infertile does not seem to be related to a stronger or weaker attachment to the labor market.

7.2 Robustness checks

The selection of mothers in a stable relationships into the sample explains part of the bias of the OLS estimates. In this section, we test the robustness of our results on different subsamples of women, who are more likely to be in stable relationships.

The selection into the observed sample is related to the attrition. Indeed, leaving the sample can be related to events correlated to the birth of a second child or to labor supply, such as moving to a bigger apartment or to getting a better job. First, we restrict our sample to women present at all waves, in order to check if more stable women exhibit different behavior.[5] When restricting our sample, we find that the impact of infertility on having additional children is larger. We find that the estimates are similar to the estimates on the whole sample, although the magnitude tend to be lower for high- and intermediate-skilled women and larger for low-skilled women. Attrition affects the more reactive women among the high- and intermediate-skilled women and the least reactive women among the low-skilled women.

As they are less likely to plan their career and family life, we exclude surprised mothers from our sample.[6] Those women are more likely to cohabit at wave 1, to break up later in life and to have a single child. On this new subsample - excluding "suprised" women - the first stage is stronger: the F-stat are larger despite the smaller sample size and the magnitude of the coefficient is larger. The results are very similar to the results on the whole sample. This is consistent with the assumption that surprised women are similar to fertile women once we control for education.

We noticed in section 5 that high- and intermediate-skilled women could have a better

[5] Results are given in the web appendix.
[6] Results are given in the web appendix.

access to assisted fertility treatments. Thus, there could be a selection of infertile high- and intermediate-skilled into motherhood. We restrict our sample to women who did not receive a fertility treatment[7]. Obviously, this sample restriction weakens our instrument but especially for low-skilled women. The F-stat is about 14 for high-and intermediate-skilled women, whatever the wave but it falls to 4 or 5 for the wave 3 and 4 (when the first child is 4-5 year-old or 6-7 year-old) for low-skilled women. The F-stat is around 9 for low-skilled women when the first child in 10-12 year-old. The estimates of the impact of an additional child on labor force outcomes of high- and intermediate-skilled women are not much affected by the sample restriction. However, for the low-skilled, the IV estimate of the decrease in the labor force participation due to an additional child is larger. This intesresting result can be interpreted as a consequence of a weaker instrument. But it could also reveal that among infertile women, those who received a fertility treatment are the most attached to the labor market.

8 Conclusion

By using the Millenium Cohort Study (MCS) data for the UK, this paper studies the impact of having two or more children compared to only one on the mother's labour force participation and employment. To solve the problem of omitted variable bias, we use the time to conceive the first child as a source of variation in family size. A time to conceive a first child larger than one year is associated with a decrease in the probability of having additional children. As with previous evidence for developed countries, the findings indicate that the impact of having more children is not as strong as the OLS estimates suggest. However, when investigating the

[7]Results are given in the web appendix.

heterogeneity in the population, the results are contrasted. For high- and intermediate-skilled women, the findings reveal that family size does not impact employment. Therefore, for this sub-population, the decrease in labor supply associated with having a second child is due to selection of less career-oriented women into larger families. For low-skilled women, we find that the probability of working full-time is strongly reduced when a woman has subsequent children. This result indicates that the selection into larger family size goes in the other way round for this sub-population: women less-attached to the labor market are also more likely to break up and to have only one child. These results reveal that attention should be paid to the type of couples affected by the fertility shocks.

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Table 1: Descriptive statistics on labor outcomes

	All women		High and interm.		Low skilled	
	Mean	s.d.	Mean	s.d.	Mean	s.d.
Active						
When 1^{st} child is 4-5 y.o.	0.727	(0.445)	0.765	(0.424)	0.639	(0.481)
When 1^{st} child is 6-7 y.o.	0.785	(0.411)	0.811	(0.391)	0.719	(0.449)
When 1^{st} child is 10-12 y.o.	0.839	(0.367)	0.869	(0.337)	0.764	(0.425)
Employed						
When 1^{st} child is 4-5 y.o.	0.703	(0.457)	0.747	(0.435)	0.600	(0.490)
When 1^{st} child is 6-7 y.o.	0.756	(0.429)	0.788	(0.409)	0.680	(0.467)
When 1^{st} child is 10-12 y.o.	0.820	(0.384)	0.851	(0.356)	0.742	(0.438)
Works more than 20 hours/week						
When 1^{st} child is 4-5 y.o.	0.577	(0.494)	0.634	(0.482)	0.443	(0.497)
When 1^{st} child is 6-7 y.o.	0.623	(0.485)	0.662	(0.473)	0.528	(0.499)
When 1^{st} child is 10-12 y.o.	0.693	(0.461)	0.734	(0.442)	0.592	(0.492)
Works by night every week						
When 1^{st} child is 4-5 y.o.	0.061	(0.240)	0.062	(0.241)	0.060	(0.238)
When 1^{st} child is 6-7 y.o.	0.059	(0.235)	0.057	(0.233)	0.061	(0.240)
When 1^{st} child is 10-12 y.o.	0.057	(0.231)	0.054	(0.226)	0.063	(0.242)
Works during the week-ends						
When 1^{st} child is 4-5 y.o.	0.092	(0.290)	0.062	(0.242)	0.163	(0.370)
When 1^{st} child is 6-7 y.o.	0.089	(0.284)	0.059	(0.236)	0.161	(0.368)
When 1^{st} child is 10-12 y.o.	0.096	(0.295)	0.079	(0.270)	0.139	(0.346)
Nb of hours worked/week						
When 1^{st} child is 4-5 y.o.	16.759	(14.267)	18.400	(14.258)	12.898	(13.530)
When 1^{st} child is 6-7 y.o.	18.224	(14.242)	19.511	(14.203)	15.067	(13.847)
When 1^{st} child is 10-12 y.o.	21.197	(14.908)	22.497	(14.544)	17.952	(15.315)
Annual household income (in current 10,000 pounds)						
When 1^{st} child is 4-5 y.o.	3.538	(2.268)	3.979	(2.327)	2.473	(1.702)
When 1^{st} child is 6-7 y.o.	3.967	(2.475)	4.414	(2.520)	2.834	(1.941)
When 1^{st} child is 10-12 y.o.	4.553	(3.263)	5.079	(3.415)	3.183	(2.326)
Observations (When 1^{st} child is 4-5 y.o.)	3,582		2,397		1,185	
Observations (When 1^{st} child is 6-7 y.o.)	3,227		2,193		1,034	
Observations (When 1^{st} child is 10-12 y.o.)	3,084		2,107		977	

Source: Millenium Cohort Study
Sample includes non twin pregnancies, first time mothers, aged 20-36 at birth, having a partner at birth who moved in between 11 years before and two years after the decision to have a child.

Table 2: Descriptive statistics

	All women		High and interm.		Low skilled	
	Mean	s.d.	Mean	s.d.	Mean	s.d.
Endogenous variable						
Has add. child (Wave 3)	0.695	(0.460)	0.715	(0.452)	0.649	(0.478)
Has add. child (Wave 4)	0.764	(0.425)	0.779	(0.415)	0.728	(0.445)
Has add. child (Wave 5)	0.795	(0.404)	0.804	(0.397)	0.772	(0.420)
Time-invariant controls						
Employed while pregnant	0.942	(0.234)	0.968	(0.176)	0.880	(0.325)
Non white	0.067	(0.251)	0.060	(0.237)	0.086	(0.280)
Above High School	0.413	(0.492)	0.505	(0.500)	0.194	(0.396)
A levels	0.125	(0.330)	0.139	(0.346)	0.090	(0.287)
Below A Levels	0.422	(0.494)	0.342	(0.474)	0.610	(0.488)
No qualifications	0.041	(0.199)	0.014	(0.116)	0.106	(0.308)
Married at wave 1	0.704	(0.457)	0.758	(0.428)	0.576	(0.494)
Cohabiting at wave 1	0.296	(0.457)	0.242	(0.428)	0.424	(0.494)
England	0.822	(0.382)	0.824	(0.381)	0.819	(0.385)
Wales	0.048	(0.214)	0.044	(0.205)	0.058	(0.233)
Scotland	0.100	(0.300)	0.105	(0.307)	0.088	(0.283)
N. Ireland	0.030	(0.170)	0.027	(0.163)	0.036	(0.185)
Time varying controls						
Married (Wave 3)	0.735	(0.441)	0.781	(0.414)	0.626	(0.484)
Married (Wave 4)	0.712	(0.453)	0.758	(0.428)	0.599	(0.490)
Married (Wave 5)	0.654	(0.476)	0.702	(0.457)	0.535	(0.499)
Cohabiting couple (Wave 3)	0.170	(0.375)	0.147	(0.354)	0.224	(0.417)
Cohabiting couple (Wave 4)	0.169	(0.375)	0.142	(0.349)	0.234	(0.423)
Cohabiting couple (Wave 5)	0.130	(0.336)	0.106	(0.307)	0.191	(0.394)
Single (Wave 3)	0.095	(0.294)	0.072	(0.259)	0.150	(0.357)
Single (Wave 4)	0.119	(0.324)	0.100	(0.299)	0.168	(0.374)
Single (Wave 5)	0.215	(0.411)	0.192	(0.394)	0.274	(0.446)
Age of youngest child (Wave 3)	3.077	(1.662)	3.016	(1.647)	3.222	(1.689)
Age of youngest child (Wave 4)	4.464	(2.040)	4.423	(2.000)	4.565	(2.132)
Age of youngest child (Wave 5)	7.833	(2.592)	7.874	(2.484)	7.731	(2.841)
Age of oldest child (MC) (Wave 3)	4.816	(0.388)	4.823	(0.382)	4.799	(0.401)
Age of oldest child (MC) (Wave 4)	6.844	(0.364)	6.842	(0.365)	6.849	(0.362)
Age of oldest child (MC) (Wave 5)	10.684	(0.477)	10.682	(0.479)	10.688	(0.472)
Mother's age (Wave 3)	34.258	(4.054)	35.101	(3.629)	32.272	(4.301)
Mother's age (Wave 4)	36.401	(4.012)	37.176	(3.602)	34.501	(4.323)
Mother's age (Wave 5)	40.410	(4.006)	41.188	(3.608)	38.465	(4.284)
Observations (Wave 3)	3,582		2,397		1,185	
Observations (Wave 4)	3,227		2,193		1,034	
Observations (Wave 5)	3,084		2,107		977	

Source: Millenium Cohort Study
Sample includes non twin pregnancies, first time mothers, aged 20-36 at birth, having a partner at birth who moved in between 11 years before and two years after the decision to have a child.

Table 3: Time to conception

	All women		High and interm.		Low skilled	
	N	%	N	%	N	%
None, pregnancy was a surprise	1,067	27.7	596	23.5	471	37.6
>0 and <6 months	1,807	51.7	1,314	55.1	493	43.5
≥ 6 and <12 months	378	11.2	257	11.5	121	10.3
≥ 12 and <24 months	95	2.7	64	2.5	31	2.9
≥ 24 months	144	3.8	91	3.8	53	3.9
Assisted fertility	91	3.0	75	3.6	16	1.8
	3,582		2,397		1,185	

Source: Millenium Cohort Study
Sample includes non twin pregnancies, first time mothers, aged 20-36 at birth, having a partner at birth who moved in between 11 years before and two years after the decision to have a child.

Table 4: Impact of being infertile on the probability of having more children (First stage regression), for different ages of the first child

	All women		High and interm.		Low skilled	
When 1^{st} child is 4-5 y.o.	-0.125**	(0.025)	-0.108**	(0.030)	-0.157**	(0.049)
F-stat	*24.50*		*13.42*		*10.40*	
When 1^{st} child is 6-7 y.o.	-0.137**	(0.025)	-0.128**	(0.029)	-0.156**	(0.047)
F-stat	*31.40*		*19.69*		*11.12*	
When 1^{st} child is 10-12 y.o.	-0.137**	(0.024)	-0.111**	(0.028)	-0.203**	(0.044)
F-stat	*32.84*		*15.29*		*20.96*	
N (When 1^{st} child is 4-5 y.o.)	3581		2395		1186	
N (When 1^{st} child is 6-7 y.o.)	3226		2191		1035	
N (When 1^{st} child is 10-12 y.o.)	3083		2105		978	

Source: Millenium Cohort Study. Standard errors in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$
High and intermediate skilled: mother's occupation before birth classified as: Large employer, High manager, Higher prof., Low prof/high tech., Lower managers, High supervisory, Intermediate. Low skilled: mother's occupation before birth classified as: Small employers, Self-emp non profl, Lower supervisors, Lower technical, Semi-routine, Routine. Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child. Controls: dummy for being overweight before pregnancy and dummy for having longstanding illness, mother's educational level and current partner's educational level, dummy for currently single, dummy for cohabiting couple at birth of 1^{st} child, dummy for currently cohabiting couple, mother's age group, country, workstatus before pregnancy, dummy if non white mother.

Table 5: Balancing test - all women

Characteristic	Fertile (β_1)	Infertile (β_2)	Test $\beta_1 - \beta_2 = 0$
	Mother's characteristics		
Low skilled	0.274 (0.010)	0.233 (0.026)	0.040 [0.122]
Age at decision to try for 1st baby	28.184 (0.087)	27.272 (0.226)	0.912 [0.000]
Employed while pregnant	0.945 (0.005)	0.935 (0.013)	0.009 [0.485]
Non white	0.077 (0.006)	0.068 (0.014)	0.009 [0.509]
Above High School	0.436 (0.011)	0.466 (0.028)	-0.030 [0.285]
A levels	0.133 (0.007)	0.126 (0.019)	0.007 [0.706]
Below A Levels	0.392 (0.011)	0.357 (0.028)	0.035 [0.208]
No qualifications	0.039 (0.004)	0.051 (0.011)	-0.013 [0.269]
	Partner's characteristics		
Age at decision	30.885 (0.114)	30.782 (0.296)	0.102 [0.730]
Working at wave 1	0.961 (0.004)	0.963 (0.011)	-0.002 [0.880]
No degree	0.091 (0.007)	0.087 (0.018)	0.004 [0.816]
Below A-level	0.417 (0.011)	0.337 (0.030)	0.080 [0.007]
A-level	0.090 (0.006)	0.085 (0.017)	0.005 [0.755]
Above A-level	0.402 (0.011)	0.491 (0.029)	-0.090 [0.002]
	Couple's characteristics		
Cohabiting at wave 1	0.307 (0.010)	0.104 (0.026)	0.203 [0.000]
Time btw move in and birth	2.894 (0.057)	2.979 (0.149)	-0.085 [0.567]
England	0.825 (0.008)	0.816 (0.022)	0.009 [0.688]
Wales	0.048 (0.005)	0.049 (0.012)	-0.001 [0.916]
Scotland	0.097 (0.007)	0.107 (0.017)	-0.010 [0.548]
N. Ireland	0.031 (0.004)	0.028 (0.010)	0.003 [0.773]
Observations	330	3,252	

Standard errors in parenthesis and p-values in brackets.
Source: Millenium Cohort Survey.
Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child.
Controls: dummy for being overweight before pregnancy and dummy for having longstanding illness.

Table 6: Impact of having more children on mother's labour market oucomes

	All women				High and interm. skilled				Low skilled			
	OLS		IV		OLS		IV		OLS		IV	
Outcome: participate to the labor market												
When 1^{st} child is 4-5 y.o.	-0.193**	(0.016)	0.157	(0.209)	-0.180**	(0.020)	0.377	(0.303)	-0.206**	(0.029)	-0.161	(0.306)
When 1^{st} child is 6-7 y.o.	-0.133**	(0.018)	-0.121	(0.179)	-0.116**	(0.021)	-0.060	(0.222)	-0.161**	(0.033)	-0.221	(0.310)
When 1^{st} child is 10-12 y.o.	-0.088**	(0.016)	0.158	(0.165)	-0.064**	(0.019)	0.382	(0.249)	-0.133**	(0.032)	-0.203	(0.219)
Outcome: Employed												
When 1^{st} child is 4-5 y.o.	-0.199**	(0.017)	0.256	(0.221)	-0.191**	(0.020)	0.331	(0.303)	-0.203**	(0.030)	0.169	(0.333)
When 1^{st} child is 6-7 y.o.	-0.146**	(0.018)	-0.114	(0.186)	-0.121**	(0.022)	-0.050	(0.232)	-0.190**	(0.033)	-0.195	(0.317)
When 1^{st} child is 10-12 y.o.	-0.096**	(0.017)	0.115	(0.170)	-0.068**	(0.020)	0.337	(0.255)	-0.148**	(0.033)	-0.251	(0.224)
Outcome: Works ≥20 hours/week												
When 1^{st} child is 4-5 y.o.	-0.225**	(0.018)	0.344	(0.246)	-0.219**	(0.022)	0.436	(0.345)	-0.227**	(0.030)	0.179	(0.341)
When 1^{st} child is 6-7 y.o.	-0.218**	(0.021)	-0.201	(0.209)	-0.195**	(0.025)	-0.259	(0.265)	-0.265**	(0.036)	-0.052	(0.347)
When 1^{st} child is 10-12 y.o.	-0.138**	(0.021)	-0.126	(0.202)	-0.113**	(0.025)	0.090	(0.296)	-0.204**	(0.038)	-0.520*	(0.265)
Outcome: Nb of hours worked/week												
When 1^{st} child is 4-5 y.o.	-8.287**	(0.510)	2.113	(6.503)	-8.445**	(0.642)	7.026	(9.520)	-7.538**	(0.808)	-5.224	(8.558)
When 1^{st} child is 6-7 y.o.	-8.112**	(0.599)	-9.702	(6.069)	-7.681**	(0.747)	-7.215	(7.847)	-8.763**	(0.978)	-14.563	(9.472)
When 1^{st} child is 10-12 y.o.	-6.766**	(0.666)	-8.591	(6.460)	-5.555**	(0.814)	-3.039	(9.521)	-9.170**	(1.158)	-19.053*	(8.132)
Outcome: Works by night												
When 1^{st} child is 4-5 y.o.	-0.003	(0.009)	-0.092	(0.113)	-0.003	(0.012)	-0.123	(0.158)	-0.002	(0.015)	-0.024	(0.161)
When 1^{st} child is 6-7 y.o.	-0.006	(0.010)	-0.176	(0.110)	0.005	(0.013)	-0.099	(0.136)	-0.025	(0.018)	-0.336+	(0.196)
When 1^{st} child is 10-12 y.o.	-0.003	(0.011)	-0.284*	(0.115)	0.002	(0.013)	-0.311+	(0.171)	-0.024	(0.019)	-0.234+	(0.138)
Outcome: Works in the week-end												
When 1^{st} child is 4-5 y.o.	-0.005	(0.011)	-0.247+	(0.143)	-0.014	(0.012)	-0.163	(0.160)	0.013	(0.024)	-0.431	(0.285)
When 1^{st} child is 6-7 y.o.	-0.029*	(0.012)	-0.091	(0.127)	-0.022+	(0.013)	-0.149	(0.139)	-0.042	(0.027)	0.093	(0.265)
When 1^{st} child is 10-12 y.o.	-0.024+	(0.014)	-0.178	(0.135)	-0.005	(0.015)	-0.278	(0.194)	-0.065*	(0.027)	-0.018	(0.186)
Outcome: Annual household income (in current 10,000 pounds)[a]												
When 1^{st} child is 4-5 y.o.	0.083	(0.079)	1.006	(1.089)	0.068	(0.107)	2.235	(1.789)	0.110	(0.097)	-1.271	(1.185)
When 1^{st} child is 6-7 y.o.	0.008	(0.098)	-0.810	(1.105)	-0.077	(0.127)	-0.759	(1.534)	0.138	(0.138)	-1.567	(1.492)
When 1^{st} child is 10-12 y.o.	0.297*	(0.141)	2.407+	(1.430)	0.313+	(0.186)	2.628	(2.384)	0.172	(0.181)	1.740	(1.193)
N (When 1^{st} child is 4-5 y.o.)	3581				2395				1186			
N (When 1^{st} child is 6-7 y.o.)	3226				2191				1035			
N (When 1^{st} child is 10-12 y.o.)	3083				2105				978			

Source: Millenium Cohort Survey. Standard errors in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$. High and intermediate skilled: mother's occupation before birth classified as: Large employer, High manager, Higher prof., Low prof/high tech., Lower managers, High supervisory, Intermediate. Low skilled: mother's occupation before birth classified as: Small employers, Self-emp non profl, Lower supervisors, Lower technical, Semi-routine, Routine. Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child.Controls: dummy for being overweight before pregnancy and dummy for having longstanding illness, mother's educational level and current partner's educational level, dummy for currently single, dummy for cohabiting couple at birth of 1^{st} child, dummy for currently cohabiting couple, mother's age group, country, workstatus before pregnancy, dummy if non white mother. Instrument: time to conception for the first child ≥ 1 year.

[a]: N (When 1^{st} child is 4-5 y.o.)=3288 for all women, = 2220 for high and interm. skilled, = 1068 for low skilled. N (When 1^{st} child is 6-7 y.o.) = 2947 for all women, = 2026 for high and interm. skilled, 921 for low skilled. N (When 1^{st} child is 10-12 y.o.) = 2816 for all women, = 1946 for high and interm. skilled, = 870 for low skilled.

Table 7: Probability of separation and probability of having a child if separation

	(1)		(2)		(3)	
Probability of having broken up when the first child is 4-5 year-old						
Low skilled	0.028**	(0.010)	0.007	(0.011)	0.001	(0.011)
Cohabiting couple at birth					0.094**	(0.010)
Observations	3582		3582		3582	
Probability of having broken up when the first child is 6-7 year-old						
Low skilled	0.042**	(0.012)	0.019	(0.012)	0.014	(0.012)
Cohabiting couple at birth					0.097**	(0.012)
Observations	3227		3227		3227	
Probability of having broken up when the first child is 10-12 year-old						
Low skilled	0.059**	(0.015)	0.033*	(0.015)	0.028+	(0.015)
Cohabiting couple at birth					0.112**	(0.014)
Observations	3084		3084		3084	
Control for:						
Education, Health	Y		Y		Y	
Mother's age, country, work while preg	N		Y		Y	
Cohabitants at birth	N		N		Y	
Probability of having an extra child if separation						
	All women		High and interm.		Low skilled	
Separation in the period	-0.337**	(0.026)	-0.361**	(0.031)	-0.309**	(0.046)
Low skilled	-0.016	(0.016)				
Observations	3582		2397		1185	

Standard errors in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

High and intermediate skilled: mother's occupation before birth classified as: large employer, high manager, higher prof., low prof/high tech., lower managers, high supervisory, intermediate. Low skilled: mother's occupation before birth classified as: small employers, self-emp non profl, lower supervisors, lower technical, semi-routine, routine. Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child. Controls: dummy for being overweight before pregnancy and dummy for having longstanding illness, mother's educational level, dummy for cohabiting couple at birth of 1^{st} child, mother's age group, country, workstatus before pregnancy, dummy if non white mother.

Table 8: Infertility shock and mother values

	All women		High and interm.		Low skilled	
Outcome: career as main reason to return to work						
Infertile	0.036	(0.023)	0.033	(0.027)	0.056	(0.046)
Observations	2544		1832		712	
Outcome: prefers taking care of child as main reason not to return to work						
Infertile	0.037	(0.053)	0.043	(0.067)	0.016	(0.091)
Observations	957		525		432	
Outcome: agrees on "family happier if the mother works"						
Infertile	-0.036*	(0.018)	-0.026	(0.021)	-0.061+	(0.032)
Observations	3533		2377		1156	
Outcome: agrees on "family suffers if the mother works"						
Infertile	0.027	(0.027)	0.031	(0.032)	0.000	(0.050)
Observations	3533		2377		1156	
Outcome: plan to have more children						
Infertile	-0.027	(0.026)	-0.023	(0.031)	-0.037	(0.049)
Observations	3402		2275		1127	
Outcome: agrees on "couple should not separate if they have children"						
Infertile	-0.024	(0.024)	-0.035	(0.029)	-0.001	(0.043)
Observations	3531		2375		1156	

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

High and intermediate skilled: mother's occupation before birth classified as: Large employer, High manager, Higher prof., Low prof/high tech., Lower managers, High supervisory, Intermediate

Low skilled: mother's occupation before birth classified as: Small employers, Self-emp non profl, Lower supervisors, Lower technical, Semi-routine, Routine

Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child.

Controls: dummy for being overweight before pregnancy and dummy for having long-standing illness, mother's educational level and current partner's educational level, dummy for currently single, dummy for cohabiting couple at birth of 1^{st} child, dummy for currently cohabiting couple, mother's age group, country, workstatus before pregnancy, dummy if non white mother.

Table 9: Test of exclusion restrictions

	(1) All women		(2) High and interm.		(3) Low skilled	
Timing of the second birth (if any) - Cox duration model						
Infertile	-0.077	(0.085)	-0.095	(0.101)	0.008	(0.145)
Observations	2778		1892		886	
Probability of separation						
Infertile	-0.002	(0.021)	-0.011	(0.024)	0.029	(0.041)
Observations	3582		2397		1185	
Leaves the sample after wave 3						
Infertile	-0.005	(0.015)	0.010	(0.017)	-0.040	(0.031)
Observations	3582		2397		1185	
Leaves the sample after wave 4						
Infertile	-0.022	(0.019)	-0.008	(0.022)	-0.059	(0.037)
Observations	3227		2193		1034	
Is employed during pregnancy						
Infertile	-0.022+	(0.013)	-0.016	(0.012)	-0.050	(0.034)
Observations	3582		2397		1185	
Returned to work at wave 1 (among working women during pregnancy)						
Infertile	0.013	(0.016)	0.026	(0.019)	-0.044	(0.030)
Observations	2867		2096		771	
Length of maternity leave (among returned to work at wave 1)						
Infertile	0.536	(0.614)	0.660	(0.703)	0.884	(1.233)
Observations	2665		1950		715	
Log of wage at wave 1 (among working women at wave 1)						
Infertile	0.011	(0.046)	0.036	(0.048)	-0.058	(0.116)
Observations	2051		1535		516	

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

High and intermediate skilled: mother's occupation before birth classified as: Large employer, High manager, Higher prof., Low prof/high tech., Lower managers, High supervisory, Intermediate

Low skilled: mother's occupation before birth classified as: Small employers, Self-emp non profl, Lower supervisors, Lower technical, Semi-routine, Routine

Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child.

Controls: dummy for being overweight before pregnancy and dummy for having long-standing illness, mother's educational level and current partner's educational level, dummy for currently single, dummy for cohabiting couple at birth of 1^{st} child, dummy for currently cohabiting couple, mother's age group, country, workstatus before pregnancy, dummy if non white mother.

A Online Appendix

Table 10: Balancing test - high and intermediate skilled

Characteristic	Fertile (β_1)	Infertile (β_2)	Test $\beta_1 - \beta_2 = 0$
Mother's characteristics			
Age at decision to try for 1st baby	28.969 (0.095)	27.719 (0.243)	1.250 [0.000]
Employed while pregnant	0.968 (0.005)	0.959 (0.012)	0.009 [0.472]
Non white	0.067 (0.006)	0.053 (0.016)	0.014 [0.391]
Above High School	0.517 (0.013)	0.516 (0.034)	0.001 [0.979]
A levels	0.150 (0.009)	0.150 (0.024)	-0.001 [0.982]
Below A Levels	0.318 (0.013)	0.299 (0.032)	0.019 [0.567]
No qualifications	0.015 (0.003)	0.034 (0.008)	-0.019 [0.018]
Partner's characteristics			
Age at decision	31.486 (0.130)	31.051 (0.334)	0.435 [0.197]
Working at wave 1	0.970 (0.004)	0.961 (0.011)	0.009 [0.440]
No degree	0.057 (0.007)	0.084 (0.017)	-0.027 [0.116]
Below A-level	0.378 (0.013)	0.260 (0.034)	0.118 [0.001]
A-level	0.100 (0.008)	0.099 (0.021)	0.002 [0.937]
Above A-level	0.465 (0.014)	0.557 (0.035)	-0.092 [0.009]
Couple's characteristics			
Cohabiting at wave 1	0.257 (0.011)	0.108 (0.029)	0.148 [0.000]
Time btw move in and birth	3.133 (0.068)	3.182 (0.174)	-0.050 [0.778]
England	0.823 (0.010)	0.820 (0.026)	0.002 [0.932]
Wales	0.043 (0.005)	0.052 (0.014)	-0.009 [0.541]
Scotland	0.106 (0.008)	0.105 (0.021)	0.001 [0.961]
N. Ireland	0.028 (0.004)	0.023 (0.011)	0.005 [0.633]
Observations	230	2,167	

Standard errors in parenthesis and p-values in brackets.
Source: Millenium Cohort Survey.
High skilled: mother's occupation before birth classified as: Large employer, High manager, Higher prof., Low prof/high tech., Lower managers, High supervisory, Intermediate
Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child.
Controls: dummy for being overweight before pregnancy and dummy for having longstanding illness.

Table 11: Balancing test - low skilled

Characteristic	Fertile (β_1)	Infertile (β_2)	Test $\beta_1 - \beta_2 = 0$
	Mother's characteristics		
Age at decision to try for 1st baby	26.117 (0.166)	25.693 (0.440)	0.425 [0.329]
Employed while pregnant	0.881 (0.013)	0.858 (0.034)	0.024 [0.486]
Non white	0.105 (0.011)	0.112 (0.029)	-0.007 [0.808]
Above High School	0.221 (0.016)	0.290 (0.042)	-0.069 [0.093]
A levels	0.087 (0.011)	0.050 (0.030)	0.037 [0.218]
Below A Levels	0.590 (0.019)	0.549 (0.051)	0.041 [0.421]
No qualifications	0.102 (0.012)	0.111 (0.032)	-0.009 [0.786]
	Partner's characteristics		
Age at decision	29.302 (0.219)	29.772 (0.582)	-0.471 [0.413]
Working at wave 1	0.937 (0.010)	0.962 (0.028)	-0.025 [0.366]
No degree	0.183 (0.016)	0.109 (0.043)	0.073 [0.086]
Below A-level	0.528 (0.021)	0.573 (0.056)	-0.046 [0.408]
A-level	0.062 (0.011)	0.043 (0.028)	0.020 [0.477]
Above A-level	0.227 (0.017)	0.275 (0.044)	-0.047 [0.279]
	Couple's characteristics		
Cohabiting at wave 1	0.439 (0.019)	0.114 (0.051)	0.325 [0.000]
Time btw move in and birth	2.260 (0.103)	2.303 (0.273)	-0.043 [0.874]
England	0.829 (0.015)	0.803 (0.041)	0.026 [0.511]
Wales	0.060 (0.009)	0.044 (0.025)	0.016 [0.507]
Scotland	0.074 (0.011)	0.111 (0.030)	-0.037 [0.205]
N. Ireland	0.037 (0.007)	0.042 (0.020)	-0.005 [0.791]
Observations	100	1,085	

Standard errors in parenthesis and p-values in brackets.
Source: Millenium Cohort Survey.
Low skilled: mother's occupation before birth classified as: Small employers, Self-emp non profl, Lower supervisors, Lower technical, Semi-routine, Routine
Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child.
Controls: dummy for being overweight before pregnancy and dummy for having longstanding illness.

Table 12: Impact of being infertile on the probability of having more children (First stage regression), for different ages of the first child, limiting sample to married women at wave 1

	All women		High and interm.		Low skilled	
When 1^{st} child is 4-5 y.o.	-0.141**	(0.026)	-0.123**	(0.030)	-0.189**	(0.050)
F-stat	*15.44*		*7.31*		*8.21*	
When 1^{st} child is 6-7 y.o.	-0.151**	(0.025)	-0.144**	(0.029)	-0.167**	(0.049)
F-stat	*21.46*		*10.24*		*10.97*	
When 1^{st} child is 10-12 y.o.	-0.155**	(0.024)	-0.129**	(0.029)	-0.223**	(0.047)
F-stat	*26.24*		*10.35*		*19.63*	
N (When 1^{st} child is 4-5 y.o.)	2515		1801		714	
N (When 1^{st} child is 6-7 y.o.)	2272		1646		626	
N (When 1^{st} child is 10-12 y.o.)	2184		1588		596	

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

High and intermediate skilled: mother's occupation before birth classified as: Large employer, High manager, Higher prof., Low prof/high tech., Lower managers, High supervisory, Intermediate

Low skilled: mother's occupation before birth classified as: Small employers, Self-emp non profl, Lower supervisors, Lower technical, Semi-routine, Routine

Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child.

Controls: dummy for being overweight before pregnancy and dummy for having longstanding illness, mother's educational level and current partner's educational level, dummy for currently single, dummy for cohabiting couple at birth of 1^{st} child, dummy for currently cohabiting couple, mother's age group, country, workstatus before pregnancy, dummy if non white mother. Sample limited to married women when the first child is born.

Table 13: Impact of having more children on mother's labour market oucomes, limited to married women at wave 1

	All women				High and interm. skilled				Low skilled			
	OLS		IV		OLS		IV		OLS		IV	
Outcome: participate to the labor market												
When 1^{st} child is 4-5 y.o.	-0.190**	(0.020)	0.305	(0.287)	-0.190**	(0.024)	0.632	(0.480)	-0.171**	(0.040)	-0.155	(0.354)
When 1^{st} child is 6-7 y.o.	-0.137**	(0.022)	-0.088	(0.224)	-0.135**	(0.026)	-0.091	(0.324)	-0.127**	(0.043)	-0.115	(0.315)
When 1^{st} child is 10-12 y.o.	-0.082**	(0.021)	0.219	(0.196)	-0.077**	(0.024)	0.398	(0.325)	-0.101*	(0.043)	-0.041	(0.227)
Outcome: Employed												
When 1^{st} child is 4-5 y.o.	-0.194**	(0.021)	0.474	(0.313)	-0.203**	(0.024)	0.605	(0.483)	-0.151**	(0.041)	0.302	(0.395)
When 1^{st} child is 6-7 y.o.	-0.153**	(0.023)	-0.038	(0.234)	-0.143**	(0.027)	-0.015	(0.339)	-0.154**	(0.045)	-0.088	(0.327)
When 1^{st} child is 10-12 y.o.	-0.085**	(0.021)	0.155	(0.199)	-0.082**	(0.025)	0.362	(0.333)	-0.099*	(0.043)	-0.143	(0.228)
Outcome: Works ≥20 hours/week												
When 1^{st} child is 4-5 y.o.	-0.213**	(0.023)	0.530	(0.342)	-0.219**	(0.027)	0.784	(0.559)	-0.191**	(0.042)	0.094	(0.384)
When 1^{st} child is 6-7 y.o.	-0.225**	(0.026)	-0.138	(0.264)	-0.212**	(0.031)	-0.220	(0.384)	-0.249**	(0.049)	-0.101	(0.359)
When 1^{st} child is 10-12 y.o.	-0.111**	(0.026)	-0.183	(0.237)	-0.108**	(0.030)	0.050	(0.379)	-0.136**	(0.051)	-0.600*	(0.288)
Outcome: Nb of hours worked/week												
When 1^{st} child is 4-5 y.o.	-8.051**	(0.638)	4.816	(8.705)	-8.460**	(0.766)	15.349	(14.825)	-6.379**	(1.140)	-10.866	(10.308)
When 1^{st} child is 6-7 y.o.	-8.129**	(0.751)	-8.728	(7.676)	-7.920**	(0.903)	-6.284	(11.369)	-7.867**	(1.347)	-14.583	(10.017)
When 1^{st} child is 10-12 y.o.	-5.923**	(0.841)	-9.490	(7.658)	-5.062**	(0.990)	-5.199	(12.188)	-8.333**	(1.603)	-18.222*	(8.810)
Outcome: Works by night												
When 1^{st} child is 4-5 y.o.	0.008	(0.011)	-0.165	(0.148)	0.003	(0.013)	-0.209	(0.224)	0.023	(0.020)	-0.068	(0.183)
When 1^{st} child is 6-7 y.o.	-0.005	(0.013)	-0.122	(0.138)	-0.001	(0.016)	-0.022	(0.195)	-0.009	(0.026)	-0.243	(0.205)
When 1^{st} child is 10-12 y.o.	0.004	(0.014)	-0.281*	(0.137)	0.005	(0.016)	-0.348	(0.223)	-0.004	(0.029)	-0.186	(0.159)
Outcome: Works in the week-end												
When 1^{st} child is 4-5 y.o.	-0.009	(0.014)	-0.236	(0.180)	-0.023	(0.014)	-0.174	(0.228)	0.041	(0.032)	-0.271	(0.304)
When 1^{st} child is 6-7 y.o.	-0.035*	(0.015)	-0.065	(0.156)	-0.035*	(0.015)	-0.166	(0.199)	-0.023	(0.038)	0.230	(0.287)
When 1^{st} child is 10-12 y.o.	-0.022	(0.017)	-0.111	(0.158)	-0.014	(0.019)	-0.169	(0.241)	-0.031	(0.038)	0.009	(0.204)
Outcome: Annual household income (in current 10,000 pounds)[a]												
When 1^{st} child is 4-5 y.o.	0.065	(0.105)	1.590	(1.505)	0.012	(0.134)	3.786	(3.000)	0.190	(0.148)	-1.504	(1.300)
When 1^{st} child is 6-7 y.o.	-0.019	(0.128)	-0.723	(1.386)	-0.093	(0.157)	-0.765	(2.076)	0.116	(0.204)	-1.683	(1.679)
When 1^{st} child is 10-12 y.o.	0.341+	(0.187)	3.479+	(1.819)	0.368	(0.233)	3.657	(3.047)	0.204	(0.271)	2.814+	(1.584)
N (When 1^{st} child is 4-5 y.o.)	2490				1805				685			
N (When 1^{st} child is 6-7 y.o.)	2257				1648				609			
N (When 1^{st} child is 10-12 y.o.)	2169				1596				573			

Millenium Cohort Survey. Standard errors in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$. High and intermediate skilled: mother's occupation before birth classified as: Large employer, High manager, Higher prof., Low prof/high tech., Lower managers, High supervisory, Intermediate. Low skilled: mother's occupation before birth classified as: Small employers, Self-emp non profl, Lower supervisors, Lower technical, Semi-routine, Routine. Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child. Sample limited to women present at all waves. Sample limited to married women at wave 1. Controls: dummy for being overweight before pregnancy and dummy for having longstanding illness, mother's educational level and current partner's educational level, dummy for currently single, dummy for cohabiting couple at birth of 1^{st} child, dummy for currently cohabiting couple, mother's age group, country, workstatus before pregnancy, dummy if non white mother. Instrument: time to conception for the first child ≥ 1 year

[a] N (When 1^{st} child is 4-5 y.o.) = 2284 for all women, 1672 for high and interm. skilled, 612 for low skilled. N (When 1^{st} child is 6-7 y.o.) = 2056 for all women, 1526 for high and interm. skilled, 530 for low skilled. N (When 1^{st} child is 10-12 y.o.) = 1971 for all women, 1474 for high and interm. skilled, 497 for low skilled

Table 14: Impact of being infertile on the probability of having more children (First stage regression), for different age of the first child. Limiting sample to women present at all waves

	All women		High and interm.		Low skilled	
When 1^{st} child is 4-5 y.o.	-0.140**	(0.029)	-0.113**	(0.034)	-0.197**	(0.054)
F-stat	*23.89*		*11.24*		*13.21*	
When 1^{st} child is 6-7 y.o.	-0.130**	(0.026)	-0.103**	(0.031)	-0.194**	(0.049)
F-stat	*24.95*		*11.21*		*15.59*	
When 1^{st} child is 10-12 y.o.	-0.147**	(0.026)	-0.122**	(0.030)	-0.210**	(0.048)
F-stat	*32.57*		*15.91*		*19.12*	
N	2669		1867		802	

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

High and intermediate skilled: mother's occupation before birth classified as: Large employer, High manager, Higher prof., Low prof/high tech., Lower managers, High supervisory, Intermediate

Low skilled: mother's occupation before birth classified as: Small employers, Self-emp non profl, Lower supervisors, Lower technical, Semi-routine, Routine

Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child.

Controls: dummy for being overweight before pregnancy and dummy for having longstanding illness, mother's educational level and current partner's educational level, dummy for currently single, dummy for cohabiting couple at birth of 1^{st} child, dummy for currently cohabiting couple, mother's age group, country, workstatus before pregnancy, dummy if non white mother. Sample limited to women present at all waves.

Table 15: Impact of having more children on mother's labour market oucomes - sample restricted to women present at all waves

	All women				High and interm. skilled				Low skilled			
	OLS		IV		OLS		IV		OLS		IV	
					Outcome: participate to the labor market							
When 1^{st} child is 4-5 y.o.	-0.176**	(0.019)	0.050	(0.205)	-0.167**	(0.022)	0.193	(0.304)	-0.179**	(0.036)	-0.186	(0.277)
When 1^{st} child is 6-7 y.o.	-0.122**	(0.020)	-0.029	(0.203)	-0.105**	(0.023)	-0.004	(0.300)	-0.152**	(0.037)	-0.087	(0.261)
When 1^{st} child is 10-12 y.o.	-0.090**	(0.018)	0.093	(0.163)	-0.064**	(0.020)	0.288	(0.234)	-0.145**	(0.036)	-0.217	(0.228)
					Outcome: Employed							
When 1^{st} child is 4-5 y.o.	-0.175**	(0.019)	0.154	(0.215)	-0.171**	(0.023)	0.225	(0.314)	-0.166**	(0.037)	0.021	(0.289)
When 1^{st} child is 6-7 y.o.	-0.136**	(0.020)	-0.095	(0.210)	-0.113**	(0.024)	-0.041	(0.310)	-0.173**	(0.038)	-0.197	(0.268)
When 1^{st} child is 10-12 y.o.	-0.094**	(0.018)	0.019	(0.166)	-0.065**	(0.021)	0.221	(0.237)	-0.160**	(0.036)	-0.315	(0.234)
					Outcome: Works ≥20 hours/week							
When 1^{st} child is 4-5 y.o.	-0.206**	(0.021)	0.267	(0.243)	-0.199**	(0.025)	0.311	(0.358)	-0.207**	(0.038)	0.100	(0.301)
When 1^{st} child is 6-7 y.o.	-0.199**	(0.023)	-0.169	(0.238)	-0.178**	(0.028)	-0.271	(0.356)	-0.243**	(0.042)	-0.079	(0.299)
When 1^{st} child is 10-12 y.o.	-0.126**	(0.022)	-0.133	(0.202)	-0.098**	(0.026)	0.091	(0.288)	-0.204**	(0.042)	-0.540+	(0.278)
					Outcome: Nb of hours worked/week							
When 1^{st} child is 4-5 y.o.	-7.558**	(0.599)	-2.964	(6.387)	-7.655**	(0.735)	-3.123	(9.493)	-6.710**	(1.009)	-4.613	(7.756)
When 1^{st} child is 6-7 y.o.	-7.297**	(0.658)	-9.845	(6.813)	-6.840**	(0.810)	-10.279	(10.430)	-7.878**	(1.100)	-11.034	(7.828)
When 1^{st} child is 10-12 y.o.	-6.531**	(0.709)	-9.207	(6.431)	-5.014**	(0.853)	-5.793	(9.187)	-9.840**	(1.271)	-16.800*	(8.289)
					Outcome: Works by night							
When 1^{st} child is 4-5 y.o.	-0.011	(0.010)	-0.159	(0.113)	-0.016	(0.013)	-0.160	(0.169)	0.003	(0.018)	-0.149	(0.143)
When 1^{st} child is 6-7 y.o.	0.003	(0.011)	-0.213+	(0.124)	0.009	(0.014)	-0.222	(0.188)	-0.004	(0.020)	-0.203	(0.150)
When 1^{st} child is 10-12 y.o.	-0.006	(0.011)	-0.235*	(0.108)	0.002	(0.013)	-0.291+	(0.161)	-0.035+	(0.021)	-0.128	(0.134)
					Outcome: Works in the week-end							
When 1^{st} child is 4-5 y.o.	-0.011	(0.013)	-0.252+	(0.143)	-0.021	(0.013)	-0.194	(0.175)	0.013	(0.029)	-0.326	(0.243)
When 1^{st} child is 6-7 y.o.	-0.037**	(0.014)	-0.079	(0.142)	-0.039**	(0.014)	-0.230	(0.183)	-0.033	(0.033)	0.202	(0.238)
When 1^{st} child is 10-12 y.o.	-0.029*	(0.014)	-0.203	(0.134)	-0.012	(0.016)	-0.291	(0.185)	-0.072*	(0.031)	-0.028	(0.198)
					Outcome: Annual Household Income (in current 10,000 pounds)[a]							
When 1^{st} child is 4-5 y.o.	0.046	(0.094)	0.836	(1.096)	0.016	(0.121)	1.595	(1.876)	0.123	(0.130)	-0.608	(1.001)
When 1^{st} child is 6-7 y.o.	-0.029	(0.110)	-1.244	(1.291)	-0.103	(0.139)	-1.827	(2.132)	0.123	(0.166)	-0.947	(1.270)
When 1^{st} child is 10-12 y.o.	0.281+	(0.150)	2.020	(1.412)	0.254	(0.197)	1.745	(2.234)	0.223	(0.190)	1.694	(1.260)
N	2669				1867				802			

Source: Millenium Cohort Survey. Standard errors in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$. High and intermediate skilled: mother's occupation before birth classified as: Large employer, High manager, Higher prof., Low prof/high tech., Lower managers, High supervisory, Intermediate. Low skilled: mother's occupation before birth classified as: Small employers, Self-emp non profl, Lower supervisors, Lower technical, Semi-routine, Routine. Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child. Sample limited to women present at all waves. Controls: dummy for being overweight before pregnancy and dummy for having longstanding illness, mother's educational level and current partner's educational level, dummy for currently single, dummy for cohabiting couple at birth of 1^{st} child, dummy for currently cohabiting couple, mother's age group, country, workstatus before pregnancy, dummy if non white mother. Instrument: time to conception for the first child ≥ 1 year

[a] N=2458 for all women, N=1743 for high and interm. skilled women, N=715 for low skilled women

Table 16: Impact of being infertile on the probability of having more children (First stage regression), for different age of the first child. Excluding surprised mothers

	All women		High and interm.		Low skilled	
When 1^{st} child is 4-5 y.o.	-0.141**	(0.026)	-0.123**	(0.030)	-0.189**	(0.050)
F-stat	*30.18*		*16.83*		*14.16*	
When 1^{st} child is 6-7 y.o.	-0.151**	(0.025)	-0.144**	(0.029)	-0.167**	(0.049)
F-stat	*36.78*		*24.17*		*11.83*	
When 1^{st} child is 10-12 y.o.	-0.155**	(0.024)	-0.129**	(0.029)	-0.223**	(0.047)
F-stat	*40.35*		*20.27*		*22.79*	
N (When 1^{st} child is 4-5 y.o.)	2515		1801		714	
N (When 1^{st} child is 6-7 y.o.)	2272		1646		626	
N (When 1^{st} child is 10-12 y.o.)	2184		1588		596	

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

High and intermediate skilled: mother's occupation before birth classified as: Large employer, High manager, Higher prof., Low prof/high tech., Lower managers, High supervisory, Intermediate

Low skilled: mother's occupation before birth classified as: Small employers, Self-emp non profl, Lower supervisors, Lower technical, Semi-routine, Routine

Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child. Sample excludes mothers declaring they were surprised to be pregnant.

Controls: dummy for being overweight before pregnancy and dummy for having longstanding illness, mother's educational level and current partner's educational level, dummy for currently single, dummy for cohabiting couple at birth of 1^{st} child, dummy for currently cohabiting couple, mother's age group, country, workstatus before pregnancy, dummy if non white mother.

Table 17: Impact of having more children on mother's labour market oucomes. Excluding surprised mothers

	All women				High and interm. skilled				Low skilled			
	OLS		IV		OLS		IV		OLS		IV	
	Outcome: participate to the labor market											
When 1^{st} child is 4-5 y.o.	-0.185**	(0.020)	0.162	(0.191)	-0.190**	(0.023)	0.350	(0.272)	-0.158**	(0.038)	-0.144	(0.267)
When 1^{st} child is 6-7 y.o.	-0.120**	(0.021)	-0.084	(0.168)	-0.122**	(0.025)	-0.049	(0.205)	-0.108*	(0.042)	-0.146	(0.299)
When 1^{st} child is 10-12 y.o.	-0.085**	(0.020)	0.157	(0.150)	-0.082**	(0.022)	0.289	(0.214)	-0.091*	(0.041)	-0.120	(0.206)
	Outcome: Employed											
When 1^{st} child is 4-5 y.o.	-0.191**	(0.020)	0.242	(0.201)	-0.209**	(0.024)	0.309	(0.274)	-0.131**	(0.039)	0.130	(0.282)
When 1^{st} child is 6-7 y.o.	-0.136**	(0.022)	-0.076	(0.174)	-0.128**	(0.026)	-0.023	(0.214)	-0.148**	(0.043)	-0.169	(0.308)
When 1^{st} child is 10-12 y.o.	-0.090**	(0.020)	0.125	(0.154)	-0.085**	(0.024)	0.247	(0.220)	-0.100*	(0.041)	-0.137	(0.209)
	Outcome: Works $\geq$20 hours/week											
When 1^{st} child is 4-5 y.o.	-0.219**	(0.022)	0.298	(0.221)	-0.238**	(0.026)	0.377	(0.308)	-0.161**	(0.040)	0.109	(0.287)
When 1^{st} child is 6-7 y.o.	-0.206**	(0.025)	-0.178	(0.197)	-0.199**	(0.030)	-0.234	(0.244)	-0.228**	(0.047)	-0.064	(0.341)
When 1^{st} child is 10-12 y.o.	-0.124**	(0.025)	-0.121	(0.185)	-0.125**	(0.029)	-0.012	(0.260)	-0.131**	(0.049)	-0.397	(0.253)
	Outcome: Nb of hours worked/week											
When 1^{st} child is 4-5 y.o.	-7.934**	(0.610)	0.958	(5.788)	-8.557**	(0.733)	5.464	(8.276)	-5.916**	(1.069)	-6.105	(7.462)
When 1^{st} child is 6-7 y.o.	-7.383**	(0.713)	-9.138	(5.610)	-7.434**	(0.854)	-8.095	(7.016)	-7.157**	(1.298)	-11.716	(9.334)
When 1^{st} child is 10-12 y.o.	-6.263**	(0.801)	-8.916	(5.907)	-5.497**	(0.945)	-6.550	(8.321)	-8.178**	(1.533)	-15.061+	(7.874)
	Outcome: Works by night											
When 1^{st} child is 4-5 y.o.	0.009	(0.011)	-0.111	(0.102)	0.004	(0.013)	-0.167	(0.141)	0.026	(0.020)	-0.003	(0.140)
When 1^{st} child is 6-7 y.o.	0.005	(0.012)	-0.192+	(0.103)	0.017	(0.015)	-0.121	(0.123)	-0.023	(0.024)	-0.329+	(0.192)
When 1^{st} child is 10-12 y.o.	0.008	(0.013)	-0.233*	(0.104)	0.008	(0.015)	-0.269+	(0.147)	0.007	(0.026)	-0.159	(0.137)
	Outcome: Works in the week-end											
When 1^{st} child is 4-5 y.o.	-0.007	(0.013)	-0.220+	(0.128)	-0.013	(0.014)	-0.134	(0.145)	0.018	(0.032)	-0.350	(0.241)
When 1^{st} child is 6-7 y.o.	-0.019	(0.015)	-0.112	(0.116)	-0.016	(0.015)	-0.163	(0.126)	-0.017	(0.036)	0.093	(0.257)
When 1^{st} child is 10-12 y.o.	-0.017	(0.016)	-0.177	(0.121)	-0.005	(0.018)	-0.281+	(0.167)	-0.033	(0.035)	0.015	(0.179)
	Outcome: Annual Household Income (in current 10,000 pounds)[a]											
When 1^{st} child is 4-5 y.o.	0.052	(0.101)	1.374	(1.053)	0.021	(0.128)	2.442	(1.673)	0.174	(0.138)	-0.516	(0.987)
When 1^{st} child is 6-7 y.o.	-0.044	(0.121)	-0.089	(1.020)	-0.111	(0.150)	-0.205	(1.389)	0.138	(0.187)	-0.301	(1.297)
When 1^{st} child is 10-12 y.o.	0.190	(0.176)	2.644+	(1.404)	0.167	(0.225)	3.055	(2.233)	0.211	(0.232)	1.829	(1.179)
N (When 1^{st} child is 4-5 y.o.)	2515				1801				714			
N (When 1^{st} child is 6-7 y.o.)	2272				1646				626			
N (When 1^{st} child is 10-12 y.o.)	2184				1588				596			

Source: Millenium Cohort Survey. Standard errors in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$. High and intermediate skilled: mother's occupation before birth classified as: Large employer, High manager, Higher prof., Low prof/high tech., Lower managers, High supervisory, Intermediate. Low skilled: mother's occupation before birth classified as: Small employers, Self-emp non profl, Lower supervisors, Lower technical, Semi-routine, Routine. Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child. Sample limited to women present at all waves. Sample excludes mothers declaring they were surprised to be pregnant. Controls: dummy for being overweight before pregnancy and dummy for having longstanding illness, mother's educational level and current partner's educational level, dummy for currently single, dummy for cohabiting couple at birth of 1^{st} child, dummy for currently cohabiting couple, mother's age group, country, workstatus before pregnancy, dummy if non white mother. Instrument: time to conception for the first child $\geq$ 1 year.

[a] N (When 1^{st} child is 4-5 y.o.)=2309 for all women, = 1670 for high and interm. skilled, =639 for low skilled women. N (When 1^{st} child is 6-7 y.o.)= 2083 for all women, = 1523 for high and interm. skilled, = 560 for low skilled. N (When 1^{st} child is 10-12 y.o.) = 1990 for all women, = 1462 for high and interm. skilled, = 528 for low skilled

Table 18: Impact of being infertile on the probability of having more children (First stage regression), for different ages of the first child, for different age of the first child, excluding women having received a fertility treatment

	All women		High and interm.		Low skilled	
When 1^{st} child is 4-5 y.o.	-0.135**	(0.030)	-0.136**	(0.036)	-0.119*	(0.053)
F-stat	*20.50*		*14.39*		*4.93*	
When 1^{st} child is 6-7 y.o.	-0.141**	(0.029)	-0.158**	(0.035)	-0.093+	(0.052)
F-stat	*23.57*		*20.52*		*3.26*	
When 1^{st} child is 10-12 y.o.	-0.137**	(0.029)	-0.131**	(0.035)	-0.145**	(0.049)
F-stat	*23.17*		*13.86*		*8.93*	
N (When 1^{st} child is 4-5 y.o.)	3491		2322		1169	
N (When 1^{st} child is 6-7 y.o.)	3146		2128		1018	
N (When 1^{st} child is 10-12 y.o.)	3000		2038		962	

Standard errors in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

High and intermediate skilled: mother's occupation before birth classified as: Large employer, High manager, Higher prof., Low prof/high tech., Lower managers, High supervisory, Intermediate

Low skilled: mother's occupation before birth classified as: Small employers, Self-emp non profl, Lower supervisors, Lower technical, Semi-routine, Routine

Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child.

Controls: dummy for being overweight before pregnancy and dummy for having longstanding illness, mother's educational level and current partner's educational level, dummy for currently single, dummy for cohabiting couple at birth of 1^{st} child, dummy for currently cohabiting couple, mother's age group, country, workstatus before pregnancy, dummy if non white mother. Sample limited to married women when the first child is born.

Table 19: Impact of having more children on mother's labour market oucomes - excluding women having had fertility treatments

	All women				High and interm. skilled				Low skilled			
	OLS		IV		OLS		IV		OLS		IV	
Outcome: participate to the labor market												
When 1^{st} child is 4-5 y.o.	-0.189**	(0.017)	0.267	(0.238)	-0.176**	(0.020)	0.363	(0.290)	-0.202**	(0.029)	0.133	(0.470)
When 1^{st} child is 6-7 y.o.	-0.131**	(0.018)	-0.169	(0.208)	-0.112**	(0.021)	-0.102	(0.218)	-0.163**	(0.033)	-0.389	(0.590)
When 1^{st} child is 10-12 y.o.	-0.089**	(0.017)	0.037	(0.192)	-0.057**	(0.019)	0.362	(0.259)	-0.156**	(0.033)	-0.641+	(0.372)
Outcome: Employed												
When 1^{st} child is 4-5 y.o.	-0.195**	(0.017)	0.304	(0.246)	-0.185**	(0.020)	0.215	(0.279)	-0.203**	(0.030)	0.551	(0.567)
When 1^{st} child is 6-7 y.o.	-0.145**	(0.019)	-0.072	(0.217)	-0.118**	(0.022)	-0.000	(0.229)	-0.192**	(0.034)	-0.258	(0.592)
When 1^{st} child is 10-12 y.o.	-0.097**	(0.017)	0.029	(0.200)	-0.061**	(0.020)	0.382	(0.273)	-0.171**	(0.033)	-0.699+	(0.385)
Outcome: Works $\geq$20 hours/week												
When 1^{st} child is 4-5 y.o.	-0.222**	(0.018)	0.257	(0.260)	-0.214**	(0.023)	0.142	(0.300)	-0.226**	(0.030)	0.456	(0.554)
When 1^{st} child is 6-7 y.o.	-0.216**	(0.021)	-0.201	(0.242)	-0.194**	(0.026)	-0.399	(0.265)	-0.262**	(0.037)	0.521	(0.767)
When 1^{st} child is 10-12 y.o.	-0.144**	(0.021)	-0.152	(0.242)	-0.110**	(0.026)	0.284	(0.325)	-0.229**	(0.039)	-1.119*	(0.493)
Outcome: Nb of hours worked/week												
When 1^{st} child is 4-5 y.o.	-8.194**	(0.517)	-0.963	(6.922)	-8.287**	(0.653)	-1.102	(8.467)	-7.557**	(0.816)	-1.132	(12.718)
When 1^{st} child is 6-7 y.o.	-8.122**	(0.611)	-12.201+	(7.092)	-7.606**	(0.764)	-11.925	(7.811)	-8.929**	(0.990)	-14.635	(17.493)
When 1^{st} child is 10-12 y.o.	-6.900**	(0.680)	-13.458+	(7.837)	-5.627**	(0.835)	-9.164	(10.104)	-9.479**	(1.165)	-26.614*	(13.211)
Outcome: Works by night												
When 1^{st} child is 4-5 y.o.	-0.004	(0.009)	-0.213	(0.131)	-0.004	(0.012)	-0.312+	(0.172)	-0.005	(0.015)	0.043	(0.233)
When 1^{st} child is 6-7 y.o.	-0.007	(0.011)	-0.256+	(0.133)	0.003	(0.013)	-0.163	(0.138)	-0.025	(0.018)	-0.586	(0.443)
When 1^{st} child is 10-12 y.o.	-0.006	(0.011)	-0.453**	(0.155)	-0.001	(0.013)	-0.455*	(0.201)	-0.024	(0.020)	-0.441+	(0.246)
Outcome: Works in the week-end												
When 1^{st} child is 4-5 y.o.	-0.002	(0.011)	-0.177	(0.151)	-0.014	(0.012)	-0.228	(0.160)	0.022	(0.024)	0.001	(0.358)
When 1^{st} child is 6-7 y.o.	-0.027*	(0.013)	-0.166	(0.150)	-0.024+	(0.013)	-0.333*	(0.152)	-0.032	(0.028)	0.611	(0.599)
When 1^{st} child is 10-12 y.o.	-0.024+	(0.014)	-0.405*	(0.178)	-0.005	(0.016)	-0.530*	(0.238)	-0.068*	(0.028)	-0.128	(0.290)
Outcome: Annual Household Income (in current 10,000 pounds)[a]												
When 1^{st} child is 4-5 y.o.	0.063	(0.079)	0.798	(1.117)	0.065	(0.107)	1.711	(1.545)	0.054	(0.096)	-2.151	(1.911)
When 1^{st} child is 6-7 y.o.	0.040	(0.100)	-1.280	(1.270)	0.000	(0.131)	-1.022	(1.424)	0.095	(0.140)	-4.624	(4.529)
When 1^{st} child is 10-12 y.o.	0.308*	(0.143)	1.036	(1.642)	0.358+	(0.189)	0.097	(2.557)	0.144	(0.189)	1.752	(1.710)
N (When 1^{st} child is 4-5 y.o.)	3491		3491		2322		2322		1169		1169	
N (When 1^{st} child is 6-7 y.o.)	3146		3146		2128		2128		1018		1018	
N (When 1^{st} child is 10-12 y.o.)	3000		3000		2038		2038		962		962	

Source: Millenium Cohort Survey. Standard errors in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$. High and intermediate skilled: mother's occupation before birth classified as: Large employer, High manager, Higher prof., Low prof/high tech., Lower managers, High supervisory, Intermediate. Low skilled: mother's occupation before birth classified as: Small employers, Self-emp non profl, Lower supervisors, Lower technical, Semi-routine, Routine. Sample includes non twin pregnancies, first time mothers, aged between 20-36 at birth, having a partner at birth who moved in between two years after and 11 years before the decision to age a child. Sample limited to women present at all waves. Controls: dummy for being overweight before pregnancy and dummy for having longstanding illness, mother's educational level and current partner's educational level, dummy for currently single, dummy for cohabiting couple at birth of 1^{st} child, dummy for currently cohabiting couple, mother's age group, country, workstatus before pregnancy, dummy if non white mother. Instrument: time to conception for the first child $\geq$ 1 year

[a] N=2739 for all women, N=1881 for high and interm. skilled women, N=858 for low skilled women