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The Role of Work Experience in Shaping the Entry into Motherhood: A Study for Italy

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Abstract

The goal of this study is to assess the role of labor-market attachment in first birth timing. I explore differences in the transition into motherhood by women's accumulation of on-the-job skills in Italy, and examine how this relationship is affected by women's educational qualifications. The results show that paid employment strongly conflicts with motherhood in Italy. However, the conflict seems much stronger for women with lower-secondary and upper-secondary education, while those with higher education are more likely to conceive their first child if they are employed. Furthermore, this research provides evidence that conditions for work and family reconciliation, although important, are not the only factors leading to fertility postponement.

Keywords

Work experience, education, transition into motherhood, Italy, event history analysis

1. Introduction

Increasingly, young women are spending longer periods of time in education in order to prepare themselves for lifelong professional careers. Some of them delay the decision to have the first child, while others find that there is no space for childbearing and childrearing over their life-course. Therefore, many commentators envision the changing status of women as one of the main driving forces behind the decline in fertility levels observed in all European societies (e.g., Frejka *et.al* 2008).

In contemporary societies, decisions about having a child can be seen as intentional (Regniér-Loiliér and Vignoli 2011); that is, based on an evaluation, although imperfect, of the costs and benefits related to childbearing, both in the short- and the long-term (Livi Bacci 2001). Having and rearing children not only involves high direct costs for parents (financial expenditures), but also involves indirect costs. They include income lost while not working, as well as future earnings foregone due to non-accumulation and depreciation of human capital (Walker 1995; Gustafsson 2001). It has been widely argued in the literature that women who have their children early in life are more vulnerable to the negative impact of career interruptions on their wages than those who delay motherhood, and instead accumulate some work experience (e.g., Hotz, Klerman and Willis 1997; Taniguchi 1999). Thus, women may tend to defer entry into motherhood, choosing instead to invest in their educational qualifications first in order to maximize their life-time earnings. Furthermore, they might be interested in laying more general foundations for their careers through the achievement of a higher degree of security, such as obtaining a permanent contract or entitlement to social security provisions, or the fulfillment of other goals (e.g., attaining promotion or reaching a certain professional status), which constitute additional costs of early childbearing (see, for example, Ranson 1998; McDonald 2001; Låppegard and Rønsen, 2005; Zabel 2006). The motivation to postpone fertility is stronger when these costs are higher. In other words, the higher the human capital depreciation rate, the steeper the income profile or the promotion ladder, and the more uncertain the employment prospects, the more likely women are to delay childbearing (Gustafsson 2001; Cigno and Ermisch 1989; Ermisch 1989). Indeed, it has been widely documented in the literature that the first birth risk rises as the time since leaving education passes (Kantorová 2004; Nicoletti and Tanturri 2008), and as women accumulate work experience (Kravdal 1994) and attain more stable positions in the workplace (Happel, Hill and Low 1984).

The magnitude of the indirect costs related to early motherhood depends on the country-specific institutional and socio-cultural contexts, such as the educational system, labor market regulations, the childcare system and gender relationships (Gustafsson and Wetzels 2001; Mills, Blossfeld and Klizing 2005; Rindfuss, Guzzo and Morgan 2004; Matysiak and Vignoli 2008). These costs are larger in countries with rigid labor markets and a pronounced insider-outsider divide, as well as in countries that lack social safety nets and family policies oriented toward supporting the successful reconciliation of motherhood and paid work (Esping-

Andersen 1999). Thus, women in these countries may be more likely to defer childbearing than in countries where the conflict between fertility and paid employment are weak.

The goal of this study is to examine the role of labor-market attachment in shaping first birth timing and, thus, to contribute to a more detailed understanding of the relationship between employment and fertility behaviors. The timing of first births plays a crucial role for completed fertility for two reasons. First, having a first child later in life may leave little time for second (or higher) order births. Second, delaying the entry into motherhood may lead to childlessness. I focus on the Italian context, which represents an interesting case study because of the strong conflicts between childrearing and market work recorded in the country. Moreover, while the society experienced a strong increase in women's educational attainment and labor market participation in the last decades, the domestic institutions have not adjusted to the ongoing societal change (McDonald 2000).

Overall the desire to accumulate work experience may be one key factor behind rising ages at first birth in Italy. I explore differences in the transition into motherhood by women's accumulation of on-the-job skills and examine how this relationship is affected by women's educational qualifications. The paper continues with a review of the Italian context, followed by the outline of the study's research hypotheses; the analytical strategy of the study and the presentation of the results follow. Finally, I elaborate on the findings.

2. Changes in the transition into motherhood and in society: An Italian tale

Italy has experienced a marked decline in childbearing and currently belongs to the countries with the lowest fertility levels in Europe. Younger generations increasingly opt for late entry into parenthood, and the proportion of the childless has increased substantially in the country. Fertility postponement started with the cohorts born in the mid-1960s (Matysiak and Vignoli 2010). The mean age at first birth increased from 25 in the early 1970s to 29 in 2007 (De Rose, Racioppi and Zanatta 2008; Istat 2011). Overall, women began to adopt a "diachronic strategy," which is "*characterized by a postponement, and then a recovery of childbearing*" (Caltabiano, Castiglioni and Rosina 2006). As a result of that trend, the first birth period total fertility rate declined precipitously to 0.66 by the end of the 20th century, after reaching a maximum in 1964 of 1.02 first births per woman. Only in recent years has an increase in first birth rates been recorded (ibid). Women not only delayed the transition into motherhood, but they also increasingly remained childless. The proportion of childless women rose from 10 per cent among the 1955 cohort to 20 per cent among the 1965 cohort (Matysiak and Vignoli 2010).

Strong fertility postponement is accompanied by low rates of cohabitation, non-marital childbearing and marital disruption, which set Italy apart from much of the rest of Europe (Hantrais 2005). The delayed diffusion of new family behaviors is often linked to the pressure imposed by the Catholic Church (De Rose, Racioppi and Zanatta 2008). Only recently has the country started to experience a change in union formation and dissolution patterns, manifested in an increase in marital instability (Vignoli and Ferro 2009; Salvini and Vignoli 2011), as

well as an increase in cohabitation (Gabrielli and Hoem 2010) among the younger generations. Additionally, Italy is characterized by strong attachment to the family and strong intergenerational ties. Parents support their children after the latter leave the parental home by helping them to establish an independent household, organizing a marriage ceremony and, later, providing care for their children. In turn, they receive financial and emotional support in their old age (De Rose, Racioppi and Zanatta 2008).

Overall, Italy experienced a series of important changes, in society in general and in legislation in particular, in a very limited time span, mainly due to the political awakening of the young in the 1960s and the strength of the feminist movement in the 1970s (Livi Bacci 2001). For instance, advertising contraceptives was legally permitted in 1969. The strong decrease of fertility that began in the 1970s in Italy happened without a parallel diffusion of modern contraceptive behaviors (Dalla Zuanna, De Rose and Racioppi 2005). Divorce was introduced in 1970 and abortion was legalized in 1978. These societal transformations took place under the relatively preoccupied eyes of the Vatican and under governments of Catholic inspiration (De Rose, Racioppi and Zanatta 2008). Women's employment also increased rapidly (table 1) compared to that of other European countries, although in Italy it is still low by European standards and Lisbon's EU targets (an employment rate for women of over 60 per cent by 2010). Moreover, Italy is still marked by crucial territorial differences, particularly the north-south gradient. Kertzer et al (2009) showed that women in northern Italy were much more likely to participate in paid employment. According to Bernardi (1999), 41 per cent of the women residing in southern Italy had *never* been in the labor force, compared to only 7 per cent of those residing in the north-western region.

Table 1. Selected indicators for the setting of reconciliation between family and work in Italy

Labor market structures (in 2006) [a)]	(%)
percentage of part-time employed (aged 25-49)	27.9
unemployment of the youth (aged 15-24)	21.6
percentage of temporarily employed (aged 15-24)	38.0
Childcare provision [b)]	
children aged 0-2	7.4
children aged 3-6	95.0
Labor force participation of women aged 25-44 [a)]	
1960	27.8
1970	30.5
1980	45.0
1990	60.2
2000	62.4
2006	67.0

Note: [a)] Eurostat Statistics Database (Labor Force Survey data), [b)]Neyer (2003) and De Rose et al. (2008), [d)] Eurostat Statistics Database (data from the "Reconciliation between work and family" survey 2005).

The change in women's societal role is especially illustrated by developments in their educational attainments. In 2005-2006 more women than men in the age group 25-44 had a university degree. Between the academic years 1970-71 and 2005-06 the percentage of women obtaining a vocational or senior secondary school qualification – the Italian *diploma* – tripled, and in 2005-2006 about 80 per cent of 19-year-old women held a diploma (Mencarini and Vignoli 2009). Overall the trend towards an increasing diffusion of tertiary education is easily foreseeable for the coming years (ibid).

Although the country has experienced a strong increase in female educational attainment and labor market participation in the last decades, the setting for reconciliation between family life and paid work has not adjusted to the ongoing societal change (Livi Bacci and Salvini 2000). Working hours, public services, and (very limited) male participation in domestic chores, among others, indicate that the old-fashioned notion that women should be housewives is still alive. This state of affairs has long supported the prevalence of the male breadwinner model that maximizes, on the one hand, men's income security and, on the other, women's time availability at home (Vignoli and Salvini 2008). Although only very few political actions have been effectively adopted in order to ease the conflict between motherhood and work, the dual earner model is becoming more and more widespread, and in some areas in the north it is now competing with the sole male breadwinner model. The dual-earner model in the northern regions, however, is mostly supported by informal childcare (Gabrielli and Dalla Zuanna 2011). The contrast generated by women's increasing desire to participate in paid employment and the traditional family-oriented welfare state results, among other things, in lower-than-desired fertility (McDonald 2000, 2001).

The strong conflict between fertility and women's employment is underlined by labor market structures (table 1). In the country, in fact, part-time jobs are jeopardized and strong barriers to entry into the labor market are still present. In addition, although the public supply of childcare facilities for pre-school child is almost universal, the availability of public childcare for the youngest children, aged 0-2, is very low (Saraceno and Keck 2008). Altogether, this situation reveals a strong polarization between working and non-working women in Italy. Namely, nearly all women who have accumulate some work experience before first conception enter paid work already one year after childbirth. By contrast, women who have never worked before first conception tend to remain out of the labor market after they become mothers (Matysiak and Vignoli 2010).

3. Research outline

Based on the theoretical considerations outlined in the introduction and the review of the Italian context, I explore the role of women's human capital on the entry to motherhood in Italy, following a research design that is divided into three parts.

First, I focus on the conflict between paid employment and motherhood. I expect those who are employed to be more likely to postpone the conception of the first child than their counterparts.

Second, I verify whether some groups of women are particularly likely to delay the entry into motherhood. Women who have just started their careers and need to establish their position in the labor market are expected to be late mothers. The postponement strategy may also be more often implemented by women with higher levels of education who display a stronger orientation toward having a professional career. They may tend to defer childbearing, particularly at the beginning of their careers when fulfilling the desire to participate in the labor force might be more difficult.

Third, I examine how much women's education and accumulation of on-the-job skills matter for explaining fertility ageing in Italy. I expect that the increasing fertility postponement observed over recent decades might be partly explained by the growing number of women reaching higher levels of education and entering into the labor market. In other words, fertility aging should appear less pronounced after taking into account educational attainment and accumulation of work experience over time.

4. Data and method

The study used data stemming from the Household Multipurpose Survey on Family and Social Subjects (FSS), which corresponds to the Italian Generations and Gender Survey. The FSS is a cross-sectional survey containing a set of retrospective questions on fertility, partnership and employment histories. It was conducted by the Italian National Statistical Office (Istat) in November 2003 using a sample of about 24,000 households, and collecting information on about 49,451 individuals of all ages. The FSS employment histories do not contain sufficient information on changes in work contracts, and in case of non-employment do not distinguish between episodes of unemployment and inactivity. Moreover, FSS prevents carrying out analyses at the level of a couple because retrospective information is collected only for the current partner.

Given these data limitations, the study focused on women. Each woman was followed from the age of 15 until the first conception (measured seven months before the first birth) or the date of the interview, whichever came first. In contrast to standard releases of the 2003 FSS, and thanks to a specific agreement with Istat, I could access information on the month at birth. I was interested in studying Italy after the onset of fertility postponement. For this reason, I chose cohorts born in the years 1967-1978, corresponding to women aged 25-36 at the time of the interview. From the original sample of 4,257 Italian women born during the period 1967 to 1978, I excluded women with incomplete education, birth or employment histories. Respondents with missing values on other variables (i.e., parents' education) were retained in the sample, and additional modalities "missing" were created for these covariates. As a result, the final sample included 4,238 respondents.

Overall, the sign and magnitude of the causal link among education, employment and fertility is still a debated issue (e.g., Martín-García and Baizán 2006; Black, Devereux and Salvanes 2008; Matysiak 2009; Bran and Davis 2011; McCrary and Royer 2011). This paper does not

closely acknowledge the open debate about causation. Rather, I have taken first order fertility process as given and explore how work experience relates to it. In particular, with the goal of modeling the transition to first birth, I apply continuous hazard regression specified as follows:

$$\ln h(t) = \sum_i a_{1i} A_i(t) + \sum_j a_{2j} T_j(t) + a_3 W(t - t_w) + \sum_k a_{4k;e(t)} E_{k;e(t)}(t - t_e) +$$
$$+ a_5 NE(t) + a_6 SB + \sum_u a_{7u} R_u$$

For simplicity, the subscripts for the individuals were suppressed. $\ln h(t)$ is the log-hazard of first conception at time (month) t. $A_i(t)$ and $T_j(t)$ are piecewise linear spline variables that capture the effect of the duration on the entry into motherhood (the process time *t*), namely age and calendar time. Piecewise linear spline functions are functions that are linear within priori defined intervals. The indexes *i* and *j* represent time intervals between the specified bend points. More formally, denoting the nodes for age and calendar time as n_i and n_j, the spline variable for the *n*th intervals can be defined as $A_i(t) = \max\{0, \min(t - n_{i-1}, n_i - n_{i-1})\}$ and $T_j(t) = \max\{0, \min(t - n_{j-1}, n_j - n_{j-1})\}$. With sufficient bend points, a spline specification allows us to capture efficiently any log-hazard pattern in the data (Lillard, 1993). The nodes were located through an exploratory ("backwise") approach, i.e. starting from a large amount of nodes and then removing step-by-step non-meaningful nodes. The piecewise linear spline variable referring to age has nodes at 5, 10, 13, 18 years (therefore estimating first-time conception risks for the age groups 15-19, 20-24, 25-28, 29-33, 34-36) and the piecewise linear spline variable referring to calendar time has no node. I focus on period developments because the emphasis on calendar time allows us to pinpoint accurately changes in calendar time that are harder to locate in cohort studies (cf. NíBhrolcháin 1992).

W denotes a spline function that represents the effect of work experience (with a node only at 0 years). Each woman may have first been out of employment, then she might have entered employment, lost her first job, and remained out of paid work for a certain period of time, after which she may have reentered employment. All these events were taken into account in the models. The spline measuring the effect of work experience on first birth switches on at the entry into paid work, and switches off at employment exit. Each time a person took up a job, the work experience accumulated during the past employment spells was added up to the time spent in the present employment spell. The reference category for this spline is a woman with no accumulated work experience (i.e., not yet having entered employment).

$E_{k;e(t)}(t - t_e)$ is a linear spline function to represent the effect of finishing education on the progression to first-time conception. The index *k* represents the time intervals between the a priori specified bend points. The women who had finished their education were classified into three groups: low, medium, and high. The first category comprises women who completed only compulsory education (eight years), as well as those who continued with basic vocational education, lasting three years in Italy. The medium educated are those who

completed at least four years of education at the upper-secondary level, as well as those who undertook post-secondary but non-tertiary education. Women who received a bachelor's or a master's degree were classified as highly educated. The spline functions represent the effect of time since the completion of education for each of three levels of educational attainment. Note that only one spline function can be recorded for each woman, starting from the end of the educational period. This is because the used dataset did not include complete educational histories, but just the highest educational level ever reached and the date of completing education. The splines E_2 and E_3 each have a node at t=4 (years), while E_1 has a node at t=2; all three of these spline functions have a node at zero.

Overall, the set of states which I considered in the analysis could be numbered as following: "1. in education", "2. education completed, not entered in employment", "3. first employed", "4. first period of employment ended, not currently employed", "5. employed again", and "6. not currently employed (after previous employment)". I assumed that these states can only be entered in an increasing sequence (i.e., transitions are made from 1 to 2 to 3 to 4 and so on) until state 6 has been reached, after which the respondent can move up and down between state 6 and state 5. This approach is justified because the Italian transition to adulthood is characterized by a very rigid and standardized sequence of life course events (Ongaro 2001).

Furthermore, in order to account for the effects of career breaks on the transition into motherhood, a time-varying covariate *NE*(t) which accounts for the order of non-employment spells was introduced. Given the important role played in Italy by the socio-economic background of the family of origin (Dalla Zuanna 2001), I also controlled the estimates for parents' education (*SB*, which opposes low vs. medium-high parents' education). Note that a single indicator, such as "highest qualification achieved by the parents," was also tested, but the results did not change. Finally the region of residence was included in the analysis by introducing the time-constant covariate *R* (*u* indicates *R*-modalities). Unfortunately, the information regarding the region of residence was collected at the time of the interview, which introduced the risk of performing a so-called "anticipatory analysis" (Hoem and Kreyenfeld 2006a, 2006b). However, Italian internal mobility has been low in recent decades and mainly confined to short-distance movements (Tomassini *et al*. 2003). I therefore decided to include a covariate describing the macro-region of residence: north, centre, and south/islands. The table with descriptive statistics on the data, illustrating the occurrences and exposures, is attached in the appendix (table A1).

In a second step, I combined work experience with the woman's educational level in a new variable denoted C, with the aim of gaining deeper insights into differentials in first birth intensity by accumulation of on-the-job skills. Mathematically:

$$\ln h(t) = \sum_i a_{1i} A_i(t) + \sum_j a_{2j} T_j(t) + \sum_l a_{3k;e(t)} C_{k;e(t)}(t - t_c) +$$
$$+ a_4 NE(t) + a_5 SB \; + \sum_u a_{6u} R_u$$

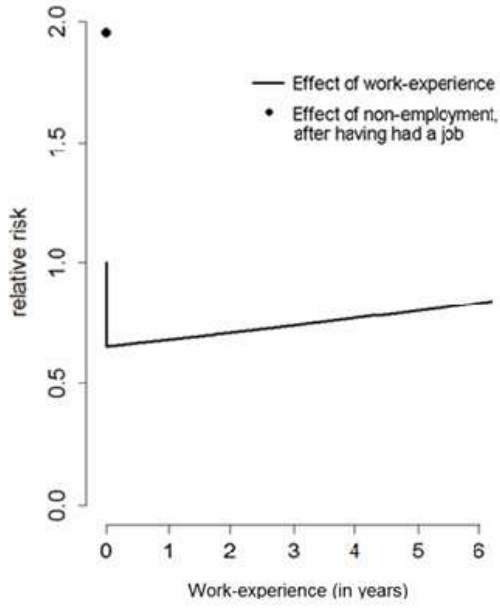
I deliberately abstained from including woman's partnership status as a control variable in the analyses because union formation and fertility are jointly determined. As an initial analyses (not presented here) demonstrated, this is particularly true in the Italian context where cohabitation is rare and individuals usually marry no sooner than when they plan to become parents. This implies that considering partnership status just as covariate in the fertility equation largely captures the influence that some other covariates have on fertility, leading to misleading estimates. Partnership status could be accounted for only through a joint estimation with fertility process (see also Aassve *et.al* 2006), which is far from the scope of this paper.

5. Findings

5.1. Work experience and the transition into motherhood

In this section I present selected outcomes of the model, referring exclusively to the results displayed in figure 1 (that illustrates the effect of work experience on first birth risk). The full model estimates, and the corresponding significance levels, are shown in the appendix (table A2 – Model 1).

Figure 1. *Differentials in the hazard of first birth by work experience, Italy (cohorts 1967 – 1978)[a]; piecewise linear intensity regression estimate.*



[a] *The results are standardized for a woman's age, calendar period, area of residence, woman's social background, time since leaving education, and educational level. The spline function for work experience has no node.*

The empirical findings show a decline in first birth intensity at the moment women entered their first period of employment, compared to the period before, and an increase thereafter, as women accumulated work experience. Regardless of their employment records, employed women in Italy were shown to have a lower intensity of childbearing than women who are out of employment. The difference in first birth intensity was found to be particularly large

comparing women currently in paid work to women who used to have a job but who exited the labor market (represented in the graph by a filled circle).

5.2. Education, work experience, and the transition into motherhood

To gain a deeper insight into differentials in first birth intensity by women's work experience accumulated, a combination between work experience and educational level was performed. This allowed breaking down the general pattern presented in figure 1 by education (figure 2). The full model estimates, and the corresponding significance levels, are shown in the appendix (table A2 – Model 2). The differentials are marked with different type of lines (a dotted, dashed, and solid line for women with low, medium, and high levels of education, respectively); the symbols represent the first birth risks for women in the first non-employment spell – i.e., women who never-worked (a star, a triangle, and a circle for women with low, medium, and high levels of education, respectively); and the first birth risks for women in higher order non-employment spell (a cross, a blank triangle and a blank circle for women with low, medium, and high levels of education, respectively).

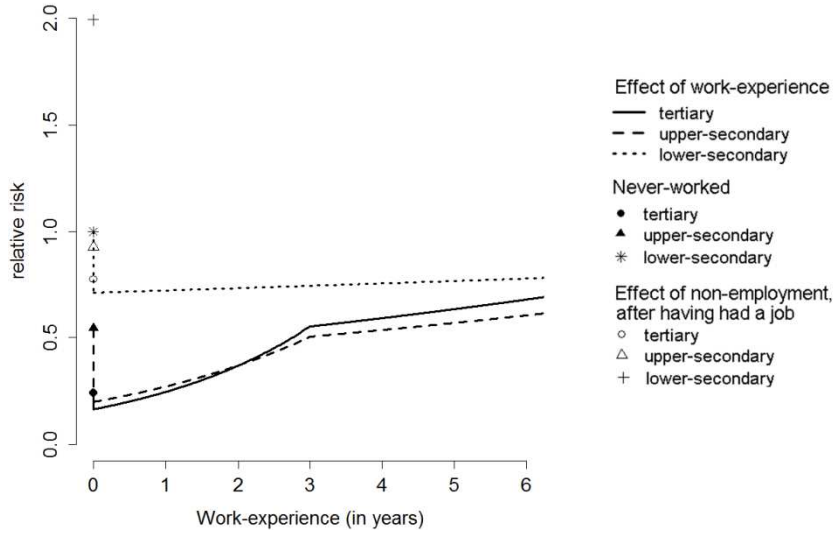
I start by looking at the findings for less educated women, i.e., those with lower-secondary education (specifically those with up to 11 years of schooling). For this group, differences in first birth intensity with respect to work experience accumulated were not found. This is likely because women with low levels of education do not attach much relevance to the accumulation of on-the-job skills, as they are likely to be less work oriented and tend to be clustered in the lower end of the occupational hierarchy. Nonetheless, employed women with lower levels of education were found to be far less likely to give birth to a first child than those who do not work in the labor market. It is remarkable that the first birth risk was found to be particularly high among Italian women in their second or higher non-employment spells, i.e., women who used to have a job but exited the labor market.

By contrast, medium-educated women, i.e., those with upper-secondary education (namely 13 years of schooling) attributed higher value to the accumulation of work experience. This finding can be explained by the fact that medium-educated women in Italy tend to be in jobs that are higher in the occupational hierarchy (mainly technicians and associate professionals, followed by clerks) and which require a higher degree of specialization than those performed by low-educated women (authors' calculations based on Labor Force Survey, not reported here). But, even after accumulating on-the-job skills, women in Italy were shown to be less likely to have a child than those who do not work for pay. Again, those in second- or higher-order non-employment spells had the highest intensity of progressing to motherhood.

Women holding university degrees exhibited the strongest increment in first birth intensity, along with the accumulation of work experience. Contrary to their medium- and low-educated counterparts, they were more likely to conceive the first child after they had accumulated some on-the-job skills than before entering their first job. This suggests that having paid work is an important condition for having a child among women who invested in obtaining a university degree. However, women with a university degree who had stopped working for

pay were shown to be more likely to have a first child than those who have a job. This result can be connected with the increasing uncertainty characterizing the Italian labor market (Vignoli, Drefahl and De Santis 2012). The uncertain labor market situation and low reentry opportunities may in fact induce a loss of motivation among Italian women and increase the desire for motherhood.

Figure 2. *Differentials in the hazard of first birth by education and work experience, Italy (cohorts 1967 – 1978)[a]; piecewise linear intensity regression estimates.*



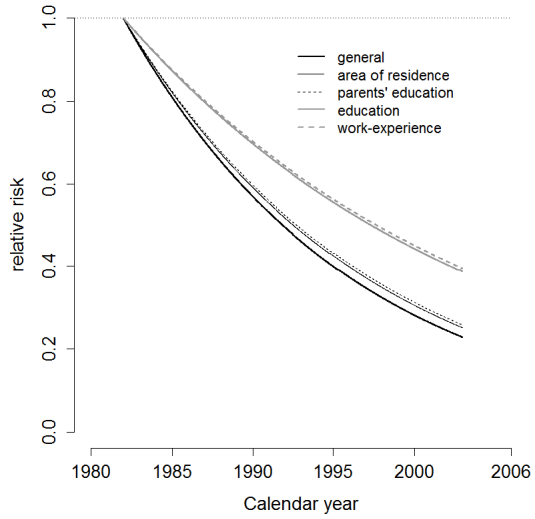
[a]*The results are standardized for woman's age, calendar period, area of residence, and women's social background. The spline functions for work experiences of women with tertiary and upper-secondary education each have a node at 4 years, while the one of women with lower-secondary education has a node at 2 years.*

One more issue requires clarification. It is possible to argue that the differences in the relationship between work experience and first birth risk by education level may have been caused by variations in the time left for childbearing after graduation between women with different levels of education. However, women with low levels of education progress much more quickly to motherhood than women with university degrees, for whom the first birth risk even declines temporarily just after they have completed their studies (results not shown, but available upon request to the author).

5.3. How much does women's education and work experience matter for explaining changes in first-birth timing?

Overall, these results are in line with those who envision the increased interest of women in their educational qualification and accumulation on-the-job skills as one of the main forces behind the marked delay in motherhood observed in many societies where the reconciliation between work and family life is not supported by domestic institutions (e.g., McDonald 2000). However, a crucial question remains: how strong is the role played by the increased interest in investing in education and work experience on the postponement of first birth? To this end, figure 3 allows us to assess the decline in first birth risks that was observed in Italy in the recent decades.

Figure 3. *Temporal change in the hazard of first birth due to compositional change, attributable to parents' education, educational attainment, work experience; stepwise estimates*[a].



[a]*The spline function for calendar time has no node.*

The overall decline over time is less pronounced once it controlled for the area of residence and the family background. Then, such decline in the hazard of first birth appears much less prominent after the changes in the status of women in the society is taken into account, namely after controlling for women's educational attainment and participation in paid employment. This means that the observed change in first birth rates results partly from an increase in the number of women joining higher social population strata. Nevertheless, even after accounting for this socio-economic compositional change the overall decline in first birth risk remains substantial.

6. Three concluding remarks

This paper contributes to the ongoing debate on the indirect cost of childbearing in industrialized societies (e.g., De Santis 2008). I followed a common paradigm, expecting individuals to make their fertility choices based on an evaluation of the costs and benefits of reproduction. The paper documents associations between labor market attachment and the timing of first births in Italy.

First, the results show that employed women in Italy are more likely to defer childbearing than those out of paid work, irrespective of the work experience accumulated. This relationship is not necessarily causal. It may be that women might leave employment in order to become mothers.

Second, I provide evidence that in Italy the link between labor market attachment and the timing at first motherhood varies according to women's education in a non-trivial way. Women who completed tertiary education display visibly different behaviors than those with

upper-secondary and lower-secondary education. Higher educated women, in fact, are more likely to conceive their first child if they are employed compared to their non-employed counterparts. In addition, they are more likely to conceive the first child than those with secondary education after they have accumulated about three years of work experience, and they approach those with primary education after six years of work experience. Despite the strong conflict between women's paid work and family life recorded for the country, it seems that for this group of women finding a job is an important facilitator for becoming a mother. It may also be that higher educated women find employment to be favorable for childbearing, and deliberately choose to work for pay before they have a child. This finding suggests that women with greater cultural and economic resources do not have less children than the others (see also Rosina and Testa 2009). Overall, I find that paid employment strongly conflicts with motherhood in Italy especially among low- and medium- educated women.

Third, the marked rise in the timing at first motherhood seems to be largely explained by the changing status of Italian women – i.e., their increasing investment in educational qualifications and accumulation on-the-job skills. However, this may not tell the whole story. After accounting for this socio-economic compositional change, the overall decline in first birth risk remains substantial. This suggests that fertility postponement is also driven by other factors. Exploring the housing difficulties that Italian youth face might be a promising path of inquiry for future research (Vignoli, Rinesi and Mussino 2013). The rising desire for self-realization in many spheres of life, including the growing demand for leisure time, the wish to invest more heavily in the quality of children, or even a change in the value placed on children, are a few of the factors that could also be responsible for the fertility ageing.

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Appendix

Table A1. Transition to first birth: Exposures (women-months) and events (number of first births); Italy, cohorts 1967 - 1978.

Covariate	Women-months	First births	Abs. Rate (A/B*1000)
Area of residence			
North	279742	746	2.67
Centre	112359	322	2.87
South/Islands	256257	881	3.44
Education			
In education	218398	73	0.33
High	35934	133	3.70
Medium	184915	713	3.86
Low	209111	1030	4.93
Employment status			
First (or higher) non-empl. spell	413575	1008	2.44
Fist empl. Spell	205376	805	3.92
Second (or higher) empl. spell	29407	136	4.62
Father's education			
Medium-high	124339	218	1.75
Low	511222	1674	3.27
Missing	12797	57	4.45
Mother's education			
Medium-high	105093	179	1.70
Low	534116	1728	3.24
Missing	9149	42	4.59

Table A2. Transition to first birth. Estimates of a piecewice linear event history model; Italy, cohorts 1967 - 1978.

	Model 1		Model 2	
	B	SE B	B	SE B
Constant	-8.17 ***	0.299	-5.91 ***	0.243
Age				
15 - 19 (slope)	0.41 ***	0.054	0.40 ***	0.044
20 - 24 (slope)	0.18 ***	0.032	0.19 ***	0.026
25 - 28 (slope)	0.15 ***	0.028	0.15 ***	0.023
29 - 33 (slope)	0.02	0.033	0.03	0.029
34 - 36 (slope)	-0.17 **	0.074	-0.16 **	0.071
Calendar period				
1982 - 2003	-0.04 ***	0.008	-0.05 ***	0.008
Area of residence (ref: North)				
Centre	0.10	0.069	0.39 *	0.221
South/Islands	0.35 ***	0.055	0.01	0.102
Parent's education				
Father - low (ref: medium - high)	0.39 *	0.219	0.10	0.069
Mother - low (ref: medium - high)	0.03	0.100	0.36 ***	0.054
Years since leaving education				
High				
Exiting education (shift)	0.16	0.306		
0 - 4 years (slope)	0.35 ***	0.073		
4+ years (slope)	0.04	0.058		
Medium				
Exiting education (shift)	0.62 **	0.252		
0 - 4 years (slope)	0.26 ***	0.065		
4+ years (slope)	0.04 *	0.021		
Low				
Exiting education (shift)	1.77 ***	0.402		
0 - 2 years (slope)	0.35 *	0.199		
2+ years (slope)	-0.05 ***	0.017		
Work experience				
Employment entry (shift)	-0.42 ***	0.082		
Work experience (slope)	0.05 ***	0.010		

Non-employment of second or higher order (ref: first non-empl.)	0.67	***	0.077			
Work-experience * education						
High						
Entry in first employment (shift)				-1.81	***	0.412
Work experience 0 - 3 years (slope)				0.41	**	0.164
Work experience 3+ years (slope)				0.07	*	0.041
Medium						
Entry in first employment (shift)				-1.62	***	0.245
Work experience 0 - 3 years (slope)				0.31	***	0.092
Work experience 3+ years (slope)				0.06	***	0.018
Low						
Entry in first employment (shift)				-0.34	***	0.112
Work experience (slope)				0.01		0.012
Non-employment of second or higher order * education (ref=first non-empl. with medium education)						
High				-0.25		0.301
Medium				0.07		0.124
Low				0.70	***	0.092
First non-empl. * education (ref=low)						
High				-1.42	***	0.218
Medium				-0.61	***	0.086
In education				-2.20	***	0.128
Ln-L	-17041			-17073		

Note: N=4238. The estimates presented in the form of slopes show how the hazard increases or decreases over a certain time period. The interaction parameters comprise both main and interaction estimates.

'*'=10% '**'=5% '***'=1%.