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Modena, Francesca and Sabatini, Fabio

European Research Institute on Cooperative and Social Enterprises
(Euricse)

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I Would if I Could: Precarious Employment and Childbearing Intentions in Italy*

Francesca Modena[†] and Fabio Sabatini^{§#}

Abstract

This paper carries out an investigation into the socio-economic determinants of childbearing decisions made by couples in Italy. The analysis accounts for the characteristics of both possible parents. Our results do not support established theoretical predictions according to which the increase in the opportunity cost of motherhood connected to higher female labour participation is responsible for the fall in fertility. On the contrary, the instability of women's work status (i.e. having occasional, precarious, and low-paid positions) is revealed as a significant dissuasive factor in the decision to have children. Couples in which there is an unemployed woman are less likely to plan childbearing as well. Other relevant explanatory variables are women's age, men's work status and education, women's citizenship, marital status and perceived economic well-being.

JEL Codes: C25, J13

Keywords: Fertility, family planning, parenthood, childbearing, participation, job instability, precarious employment, Italy.

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[†] University of Trento, Department of Economics. Email: Francesca.modena@unitn.it

[§] European Research Institute on Cooperative and Social Enterprises (Euricse). Email: fa.sabatini@gmail.com. Address for correspondence: Euricse, Via S. Giovanni 36 - 38122 Trento (TN) – Italy.

[#] Corresponding author.

1. Introduction

Sometime in the next few years (if it hasn't happened already) the world will reach a milestone: half of the population will bear only enough children to replace itself. That is, the fertility rate of half of the world's countries will be 2.1 or below, resulting in slower population growth, and eventually stabilization. This is not necessarily bad news. According to the United Nations Population Division (2009), fast population growth, fuelled by high fertility, hinders the reduction of poverty and the achievement of other development goals. However, in countries experiencing a dramatic ageing of the population, such as Italy, the drop in the fertility rate brings about some worrisome side effects. First, low fertility substantially reduces the size of the labour force. Second, the decline in the workforce puts the actuarial sustainability of the current pension system at risk. Furthermore, with very low fertility, the reduction of the labour supply is most severe for younger workers. Young workers are the main assimilators of new technology, and countries that have a shortage of young skilled workers are more vulnerable to competition (McDonald 2008; McDonald and Temple 2006).

Theory commonly relates the fall in fertility to the rise of female participation in the labour market (Willis 1973; Becker 1981; Cigno 1991). In the 70s, consistent with this theory, the higher level of education achieved, and the related prospects for better work positions and higher earnings, raised the opportunity cost of not working, thereby causing a postponement of childbearing decisions, which in turn led to a fall in fertility rates (Adsera 2004; D'Addio and D'Ercole 2005).

However, the relationship between female participation in the workforce and fertility has changed significantly over the last two decades. In the EU, the sign of the cross-country correlation has now become positive (Ahn and Mira 2002; Morgan 2003; Engelhardt et al. 2004; Billari and Kohler 2004; for an alternative view see Kögel 2004). Still, the shift does not concern Italy, which, despite having one of the lowest female participation rates in Europe, still suffers from a markedly lower level of fertility. The Italian exception has been explained as the result of institutional and policy differences in comparison with Nordic countries where more generous protection systems have been implemented to reconcile motherhood with work (Bernhardt 1993; Gauthier 1996; Adsera 2004; Engelhardt and Prskawetz 2004; Del Boca and Sauer 2009).

The empirical literature investigating the fall in fertility focuses almost only on women's economic conditions and on actual fertility rates, somewhat neglecting the fact that: 1) in EU countries, the desired fertility rate is significantly higher than the actual rate (Eurostat 2001; Adsera 2006). 2) Family planning decisions are in most cases – as the term suggests – a family matter or, more specifically, a “couple-matter”.

Here we argue that, in addition to female participation on the one hand, and the pressure of the “biological clock” and of social and cultural factors on the other, one of the main issues a woman considers when deciding whether to have a child is: can *we* – i.e. my partner and I – afford it?

Thus, rather than only analyzing the labour market participation of women – which has already been fruitfully addressed by a series of previous studies – we aim to add new insights to the debate by focusing on the “economic sustainability” of childbearing decisions at the family level. This choice is also related to the fact that, in most cases, childbearing is conceived in the context of a steady relationship. In Italy, single women and men desiring children are in fact still quite rare and, in some cases, even thwarted by law.

The empirical studies tracing the differences between Northern and Southern Europe to the institutional framework of female participation reasonably account for social policies related to childcare assistance, parental leave arrangements, and the availability of part-time positions for women. Besides few exceptions (see for example Adsera 2004), the stability of the aspiring parents’ work status or, in other words, their “labour precariousness”, has so far been neglected. It is worth noting that the concept of labour precariousness is in general disregarded by the conventional literature, which considers it more as an obvious and somewhat desirable side effect of flexibility rather than as a crucial factor related to workers’ well-being. This view can be hardly generalized to Italy, where precarious workers are characterized by low income levels, inadequate social protection and discontinuous careers. In this paper, together with a series of conventional socio-economic factors already considered by previous studies, we test the role of new labour market-related variables which may influence the economic sustainability of the decision to have children. In particular, we focus on the *stability* of the work status. The main hypothesis we want to test here is that having a precarious job (i.e. unstable, low paid, and with scarce guarantees) is a deterrent to planning parenthood rather than a persuasive factor to childbearing through a decrease in the opportunity cost for women.

Raw data is drawn from the 2006 Survey of Household Income and Wealth (SHIW) carried out by the Bank of Italy covering 7,768 households composed of 19,551 individuals and 13,009 income-earners. Territorial indicators used as control variables are taken from several other national data sources including Istat’s Quarterly survey on the labour force.

Based on logistic regressions, our results do not support conventional economic theory predicting that the increase in the opportunity cost of motherhood connected to higher participation and wage rates necessarily leads to a decrease in fertility. Rather, we find evidence that being unemployed is a significant deterrent from planning to have children. More in general, women’s employment instability discourages childbearing aspirations. Couples where women are precarious (i.e. atypical,

temporary, and low-guaranteed) workers are in fact much less likely to plan to have children in the future. Other relevant explanatory variables are women’s age, men’s work status and education, women’s citizenship, marital status and perceived economic well-being.

The remainder of the paper is organized as follows. In the next section we offer a synthetic background on Italy. In Section 3 we describe our hypotheses. In Sections 4 and 5 we describe data and methodology. In Section 6 we present and discuss our results. The paper closes with a brief discussion of the policy implications of the analysis.

2. Background

The relationship between education, labour market participation, and fertility has changed over time. Since the 1960s, the fertility rate has sharply decreased in most developed countries in correspondence with an increase in female labour participation rates. The world average total fertility rate fell from 2.9 in 1960 to 2.04 in 1975 and then to 1.6 in the late 1990s. Female labour force participation rates climbed to almost 48% in 1975, up from 41% in 1960 and dramatically increased to 64% by the late 1990s (Adsera 2004). From the second half of the 90s, the participation of women in the labour market continued to increase in all countries, but fertility rates started to decline at a slower rate or, in some cases, began to grow again. However, relevant differences can be observed across countries. In the European Union, the countries with the lowest fertility (Spain, Italy, and Greece) are those with relatively low levels of female labour force participation, while the countries with higher fertility rates (Denmark, France, and Sweden) show a relatively high female participation in the labour market. Italy, especially in the northern and central regions, became the title-holder of the so-called “lowest-low” fertility (Kohler et al. 2002; Castiglioni and Della Zuanna 2009). During the last decade, fertility has slightly increased from the historical low of 1.19 observed in 1995. The fertility rate in 2009 is estimated to be 1.41 resulting from a converging trend between the northern and southern regions (Istat 2010). This slight rise (Table 1) can be partly attributed to foreign women, whose fertility rate is on average one point higher than those of Italians (Table 2).

Table 1. Fertility rate in the Italian regions 2006-2009

	2006	2007	2008	2009*
Italy	1.35	1.37	1.42	1.41
North-West	1.37	1.40	1.46	1.45
North-East	1.39	1.43	1.47	1.46
Centre	1.31	1.32	1.41	1.37
South	1.33	1.35	1.35	1.36
Islands	1.32	1.32	1.35	1.36

Source: Istat (2010)
* Estimates

Table 2. Fertility rate and average age at the first childbirth of Italian and foreign women in 2008

	Foreign		Italian		Total	
	TFR	Age	TFR	Age	TFR	Age
Italy	2.31	27.9	1.32	31.7	1.42	31.1
North-West	2.47	27.8	1.28	32.2	1.46	31.2
North-East	2.49	28.0	1.27	32.2	1.47	31.1
Centre	2.08	27.9	1.31	32.4	1.41	31.6
South	1.92	27.5	1.34	30.9	1.35	30.8
Islands	2.10	27.9	1.33	30.8	1.35	30.7

Source: Istat (2010)

Still, the Italian TFR remains one of the lowest in developed countries. According to the UN estimates, in a constant fertility scenario, only Germany and Japan will perform worse than Italy in 2010-2015 (UN 2009). The fall in fertility has been accompanied by significant changes in the chronology of couples' family planning choices. Mothers' average age at the first childbirth, which had been quite stable at around 25 for a long time, gradually raised to the current threshold of 31.1 (Istat 2010). As a consequence, the prevalent family model gradually changed as well, as the results of the General Census of the Population show (Istat 2001). The average family size fell from 3.35 in 1971 to 3.01 in 1981, 2.83 in 1991, and 2.59 in 2001. It is noteworthy that first childbirth has been influenced by the fall in fertility in just a very slight way: according to a survey on childbearing intentions and desires among new mothers conducted in 2003 by the National Bureau of Statistics, Italian women continue to show a strong desire for motherhood even after the first childbirth. Still, the second childbirth has become an even more rare event. It thus seems that the decrease in fertility cannot be attributed to a negative attitude towards procreation (Istat 2007, p. 2). This interpretation is reinforced by the fact that, according to Istat's Survey on Births (2007), the desired fertility rate is significantly higher than the actual one. This suggests that further investigation is required in order to understand the determinants of this gap or, in other words, what curbs the couples' ambition to conceive a second child.

3. The importance of precariousness

The main aim of the paper is to analyze the socio-economic determinants of a couple's intention to have children in Italy. Our study differentiates itself from the existing literature by: 1) assessing the role of the precariousness of women's employment; 2) focusing on childbearing *intentions*, instead of accounting solely for actual fertility, in order to better evaluate the determinants of the *decision* to have (more) children; 3) assessing at the micro level the possible role of a series of economic features of *both* the components of the couple, instead of focusing on women only.

We argue that if the aspiring mother holds a precarious position in the labour market - e.g. she has an unstable, low-paid, and insecure job – the couple will be less likely to have the time and the material resources for expanding their family. In its “Classification of Status in Employment”, the International Labour Organisation (ILO) defines “precarious” workers as either: (a) workers whose contract of employment leads to the classification of the incumbent as belonging to the groups of “casual workers”¹; (b) “short-term workers” or “seasonal workers”; or (c) workers whose contract of employment will allow the employing enterprise or person to terminate the contract at short notice. As stated in the introduction, the concept of labour precariousness is generally disregarded by the conventional literature, which considers it more as a side effect of flexibility rather than as a crucial, potentially negative, factor related to workers’ well-being. This view can be hardly generalized to Italy, where the reform of the labour market implemented in the mid ’90s introduced new forms of temporary labour contracts (those used for the so-called *parasubordinati* and *interinali*²). These workers are characterized by low income levels, inadequate social protection and discontinuous careers (Cipollone 2001). The Italian social protection system is inadequate “to cope with the greater individual insecurity associated with a more flexible labour market”, because of “the lack of wage subsidies for the low-paid, and the poor coverage of the unemployment benefits” (Brandolini et al. 2007; p. 63 and 59). This inadequacy leads to an increase in the probability of being poor for households with non-standard workers: Bank of Italy (2009) shows that in 2006 the incidence of poverty for households with only atypical workers was about 47%. Looking in particular at childcare welfare systems and parental benefits, in Italy they are in most cases designed to meet the needs of permanent workers, leaving women with precarious positions unprotected in the case of childbearing (see Ferrera 2005, and Ferrera and Gualmini 2004, for exhaustive reviews on the Italian welfare state)³.

Negative effects associated with precarious jobs are more pronounced when temporary contracts are used as replacements for (or alternatives to) permanent ones, with the consequence being that precarious becomes a long-term status. Young people and women are more exposed to this risk (Brandolini et al. 2007; Barbieri and Scherer 2005). There are a number of reasons to expect workers to remain “trapped” in precariousness. First, due to the lack of training, the extreme flexibility (both in terms of time and mobility), and the worsening in health conditions generally

¹ The ILO defines “casual” workers as having an explicit or implicit contract of employment which is not expected to continue for more than a short period.

² Most *parasubordinati* are similar to fixed-term employees except that they are paid less and receive lower social security contributions, and do not benefit from employment protection legislation (Brandolini et al 2007). *Interinali* are individuals who work through a temporary employment agency.

³ Labour precariousness can thus be seen as a barrier to social integration that may destroy human and social capital: a high level of employment flexibility hinders training and qualification and, at the same time, hampers the consolidation of social ties, both inside and outside the workplace.

associated with precarious positions, workers may find it very difficult to upgrade their skills and develop new contacts (Benach et al. 2000; Virtanen 2002; Guadalupe 2003; Menendez et al. 2006; Kim et al. 2008; Amudeo-Dorantes et al. 2010). The progressive erosion of the individual stock of human and social capital may gradually worsen the chances of making the transition into stable employment (Sabatini, 2009). Moreover, as argued by Barbieri and Scherer (2009), there might be a stigma associated with precarious or “b-series”, jobs: “not having been selected for the primary labour market is interpreted as a negative signal by potential future employers” (p. 678). After a certain period of instability, individuals in precarious jobs concretely face the risk of exclusion from the labour market (Booth et al. 2002; Dolado et al. 2002; D’Addio and Rosholm 2005). The passage from an unstable to a stable position thus is not an easy task that can be fulfilled simply by deciding to do it. This is why we argue that precariousness, as we define it in this paper, can be hardly considered as the result of a spontaneous choice. In Italy, precarious employment is such a disadvantageous condition that just very few women would deliberately prefer it for the seek of a more interesting and stimulating job.

Since the high exposure to the risks of job loss, wage variability, and intermittent unemployment raise the uncertainty of future income (making any form of long-term life planning such as marriage and procreation difficult), we expect a negative association between the employment precariousness of potential parents and their childbearing intentions.

4. Data

To analyze the impact of employment precariousness on childbearing intentions we use the 2006 Survey on Household Income and Wealth (SHIW) carried out by the Bank of Italy. The SHIW covers 7,768 households composed of 19,551 individuals and 13,009 income-earners and collects data on individual income, wealth, human capital and a range of relevant socio-economic behaviours and perceptions. In the 2006 survey, an interesting question on family planning was included in the questionnaire, which offers the opportunity for an investigation into the socio-economic determinants of childbearing intentions at the micro level: “Do you plan to have (more) children in the future?” where possible answers were 1) yes, 2) not now, we will think about it later, 3) No, we don’t want any (more) children, and 4) No, but we would have liked to have (more) children⁴. The question was asked only to couples in which the woman was under age 46, and responses are provided by the head of the household, who was asked to speak in the name of the

⁴ The questionnaire and microdata are available on the Bank of Italy’s web site.

couple. After matching household heads' and partners' characteristics we have a sub-sample of 1,696 couples⁵.

Our dependent variable is the dummy "intention to have (more) children": 15% of the couples report they want children. The main independent variables are dummies representing the work status of men and women. In particular, we account for the condition of being unemployed, not employed, a precarious employee, a stable employee, and self-employed. As pointed out in Section 3, we define precarious as holding an unstable position: employees with fixed-term contracts or atypical workers. Stable employees are those with an open-ended contract.

We controlled for women's age, male and female level of education, the perceived economic well-being of the couple⁶, the geographical area of residence, marital status, number of children in the family, presence of grandparents, and citizenship. Descriptive statistics are reported in Table 3. All variables are described in detail in Table A1 in the Appendix. The average ages are 41 and 37 for men and women respectively. 47% (41%) of males (females) reported low education, and 42% (46%) completed high school. The large majority of men (67%) are employed with a stable job (open-ended contract), 21% are self-employed and 6% are precarious. The percentage of women who are employed with a stable job is 41%, while 37% are out of the labour force (mainly housewives); the percentage of those unemployed and employed with a precarious job are 6% and 7% respectively. The average number of children is 1.5; 21% (63%) of the couples answer that their household's income is not sufficient (only just sufficient) to satisfy their needs.

⁵ 1,742 households answered the question on family planning. The partner is present in 1696 households; the remaining cases are single men or single women. Since we want to control for the characteristics of both men and women, the sample is restricted to include those households in which both the head and the partner are present.

⁶ The perceived economic conditions of the family is given by the interviewees' response to the question: "Is your household's income sufficient to see you through to the end of the month?", ranging on a scale from 1 ("with great difficulty") to 6 ("very easily"). We grouped answers into low, medium and good economic well-being.

Table 3: Descriptive Statistics					
	Obs.	Mean	Std. Dev.	Min	Max
<i>Dependent variable</i>					
Plan to have (more) children	1696	0.154	0.362	0	1
<i>Household characteristics</i>					
Married	1696	0.959	0.198	0	1
Number of children	1696	1.475	0.991	0	7
Presence of grandparents	1696	0.015	0.121	0	1
Perceived poor economic well-being	1696	0.261	0.439	0	1
Perceived medium economic well-being	1696	0.630	0.483	0	1
Perceived good economic well-being	1696	0.109	0.312	0	1
North	1696	0.476	0.500	0	1
Centre	1696	0.184	0.388	0	1
South	1696	0.340	0.474	0	1
<i>Male characteristics</i>					
Age	1696	41.342	6.645	20	69
None, elementary and middle school education	1696	0.465	0.499	0	1
High school (diploma)	1696	0.427	0.495	0	1
Bachelor's degree and beyond	1696	0.107	0.310	0	1
Not employed	1696	0.051	0.221	0	1
Self employed	1696	0.215	0.411	0	1
Employed with stable job	1696	0.673	0.469	0	1
Precarious	1696	0.061	0.239	0	1
Italian citizen	1696	0.946	0.225	0	1
<i>Female characteristics</i>					
Age	1696	37.483	5.646	18	45
None, elementary and middle school education	1696	0.413	0.492	0	1
High school (diploma)	1696	0.462	0.499	0	1
Bachelor's degree and beyond	1696	0.126	0.331	0	1
Not employed	1696	0.372	0.483	0	1
Self employed	1696	0.083	0.276	0	1
Unemployed	1696	0.056	0.230	0	1
Employed with stable job	1696	0.416	0.493	0	1
Precarious	1696	0.073	0.260	0	1
Italian citizen	1696	0.941	0.236	0	1

Source: Our calculation from the 2006 SHIW. The sample includes all couples that answered the question on family planning. The category “man not employed” includes both unemployed and individuals out of the labour force (the latter includes only 21 observations). “Woman not employed” includes females out of the labour force, mainly housewives.

5. Methodological framework

We model childbearing decisions as a binary choice. The dependent variable y may only take the values one and zero, which indicate whether the couple is planning to have (more) children in the future or not. The decision can be derived from an underlying latent variable model:

$$y^* = X\beta + e, \quad y = 1[y^* > 0] \quad (1)$$

where X is the set of independent variables aimed to explain fertility choices (described in section 4). When e has a standard logistic distribution we can derive the logit model:

$$prob(y = 1 | X) = G(X\beta) = \frac{\exp(X\beta)}{[1 + \exp(X\beta)]} \quad (2)$$

Least squares estimation of (2) may lead to biased estimates of the parameters because of the endogeneity of women's occupational status, and in particular the status of being precarious, which is the main point of the paper. In Section 3 we outline how precarious employment can be hardly seen as the result of a worker's deliberate choice. It seems much more reasonable to consider it as a situation of disadvantage to which workers have to adapt only if there are no alternatives.

In order to make the analysis more robust, we perform a regression-based test to check whether women's employment instability is endogenous. We follow a two step procedure:

1. first we estimate the female labour force participation equation (probit) using all 1,696 observations; we then use the estimates to calculate the inverse Mills ratio. Explanatory variables adopted in the analysis are woman's age and squared age, woman's education, household income less female income, number of children under age 7, number of children aged 7-18, a dummy for home ownership, a dummy for the ownership of a luxury house, the unemployment rate in the region of residence⁷.
2. A regression-based test of endogeneity of women's employment instability is performed on the sample of women that participate in the labour market. Since an instrumental variables estimator for probit and logit models with endogenous regressors is not consistent (Dagenais 1999; Lucchetti 2002; Wilde 2008), we prefer to estimate IV in the Linear Probability Model. If the test fails to reject absence of endogeneity, we can go back and use the logit model (2) to estimate the effect of women's employment instability on childbearing intentions.

⁷ Estimates are available by request to the authors.

To derive the regression-based test, a two stage procedure is used. The first-stage reduced form regression has “woman precarious” as dependent variable and all the exogenous variables as regressors (the instrumental variable, all exogenous variables included in the childbearing model, and the inverse Mills ratio as an extra regressor to control for the selection bias). The instrument for job precariousness is the share of precarious workers over the labour force in the region of residence⁸. At the second-stage, we regress childbearing intentions on the predicted OLS residuals from the first-stage, on the potential endogenous variable (whether the woman is precarious), and on all the exogenous variables. A standard t test on the predicted residuals is our test for endogeneity. The test fails to reject absence of endogeneity ($t = 0.02$, $P > |t| = 0.983$), hence we estimate childbearing intentions using the logit model (2).

6. Results

Table 4 reports the results of our estimates. Women’s unemployment and precarious employment are found to strongly affect childbearing intentions. With respect to couples with permanently employed women (which is the reference category), having a precarious job decreases the probability of planning to have a child by 3% (see column 2 of Table 4). The effect of being unemployed is similar (coefficients and marginal effects are not statically different). The explanation seems to be straightforward: unemployed and precariously employed women are not encouraged to have children by the lower opportunity cost of childbearing. In most cases, temporary female workers with atypical contracts cannot enjoy any form of sick leave or parental benefits. For them, pregnancy can be cause for termination of the work relationship by the employer. Female atypical workers may thus have to face a trade-off between motherhood and participation in the labour market. This choice may be more tragic than it seems, because the job loss possibly caused by childbearing: a) is doomed to have further repercussions on the financial conditions and well-being of the parents; b) can lead women into a “precariousness trap” or even an “unemployment trap”. As argued by Del Bono et al. (2008), the job displacement caused by pregnancy may destroy all the worker’s specific human capital, thereby worsening the future employability of women. We argue that the perspective of losing the job and/or of getting through the end of the month with greater (and possibly growing) difficulty may work as a strong dissuasive factor discouraging childbearing.

Couples in which the man has a bachelor’s degree (and beyond) are more likely to want (more) children. This association may be due to the better economic conditions probably related to higher levels of education. Another possible explanation may be related to the division of domestic labour,

⁸ Our calculation is on the basis of data collected from Istat, Ebitemp and Inps.

which is likely to be more equal in couples where men are better educated. The share of domestic work performed by formally employed women forms in fact a critical piece of current cross-national explanations for low fertility (Miller Torr and Shorr 2004). According to McDonald (2000), the decline in fertility in high-income countries is the outcome of a conflict or inconsistency between high levels of gender equity in education and labour market, and low levels of gender equity in the family and family-oriented institutions. This phenomenon has been observed in a pioneer empirical study by Hochschild (1989), who found that in the U.S., while female participation in the labour market dramatically increased over the last decades, a much less dramatic change occurred within domestic life: women are more likely to share the paid work, but men are often not much more likely to share the domestic work and childcare. The resulting “extra burden” for women can be used to explain lower fertility in advanced economies (Chesnais 1996, Matthews 1999; McDonald 2000; Miller Torr and Shorr 2004, Cooke 2009). As an interpretation of our findings, we argue that men’s education may play a significant role in changing the division of domestic labour towards a higher level of gender equity. In our view, this argument is strictly related to the previous one. Not only may the job displacement related to childbearing destroy all a woman’s specific human capital, as outlined above, it also reduces the rate at which human capital is accumulated in the future (Del Bono et al. 2008). Women perceiving the better education of men as a source of gender equity may be more confident they will find time to accumulate new specific human capital after a childbirth. Such a perspective may soften the fear of facing a career crash as a consequence of motherhood.

As regards men’s occupational status, couples in which the man is self-employed show a higher probability of planning childbearing with respect to those where men are employed with open-ended contracts. Male job instability seems to have no effect on the intention to have children. Self-employed men in our sample are mainly professionals and entrepreneurs, i.e., men holding a high socio-economic status. Such a condition may entail the availability of better resources for raising children. On the other hand, it is worth mentioning that strands of the social psychology and sociological literature claim the existence of a positive relationship between men’s status and potential fertility, as estimated by copulation frequency, even in modern, developed, societies (Perusse 1993; Kanazawa 2003; Hopcroft 2005, 2006; Hopcroft and Whitmeyer 2010). Using pooled data from the U.S. General Social Survey from the period 1989-2000, Hopcroft (2006) finds that, for men, status and income increase both potential and achieved fertility by promoting the frequency of sex. Even if our data do not detect the sexual habits of the sample (thus we cannot make any inference on “potential fertility”), it could be argued that one of the channels positively affecting the intention to have children may be the possibly higher frequency of sex related to men’s

status. Overall, our result seems to support the thesis that men do not have to face any trade-off between fatherhood and their professional career.

Childbearing intentions increase with the age of the mother, but in a decreasing way (age square has a negative impact). Women that are Italian citizens are less likely to plan to have a child: being Italian decreases the likelihood by 7%. This result is coherent with census data reporting that foreign women, on average, exhibit a one point-higher fertility rate and an age at the first childbirth 3.8 years lower than that of Italian women (see Table 2 in Section 2). More in general, the ethnicity-based difference in childbearing intentions confirms a well-established trend already observed in developed countries (Feld 2000; Coleman 2006, 2009) and suggests that further investigations on migrants' fertility patterns are required to better understand Italy's potential to escape the "lowest-low fertility trap".

Household characteristics matter as well. Being married increases the likelihood of planning to have a child by 4%. As expected, the number of children, having poor economic conditions and living in the North negatively influence couples' childbearing intentions.

We also tested whether the effect of precarious employment varies across different segments of the population, as grouped on the basis of economic well-being and woman's age. Table 5 reports the estimates for the interaction terms between the dummy representing women's unemployment or precariousness⁹, and the dummies for having poor/medium economic conditions and being young (women under 35 years of age). Being on the fringes of the labour market is a significant dissuasive factor against childbearing only for couples with poor/medium economic conditions and for young women. It has no effect on wealthy women and on those aged between 36-46. This result seems to support our hypothesis that one of the main factors influencing the decision to have children is the sustainability of parenthood, both in terms of income and labour market participation. For a relevant part of the population, the sustainability of childbearing is significantly worsened by the precariousness of female employment. After a certain age, the pressure of the "biological clock" seems to become strong enough to possibly counterbalance financial straits.

⁹ We grouped unemployed and precarious females in order to increase the number of observations. This procedure is supported by the fact that coefficients are not statistically different (test based on the model presented in Table 4).

Table 4. Estimates of the probability of wanting (more) children

Variables	Coef.	Marginal effects
Married	0.999*** (0.372)	0.0376*** (0.010)
Number of children	-1.371*** (0.114)	-0.076*** (0.008)
Presence of grandparents	-1.350 (0.883)	-0.044*** (0.015)
Woman: Italian citizen	-0.876*** (0.312)	-0.069** (0.033)
Woman's age	0.669*** (0.166)	0.037*** (0.009)
Woman's age sq	-0.012*** (0.002)	-0.001*** (0.0001)
Not employed woman	-0.151 (0.219)	-0.008 (0.012)
Unemployed woman	-1.240*** (0.405)	-0.044*** (0.009)
Self employed woman	-0.488 (0.329)	-0.023* (0.013)
Precariously employed woman	-0.683** (0.326)	-0.029*** (0.011)
Not employed man	-0.117 (0.480)	-0.006 (0.024)
Self employed man	0.513** (0.214)	0.033** (0.016)
Precariously employed man	0.034 (0.347)	0.002 (0.020)
Man: none, elem. and middle school education	-0.741** (0.316)	-0.041** (0.018)
Man: high school	-0.540** (0.275)	-0.029** (0.015)
Woman: none, elem. and middle school education	-0.074 (0.304)	-0.004 (0.017)
Woman: high school	-0.224 (0.256)	-0.012 (0.014)
Poor economic well-being	-0.676** (0.334)	-0.033** (0.014)
Medium economic well-being	-0.179 (0.259)	-0.010 (0.015)
North	-0.682*** (0.216)	-0.038*** (0.012)
Centre	-0.384 (0.252)	-0.019* (0.011)
Constant	-7.009** (2.785)	
Observations		1696
Pseudo R2		0.33
Percentage of correctly specified		86.5%

Notes: Coefficients and marginal effects for the probability of desiring a child. The sample includes all couples that answered the question on family planning. Omitted categories are: bachelor's degree and beyond, employed with stable job, good economic well-being, and the region of residence South. Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 5: Precarious Employment interacted with economic conditions and woman's age

Variables	Coef.	Coef.
Woman: (precarious or unemployed)*poor/medium economic well-being	-1.204*** (0.352)	
Woman: (precarious or unemployed)*medium/good economic well-being	-0.460 (0.381)	
Woman: (precarious or unemployed)*age 18-35		-1.397*** (0.330)
Woman: (precarious or unemployed)*age 35-46		0.116 (0.391)
Poor economic well-being	-0.617* (0.335)	-0.701** (0.332)
Medium economic well-being	-0.160 (0.258)	-0.181 (0.260)
Woman's age	0.652*** (0.165)	0.670*** (0.167)
Woman's age sq	-0.012*** (0.003)	-0.012*** (0.003)
Married	yes	Yes
Number of children	yes	Yes
Woman is Italian citizen	yes	Yes
Man: none, elem. and middle school education	yes	Yes
Man: high school	yes	Yes
Woman: none, elem. and middle school education	yes	Yes
Woman: high school	yes	Yes
Not employed woman	yes	Yes
Self employed woman	yes	Yes
Not employed man	yes	Yes
Self employed man	yes	Yes
Precariously employed man	yes	Yes
North	yes	Yes
Centre	yes	Yes
Constant	yes	Yes
Observations	1696	1696

Notes: Coefficients for the probability of desiring a child. The sample includes all couples that answered the question on family planning. Omitted categories are: bachelor's degree and beyond, employed with stable job, good economic well-being, and the region of residence South.

Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

7. Conclusions

Besides confirming the reliability of conventional explanations like civil status, age, and economic well-being, the empirical analysis in this paper adds new insights to the debate on the drop in fertility by supporting an alternative explanation of the postponement of childbearing. The instability of female work status is revealed as a significant and strong dissuasive factor against the decision to have children, especially for young couples with medium or low incomes. Conventional theoretical predictions according to which female participation in the labour market may be responsible for the fall in fertility are not supported by data. On the contrary, unemployed and precariously employed women, far from being encouraged to bear children by the lower opportunity cost of leaving the labour market, are definitely less likely to plan to have children.

As outlined in the review of the literature, many authors have properly related the “Italian puzzle”, i.e. the combination of low female participation with very low fertility, to differences in the institutional and policy framework. In Nordic countries, where more generous policies on parental arrangements and childcare assistance have been implemented, the negative association between participation and fertility has in fact been reversed. These studies suggest the creation of more part-time jobs and the improvement of childcare assistance as possible ways to fill the gap (Del Boca and Sauer 2009, Del Boca et al. 2009). Here we argue that public actions aimed at raising fertility should also take into account appropriate labour market policies. In the Italian labour market, flexibility essentially means “precariousness”. Precarious workers have low-paid jobs, with scarce or nonexistent guarantees in terms of sick leave and parental benefits, career prospects and training opportunities. Everyday-life experience widely suggests that one of the decisive questions that employers pose to female candidates in interviews refers to their civil status and childbearing intentions. Temporary female workers are well aware that in most cases a pregnancy would be cause for termination of the work relationship by the employer, possibly causing a collapse in the financial situation of the couple. The resulting trade-off may be unsustainable, both in terms of women’s life-satisfaction and of the economic well-being of the couple.

The demographic consequences of this phenomenon are doomed to become more and more important as the share of precarious workers in the labour market constantly grows. The scenario is worsened by the ageing of the population, which weakens the economic system’s ability to face global competition and blights the sustainability of the pension system. In such a context, labour market policies alleviating the precariousness of temporary workers would probably lead to more balanced choices in terms of family planning and labour market participation.

Bibliography

- Adsera, A. (2004). Changing fertility rates in developed countries. The impact of labor market institutions. *Journal of Population Economics*, 17, 17-43.
- Adsera, A. (2006). An economic analysis of the gap between desired and actual fertility: The case of Spain. *Review of Economics of the Household*, 4, 75-95.
- Ahn N., Mira P. (2002). A note on the relationship between fertility and female employment rates in developed countries. *Journal of Population Economics*, 15, 667-682.
- Amudeo-Dorantes, C., Serrano-Padial, R. (2010). Labor market flexibility and poverty dynamics. *Labour Economics*, 17, 632-642.
- Aries, P. (1980). Two successive motivations for the declining birth rate in the West. *Population and Development Review*, 6(4): 645-650.
- Bank of Italy (2009). *Relazione annuale sul 2008*. Rome: Bank of Italy.
- Barbieri, P., Scherer, S. (2005). Le conseguenze sociali della flessibilizzazione del mercato del lavoro in Italia. *Stato e Mercato*, 74, 291-321.
- Barbieri, P., Scherer, S. (2009). Labour Market Flexibilization and its Consequences in Italy. *European Sociological Review*, 25(6), 677-692
- Becker, G. (1981). *A Treatise on the family*, Cambridge Mass.: Harvard University Press.
- Benach, J., Benavides, F. J., Platt, S., Diez-Roux, A., Muntaner, C. (2000). The Health-Damaging Potential of New Types of Flexible Employment: A Challenge for Public Health Researchers. *American Journal of Public Health*, 90(8), 1316-17.
- Bernhardt, E. M. (1993). Fertility and employment. *European Sociological Review*, 9, 25-42.
- Billari, F. C., Kohler, H.-P. (2004). Patterns of low and lowest-low fertility in Europe. *Population Studies*, 58, 161-176.
- Booth, A. L., Francesconi, M., Frank, J. (2002). Temporary Jobs: Stepping Stones or Dead Ends? *The Economic Journal*, 112, F189-F213.
- Brandolini A., Casadio P., Cipollone P., Magnani M., Rosolia A., Torrini R. (2007). Employment growth in Italy in the 1990s: institutional arrangements and market forces. In Acocella N., Leoni R. (Eds.), *Social Pacts, Employment and Growth*, Physica-Verlag, Heidelberg, 31-68.
- Castiglioni, M., Della Zuanna, G. (2009). Marital and Reproductive Behavior in Italy After 1995: Bridging the Gap with Western Europe? *European Journal of Population*, 25, 1-26.
- Cigno, A. (1991). *Economics of the Family*. Oxford: University Press.
- Cipollone, P. (2001). Is the Italian labour market segmented?. Bank of Italy, Temi di discussione 400.
- Chesnais, J.-C. (1996). Fertility, family, and social policy in contemporary Western Europe. *Population and Development Review* 22(4), 729-739.
- Coleman, D. (2006). Immigration and Ethnic Change in Low-Fertility Countries: A Third Demographic Transition. *Population And Development Review*, 32 (3), 401-446.
- Coleman, D. (2009). Divergent Patterns in the Ethnic Transformation of Societies. *Population and Development Review*, 35 (3), 449-478.
- Cooke, L. P. (2009). Gender Equity and Fertility in Italy and Spain. *Journal of Social Policy*, 38 (1), 123-140.

- D'Addio, A. C., D'Ercole, M. M. (2005). Trends and Determinants of Fertility Rates: The Role of Policies. OECD Social Employment and Migration Working Papers, No. 27, OECD Publishing.
- D'Addio, A. C., Rosholm, M. (2005). Exits from Temporary Jobs in Europe: A competing risks analysis. *Labour Economics*, 12, 449–468.
- Dagenais, M. G. (1999). Inconsistency of a proposed nonlinear instrumental variables estimator for probit and logit models with endogenous regressors. *Economics Letters*, 63, 19–21.
- Del Boca, D., Pasqua, S., Pronzato, C. (2009). Motherhood and market work decisions in institutional context: a European perspective. *Oxford Economic Papers*, 61, 147-171.
- Del Boca, D., Sauer, R. M. (2009). Life cycle employment and fertility across institutional environments. *European Economic Review*, 53, 274-292.
- Del Bono, E., Weber, A., Winter-Ebmer, R. (2008). Clash of Career and Family: Fertility Decisions after Job Displacement. CEPR Discussion Paper 6719.
- Dolado, J. J., Garcia-Serrano, C., Jimeno, J. F. (2002). Drawing Lessons from the Boom of Temporary Jobs in Spain. *The Economic Journal*, 112, F270–F295
- Engelhardt, H., Prskawetz, A. (2004). On the changing correlation between fertility and female employment over space and time. *European Journal of Population*, 20, 35–62.
- Ermisch, J. (2003). *An Economic Analysis of the Family*. Princeton: Princeton University Press.
- Feld, S. (2000). Active Population Growth and Immigration Hypotheses in Western Europe. *European Journal of Population*, 16, 3-40.
- Ferrera, M. (2005). *The Boundaries of Welfare. European Integration and the New Spatial Politics of Social Protection*. Oxford: Oxford University Press.
- Ferrera, M., Gualmini, E. (2004). *Rescued by Europe? Social and Labour Market Reforms from Maastricht to Berlusconi*. Amsterdam: Amsterdam University Press.
- Gauthier, A. H. (1996). *The state and the family: A comparative analysis of family policies in industrialized countries*. Oxford: Clarendon Press.
- Guadalupe, M. (2003). The hidden costs of fixed term contracts: the impact on work accidents. *Labour Economics*, 10, 339–357.
- Hochschild, A. R. (1989). *The Second Shift*. New York: Viking.
- Hopcroft, R., L. (2005). Parental Status and Differential Investment in Sons and Daughters: Trivers-Willard Revisited. *Social Forces*, 83 (3), 1111–1136.
- Hopcroft, R., L. (2006). Sex, status, and reproductive success in the contemporary United States. *Evolution and Human Behavior*, 27, 104–120.
- Hopcroft, R., L., Whitmeyer, J. M. (2010). A Choice Model of Occupational Status and Fertility. *Journal of Mathematical Sociology*, 34 (4), 283-300.
- Istat (2001). *Struttura demografica e familiare della popolazione residente. 14° Censimento generale della popolazione 2001*. Roma: Istat.
- Istat (2006). *Indagine trimestrale sulle forze di lavoro*. Roma: Istat.
- Istat (2007). *Essere madri in Italia. Indagine campionaria sulle nascite 2005*. Roma: Istat.
- Istat (2010). *Indicatori demografici 2009*. Roma: Istat.
- Kanazawa, S. (2003). Can evolutionary psychology explain reproductive behavior in the contemporary United States? *Sociological Quarterly*, 44, 291–301.

- Kim, M-H., K., Kim, C.-Y., Park, J.-K., Kawachi, I. (2008). Is precarious employment damaging to self-rated health? Results of propensity score matching methods, using longitudinal data in South Korea. *Social Science & Medicine*, 67, 1982–1994.
- Kögel, T. (2004). Did the association between fertility and female employment within OECD countries really change its sign? *Journal of Population Economics*, 17, 45-65.
- Kohler, H.-P., Billari, F. C., Ortega, J. A. (2002). The Emergence of Lowest-Low Fertility in Europe during the 1990s. *Population and Development Review*, 28, 641-680.
- Lucchetti, R. (2002). Inconsistency of naive GMM estimation for QR models with endogenous regressors. *Economics Letters*, 75, 179–185.
- Matthews, B. J. (1999). The gender system and fertility: An exploration of hidden links. *Canadian Studies in Population*, 26 (1), 21–38.
- McDonald, P. (2000). Gender Equity in Theories of Fertility Transition. *Population and Development Review*, 26 (3), 427-439.
- McDonald, P. (2008). Very Low Fertility. Consequences, Causes and Policy Approaches. *The Japanese Journal of Population*, 6 (1), 19-23.
- McDonald, P., Temple, J. (2006). Immigration and the Supply of Complex Problem Solvers in the Australian Economy, Canberra: Australian Government, Department of Immigration and Multicultural Affairs.
- Menendez, M., Benach, J., Muntaner, C., Amable, M., O’Campo, P. (2007). Is precarious employment more damaging to women’s health than men’s? *Social Science & Medicine*, 64, 776–781.
- Miller Torr, B., Shorr, S. E. (2004). Second Births and the Second Shift: A Research Note on Gender Equity and Fertility. *Population and Development Review*, 30(1), 109-130.
- Morgan, S. P (2003). Is low fertility a twenty-first-century demographic crisis? *Demography*, 40, 589–604.
- Perusse, D. (1993). Cultural and reproductive success in industrial societies: Testing the relationship at the proximate and ultimate levels. *Behavioral and Brain Sciences*, 16, 267–322.
- Sabatini, F. (2009). Social Capital as Social Networks: a New Framework for Measurement and an Empirical Analysis of its Determinants and Consequences. *Journal of Socio-economics*, 38(3), 429-442.
- United Nations Population Division (2009). *UN Population Division Policy Brief March 2009*. United Nations Publications.
- Wilde, J. (2008). A note on GMM estimation of probit models with endogenous regressors. *Economics Letters*, 49, 471–484
- Willis R.J. (1973). A New approach to the Economic Theory of Fertility Behavior. *Journal of Political Economy*, 81, 3-18.

Appendix

Table A1. Detailed description of variables	
<i>Dependent variable</i>	
Plan to have (more) children	Do you plan to have (more) children in the future? 1 if Yes 0 if No
<i>Household characteristics</i>	
Married	1 if married 0 if single, separated/divorced, widowed
Number of children	
Presence of grandparents	If there are grandparents in the family
Perceived poor economic well-being	Is your household's income sufficient to see you through to the end of the month? with great difficulty with difficulty
Perceived medium economic well-being	with some difficulty fairly easily
Perceived good economic well-being	easily very easily
North	Region of residence of the couple
Centre	Region of residence of the couple
South	Region of residence of the couple
<i>Male characteristics</i>	
Age	
None, elementary and middle school education	none primary school certificate or lower secondary school certificate
High school (diploma)	vocational secondary school diploma (3 years) upper secondary school diploma
Bachelor's degree and beyond	3 year university degree / higher education diploma 5-year university degree postgraduate qualification
Not employed	first job seeker unemployed independent means retired worker pensioner (disability/survivor's pension/old-age welfare benefits) student (from primary school up) other non-employed (conscript/volunteer/disabled)
Self employed	member of profession small employer own-account worker/craft worker owner or member of family business working shareholder/partner
Employed with stable job	1) blue-collar worker or similar (including employees and apprentices, homeworkers and sales assistants), 2) office worker, 3)

	school teacher in any type of school, 4) junior/middle manager, 5) senior manager, senior official, school head, director of studies, university teacher, magistrate <i>with permanent contract</i> .
Precarious	A) 1) blue-collar worker or similar (including employees and apprentices, homeworkers and sales assistants), 2) office worker, 3) school teacher in any type of school, 4) junior/middle manager, 5) senior manager, senior official, school head, director of studies, university teacher, magistrate <i>with fixed-term or temporary contract</i> . B) contingent worker on own account (regular or occasional collaborator, project worker, etc.).
Italian citizen	1 if Italian citizen
<i>Female characteristics</i>	
Age	none
None, elementary and middle school education	primary school certificate or lower secondary school certificate
High school (diploma)	vocational secondary school diploma (3 years) upper secondary school diploma
Bachelor's degree and beyond	3 year university degree/higher education diploma 5-year university degree postgraduate qualification
Not employed	homemaker independent means retired worker pensioner (disability/survivor's pension/old-age welfare benefits) student (from primary school up) other non-employed (conscript/volunteer/disabled)
Self employed	member of profession small employer own-account worker/craft worker owner or member of family business working shareholder/partner
Unemployed	first job seeker unemployed
Employed with stable job	1) blue-collar worker or similar (including employees and apprentices, homeworkers and sales assistants), 2) office worker, 3) school teacher in any type of school, 4) junior/middle manager, 5) senior manager, senior official, school head, director of studies, university teacher, magistrate <i>with permanent contract</i> .
Precarious	A) 1) blue-collar worker or similar (including employees and apprentices, homeworkers and sales assistants), 2) office worker, 3) school teacher in any type of school, 4) junior/middle manager, 5) senior manager, senior official, school head, director of studies, university teacher, magistrate <i>with fixed-term or temporary contract</i> . B) contingent worker on own account (regular or occasional collaborator, project worker, etc.).
Italian citizen	1 if Italian citizen

Source: 2006 SHIW.

	Code	Description	Female		Male	
			Frequency	Percentage	Frequency	Percentage
Payroll employee	1	Blue-collar worker or similar (including employees and apprentices, homeworkers and sales assistants)	312	18.40	686	40.45
	2	Office worker	363	21.40	395	23.29
	3	School teacher in any type of school (including teachers with term appointments, those under special contracts and similar)	81	4.78	31	1.83
	4	Junior/middle manager	41	2.42	89	5.25
	5	Senior manager, senior official, school head, director of studies, university teacher, magistrate	12	0.71	37	2.18
Self-employed	6	Member of profession	33	1.95	71	4.19
	7	Small employer	11	0.65	36	2.12
	8	Own-account worker/craft worker	41	2.42	169	9.96
	9	Owner or member of family business	38	2.24	36	2.12
	10	Working shareholder/partner	18	1.06	53	3.12
Not employed	11	First-job seeker	34	2.00	8	0.47
	12	Unemployed	61	3.60	58	3.42
	13	Homemaker	624	36.79		
	14	Independent means			1	0.06
	15	Retired worker			14	0.83
	16	Pensioner disability/survivor's pension/old-age welfare benefits)	2	0.12	6	0.35
	17	Student (from primary school up)	5	0.29		
	18	Pre-school-age child				
	19	Other non-employed (conscript/volunteer/disabled)				
Contingent worker on own	20	contingent worker on own account (regular or occasional collaborator, project worker, etc.)	20	1.18	6	0.35
TOT			1696			

Source: 2006 SHIW.