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Work, couples, and fertility in Italy: back to Malthus?

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Background: The link between work and fertility has several nuances. Financial uncertainty drives decisions over whether to become parents, first influencing the possibility of forming a co-residing couple and then dictating the resources available for raising children. Italy, with its economic turbulence, traditional division of gender roles, and scarcity of family policies, presents a particularly interesting setting for studying this connection.

Methods: Data comes from the Italian Labor Survey. We look in particular at the 1.6 million individuals aged 18-49 interviewed in 2012-20 and use a discrete event history approach to study couples.

Results: The probability of being in a co-residing couple is much lower among unemployed men and women with precarious jobs. The probabilities of having a first and a second child are higher for dual-earner couples with stable jobs, and lower for all other combinations.

Conclusions: Permanent jobs and a greater diffusion of dual-earner couples offer a means of increasing fertility, though in the Italian context of more gender traditional norms and weak public family welfare this remains a challenge. A return to Malthus offers a useful guide for interpreting these results, as a stable job position is the main preventive check for forming a couple and having children without falling into poverty.

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INTRODUCTION

A consistent body of research now demonstrates that in order to properly assess the relation between fertility and work in developed countries, three important elements should be considered. First, the effect of work condition (i.e., employed, unemployed, precarious job, etc.) on couple formation must be measured. Second, the subject of study should be couples and not simply individuals. That is, the effect of the different work combinations of the two partners on the decision to form a couple and have a child must be studied. Third, it no longer suffices to consider "work" in general, but the degree of uncertainty in work condition must be taken into account.

In this article, we examine the connection between work and fertility in Italy during the 2010s, using a data source that allows us to consider all three of these elements. We explore the connections between work conditions and being or not being in a couple for both men and women, as well as test whether heterosexual couples' fertility is impacted by his/her work condition.

In terms of both fertility and the job market, Italy stands out relative to most of the other OECD countries: a forty-year period of persistent low fertility (TFR_{1.5} since 1980) has gone hand in hand with economic hardship and high unemployment levels. The post-2008 economic crisis hit Italy particularly hard. GDP decreased by five percentage points between 2008 and 2010 and by 2019 recovery was still in progress (Coletto 2020). This has translated into little improvement in the welfare dedicated to families with children, which remains among the least generous in Europe (Adema et al., 2020; Thévenon, 2011). The unemployment rate rose from 6.7% in 2008 and to its highest level (12.7%) in 2014, and in 2019 had yet to fall back to the 2008 threshold (Bank of Italy, 2020). Youth unemployment (individuals aged 15-24) increased by over 15 percentage points between 2008 and 2014, when it peaked at 42.7%. It is therefore not surprising that, in a time series analysis, both male and female unemployment rates are negatively associated with fertility rates in the northern and central regions of Italy (Cazzola et al., 2016). Among advanced economies, Italy has one of the lowest labor force participation rates at ages 15-64: 59% total and 49% women compared to 68% and 61% respectively for the OECD countries (year 2019). Finally, a growing prevalence of temporary jobs has characterized Italy since the 1990s, especially following the so-called Treu Law in 1997.

In this difficult socio-economic context, where stable employment is not an easy condition to achieve, the links between work, couple formation, and fertility must be better understood. This is particularly relevant for the design of effective public policies, able to increase fertility rates and help couples have the number of children they desire.

In what follows, we first review the literature on the connection between work and fertility for developed countries broadly and for Italy specifically. We then summarize the main explanations set forth for Italian low fertility in the 1980s and 1990s, and that over the past two decades. We subsequently describe our sources and methods of analysis, where we use the Italian Labor Survey (ILS) to look retrospectively at the 1.6 million individuals aged 18-49 interviewed in 2012-20. After presenting our results, we conclude by reflecting on several possible interpretations

of the links between work, couple formation, and fertility in Italy in recent years, briefly highlighting the implications for policies aimed at increasing birth rates.

Connections between work and fertility in the developed world and in Italy

From the early 20th century up until the 1980s, the link between women's non-agricultural paid work and fertility in high-income countries was unquestionably negative. Birth rates were higher among agricultural working women and housewives, and lower among women employed in industry or services (Behrman & Gonalons-Pons, 2020). However, towards the end of the 20th century, this dynamic began to change: at the country level, the relation between female labor force participation and fertility became positive (Ahn & Mira, 2002). An interest in this shift, together with the growing availability of micro-data, has seen a burgeoning number of studies that seek to disentangle at an individual and, more rarely, at a couple level, the connection between work and fertility. We organize our review below into three particularly relevant facets of this question, which then also structures our analysis: work and the formation of co-residing couples, work and couples' fertility and, finally, the relation between job uncertainty and fertility.

Union Formation

A long tradition of demographic and economic studies suggests that the link between fertility and work is indirect, in that it first passes through the influence of work (or lack of thereof) on the possibility of forming a co-residing couple. Analyses of postponed and/or reduced couple and family formation due to economic conditions have a long history (Bengtsson & Saito, 2000). As early as 1798, Malthus argued in his *Essay on the Principle of Population* that economic hardship can delay marriage, and consequently — in a natural fertility *régime* with very low out-of-wedlock fertility — the birth of a first child. This response being especially pertinent for men, where the strong persistence of a traditional model makes their position in the labor market extremely important. As Hajnal (1965: 133) observes, "In Europe it has been necessary for a man to defer marriage until he could establish an independent livelihood adequate to support a family."

Even after the demographic transition, work still affects fertility through its impact on family formation (Mills & Blossfeld, 2013). Kalmijn (2011) shows how men's entry into cohabitation and especially marriage in Europe is severely hindered by precarious jobs and, especially, low income, thus supporting the neo-Malthusian male breadwinner hypothesis set forth by Oppenheimer (2000). This finding holds mainly in countries characterized by less balanced gender systems and weak public family welfare. Bukodi (2012) documents very similar dynamics for English men, with no significant differences between cohorts born in 1958 and 1970. Among Finnish cohorts born in 1969-81, labor-force participation and high income promote union formation, with similar findings for men and women (Jalovaara, 2012). The importance of the income effect is also highlighted in a study on Dutch men and women

(van Wijk et al., 2021). Generally, these studies demonstrate that — regardless of the specificity of individual countries — a Malthusian reading of the direct connection between income, career prospects, and entry into unions has not lost relevance, especially for men.

Cohabitation rates only began to rise in Italy starting in the 2000s (Pirani & Vignoli, 2016). Hence, for women and men born before 1975, cohabitation was still relatively uncommon. Accordingly, studying union formation among these cohorts means assessing first marriage. The earliest survey in Italy allowing to explore the link between marriage and women’s work dates back to the 1970s (Bielli et al., 1973). Despite its limited territorial representativeness, it showed that the proportion of female workers was generally much higher among single than married women, and that most women left their jobs upon marriage or the birth of a child. Successive research focused on the net effect of work on the propensity to marry, including several studies by Castiglioni (1991; 1999) who measures the latter using proportional hazards models. Among the 1919-69 cohorts of women (ISTAT 1983 Survey on Family Behavior), the probability of marriage is higher among those who had never been employed and agricultural workers. This changes somewhat for the female cohorts born in 1946-75 (INF2/ECE Survey of 1995), for whom the probability of marriage is higher for working women. Meanwhile, men without a job are consistently much less likely to get married.

In a recent study, Vignoli et al. (2016) show that among Italian men and women born between 1950 and 1985, the probability of forming a co-resident couple for women without a job is similar to that for working women. For men, however, a contrast appears between those who work, which favors union formation, and those who do not, which lessens the probability of beginning a co-resident couple experience.

To summarize, relatively little seems to have changed across the different Italian cohorts born over the course of the 20th century. In our analysis, we therefore expect that not having a job substantially reduces the likelihood for men of being in a couple. We furthermore expect that for women the difference between workers and non-workers could be narrower.

Couples’ Fertility

A second facet of the link between work and fertility concerns the connection between the work of both partners and couples’ fertility. Here the literature is comparatively much smaller. Baizán (2007), for example, highlights significant differences according to the combination of welfare state type and couples’ work conditions. He observes that while in Italy fertility is higher among male breadwinner couples, in Denmark the probability of an additional child is lower for couples where the woman is not in the labor market as opposed to when she has a permanent job. The differences between a welfare state (as in Italy) that tends to sustain a traditional model of family, and systems (as in Denmark) characterized by more generous welfare for families, by greater gender equality, and by a male willingness to care for the home and children, help explain the variance among countries and couples.

Matysiak and Vignoli (2008) conduct a large meta-analysis of thirty studies using

microdata to examine the effect of women’s work on fertility in developed countries between 1990 and 2006. They find that the correlation between fertility and labor force participation tends to be negative — and strongly so in countries with family welfare such as Italy — but weakens for the younger generations. Importantly, the authors demonstrate that the link between the two is overestimated if the characteristics of the partner are not taken into account. This means that the negative relationship observed between total fertility rates and indicators of female labor force participation at the aggregate level in high-income countries over the last thirty years is not necessarily found at the individual or couple level. Indeed, only by studying couples it is possible to correctly measure and understand the relationship between work (of both men and women) and the birth of children.

A recent study by Comolli (2021) assesses younger couples’ probability of having a first child in the US for the period 2003-2017, and confirms the observations of Matysiak and Vignoli. Both men and women’s unemployment lower the probability of a first birth, as does the male breadwinner model. Full-time dual-earner couples display the greatest probability of a first birth, showing that even in a liberal welfare context such as the US, the decision to have a first child in the 21st century is favored by a double income. Comolli suggests that due to low public support for childbearing, couples tend to rely on the paid full-time work of both partners to enter parenthood.

A particularly relevant facet of Comolli’s study is thus the appearance of a positive relationship between fertility and the stable work of both partners even outside of particularly favorable family welfare conditions. This aligns with Esping-Andersen and Billari’s (2015: 22) theory, where “the farther any society’s advance toward universally shared gender-egalitarian norms, the more likely we should see increasingly pro-family outcomes.” Both partners having a stable job is but one aspect of gender equality within couples and in larger society. Other factors include a balanced division of housework and equal access to top socio-economic and political positions. It is, furthermore, challenging to distinguish between the favorable effect of gender equality on fertility and that of the higher and safer family income guaranteed by two salaries, independent of the couple’s own gender balance and that of the broader context. Regardless, the results of these studies indubitably align with the theoretical hypothesis set forth by Esping-Andersen and Billari.

We elaborate on this point for Italy, discussing in particular how the relationship between work and fertility has changed for Italian cohorts born during the 20th century.

The first data in Italy on differences in fertility according to female work was gathered in the 1961 Census (ISTAT, 1974 pp. 136., see also Livi Bacci 1977, Chap. 6). Among all the cohorts born in the first half of the 20th century, fertility was highest for women employed in agriculture, intermediate for housewives, and lowest for women employed in other sectors. For example, fifty-year-old married women at the census, born around 1911, had 3.9 children if employed in agriculture, 3.2 if a housewife, and 2.3 if working in other sectors. Additional studies on later cohorts confirm these results. In summarizing the findings of a survey on six Italian medium-size towns, conducted in 1969, Nora Federici writes: “*Female work is inversely correlated with fertility only if and when it undermines the traditional role*

of women. *The objective conditions of irreconcilability of the two roles of extra-agriculture worker and wife-mother come from the lack of social structures capable of relieving domestic activities of women*" (Bielli et al. 1973, p. 15). The 1974 World Fertility Survey data (on married women born in 1935-61, standardized by length of marriage) are somewhat more refined, helping to better isolate the influence of female work on fertility. The results indicate that women who never worked had 2.19 children, those who worked at interview had 1.74 children, and housewives who claimed to have worked in the past had 2.05 children (De Sandre, 1982).

Attanasio and Dalla Zuanna (1999) document a clear association between the work conditions of partners (born in 1945-75) at the start of their union and the probability of having a child in the following three years. Specifically, this probability was lowest when both worked, highest among male-breadwinner couples, and of intermediate likelihood if both partners were not employed or if the woman worked and the man did not. The authors furthermore observe a strong association between female work and number of children after six years of marriage. The share of families with two or more children was higher among couples where the woman was a housewife at the start of the union compared to being employed. There were instead no relevant differences according to male work.

Vignoli et al. (2012) focus on women born between 1955 and 1990. In contrast to Attanasio and Dalla Zuanna's results for couples formed twenty years earlier, these authors find that though housewives are comparatively more likely to have a first child, this difference is not statistically significant. They furthermore show that for couples where both partners work, the probability of having a first child is higher if both hold permanent positions, and lower if they both have a precarious job.

This last study seems to identify a transitional phase characterizing fertile women in the first years of the 21st century. Specifically, male breadwinner couples still have a higher propensity to have a first child, but this greater likelihood seems to have diminished relative to dual-earners couples, especially if both partners have permanent jobs.

Uncertainty, Union Formation, and Fertility

Finally, a recent literature shows that couple formation and the fertility of already formed couples are less influenced by a work/no-work dichotomy than by the level of certainty and uncertainty in work condition. Having a permanent or a temporary contract can be a deciding factor when it comes to family formation (Kreyenfeld et al., 2012). Since the start of the Great Recession in 2008, studies on the links between couple formation, fertility dynamics, and economic uncertainty have steadily grown in number (Goldstein et al., 2013; Kreyenfeld, 2010; Kreyenfeld et al., 2012; Mills & Blossfeld, 2013; Pailhé & Solaz, 2012; Sobotka et al., 2011). Economic security is a precondition for having children for both men and women (Fahlén & Oláh, 2015), whereas financial uncertainty may lead to a postponement of union formation (Cherlin et al., 2013; Schneider & Hastings, 2015) and childbearing (Mills et al., 2008).

Italian scholars have also recently turned their attention to the role of economic uncertainty both in union formation and fertility. Unemployment and type of work

contract are typically used as the main objective indicators of uncertainty in the literature on Italy. This is largely due to a lack of data on wages, as well as the growing presence of temporary jobs that has characterized Italy since the 1990s and the country's high level of unemployment even before the Great Recession. Studies on the effect of economic uncertainty on family formation show that Italian women with precarious jobs tend to prefer cohabitation rather than marriage, while for men, it is having a job or not that influences their behavior (Vignoli et al., 2016). Bolano and Vignoli (2021) confirm that economic uncertainty — unemployment or temporary jobs — inhibits entry into a union for both men and women. Moreover, Tocchioni et al. (2019) demonstrate, through a causal analysis, that 5% of women with precarious job would get married instead of remaining single if they had a permanent job.

Even before the Great Recession, a connection had been documented between job stability and the likelihood of larger families (Rinesi et al., 2011). In a more recent study looking at the link between job uncertainty and the transition to first birth, Vignoli et al. (2019) demonstrates that respectively 5 and 7% of potential first-birth postponement among men and women is due to uncertain work conditions. Moreover, joblessness, and particularly persistent joblessness, reduces fertility intentions (Busetta et al., 2019).

While a consensus has generally been reached that there is direct link between economic uncertainty and both family formation and fertility, few studies have looked at this issue from a couple perspective in Italy. Alderotti et al. (2021) offers the first exploration of the mediated effect of family formation on childbearing. Using data for men and women born in 1967-98, the authors show how the strong effect of work condition on the probability of having a first child is mediated by union status. When considering the couple's work condition in the analysis, the direct effect of work on the probability of having a first child disappears for women and greatly diminishes for men. This means that — if data for individuals is considered — work condition is particularly relevant for the eventuality and timing of couple formation.

Though to date few studies have been conducted on this topic for Italy, there is little doubt that accounting for the degree of job security and stability — and not simply the work/not work dichotomy — provides greater insight into the relationship between work, couple formation, and fertility. Research thus far leads us to expect that in Italy as elsewhere, as job uncertainty increases, the propensity to either begin a cohabitation experience, enter marriage, or have a child will decrease.

EXPLANATIONS SET FORTH FOR ITALIAN LOW FERTILITY

The total fertility rate (TFR) in Italy has remained below 1.5 since 1980. Studies of this persistent low fertility can broadly be distinguished between those addressing the last decades of the 20th century and those the new century.

Explanations of low fertility in Italy in the last twenty years of the last century can further be summarized in four points. First, it was argued that the suddenly drop in period Italian fertility was due to a calendar effect, caused by a combina-

tion of later ages at first child for the cohorts born during the 1940s and 50s and postponement for the following cohorts (Sobotka, 2004).

Second, Italians' tendency to delay entering a couple was underlined; a deferral that for many women and couples then became the renunciation of having more than one or two children (De Sandre et al., 1997; 1999). At the same time, scholars pointed to the country's strong social norms, whereby youth exit the parental home relatively late, producing a so-called "delay syndrome" (Livi Bacci, 2001; Mulder & Billari, 2010) and a consequent deferral of family formation.

Third, the high and rising cost of children (mainly in terms of education) seemed to justify the dramatic decline in the propensity of Italian couples to have more than two children (Livi Bacci, 2004). In fact, until the end of the 20th century, Italy's low fertility rate was caused precisely by the lack of children of an order higher than two. While Italian women born in 1940 had 2.16 children, those born in 1955 had 1.83, with 75% of this decline being explained by the decrease in third children (or more), even though the probability of having the first child actually increased (Zeman et al., 2018). For these cohorts, the probability of having the first or the second child was, in fact, quite similar for Italian and French women, whereas the lower general fertility in Italy was mainly due to the lack of children of higher parities. Fourth, in observing the lowest-low fertility of European and Asian countries (Italy, but also Spain, Portugal, Greece, Japan, South Korea, and Taiwan), an apparent paradox was highlighted: strong family ties and low fertility appear to go hand in hand. In a context of rising costs of children and weak pro-family welfare, parents seemed to prefer to focus on one or at most two children in order to guarantee them a high quality of life (Caldwell & Schindlmayr, 2003; Dalla Zuanna, 2001; Dalla Zuanna & Micheli, 2004; Livi Bacci, 2001; Rindfuss & Choe, 2016). It was moreover noted that traditional gender roles play a role in fertility plans (Mills et al., 2008), a particularly relevant aspect in Italy given that the division of care tends to be highly unbalanced within couples.

After a slight recovery in fertility between 1995 (1.19) and 2010 (1.44), Italian birth rates once more steadily dropped until 2019 (1.27). Notably, the characteristics of Italian fertility decline into the new century have been somewhat different than those observed in 1980-2000.

Unlike the last two decades of the twentieth century, Italian low fertility is today mostly the result of a high proportion of men and women without children, for which Italy leads the world ranking. Italian women born in 1970 had 1.49 children, compared to 1.83 for the 1955 cohort, with 71% of this decline due to the decrease in first-born children. The contribution to the TFR of births of the next order has meanwhile remained constant (Zeman et al., 2018). The proportion of Italian women without children suddenly rose from 13% for the cohorts born in 1939 and 1959 to 23% for the cohort born in 1979 (ISTAT 2020). This is an unenviable pattern, in that for the large majority of these women this was not a choice, but the concomitance of various constraining factors (Tanturri & Mencarini, 2008). Today the "delay syndrome" is even more pronounced than in the first two decades of Italian low fertility (Livi Bacci, 2001; Mulder & Billari, 2010), with a consequent deferral of family formation. Table 1 shows that the decline in fertility after 2012 is entirely due to the gradual decrease in the proportion of young women without

children, while the propensity to have children within couples remains more or less constant.

Italy remains a country of strong family ties that profoundly shape many aspects of life (Castiglioni & Dalla-Zuanna, 2017; Hank 2007). While recent trends indicate that unmarried couples who cohabit reside comparatively farther from their respective parents (Castiglioni & Pirani, 2021), housing proximity between young people and their mothers and fathers continues to be much higher than that observed in Central and Northern Europe. Enduring, strong intergenerational links protect young people against poverty due to unemployment, precarious jobs, and positions that pay very little (Barbagli et al., 2003). However, this Italian cultural characteristic also increases the opportunity cost of leaving the parental home, contributing to slowing the exit from one's family of origin, delaying the formation of new couples, and ultimately penalizing young Italian's economic outcomes (Billari & Tabellini, 2011). There is furthermore no sign of an attenuation in either the considerable investment Italian parents put into the quality of their children, or the cost of children (Rosina, 2021).

Table 1: Couple Status of Woman and Fertility of Women in a Co-Residing Couple in Italy during 2012-20, By Year and Age

	Age 18-34		Age 35-49		(**)
	% In a couple	Fertility of women in a couple (*)	% In a couple	Fertility of women in a couple	
2012	36.7%	0.205	76.1%	0.049	1.21%
2013	35.6%	0.212	75.2%	0.047	1.18%
2014	34.2%	0.199	75.1%	0.045	1.11%
2015	33.2%	0.195	74.9%	0.049	1.19%
2016	33.1%	0.207	74.8%	0.048	1.22%
2017	32.6%	0.196	75.0%	0.048	1.17%
2018	32.6%	0.210	74.9%	0.051	1.17%
2019	32.0%	0.198	74.8%	0.051	1.16%
2020	31.3%	0.205	75.0%	0.047	1.10%

(*) Proportion of women who had a child in the year of the interview or in the previous one.

(*) Proportion of women for whom it was not possible to define whether or not they were in a co-residing couple.

Note. In the Italian Labor Survey data base, the two co-resident partners and the dyadic mother/child are identified by crossing the kinship relation code with the head of the household. The combined proportion of children for whom it was not possible to identify a co-resident mother and the proportion of women for whom it was not possible to understand whether or not they were living in couple make up less than 2% of the observations. Our data show that the share of births to single mothers over the 2012-20 period in Italy remained constant at around 7% (roughly the same as in official data) and the probability of having a child was ten times higher for women in a co-resident couple than for women who did not live with a partner.

Source: Italian Labor Survey, years 2012-2020.

DATA AND METHODS

ILS data

We build our data set using micro-data from the Italian Labor Survey (ILS), the most important social survey conducted by the Italian National Institute of Statistics (ISTAT). Every quarter of the year, 70,000 Italian families — randomly sampled by the Municipal Register — are interviewed with the main purpose of promptly detecting the parameters of the labor market (employment, unemployment, etc.). This is done in such a way as to be comparable with the other countries of the European Union, where very similar surveys are regularly performed (Brini, 2020). Given our objectives, this data set offers many advantages: the sample is large (around 1% of Italian families each year); the data are provided quickly; ISTAT researchers continuously check that statistical representativeness is respected and provide the coefficients to the universe; information is collected on each family member, allowing to study couples and their children; exceptionally detailed data on employment status is gathered in the larger socio-demographic survey (see Table 2 for the classification of interviewees' work condition). The biggest limitation for our study, as for previous work, is the lack of data on income.

Couple status

In the first part of our study, we explore the statistical association between work condition and being in a couple, considering the ILS data cross-sectionally. Specifically, we look at the 1.6 million individuals ages 20-49 (820 thousand men and 746 thousand women) interviewed in 2012-20 and use this large data set to calculate the statistical risk of being in a couple. Specifically, we identify the living arrangement of each individual in a co-resident couple or not (see Table 1 notes). We calculate the statistical risk of being in a couple or not by work condition (see Table 2), controlling for several covariates (year at interview, age, education, region of residence, citizenship) through logistic models. We calculate six separate models for men and women aged 20-29; 30-39 and 40-49 in order to get a life-course message, even if we don't have retrospective data.

Our analysis does not allow to delve deeply into the connections between work and entry into a couple, as some studies quoted in the previous part (see e.g. Vignoli et al., 2016). The ILS does not retrospectively reconstruct either the couple's history or the work history of the individuals of the cohorts involved. The panel structure, which we further describe below, also presents certain challenges. In fact, becoming a co-resident couple often coincides with a transfer of residence: where this leads to a change of municipality, the individual exits the panel. Despite these issues, our simple models highlight interesting connections between work and couple status, distinguishing between men and women, young people, and adults.

Table 2: Work Condition Classification

Other not in labor force (neither working nor looking for a job)
- Retired or disabled
- Other condition
Students
Unemployed
- Not working, but looking for a job
Precarious job
- Fixed-term contract
- Ongoing and coordinated collaboration
- Contract for occasional work
- Cooperative member
Permanent job
- Entrepreneur, freelancer, own-account worker, contributing family worker
- Permanent contract

Longitudinal Analysis of the Couple

In the second part of our study — in which we look at the statistical association between the work conditions of the two partners and the statistical risk of having a first, second, or third child — we rearrange the ILS data for 2012-20, intensively using the survey’s longitudinal dimension. Families included in the sample were interviewed four times over a 15-month period: at month 1 (wave 1), month 3 (wave 2), month 12 (wave 3) and month 15 (wave 4). If a family changes place of residence after the first, second, or third interview, it leaves the sample and is replaced by a new family from the Municipal Registry.

In order to longitudinally link the families, we use a combined six variables (year at interview, region, province, municipality, trimester of interview, family) and date of birth, accounting for twins. We include those families for whom: four interviews were available (and who had consequently stayed in the same municipality for 15 months or more); date of birth is known for all members in all four interviews; and there was at least one person present on all occasions. This leaves us with 418,091 families. While the nature of the data leads to an underestimation of mobile families, i.e., those that change their municipality of residence over the course of 15 months, the relative brevity of this interval means that their number is very limited compared to the overall set.

Among this sample of families, we selected heterosexual couples in which the woman is between the ages of 20 and 39 at the first interview and the number of children is consistent across the four interviews. The 38,402 couples with these characteristics provide our statistical units.

Conceptions are detected from the births registered during the six quarters of the observation period, following the own-children logic. That is, a newborn is linked with his/her mother by comparing the family relationship code with the reference person of the family. A birth corresponds to a conception nine months earlier (see Figure 1). An individual’s work condition before a conception is detected

retrospectively (i.e., a question on employment twelve months earlier) in waves 1 and 2 or directly in waves 1 and 2. We consider the retrospective question to be reliable as 93% of the work conditions declared retrospectively in waves 3 and 4 were found to be consistent with the conditions actually detected in waves 1 and 2. Again following the own-children logic, every child within the family is associated with his/her mother. As mothers in our sample are ages 20-39, only a negligible number of children have left the parental home; an unsurprising outcome given that in Italy average age at departure is one of the highest in Europe. This approach makes it possible to assign the parity of all births corresponding to the conceptions defined above. This strategy is further supported by the work of Bordone et al. (2009), who document the good performance of the ILS in estimating fertility by the own-children method.

	x-4 quarter	x-3 quarter	x-2 quarter	x-1 quarter	x quarter	x+1 quarter	x+2 quarter	x+3 quarter	x+4 quarter	x+5 quarter
					first interview (1I)	second interview (2I)			third interview	fourth interview
r1	1I retrospective job	conception			birth					
r2		2I retrospective job	conception			birth				
r3			2I retrospective job	conception			birth			
r4				1I job	conception			birth		
r5					1I job	conception			birth	
r6						2I job	conception			birth

Figure 1: BUILDING THE HISTORY OF 18 MONTHS OF CONCEPTIONS AND JOBS OF THE COUPLES INTERVIEWED IN THE ITALIAN LABOR SURVEY

At first, we consider only those couples whose work conditions do not change during the quarters (x-4)-(x-1) (Figure 1), amounting to 29,855 couples, or 78% of the total. We perform a logistic regression for our outcome variable, i.e., conception resulting in a birth over the course of six quarters (x-3)-(x+2). We build four logistic models: the first for the probability of conceiving a child, the other three for the probability of having a first, second, or third child. The last two models obviously concern only those couples who already have one or respectively two children.

Our explanatory variable of interest is the work conditions of the couple over the course of the six quarters (x-4)-(x+1). In light of the categories discerned in Table 2, we classified this variable in four ways, which combine the need to have sufficient observations with the desire to distinguish between the types of (more or less) precarious jobs of the two partners (Table 3). The control variables in this logistic model include: man and woman's age (five-year age class, with 50+ for men), couple's marital status (married or not married), citizenship (crossing Italian vs. foreigner for man and woman), man's education, woman's education, area of residence (North-West, North-East, Centre, South), and number of children already born (0, 1, 2, 3+). We provide the distributions of these variables in the Appendix.

Table 3: Classification of Couple’s Work Conditions

Male breadwinner (the man has a permanent job, the woman does not work)
Both precarious or not working
One permanent job with working woman
Dual earners (both partners with a permanent job)

We then take advantage of the panel structure of our data to also include the 8,547 couples who, over time, see a change in their work conditions. We fit a discrete event history episode-splitting regression model to the data, where the statistical units become the six quarters $(x-3)-(x+2)$, within which conception may or may not occur. The couples who conceive exit the data set beginning the following quarter; the couples who do not conceive stay in the data set for all six quarters. This new data set includes 216,462 couple-quarter records, almost six times, of course, the original couple data set.

We fit four logistic models similar to those described above on this new data set. The outcome variable is a conception resulting in a birth (in general, or of parity 1, 2, and 3+), the explanatory variable is the work condition in the previous quarter, and the covariates are the same, as they are considered to be invariant over time. We include, in addition, a new covariate that we define as work condition gender balance, which takes a maximum value in the traditional case of the male breadwinner, a minimum value in the opposite scenario of a female breadwinner, and an intermediate value if the two partners have the same work conditions, where the level of job stability is also taken into account (Table 4). This new variable enhances the description of the couple’s work conditions, including both partners’ jobs. We construct this new covariate in such a way as to avoid collinearity with our explanatory variable.

Table 4: Work Condition Gender Balance

Predominant man
Man permanent job, woman temporary job
Man temporary job, woman without job
Man permanent job, woman without job
Neutral
Both permanent, both temporary, or both without job
Predominant woman
Woman permanent job, man temporary job
Woman temporary job, man without job
Woman permanent job, man without job

Given the new structure of the data set, we considered the possibility of inserting random effects for each couple, assuming a relevant heterogeneity not observed at the couple level. The application of this model, however, did not result in any significant advantages due to the reduced individual variability (as seen, work condition changed for only about 20% of the couples during the six quarters). We accordingly

abandoned this analytical direction.

We also attempted to enrich the model by including certain characteristics of the couples' province of residence as covariates. Some of the results are quite interesting (e.g., the probability of conceiving decreases as unemployment increases), but as they do not interact with those observable in our explanatory variable, we choose not to present them here.

RESULTS

Work and Living Arrangements

The probability of being in a co-resident couple changes radically depending on work condition (Table 5). Notably, the link between work and the likelihood of being in a couple is stronger for men. In contrast, women outside the labor market (mostly housewives) live in a couple much more often than all female workers, in all the age-groups. Among men and women in the labor market, the probability of being in couple is much higher for those with permanent contracts than for temporary workers and the unemployed. Finally, in Italy, female and especially male students are very rarely in a co-resident couple. A comparison across age groups does not show much change over time. Only the odds of women in precarious jobs changes over time in an interesting way, but remains lower than that of women with permanent positions.

Table 5: Odds Ratio of Being in a Co-Resident Couple. Four Logistic Models crossing Sex and Age. Years 2012-20 (See the Complete Model and Covariates in Table A1 of the Appendix)

	Men			Women		
	20-29	30-39	40-49	20-29	30-39	40-49
Permanent job	1	1	1	1	1	1
Precarious job	0.72	0.64	0.64	0.77	0.83	0.94
Unemployed	0.46	0.39	0.43	0.72	0.70	0.76
Other not in labor force	0.37	0.24	0.23	2.69	1.94	2.11
Student	0.05	—	—	0.12	—	—
Number of cases	148,472	237,548	360,134	160,622	268,771	391,046

All the OR are significant ($p < 0.01$).

A look at the other covariates (Table A1 in the Appendix) shows that the likelihood of being in a couple is higher for foreigners, except for women aged 35-49. The statistical link between being in a couple and education is U-shaped: single people are more widespread among those without any qualification and among young men and especially young women with a degree. Finally, there are no major differences according to area of residence.

Couples, Fertility, and Work

For the relative majority (43%) of the 29,855 Italian couples who, during the eighteen ILS months of observation in 2012-20, always maintain the same work condition, both partners have a permanent job, but for 34% of the couples, the man has a permanent job and the woman is a housewife. The two other conditions here considered are comparatively less present, but not irrelevant: in 9% of cases only one of the two partners has a permanent job and the woman works, but in 14% of cases neither partner has a permanent job or is unemployed. The proportion of couples who conceived over the course of considered period changes drastically according to work condition, being most frequent among couples where at least one of the two partners has a permanent job and the woman works, and 30% lower where at least one of these conditions do not apply i.e., only the man works or neither partner has a permanent job.

The logistic regressions give similar results, modeling the probability of conceiving a child of any order and of conceiving a first or second child, controlling for several covariates (Table 6). The total model — where birth order is added as a covariate — and those on couples with 0 or 1 child show that the odds are low for couples where both partners have a temporary job or are unemployed, but they are notably also low for the male breadwinner couples. The statistical link between work and the probability of conceiving a third child completely changes: a greater probability is observed among the precarious and unemployed couples, though the difference compared to dual earners is hardly significant, due also to the low number of observations (only 610 couples have more than two children).

Using a discrete event history episode-splitting regression model (Table 7), we now consider all the couples, including those that see a change in their work condition over the eighteen months under observation. With regard to the probability of having the first and second child, compared to the results for couples who keep the same job, we see a polarization between the higher fertility of the couples where both partners have a permanent job and the lower fertility of all the other couples. The differences are insignificant for the probability of having a third child (or more), but compared to the model of Table 5, there is no sign of lower fertility for dual earner couples. Finally, as can be seen in Table A3 in the Appendix, the work condition gender balance shows no significant differences. When this covariate is included in the model, however, the differences according to work condition are more marked.

For these models as well, we briefly consider the other covariates (see Tables A2 and A3 in the Appendix). Beyond the obvious results related to age and marital status, couples with at least one foreign partner have a higher probability of having a 3+ child, but not of having the first or the second. Moreover, fertility is higher for the most educated men and women, as Impicciatore and Tomatis (2020) similarly show for the transition to the second child in Italy, France, and Germany. There may also be an income effect at play here. While, as mentioned, data on income are not collected in the ILS, the relationship between education and income is pronounced in Italy (Brunello et al. 2001; Baici and Ghinetti 2020). We furthermore observe no clear geographical differences: the greater fertility of the South — which characterized Italy throughout the 20th century — has now disappeared.

Table 6: Odds Ratio by Couples' Work Conditions: Logistic Models for Probability of Conceptions over 18 Months in 2012-20 by Number of Children already Born (See The Complete Models in Table A2). Heterosexual Couples in which the Woman is 20-39 Years Old.)

Couple's work conditions	Total	# children already born		
		0	1	2+
Both permanent (baseline)	1.00	1.00	1.00	1.00
One permanent job, with working woman	1.02	1.01	1.01	1.22
Male breadwinner	0.90*	0.85°	0.90°	1.13
Both precarious or not working	0.72**	0.55**	0.70**	1.28°
Number of couples	29,855	6,146	10,033	13,676
Number of children	4,102	1,504	1,988	610
Proportion of couples with a conceptions over 18 months	13.7%	24.5%	19.8%	4.5%

** p_i0.01 * p_i0.05 ° p_i0.10

Table 7: Odds Ratio by Couples' Work Conditions: Logistic Models for Probability of Conceptions over 18 Months in 2012-20 by Number of Children already Born in the Episode-Splitting Data Set (See the Complete Models in Table A2). Heterosexual Couples in which the Woman is 20-39 Years Old

Work conditions of the couple	Total	# children already born		
		0	1	2+
Both permanent (baseline)	1.00	1.00	1.00	1.00
One permanent job, with working woman	0.77*	0.68*	0.84	0.84
Male breadwinner	0.80*	0.61**	0.95	0.90
Both precarious or not working	0.74**	0.59**	0.79*	1.01

** p_i0.01 * p_i0.05 ° p_i0.10

DISCUSSION

Our analysis results in two main findings. First, the chance of being in a co-residing couple is much lower among men with a temporary job, who are unemployed, students, or out of the labor market, than among men with a permanent job. Even among women, the likelihood of being in a couple is higher for those who have a stable job than for those who are unemployed, temporarily employed, or students. That said, this possibility is much higher for the women who are outside the labor market (i.e., mainly housewives).

Second, the chances of having the first and the second child are higher for dual-earner couples, and significantly lower for all other combinations. This is particularly true when both partners have a temporary job, are unemployed or out of the labor market, but also holds for "traditional" couples where the man has a permanent job and the woman is a housewife; namely, precisely those couples who, throughout the 20th century, had the highest number of children. When it comes, however, to the likelihood of having a third child or more, employment status counts very little.

Very few couples in Italy have three or more children, and this group tends to be strongly polarized by economic situation (Castiglioni et al. 2020). Generally, the interconnection between partners' work condition and fertility among these larger families begs further study.

The passing of the baton of greater fertility from the "traditional" male breadwinner couple to the more "modern" dual-earner couple — already glimpsed by Vignoli et al. (2012) for Italian couples with women born between 1950-90 — has therefore been fully realized in subsequent cohorts. These results can be interpreted in the light of the studies cited in the first part of this article, referring both to the Italian situation and to that of other European countries.

At the outset of our analysis, we expected to observe a statistical link between permanent work and the likelihood of forming a stable couple. This expectation is confirmed in our results and is especially strong for young men. Furthermore, the "delay syndrome" in Italy remains a relevant factor in family formation, where young Italians continue living at home until older ages, and parents prefer to keep their children in a sort of "golden cage" (Dalla-Zuanna, 2001; Livi Bacci, 2001). However, such tendencies are also combined with a growing and relevant weight of mobility constraints, especially related to the lack of permanent and well-paid jobs (Ambrosi & Rosina, 2010). Indubitably, tackling low Italian fertility — which in the last two decades is closely linked to the proportion of people without children and the high age to the first child — necessarily means addressing the excessive spread of temporary jobs, low-pay work, and high unemployment among individuals under the age of 35.

As illustrated above (see especially Baizàn, 2007), there are two interpretations of the greater fertility of dual-earner couples with permanent jobs in industrial and post-industrial societies. In countries with very generous pro-family welfare, partners are able to take advantage of strong conciliation measures between domestic and paid work. They can accordingly both work without having to bear an excessive economic burden for childcare. These same countries (e.g., Denmark and Sweden) are also further along in the second demographic transition, which sees greater involvement of men in domestic work and fewer and fewer women who feel personally fulfilled when working only as a housewife (Anxo et al., 2011). In contrast, in the countries of post-communist Europe and in the US — where conciliation measures accessible to all budgets no longer exist — mothers must work, because their partners' income alone is not enough to bear the economic burden of childrearing.

In Italy, the cultural changes in couple behavior characteristic of the second demographic transition are underway, though, for example, domestic and care work remains very unbalanced in favor of the man, even when the woman works (Pailhé et al., 2019; Zannella & De Rose, 2019). It has, however, become increasingly rare that, either upon forming a couple, after wedding, or even following the birth of a first child, the woman chooses to give up her job, embracing the role of housewife as often happened during the 20th century. The male breadwinner couple is ever more a matter of constraint rather than choice, especially where female unemployment rates are high and childcare services at low prices less available, as in the South (Brilli et al. 2014; Del Boca & Vuri, 2007). In trying to understand the speed and strength of the inversion of the statistical relationship between couple fertility and

female work, it seems, perhaps, more useful to highlight the economic question. In this, Italy more closely resembles the US and post-communist countries than those of Northern Europe.

Starting a family and having children in Italy has become something for couples where both partners hold a permanent job. A return to Malthus is helpful here. In his view, eschewing marriage is the main preventive check for the poor to avoid falling into misery and dragging potential children into such conditions. *Mutatis mutandis*, today in Italy young people without employment or with an unstable job protect themselves against poverty by avoiding forming a co-resident couple. When finally, often at a relatively advanced age, the two partners do take the step of living together, new Malthusian brakes halt reproduction. Indeed, one stable job is no longer enough to bear the cost of a child — as was the case for their parents, grandparents, and great-grandparents — it takes two. This way of thinking is economically very rational: ISTAT periodic surveys on poverty show that the proportion of poor children increases dramatically after 2008, particularly if there are at least two siblings (Gori, 2020; Sarceno et al., 2020). We would, however, argue that the results of this article are cause for greater hope for present-day Italian fertility than twenty years ago. We are aware that the limits of the Italian welfare state with low support to families and scarcity of services for early childhood are a further constraint. However, if the obstacles to entry into life as a couple and subsequent fertility are today above all of an economic nature, easing the latter could translate into higher birth rates. To once more use a Malthusian phrasing, the economic brakes on the possibility of living in a couple and, for couples, of having children, need to be relaxed if low Italian fertility is to be reversed.

A first necessary change to this regard has already been mentioned. Many and good new stable jobs would allow young Italians to reverse their tendency to postpone entry into co-residing as a couple. Robust and lasting economic growth is needed, which Italy has not seen for at least three decades. Such growth would consist, on the one hand, of substantially increasing the employment rate, especially that of women (currently ten points lower than the OECD average) and, on the other hand, expanding the proportion of permanent and well-paid workers, mainly for young people. The powerful rebound in post-Covid-19 GDP bodes well, thanks primarily to extraordinary results in the secondary sector, but whether this will be long-lasting remains to be seen. Unfortunately, the rising costs of raw materials and the short and long-term effects of the war in Ukraine risk closing this possible window of economic development.

An essential second aspect is more complex. First, the cost of raising a child must be addressed. In early 2022, a universal allowance for children under the age of 21 was established in Italy, similar to the German *kindergeld*, but with decreasing amounts for incomes above the median level and after the child's 18th birthday (Rosina, 2021). Other policies, such as a kindergarten bonus and the construction of new public kindergartens thanks to European funds, provide support as well. These are important measures, which lower but certainly do not cancel out the cost of a new baby. It is moreover difficult to change the social structures of the male breadwinner era. For example, in the majority of public schools, the school day for children over the age of 10 finishes before 2 p.m. In the meantime, as already

highlighted above, the aim should be to make stable work more readily available. In any case, Italian fertility is unlikely to increase by encouraging one of the two partners (almost always the woman) to stay at home. From an economic standpoint, the best insurance for a child is that both parents work. Furthermore, since half of couples married in the first decade of 21st century in Italy have separated (Istat, 2021), one of the two partners not working dramatically raises the risk of future poverty (Ongaro et al., 2009).

In summary, Malthusian brakes on Italian fertility will ease in Italy if the country experiences a lasting and intense season of economic development, with much new permanent and good employment. In tandem, family welfare measures should be increased, and certain social structures modified so as to make life simpler for dual-income couples. Today, this is a matter of good policies and stable economic growth. No magic wand can wave away a forty-year period of Italian low fertility.

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Table A1: Logistic Models for the Probability of Living in Couple at the Time of the Italian Labor Survey Interview, 2012-20.

	Age 20-29				Age 30-39				Age 30-39			
	Men		Women		Men		Women		Men		Women	
	β Coef.	S.E.	β Coef.	S.E.	β Coef.	S.E.	β Coef.	S.E.	β Coef.	S.E.	β Coef.	S.E.
Intercept	33.36**	7.67	30.91**	5.697	15.807**	3.44	20.18**	3.40	62.90**	3.07	24.89**	2.95
Work condition (Permanent job)	0		0		0		0		0		0	
Instabile job	-0.99**	0.04	0.99**	0.019	-1.44**	0.02	0.67**	0.01	-1.45**	0.01	0.75**	0.01
Unemployed	-3.00**	0.11	-2.15**	0.041	-0.95**	0.02	-0.34**	0.01	-0.84**	0.01	-0.26**	0.01
Other not in labor force	-0.77**	0.03	-0.32**	0.024	-0.44**	0.01	-0.19**	0.01	-0.44**	0.01	-0.06**	0.01
Student	-0.33**	0.03	-0.26**	0.022	—	—	—	—	—	—	—	—
Age (Continue)	0.41**	0.00	0.35**	0.003	0.14**	0.00	0.09**	0.00	0.04**	0.00	-0.01**	0.00
Citizenship (Italian)	0		0		0		0		0		0	
Foreigner in UE	1.59**	0.04	1.39**	0.030	1.06**	0.02	0.23**	0.02	0.63**	0.03	-0.62**	0.02
Foreigner extra UE	0.90**	0.03	1.61**	0.023	0.46**	0.01	0.48**	0.02	0.30**	0.02	-0.37**	0.01
Education (No title <5 years)	0		0		0		0		0		0	
Primary (5-7 years)	1.00**	0.12	1.07**	0.10	0.91**	0.05	0.65**	0.06	0.88**	0.04	0.71**	0.04
Junior HS (8-9 years)	1.01**	0.10	0.71**	0.07	1.08**	0.047	0.73**	0.05	0.98**	0.04	0.71**	0.04
Low HS (10-11 years)	0.61**	0.11	0.33**	0.08	0.89**	0.049	0.61**	0.05	1.00**	0.04	0.74**	0.04
High School (12-14 years)	0.15**	0.11	0.04	0.07	0.80**	0.05	0.64**	0.05	0.94**	0.04	0.75**	0.04
Degree or more (15 years or more)	-0.53**	0.11	-0.67**	0.08	0.49**	0.05	0.44**	0.05	0.86**	0.04	0.70**	0.04
4Place of living (Centre)	0		0		0		0		0		0	
North-East	0.25**	0.03	0.36**	0.02	0.08**	0.01	0.19**	0.01	-0.06**	0.01	0.07**	0.01
North-West	0.18**	0.03	0.33**	0.02	0.07**	0.01	0.15**	0.01	-0.05**	0.01	0.07**	0.01
South-Islands	0.15**	0.03	-0.21**	0.02	0.11**	0.01	-0.18**	0.01	0.30**	0.01	-0.03**	0.01
Year (Continue)	-0.02**	0.00	-0.02**	0.00	-0.01**	0.00	-0.01**	0.00	-0.03**	0.00	-0.01**	0.00

$\hat{p} < .05$. * $p < .01$. ** $p < .001$.

Table A2: Logistic Models for the Probability of Conceptions during 18 Months in 2012-20 by Number of Children already Born for Couples who do not Change Work Conditions during the Period

	Freq.		Total sample		Number of children already born					
	%		β Coef.	S.E.	0 child		1 child		2 children	
					β Coef.	S.E.	β Coef.	S.E.	β Coef.	S.E.
Intercept	—		-1.06**	0.28	-0.79	0.51	-2.03**	0.58	-2.42**	0.57
Work condition (Both permanent)	43,4%		0		0		0		0	
Both precarious or not working	13,5%		-0.33**	0.06	-0.60**	0.12	-0.36**	0.09	0.25^	0.15
Male breadwinner	33,8%		-0.11*	0.05	-0.16^	0.09	-0.11^	0.07	0.12	0.11
One permanent job, with working woman	9,3%		0.02	0.06	0.01	0.09	0.01	0.09	0.20	0.17
Marital status (Unmarried)	18,2%		0		0		0		0	
Married	81,8%		0.42**	0.05	0.63**	0.07	0.29**	0.07	-0.17	0.14
Woman's age (<25)	2,7%		0		0		0		0	
25-30	13,8%		-0.31**	0.09	-0.61**	0.14	-0.26^	0.14	0.18	0.34
30-35	31,9%		-0.52**	0.09	-0.73**	0.15	-0.49**	0.14	-0.16	0.35
35	51,6%		-1.14**	0.10	-1.41**	0.16	-0.99**	0.15	-0.94**	0.35
Man's age (<30)	6,0%		0		0		0		0	
30-35	19,4%		-0.02	0.07	-0.06	0.10	0.02	0.11	-0.23	0.22
35-40	34,9%		-0.08	0.07	-0.14	0.11	-0.02	0.11	-0.40^	0.22
40-45	27,9%		-0.50**	0.08	-0.61**	0.14	-0.49**	0.12	-0.66**	0.24
45-50	8,6%		-0.79**	0.11	-1.05**	0.22	-0.87**	0.17	-0.76**	0.27
50	3,2%		-1.00**	0.17	-1.14**	0.29	-0.97**	0.25	-1.21**	0.39
Number of children (0)	20,6%		0							
1	33,6%		-0.14**	0.04						
2	45,8%		-1.56**	0.06						
Citizenship (Both Italians)	78,7%		0		0		0		0	
Both foreigners	15,7%		-0.05	0.06	-0.04	0.11	-0.29**	0.08	0.31**	0.12
W Italian, M foreigner	1,0%		0.01	0.16	-0.16	0.27	-0.25	0.25	0.94**	0.32
W foreigner, M Italian	4,6%		-0.12	0.09	-0.31*	0.16	-0.26^	0.14	0.50**	0.19
Wom. Education (No title <5 years)	0,8%		0		0		0		0	
Primary (5-7 years)	2,0%		0.07	0.31	0.74	0.84	0.69	0.58	-0.32	0.39
Junior HS (8-9 years)	26,8%		-0.28	0.28	1.12	0.74	0.40	0.53	-0.80*	0.35
Low HS (10-11 years)	5,7%		-0.23	0.29	1.53*	0.76	0.28	0.55	-0.82*	0.39
High School (12-14 years)	40,1%		-0.19	0.28	1.40^	0.75	0.43	0.54	-0.74*	0.36
Degree or more (15 years or more)	24,5%		0.05	0.28	1.63*	0.75	0.61	0.54	-0.24	0.37
Man Education (No title <5 years)	0,9%		0		0		0		0	
Primary (5-7 years)	2,6%		0.60^	0.33	-0.64	0.71	0.81	0.57	0.85	0.53
Junior HS (8-9 years)	35,4%		0.43	0.31	-1.23^	0.66	0.64	0.53	0.95^	0.50
Low HS (10-11 years)	8,0%		0.43	0.31	-1.16^	0.66	0.71	0.54	0.69	0.53
High School (12-14 years)	38,1%		0.55^	0.31	-1.10^	0.66	0.81	0.53	0.94^	0.51
Degree or more (15 years or more)	15,1%		0.68*	0.31	-1.16^	0.66	1.08*	0.53	1.10*	0.52
Place of residence (Center)	17,4%		0		0		0		0	
North-East	21,8%		0.15**	0.057	0.08	0.10	0.18*	0.08	0.21	0.13
North-West	27,7%		0.06	0.05	0.09	0.09	0.04	0.08	0.09	0.13
South-Islands	33,1%		0.08	0.06	0.34**	0.10	0.04	0.08	-0.19	0.14

^p < .05. *p < .01. **p < .001.

Table A3: Logistic Models for the Probability of Conceptions during 18 Months in 2012-20 by Number of Children Already Born in the Episode-Splitting Data-Set

	Freq. %	Total sample		0 child		1 child		2 children	
		β Coef.	S.E.	β Coef.	S.E.	β Coef.	S.E.	β Coef.	S.E.
Intercept	—	-3.42**	0.25	-3.50**	0.45	-4.28**	0.49	-4.39**	0.48
Work condition (Both permanent)	38,5%	0		0		0		0	
Both precarious or not working	14,4%	-0.30**	0.06	-0.53**	0.12	-0.23*	0.09	0.01	0.15
Male breadwinner	34,0%	-0.22*	0.10	-0.49**	0.18	-0.05	0.14	-0.11	0.21
One permanent job, with working woman	13,1%	-0.26*	0.10	-0.39*	0.18	-0.17	0.15	-0.17	0.24
Gender job balance (Neutral)	7,4%	0		0		0		0	
Prevailing man	47,9%	0.13	0.10	0.25	0.18	0.05	0.16	0.18	0.26
Prevailing woman	44,7%	0.06	0.09	0.22	0.17	-0.09	0.13	0.14	0.19
Marital status (Unmarried)	19,5%	0		0		0		0	
Married	80,5%	0.44**	0.04	0.68**	0.06	0.28**	0.06	-0.20^	0.12
Woman's age (<25)	3,5%	0		0		0		0	
25-30	15,6%	-0.06	0.07	-0.20^	0.11	-0.04	0.11	0.30	0.28
30-35	34,2%	-0.17*	0.08	-0.24*	0.11	-0.18	0.11	0.05	0.29
35	46,7%	-0.57**	0.08	-0.66**	0.12	-0.49**	0.12	-0.51^	0.29
Man's age (<30)	7,5%	0		0		0		0	
30-35	21,5%	0.10^	0.05	0.09	0.08	0.14^	0.09	-0.22	0.18
35-40	35,4%	0.09	0.06	0.04	0.09	0.18*	0.09	-0.30	0.18
40-45	25,5%	-0.18**	0.07	-0.26*	0.11	-0.15	0.10	-0.41*	0.20
45-50	7,4%	-0.45**	0.10	-0.79**	0.20	-0.49**	0.15	-0.45*	0.23
50	2,7%	-0.57**	0.14	-0.86**	0.26	-0.48*	0.22	-0.66*	0.33
Number of children (0)	19,5%	0							
1	32,9%	-0.21**	0.03	—	—	—	—	—	—
2	47,6%	-1.65**	0.05	—	—	—	—	—	—
Citizenship (Both Italians)	78,1%	0		0		0		0	
Both foreigners	16,1%	0.00	0.05	0.05	0.09	-0.18**	0.07	0.32**	0.10
W Italian, M foreigner	1,1%	0.04	0.13	-0.16	0.23	-0.11	0.21	0.75**	0.28
W foreigner, M Italian	4,7%	-0.09	0.08	-0.27*	0.13	-0.14	0.12	0.45**	0.17
Wom. Education (No title <5 years)	0,9%	0		0		0		0	
Primary (5-7 years)	2,0%	0.10	0.26	0.59	0.65	0.50	0.47	-0.36	0.35
Junior HS (8-9 years)	26,7%	-0.13	0.24	0.79	0.55	0.37	0.43	-0.74*	0.32
Low HS (10-11 years)	5,8%	-0.13	0.24	1.10^	0.56	0.23	0.44	-0.83*	0.35
High School (12-14 years)	40,6%	-0.12	0.24	0.95^	0.55	0.35	0.43	-0.79*	0.32
Degree or more (15 years or more)	24,0%	0.07	0.24	1.12*	0.56	0.49	0.43	-0.39	0.33
Man Education (No title <5 years)	0,8%	0		0		0		0	
Primary (5-7 years)	2,7%	0.40	0.28	-0.13	0.50	0.55	0.49	0.56	0.46
Junior HS (8-9 years)	35,9%	0.33	0.26	-0.55	0.46	0.50	0.46	0.71	0.44
Low HS (10-11 years)	8,0%	0.36	0.26	-0.46	0.46	0.56	0.47	0.56	0.46
High School (12-14 years)	38,2%	0.42	0.26	-0.44	0.46	0.63	0.46	0.66	0.44
Degree or more (15 years or more)	14,4%	0.52*	0.27	-0.50	0.46	0.85^	0.47	0.88^	0.45
Place of residence (Center)	17,9%	0		0		0		0	
North-East	21,8%	0.15**	0.05	0.10	0.08	0.17*	0.07	0.24*	0.12
North-West	27,1%	0.06	0.04	0.06	0.08	0.06	0.06	0.09	0.12
South-Islands	33,2%	0.10*	0.05	0.27**	0.08	0.06	0.07	-0.07	0.12

^p < .05. *p < .01. **p < .001.

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