

FERTILITY INTENTIONS IN ITALY DURING THE COVID-19 PANDEMIC. EVIDENCE FROM THE FAMILYDEMIC SURVEY

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Abstract. The Covid-19 pandemic crisis led to sharp changes in social, work and family organisation, which may have had consequences for individuals' reproductive choices. We use data collected between July and September 2021 to examine changes in fertility intentions induced by the pandemic in Italy. Our findings do not reveal a generalized and substantial decline in respondents' fertility intentions, who, in the vast majority of cases, confirmed their pre-pandemic fertility intentions. However, parents with at least one child under 12 emerged as those more likely to experience a decline in their reproductive intentions. Also, our findings reveal how the upheaval caused by the pandemic resulted in different distributions of unpaid work within couples, with different fertility implications: those who moved towards a more unequal distribution reported a stronger reduction in fertility intentions compared to those who benefited from the opportunity to rebalance domestic responsibilities towards a more equal distribution.

1. Context and Aim

In our analysis, we examine whether the pandemic has influenced fertility intentions by considering the impact of the various transformations it generated, including the uncertainties and overturns it has caused. We take, as a starting point, previous studies that have consistently indicated a negative correlation between periods of economic crisis and a decline in fertility intentions (Matysiak *et al.*, 2021). The implications of Covid-19 regarding population health and the economic consequences that the precautionary measures adopted by governments would have caused were the first aspects to capture the interest and commitment of scholars. Subsequently, several authors turned their attention to investigating whether and how the pandemic influenced family dynamics. Significant findings from these studies encompassed various aspects, including a decline in the quality of married life, a less equal division of family roles, a decrease in marriage celebrations, deteriorating living conditions for individuals, and a decrease in fertility intentions (Arpino *et al.*, 2020; Vignoli *et al.*, 2020; Del Boca *et al.*, 2021; Guetto *et al.*, 2021, 2022). With this paper, we contribute to the literature that

focuses on this last aspect by posing the following research question: *How did fertility intentions change in Italy during the Covid-19 pandemic?*

We investigate fertility intentions because they rely upon both the characteristics of individuals (such as age, parental status, level of education, relational networks and economic situation) and are closely linked to social norms on fertility, the country's welfare system (Novelli *et al.*, 2021), and the political and economic climate, which underwent numerous changes during the Covid-19 pandemic. Fertility intentions are considerably more reliable and compromising than fertility desires. Furthermore, questioning respondents about short-term fertility (within a 3-year time frame) increases the concreteness of this prediction. This study makes an additional effort compared to the existing literature on the topic. It overcomes the limitations of only examining the very short-term impact of the pandemic, questioning respondents at a rather late stage of the pandemic and it investigates potential heterogeneity in individual responses regarding shifts in fertility intentions.

2. Gender roles and fertility

In Italy, there has been a consistent decline in the number of births since 2008, reaching a historic low of 393,000 births in 2022, which represents a decrease of 27,084 births compared to 2019 (ISTAT, 2023). Extensive research has focused on exploring the potential determinants of low fertility rates in Italy, highlighting various factors such as shifts in ideology, economic uncertainty, the availability and cost of childcare services, and the delayed financial independence of young individuals (Alderotti *et al.*, 2019; Mencarini and Vignoli, 2018). The distribution of household and caregiving responsibilities within a partnership is considered a crucial indicator of gender equality (Neyer *et al.*, 2013), and the transformation of gender roles has been proposed as a significant factor in understanding the low fertility phenomenon (Esping-Andersen and Billari, 2015). A growing body of literature has emphasized the positive relationship between an equitable division of household and childcare responsibilities among partners and fertility rates (Riederer *et al.*, 2019; Cheng, 2020), including studies specifically relates to the Italian context (Mencarini and Tanturri, 2004; Pinnelli and Fiori, 2008). However, results are not always consistent, and there is considerable variation depending on factors such as women's employment status, number of children, and the level of fathers' involvement. Despite the ongoing changes in societal dynamics, Italian society has not fully embraced the female revolution, as evidenced by lower fertility rates and lower gender equality compared to the European average. Naldini (2015) describes the challenging process of "de-traditionalization" of gender roles in the Italian context, where gender inequalities persist in both work and family spheres,

despite the convergence of life courses and the emergence of more egalitarian couple ideals (Mills *et al.*, 2008).

3. Research Hypotheses

Two possible scenarios can be envisaged regarding the potential impact of the Covid-19 pandemic: Hypothesis 1: *Worsening fertility intentions due to economic uncertainty and increased childcare duties, especially among women.* The economic crisis, and the resulting job and economic uncertainty generated by the Covid-19 pandemic, may have inhibited fertility intentions. We posit that there is a higher vulnerability among those who are already living in a precarious economic and social situation (Cazzola *et al.* 2016) and among those who already had one or more children (Modena and Sabatini, 2012). Previous studies have indicated that women interested to pursue a two-child family model are more subject to economic insecurity (Fiori *et al.*, 2013). However, it is crucial to consider that in a country like Italy, where the total fertility rate was 1.24 children per woman in 2022, it is reasonable to assume that individuals who already have one or more children have already achieved their desired fertility. Furthermore, based on literature indicating that additional care obligations may conflict with fertility plans, we hypothesise that, among respondents with (school-age) children, the closure of schools and the unavailability of care services like babysitting may have led to a worsening of fertility intentions, due to increased childcare duties. This effect is more likely among women, given their greater involvement in informal caregiving for vulnerable individuals and children (Menniti *et al.*, 2015). Overall, the pandemic crisis may have had differential impacts on men's and women's fertility intentions, with women being more burdened by household and caregiving responsibilities during the period under review (Del Boca *et al.*, 2021). Hypothesis 2: *Improvement in fertility intentions due to a more balanced gendered division of unpaid work.* A more equitable division of household and caregiving work is considered a key indicator of gender equality within the family and is also seen as an important factor in shaping fertility intentions and outcomes (Neyer *et al.*, 2013). Couples who have taken advantage of the upheaval caused by the historical moment to establish a more equal distribution of duties, along with improved relationship quality (Vignoli *et al.*, 2022), may have experienced an improvement in their fertility intentions. This may have been facilitated by the need to disrupt established routines and reorganize family dynamics, as well as the transition from conventional workplaces to home settings (Mangiavacchi *et al.*, 2021). The aforementioned scenarios may not necessarily be mutually exclusive. By incorporating insights from the gender revolution framework (Goldscheider *et al.*, 2015) and the multiple equilibrium framework (Esping-Andersen and Billari, 2015), it is plausible that these scenarios can coexist, contingent upon the specific characteristics of the couples. In particular, we assume that education and gender ideology play a decisive role.

Extensive literature has demonstrated that gender egalitarianism is more widespread among younger and more educated men and women (Mills *et al.*, 2008). Therefore, we expect to find a positive impact of higher education levels on pandemic-induced changes in fertility intentions, along with an inverse relationship between education level and respondents' inclination to delay or relinquish their fertility intentions.

4. Data and methods

The study relies on data from the *Familydemic* survey, which is a collaborative international project and a network of researchers (Kurowska *et al.* 2023). The focus of Familydemic is on the immediate and long-term consequences of policy responses to the COVID-19 outbreak for the distribution of paid and unpaid work in couples and their labour market outcomes in countries with diverse welfare regimes (Canada, Germany, Italy, Poland, Sweden and the US). For Italy, data were collected between July and September 2021. The sampling scheme imposed national quotas for age group, gender, education, macro-region of residence, presence of children and age of the youngest child (N=7,080). Additionally, post-stratification weights were used to adjust for small deviations from the benchmark population statistics¹. The dependent variable *change in fertility intention* is measured as the difference between respondents' fertility intentions (expressed within a 3-year time frame) at the time of the interview, and the fertility intentions before Covid-19 (January 2020), investigated retrospectively. It is based on the questions: "**Before Covid-19** did you intend to have one (another) child in the next 3 years?" and "**Do you currently** intend to have one (another) child in the next 3 years?" The survey participants could opt for a number from 1 to 10 where 1 means definitely no and 10 definitely yes. We then recoded the responses by contrasting those whose intentions had improved vs. not changed vs. worsened. The questions on fertility intentions were asked to a specific segment of the sample (N = 4,103): females aged 20-46 and male respondents who either did not have children or whose youngest child was born prior to 2020. Consistent with previous studies individuals who were expecting a child at the time of the interview were excluded from the sample (N = 360). The Familydemic survey, unlike other surveys, gathers data from both women and men. This inclusive approach allowed us to investigate men's childbearing intentions, acknowledging their important role as active participants in the reproductive process (Neyer *et al.*, 2013). The main independent variables we decided to focus on are the *presence and age of children* in the household and the changes in the *division of unpaid work* within the couple during the pandemic. About the first one, we grouped the subjects

¹ For more methodological information on the survey see (Kurowska *et al.* 2023), as well as the homepage of Familydemic at <https://familydemic.wnpism.uw.edu.pl/familydemic-survey> (last accessed July 8, 2023).

into the following categories: childless; respondents with a youngest child aged 0-5; respondents with a youngest child aged 6-11; respondents with a youngest child aged more than 11. The survey contains two variables that allowed us to evaluate the shifts in unpaid work: one asking respondents about the shift in the couple's division of housework chores (e.g. food purchasing, cooking, cleaning, doing the laundry), the second about the shift in the division of childcare tasks (e.g. physical care, playing/reading, helping with schoolwork, general oversight). The variables take value 0 if both partners spend the same amount of time in unpaid work (either housework or childcare) at the time of the interview compared to the pre-pandemic period; value 1 if both spend less time²; value 2 if both spend more time; value 3 if the respondent spends more time (and the partner spends less or equal time); finally, value 4 if the respondent spends less time (and the partner spends more or equal time). We employed two multinomial logistic regressions to investigate the impact of the independent variables on the variation of fertility intentions for both genders. In the first model, which encompassed the overall sample, we examined the effects of the presence and age of children and the change in couples' division of domestic work. Additionally, we included control variables such as the respondent's age (linear and squared functions), level of education (categorized into three levels), employment status (whether the respondent was employed before Covid-19 or not) and respondents' gender ideology. To operationalize the gender ideology of the respondent, we created a variable by combining the answers to two questions related to the roles of mothers and fathers: *"In general, fathers are as well suited to look after their children as mothers"* and *"Mothers should be as responsible for financially supporting their families as fathers."* The possible answers follow a five-point Likert scale about how much respondents agree with these statements. We built an index of gender ideology, ranging from 0 to 9, by summing up the answers to these two questions. In the second model, performed on the subsample of parents, we included two additional variables: division of childcare tasks and parity (1, 2, or 3+ children). This second model was also stratified by parity, i.e. implemented separately for respondents with one child and respondents with two or more children. To enhance the interpretability of the findings, we present the results in terms of average marginal effects (differences in predicted probabilities of changing fertility intentions).

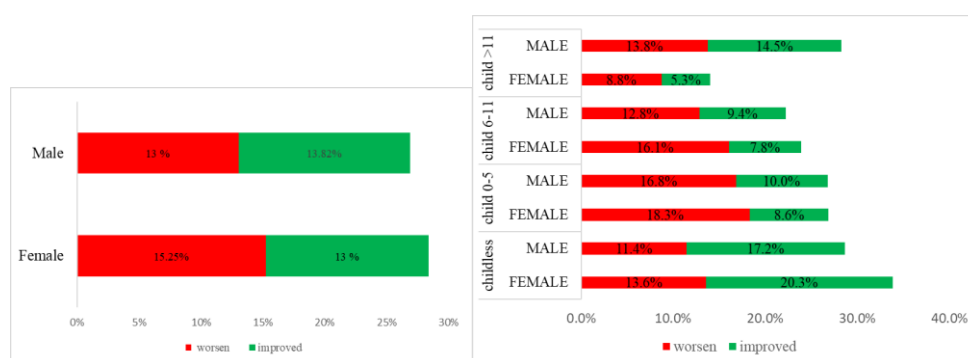
5. Descriptive findings

The majority of participants did not change their fertility intentions between the pre-Covid-19 period and the time of the survey (Figure 1). In fact, a non-negligible share of

² Regarding the variable on the shift in the division of childcare, this category was eliminated due to the small number of respondents (37). The variable thus only has four categories.

the sample experienced an improvement of their fertility intentions, to a similar extent among men (14%) and women (13%). Conversely, a significant share experienced a decline in their fertility intentions, with women (15%) showing a slightly higher incidence compared to men (13%). The results by parenthood status (Figure 1) confirm our hypothesis and are in line with the existing literature on the subject: parents seem to be those for whom fertility intentions worsened the most. Women and men without children, on the other hand, experienced greater improvements (around 20% for women and 17% for men). This is a reasonable outcome for a country like Italy, where the fertility rate is well below the replacement rate (1.24, ISTAT, 2019). Our results also show that, when children are present, their age plays a very relevant role in changing fertility intentions. Parents with a youngest child under 6 report the greatest deterioration in fertility intentions, and those with a youngest child between 6 and 11 also experienced noticeably worsening than respondents with a youngest child older than 11. Looking at the improvement in fertility intentions, parents with older children are also those who improved fertility intentions the most (especially for men), second only to childless respondents.

Figure 1 – Changes in fertility intentions from the pre-COVID-19 period to the survey time, by gender (left) and by gender and parenthood status (right).

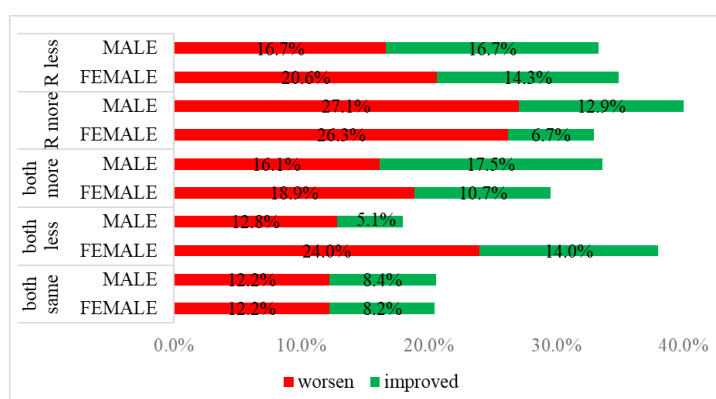


Source: Familydemic survey, 2021

One of our hypotheses was that, during the pandemic period, an equal division of unpaid work among partners could be positively associated with a shift towards higher fertility intentions. Figure 3 shows how respondents who experienced a reduction in their workload (with greater involvement of the partner) reported a more pronounced improvement in fertility intentions, while those indicating an increase in the time spent on domestic duties (with lower involvement of the partner) had a greater worsening in fertility intentions. It should be emphasized that the starting situation (before Covid-19) was highly unequal to the disadvantage of women, who were carrying over a large share of the domestic burden (Figure A1, Appendix). This clarification can account for the

finding depicted in Figure 3, specifically in correspondence with the "both more" category (which indicates an increase in domestic workload for both partners). Starting from a disadvantaged position, women who take on additional responsibilities (despite an additional effort from their partners) experience a greater decline in fertility intentions compared to men. In contrast, men, in the "both more" category, are more likely to show an improvement in fertility intentions compared to women.

Figure 3- Change in fertility intentions between the pre-Covid-19 period and the time of the survey, by gender and partners' shift in domestic work.

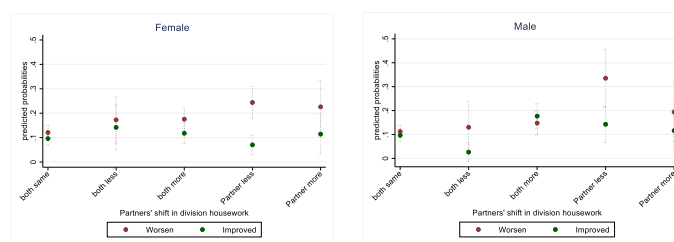


Source: Familydem survey, 2021

6. Multivariable findings

Multivariable findings are consistent with the descriptive ones: Figure 4 shows the predicted probabilities of improving or worsening fertility intentions, depending on the shifts in the distribution of domestic workload, calculated for the overall sample (Full model results are not shown due to space constraints but are available upon request).

Figure 4 – Predicted probabilities of changing fertility intentions by gender and partners' shift in housework.

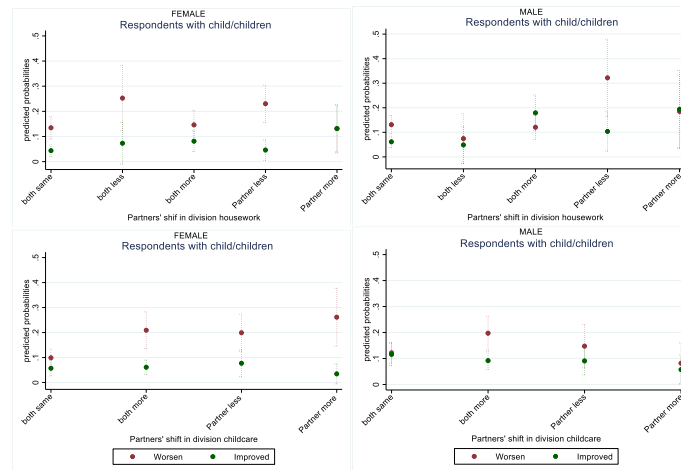


Source: Familydem survey, 2021

Models (overall sample) control for: presence and age of children in the household, respondent's age at interview (linear and squared); level of education; respondent's pre-pandemic employment status; respondent's gender ideology.

In line with our hypotheses, the results indicate that respondents of both genders are more likely to reduce their fertility intentions and less likely to improve them when they assume a greater share of domestic work during the pandemic. However, there are significant gender differences. Women present a higher likelihood of increasing their fertility intentions from the moment they reduce some of their tasks (variable modes: “Both less” or “Partner more”). On the other hand, men are more likely to increase their fertility intentions when both partners demonstrate greater commitment (“Both more”). Figure 5 displays the predicted probabilities of changing fertility intentions depending on the shifts in the division of housework and childcare responsibilities, calculated for respondents with children.

Figure 5- Predicted probabilities of changing fertility intentions by partners' shift in division housework and by partners' shift in division childcare.



Source: Familydem survey, 2021

Models (reduced sample of respondents with child/children) control for: respondent's age at interview (linear and squared); level of education; respondent's pre-pandemic employment status; respondent's gender ideology.

Regarding the shift in the division of homework, the results for parents mirror those obtained for the overall sample. With respect to the findings related to the shift in the division of childcare duties, we observe, on the contrary, that women reporting less time devoted to childcare experienced worsened fertility intentions. The variable for gender ideology is significant and positively correlated with an improvement in fertility intentions for men with children. However, when the variable on the change in the division of childcare is included in the model, the significance of 'gender ideology' is reduced (not all realised models are included in the paper but can be made available upon request). Additionally, multivariable findings indicate that, compared to childless respondents, parents (especially with children under the age of 6) have a higher

probability of reporting a worsening in their fertility intentions and a lower probability of reporting improved fertility intentions. One of our hypotheses posited that respondents with higher level of education would report an improvement in their fertility intentions: our results confirmed it for men. Furthermore, the presence of stable employment before the pandemic demonstrates a significant positive effect on the improvement of fertility intentions among women with child/children.

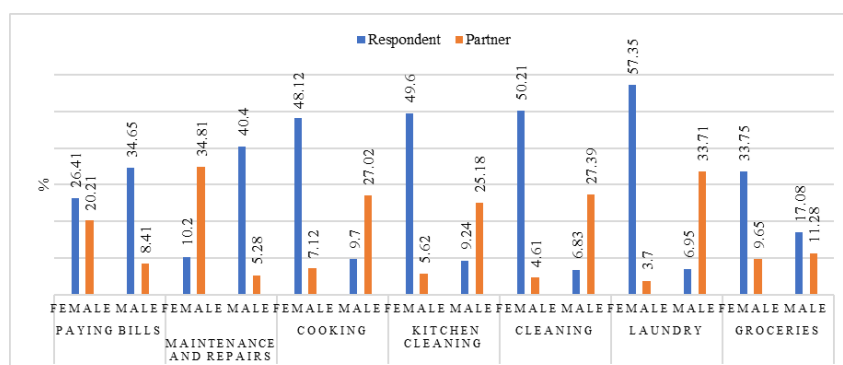
7. Conclusions

This study aimed to examine the shift in fertility intentions during the pandemic in Italy, identifying the key factors influencing these changes. The independent variables we primarily focused on were the presence and age of children and the change in the division of unpaid work between partners. We also assessed the effect of variables measuring the respondents' level of education and gender ideology. We hypothesized that a more equal division of roles could lead to improved fertility intentions, while an increase in the burden of unpaid work, especially for women, could have a detrimental impact. Our findings provided partial support for the proposed hypotheses. It was revealed that a greater domestic burden had a negative impact on changes in fertility intentions for both men and women. Among women, an enhancement in fertility intentions was observed when they experienced relief from certain tasks due to increased involvement from their partners. Conversely, for men, an increase in domestic responsibilities positively correlated with improved fertility intentions, but only when their partners also displayed an increase in involvement. More intriguing is the finding regarding the division of childcare tasks. We hypothesized that additional care obligations resulting from the pandemic might lead to a worsening of fertility intentions, particularly among women due to their greater involvement in informal caregiving. Surprisingly, our results showed that women who reduced their childcare commitments had worsened fertility intentions. It is important to underline that this finding does not imply a causal relationship or assume that a more equitable distribution of childcare responsibilities would hinder fertility intentions. Instead, this finding could suggest that respondents may have reduced the time dedicated to childcare due to various objective difficulties in balancing multiple obligations. These challenges may have been exacerbated by the contingent situation of the pandemic, which could have had an impact on fertility intentions as well. Moreover, our study revealed further evidence supporting the influence of education and gender ideology in shaping fertility intentions. Specifically, men with a more egalitarian gender ideology and higher levels of education demonstrated a higher likelihood of experiencing improvements in their fertility intentions. Our article contributes to the existing literature on Covid-19 and fertility intentions by filling the need, not addressed by previous studies, to analyse shifts in the

post-pandemic period (18 months after the onset of the pandemic) and get a longer-term perspective. The division of roles within the couple during the pandemic was identified as an important factor to explain the shift in fertility intentions and our findings emphasize the importance of rebalancing the division of roles within families through targeted gender equality policies that promote more shared practices of domestic responsibilities and ultimately favour future fertility outcomes. This study has some limitations. The data relied on an online survey, and retrospective questioning of pre-Covid-19 fertility intentions may have affected the reliability of responses. Additionally, the two-year survey period itself could have influenced the fluctuations in fertility intentions, regardless of other factors. The possibility of conducting the same analyses across countries with diverse welfare regimes presents an opportunity for future comparative studies, which can offer additional insights into this research question.

Appendix

Figure A1 – Partners' self-reported division of domestic duties before COVID-19.



Source: Familydem survey, 2021

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