Department of Economics and Statistics "Cognetti de Martiis"
Campus Luigi Einaudi, Lungo Dora Siena 100/A, 10153 Torino (Italy)
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RE-PARTNERING AND FERTILITY

FRANCESCA LUPPI, MATTEO MIGHELI and CHIARA PRONZATO

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Re-partnering and fertility

Francesca Luppi
Università Cattolica del Sacro Cuore, Italy
francesca.luppi1@unicatt.it

Matteo Migheli
University of Torino, Italy
matteo.migheli@unito.it

Chiara Pronzato
University of Torino and Collegio Carlo Alberto, Italy
chiaradaniela.pronzato@unito.it

Abstract

European divorce rates have been on the rise since the 1970s. At the same time, as more couples opt for cohabitation over marriage, there has been an increase in separations among cohabiting partners. Nearly 50% of separated individuals form new relationships within five years. These trends may have implications for fertility research. Are re-partnered mothers more likely to continue bearing children than never-separated mothers? Does quick re-partnering lead to the recovery of births "lost" due to separation? To answer these questions, we use longitudinal data from 2004 to 2018 for 32 European countries. We find that mothers in higher order unions are - on average – more likely to have one more child than those who already have children with their current partner. The former seem to be less burdened by already having children and less concerned about family income. Our data show that if separation occurs at a relatively young age and re-partnering occurs relatively quickly, then births lost to union dissolution can be recovered.

Keywords: separation, divorce, re-partnering, fertility, Europe

1 Introduction

In the wake of the sweeping social changes of the 1960s, the "partnering revolution" has had a deep and lasting impact on the way individuals establish and re-establish families and households in the western world. As described within the Second Demographic Transition framework (Lesthaeghe, 1983; Lesthaeghe and van de Kaa, 1986 and van de Kaa 1987), unions became less stable and less frequently formalised through marriage, while childbearing was less associated with being in a stable married couple (see Lesthaeghe, 2014). In Europe, this process started in the ground-breaking Nordic countries, spreading to Mediterranean countries in more recent times.

Paving the way for such a trend was not only the (novel) possibility of getting divorced, but also a more general re-shaping of values associated to self-realisation in partnership, parenthood, and the labour market, together with the women's emancipation process and the dawning of the "gender revolution" (Esping-Andersen, 2009 and Goldsheider, et al. 2015). These institutional and cultural transformations profoundly affected the family formation process, its timing, its stability, and its typical structure (van Winkle 2018 and Sobotka and Toulemon, 2008). In general, the effects can be seen in older age at the time of the first marriage (Ortiz-Espina and Roser, 2020), lower marriage rates (Kalmijn, 2007), an increase in cohabitations (e.g. Sánchez Gassen and Perelli-Harris, 2015), lower fertility or fertility postponement (e.g., Sobotka, 2004), and an increasing prevalence of re-partnering – with or without the formation of a stepfamily – and subsequent childbearing (Amato and James, 2010; Sweeney, 2010; Thomson 2014 and Raley and Sweeney, 2020).

The question of childbearing in re-partnered couples is of particular relevance within the context of fertility rates, which, in many high-income countries, lag well below the replacement rate and are still dropping. In fact, the extant literature (see the next section) highlights several socio-economic factors that may result in re-partnered women having lower fertility rates than women in stable unions (e.g. Meggiolaro and Ongaro, 2010 and Ivanova et al., 2014). On the other hand, other factors have been shown to produce the opposite outcome. This evidence has been traditionally explained under the "value-of-children" perspective (Friedman et al., 1994; Griffith et al., 1985 and Holland and Thomson, 2011), in which the new-born "privately" cements the union and "publicly" proves the couple's commitment to this new family project. For first unions, the transition to the first child can be explained through the perspective of the value of children and by the desire to be a parent. For re-partnered mothers, instead, having additional children is more likely associated with the value-of-children hypothesis than the parenthood hypothesis.

The phenomenon of childbearing in re-partnered couples is worth studying, as it is quantitatively

relevant. Thomson et al. (2020) show that multi-partner fertility contributes about 9% of total births in 14 European countries and the phenomenon has been persistent for decades. Moreover, the present literature does not fully provide a systematic comparison between fertility behaviours among people in more traditional unions and those who have re-partnered.

The present study aims at answering four research questions. First, whether – all other things being equal – re-partnered women are more or less likely to bear further children than those remaining in the same partnership. Second, what are the determinants of the potential difference in fertility across the two groups of women, i.e. how do re-partnered women and women with the same partner make their fertility decisions. Third, whether and under what circumstances can the re-partnering process affect overall fertility. Fourth, whether or not different contexts favour fertility decisions for both groups of women.

There are several areas in which this study makes an original contribution to the literature. While most previous studies focus on single countries, we use a large sample of women representative of the entire European population; large sample sizes allow us to compare the fertility of re-partnered women with the fertility of women with very similar characteristics who remain in a couple; in addition to asking whether re-partnered women have a higher or lower probability of bearing further children, we explore the underlying mechanisms for their decisions; we simulate the total fertility of women with different partnership trajectories; we discuss and try to address the possible endogeneity of the re-partnering choice; and we exploit countries' heterogeneity to understand the role of context in fertility decisions.

All of the analyses use data from the longitudinal version of the *European Survey of Income and Living Conditions* (EU-SILC). 32 countries are included in the study, and the data spans the years 2004-2018. We find that women with new partners are – on average - more likely to have one additional child than women who already share children with their current partner. The former feel less burdened by already having children and are less influenced by the level of family income. If the separation occurs at a relatively young age and the new relationship is formed relatively quickly, then births "lost" through separations can be recovered. Finally, we find that welfare generosity is positively correlated with fertility for both groups of women.

2 Literature review

When a relationship ends between partners at younger ages, it may engender dynamic paths that affect other demographic outcomes, beginning with family structure. Union dissolution can result in

separated people living alone or with their own children, for part or most of the time. If a new partner enters the household during the fertile years, (additional) children may be born. These various scenarios can lead to different fertility trajectories. However, after a dissolution, many people seek another partner to form a new union (Raley and Sweeney, 2020) and possibly have children. Indeed, there is abundant evidence that many women re-partner[1] at the age of 40 or younger (Beaujouan, 2012; Perelli-Harris and Lyons-Amos, 2015; Vanassche et al., 2015 and Fisher and Zhu, 2019). Divorce is thus common in the fertile years and women may wish to have children with the new partner.

Union dissolution may lead to lower fertility, as re-partnering may never occur (Jefferies et al., 2000) or take time (Jefferies et al., 2000), or because re-partnered couples may not live in the same household, making childbearing less likely (Bernardi et al., 2018). Kulu and Mikolai (2017) show that people who are separated experience more residential instability than those living in unions; consequently, the authors argue that such a pattern may result in deterioration of the psychological and socio-economic conditions of the separated individual, indirectly affecting future re-partnering and childbearing. Increasing divorce rates may therefore partially account for the decline in fertility rates in many countries since the 1960s (Van Bavel et al., 2012 and Madsen et al., 2018).

Nonetheless, empirical evidence suggests contrasting or non-negative outcomes from dissolution and subsequent re-partnering. Re-partnering may increase the fertility of those who form new couples, as the literature on stepfamilies and births has reported for decades (Thomson, 1997; Thomson et al., 2002; Thomson and Li, 2002 and Holland and Thomson, 2011), with studies suggesting that partners in newly-formed unions strongly desire to have a child. The literature finds that re-partnered women in particular have higher fertility rates than the non-re-partnered (Meggiolaro and Ongaro, 2010). However, the differences between re-partnered and stable couples only seem to last for a few years after the formation of re-partnered couples: Holland and Thomson (2011) show that the difference in fertility between stable and re-partnered couples disappears about two years after the formation of stepfamilies and then reverses. Thomson et al. (2012) present a simulation based on French data, which compares fertility trajectories of women in stable unions with those of women who re-partner. The results show that, although fertility is lower in the latter than in the former group, the differences are small, and such a distance decreases as the age at first pregnancy increases. The evidence is in fact mixed, with some studies not confirming these outcomes: Beaujouan and Solaz (2008), in an empirical inquiry on French data, found that women who re-partnered and those whose unions did

[1] Here and all throughout the paper, "re-partnering" is intended in broad sense and includes remarriages.

not dissolve have statistically equal fertility rates. Focusing on Germany, Henz (2002) found small differences, which, however, diminish as the duration of unions increases.

Why might re-partnered couples wish to have more children than stable couples? The costs and rewards of having children are not merely economic, so are not just the outcome of a rational decision based on economic convenience. The desire for children is related to the values they serve (e.g. Hoffman and Hoffman, 1973). In this sense, the social (e.g. conformity to prevalent social norms and expectations) or emotional rewards of having children (e.g. the joy of spending time with them) can surpass their economic costs. Ivanova et al. (2014), for example, show that after re-partnering, men and women seek to have children with the new partner for two main reasons: the desire for parenthood and commitment, where the former is seen as a sign of the partners' commitment to the new relationship. In the literature on fertility among re-partnered couples, authors usually refer to the "value-of-children perspective" (Friedman et al., 1994) as a framework through which partners' fertility choices can be interpreted (Ivanova et al., 2014 and Guzzo, 2017). Among these couples, in particular, the shared child would represent a symbol of their commitment (Stewart, 2002), and a signal to the community (Coleman, 1988 and Astone et al., 1999). Thus, we can expect that, although the emotional and social rewards of having children are relevant for all couples, it is to be expected that the non-economic "value of children" for re-partnered couples may weigh more on fertility decisions than the economic costs associated with childbearing. More specifically, given the same number of children (and only in cases where other children are already present), the value associated with a (new) child for re-partnered couples may offset the (economic) cost that other couples see.

What is the role of children from previous relationships? In many cases, children from previous unions may cohabit with one of their parents and her or his new partner. This is another factor that may influence the fertility of the new couple. However, the literature does not agree on what sign such an influence would be. Some authors (e.g. Vikat et al., 2004, using Austrian and Finnish data) find that the presence of stepchildren reduces the probability of a birth in the new union, while others (e.g. Hohmann-Marriott, 2015 analysing the UK) find that co-resident stepchildren increase re-partnered couples' desire for childbearing, when compared to analogous couples without co-resident offspring from previous unions. Guzzo (2017), for the US, finds that women in stepfamilies are more likely to have a shared child with the new partner than women in unions where both partners are childless.

The desire for shared children by re-partnered couples is driven by many economic and social motivations. In particular, re-partnered couples living in disadvantaged economic conditions are more

likely to have children together than those in affluent households formed after re-partnering. Indeed, US women living in fragile economic conditions are more prone to multipartnered fertility than women in affluent conditions, as the former view children as a form of support in case they fall on hard times (Harknett and Knab, 2007). Analogous evidence for both genders, again in the US, has been found more recently by Monte (2019), who also highlights that the phenomenon of multipartnered fertility is widespread among disadvantaged minorities (i.e. blacks and Latin-Americans). Norwegian men – but not women – show the same behaviour (Lappegård and Rønsen, 2013). These results are consistent with the faster pace of re-partnering by economically fragile women (Fisher and Zhu, 2019). In some cases, this phenomenon may depend on the aid and support provided by generous welfare systems (Fernández-Soto et al., 2020), but the evidence from the US suggests that this cannot be the only explanation. Deeper inquiry into the relationship between socio-economic conditions of re-partnered couples and their fertility is therefore needed.

3 Data and methods

3.1 Data and sample

We use the longitudinal version of the EU-SILC (2007-2018) with data for 32 countries reported in waves. For example, the 2018 dataset contains people interviewed first in 2015 (wave 1) and then again in 2016, in 2017 and 2018 (waves 2-4). At the other extreme, the 2007 dataset contains a panel of people interviewed in 2004, 2005, 2006, 2007. The EU-SILC is one of the main sources of data for the European Union's periodic reports on the social situation and the spread of poverty in member countries. The survey collects information on all family members: for those over 16 years of age, questions are asked about education, work, and all forms of income received. For those up to 16 years of age, demographic information and information about care minding and school attendance is gathered. One can reconstruct the family typology by looking at the relationships between the members: for each member, the identifier number of the partner, of the mother and of the father – all of whom live in same household – are reported.

For our analysis, we start by considering women present in the survey during all four waves[2] who in wave 1 were aged 20 and 45 years old and had at least one child under the age of 18. In our sample, we only include two groups of women: “women with the same partner” and “re-partnered women”. Women declaring the same person as her partner throughout all four waves are considered

[2] In Table A1 (Appendix), we show the average characteristics of women aged 20-45 in the first wave observed for any number of waves with the average characteristics of women aged 20-45 in the first wave observed for four years. They look very similar.

to be “women with the same partner”, while women who changed partner at some point over the four waves or (even more commonly) women who were single in wave 1 but found a new partner between waves 2 and 4 are considered to be “re-partnered women”. The other two groups of women (single women for the four waves, partnered women who become single) are not relevant for the study.

Despite the short timeframe, this selection process does not imply that only women who found a partner quickly were included in our sample. Our selection criteria only include women making the transition from singleness to a partnership within the four-year window under observation. On the other hand, it is true that we can observe new births only in a relatively short time span, up to three years (from wave 2 to wave 4).

The EU-SILC also allowed us to derive the variables used for analysis: the number and age of children already present in the household during wave 1, the age of the woman and of her partner, as well as their level of education and income.

The data does have some limitations. First of all, the analysis was carried out only on single women with co-resident children and not on single men with co-resident children. This is because the number of single fathers with co-resident children is too small to provide data for meaningful analysis. Secondly, it is impossible to know if the new partner already had non-resident children. This is the most insidious limitation, because it makes it impossible – for men - to distinguish the value-of-children perspective from the desire to become a father.

3.2 Methods and variables

3.2.1 Probability of childbearing: re-partnered vs women with the same partner

Is the probability that re-partnered women will have children different from that of women who stay with the fathers of their children? In order to answer this question, ideally, we would compare the fertility choices of a re-partnered woman with those of the same woman if she had remained with the same partner. Given the impossibility of observing such a counterfactual, we use propensity matching techniques, and match each re-partnered woman with all women with-the-same-partner who share an *identical* set of characteristics, as measured in wave 1: number of children, age of the youngest child, level of education, age-class and country of residence. Exact matching is possible since, as we will see, we have a relatively small number of re-partnered women and a relatively large number of women with the same partner. We will assign a weight equal to 1 to each re-partnered women and a weight equal to 1/n to all n women with the same partner sharing exactly the same

characteristics. Unless a perfect match can be found, the re-partnered woman is excluded from the analysis. In this way, we can understand whether re-partnered women produce extra births by controlling for their observable characteristics in the best possible way.

3.2.2 Fertility decisions and their causes: re-partnered vs women with the same partner

How do re-partnered couples and couples with children in common make fertility decisions? We assume that the propensity to have a new child depends on the family structure, the woman's characteristics, the partner's characteristics and the household income. Therefore, in the model, we include the number of children the woman already has and the age of the youngest, her age and her partners' age, their level of education, (tertiary or secondary, with primary representing the reference) and the quartile in which the couple's income falls. We then test whether these independent variables – recognised in the literature as important determinants of fertility – have a different effect on the fertility of re-partnered women and women with the same partner. To this end, we include the dummy variable "new partner" and its interactions with all the aforementioned socio-demographic variables. The analysis is carried out using logistic regression.

3.2.3 Recovery of births through re-partnering

To what extent can the re-partnering process positively affect overall fertility? Although the literature generally finds positive effects of re-partnering on fertility, re-partnered women may produce fewer children simply because re-partnering requires time. To investigate this possiblity, we simulate different scenarios starting from the estimates of the model presented in the sub-section "Fertility decisions and their causes". We simulate the possible fertility trajectories of a woman with given socio-demographic characteristics. First, we predict her probability of childbearing at any age from 20 to 49 if she remains with the same partner, summing these annual predictions to come up with an estimate of her expected total number of children in her fertile years.[3] Second, we simulate the case where she gets separated and does not find a new partner: we assume no births if there is no partner, so that the number of children she will have had by the end of her fertile years corresponds to the number of children she had at separation. Third, we simulate the case in which she gets separated at a certain age and re-partners after a given number of years: we predict the

[3] The estimated effects shown in Table 3 refer to the probability of having a new child in 3 years (for women with the same partner) and in an average of 2.09 years (for re-partnered women). To calculate annual predictions, we divide the predicted ones by these numbers.

probabilities of childbearing as a "woman with the same partner" up to the age of separation and then we assume that she has no new children while she is alone; finally, we predict the probability of childbearing as a "re-partnered woman" for each year from the time she finds a new partner to the end of her fertile years. Finally, we add up these predictions to obtain an estimate of her expected total number of children.

While the analyses of the first two objectives (Sections 3.2.1 and 3.2.2) *describe* average *behaviours* (given the same characteristics, re-partnered women are more/less likely to have an additional child) and average *preferences* (e.g. the effect of income on fertility is larger/smaller for re-partnered women), in this Section we are extrapolating predictions from the model to answer questions like: "what if a woman separates and finds a new partner?" This calls for causality. While reverse causality is theoretically possible (women who want to have an additional child get separated if their current partners do not), we consider it to be unrealistic or, in any case, rare. We could have, however, unobservable factors which determine both the probability of finding a new partner and the probability of having a new child. For example, taking into consideration the personal trait "extroversion", we may expect that extroverted women are more likely to find a new partner and, as shown in the literature, to have a child (Tavares, 2010).[4] To check this aspect, we use a bivariate probit regression, where the decision of having a new child is jointly estimated with the chance of having a new partner.

Another threat to the credibility of these simulations is given by the fact that they are based on the first years of the re-partnered women's relationships, whereas we use estimations from the model to predict the age-specific rate beyond the three years.

3.2.4 Fertility decisions in different contexts

Finally, how can we exploit information from different countries to say something about the fertility decisions of re-partnered women and women with the same partner? So far, we have only considered personal and family determinants of fertility decisions. In the model, the proportion of women from each country is the same in both groups, so that estimates are not influenced. The final aim of the study is to understand whether the context and, in particular, the welfare state, has the same degree of influence on the fertility decisions of re-partnered women and women with the same partner, by exploiting – at best – the availability of data from different European countries. Since the sample

[4] Tavares (2010), however, only analyses the transition to the first child and finds that extroversion negatively affects the time to the birth of the first child.

size does not allow for country-specific models, we use multilevel models. We estimate two logistic multilevel regressions, one for the sample of re-partnered women and one for the sample of women with same partner. The random effects at country level show the extent to which country-specific unobserved characteristics influence the fertility of re-partnered women and women with the same partner, after controlling for personal and family characteristics. Then we correlate the random effects of the two groups of women at country level, and with measures of welfare generosity.

4 Empirical evidence

4.1 Descriptive statistics

The final sample includes 2,269 re-partnered women and 98,472 women with the same partner; Table 1 reports the descriptive statistics. We observe that the group of re-partnered women (who find a new partner between wave 2 and 4) are younger, less educated, and have fewer children than women with same partner, in the first wave they are observed. In the last row, we report the mean of our dependent variable "New-born". The variable has a value of 1 if the woman has a new child from the second wave on, 0 otherwise. For re-partnered women, the variable has a value of 1 only if a new partner is observed in the household in the wave of birth of the child or in the previous one. Without considering the women's characteristics, we observe a large and significant difference of 8 percentage points between the two groups: the probability of having a new-born child in 3 years-time is 22% for re-partnered women and 14% for women with the same partner.

4.2 Results

4.2.1 Probability of childbearing: re-partnered vs women with the same partner

Table 2 presents the descriptive statistics of the matched mothers alone: 2,110 re-partnered women were exactly matched with 26,768 women who stayed with the same partner. As expected, the two columns in the upper panel of the table show that the two groups share the same observable characteristics in wave 1. However, when considering the probability of a new-born in the following three waves, the difference is lower, although still present and significant: partnered women have a probability that is 3 percentage points higher.[5]

[5] In the exact matching, we are not able to consider the year of the survey (the number of matched cases would drop dramatically). Therefore, in Table 3, we estimate two logistic regressions: the first where we only include the dummy variable "re-partnered woman" and the second where we also include the year dummies. A significant result of re-

4.2.2 Fertility decisions and their causes: re-partnered vs women with the same partner

The analyses presented in Table 3 explore whether re-partnered women have different preferences that lead them to evaluate the costs and benefits of new childbearing differently from the women with the same partner. We observe that the effect of the dummy variable re-partnering, while large, is not statistically different from zero. The number of children they already have and of the household income, instead, appear to have significant different effects for the two groups of women. Figures 1A and 1B provide a diagram of these results. The first bar in Figure 1A shows two women (one re-partnered in blue and one with the same partner in orange) who have, e.g. 20% probability of having a second child. The other bars show a decreasing probability for both women, but much larger for those who stay with the same partner. Figure 1B is organised in the same way and shows that the probability of having an additional child increases with income for women staying with the same partner. The same does not happen for re-partnered women, for whom income does not seem to play an important role. To summarise, for re-partnered women, the choice of having a new child is less influenced by having had children previously and by the level of income than it is for women staying with the same partner.

4.3.3 Recovery of births through re-partnering

Figures 2A to 2C show the prediction of the total fertility of women with different characteristics, following the procedure described in the methods. Figure 2A shows the prediction of the expected number of children of a woman with secondary education, who already has a child aged 6, with a partner with secondary education and household income falling in the second quartile of the distribution. For any age of the woman (and assuming that her partner is 3 years older than she), we predict the age-specific fertility rate when she is with the same partner, when she is single (fertility assumed to be 0) and when she is re-partnered. Finally, we add up these probabilities depending on the trajectory. For instance, considering a woman at age 30 (with one child), the total number of children at the end of her fertile age is 1.66 if she does not change partner over the whole fertile period. Instead, the total number of children is equal to 1 if she separates at 30 and never finds a new partner, given the assumption that, in that case, she would have no new children. Finally, her total fertility rate is 1.60 if she separates at 30 (with 1 child) and finds a new partner after four years (for

partnering on fertility is confirmed.

ages 31-34, the age-specific fertility rate is set to 0 since she is single; from age 35 on it is predicted). In the case shown, we observe that the fertility of separated women who find a partner relatively quickly (within two years) is always higher than that of women with the same partner. Separated women who find a partner within the fourth wave are able to compensate for the fertility lost because of separation.

Comparing Figures 2A and 2B (where couples are more educated and have a higher income) we note that the fertility of re-partnered women is always lower than that of women with the same partner, because, according to the analyses presented, income affects more positively the choices of the stable couples than those in higher order unions. Instead, looking at Figure 2C, where mothers have two children when they eventually separate, we see that the fertility of the re-partnered is higher, even if they take longer to find a new partner. Again, this is due to the estimated effect of number of children they already have, which has a negative but smaller effect for re-partnered women.

As briefly discussed in the methods, problems of omitted variables may bias the results reported in the previous tables and figures. More in general, since it may depend on unobservable characteristics that affect both decisions, this bias is a potential threat to the interpretation of our estimates. Therefore, even though we do not claim causality, we cannot disregard this potential problem and have tried to address it. Using a variable probit, we jointly estimate the probability of having a child and that of finding a new partner. While the first decision depends on all the variables seen above, we assume that the probability of finding a new partner depends only on the characteristics of the woman and the population density of the area in which she resides (included as an instrumental variable). Indeed, the higher the population density, the easier it is to establish social contacts, thereby increasing the probability of finding a new partner. Moreover, in cities (densely populated areas), some behaviours (such as re-partnering) may be more culturally accepted. The results are reported in Table A3 of the Appendix. In the first column we report the coefficients of the same logistic regression as the one shown in Table 3 (with coefficients instead of odds ratios). In the second column, we estimate the same specification but implement a probit regression. In the third and fourth columns we show the estimates from the bivariate probit regression. In the equation where finding a new partner is the dependent variable, we see that none of the individual variables has a significant impact, while population density has a strong positive effect. The parameters estimated for the equation related to the choice of having a child are – in terms of the sign of the coefficients, their relative magnitude and significance – very similar to those obtained through the logistic regression shown in Table 3. In particular, the main findings are confirmed: the null effect of the

dummy variable "being a re-partnered woman" and the significant interactions of number of children and income quartiles with "being a re-partnered woman". Interestingly, the unobservable parts of the two decisions are positively strongly correlated, but do not influence our main findings.

4.4.4 Fertility decisions in different contexts

The results of the multilevel analyses, conducted separately for re-partnered women and women in first-order unions, are reported in the Appendix (Table A4). In Figure 3A, we graphically correlate the random effects drawn from the two models: with a significant correlation equal to 0.91, we observe that contexts which (do not) favour fertility do it for both groups of women. Further, we graphically correlate the random effect at the country level with the average amount of family allowance per child received in that country. Figures 3B and 3C show a positive (significant) correlation between welfare generosity and fertility decisions, which is similar for both groups of women. This result is in line with the extant literature (e.g. Rovny, 2011) and shows that the generosity of the welfare system is relevant for both groups of women, whether they have a new partner or the same partner as before.

5 Discussion and conclusions

The increased "partner turnover" that has been observed in western societies over the past 50 years serves as this study's initial starting point. We wondered whether women's re-partnering behaviour is somehow associated with a higher probability of having further children when compared to women in stable unions. The theoretical approach on which our question is based is that of the value of children: a new child is functional to cementing the new union, thus increasing the likelihood of higher fertility in re-partnered women than in women who stay with the same partner.

In line with this expectation, our findings show that when considering women with similar socio-demographic characteristics – the re-partnered women are more likely to bear additional children than women who remain in the same union.

Another question concerned the children-value mechanism, which is confirmed if the fertility of the re-partnered women is less sensitive to the costs of having additional children than that of women in stable unions: such costs are likely directly proportional to the number of previous children and to the mother's age and inversely proportional to the level of income. According to our expectation, we found that the costs of an additional child matter less for the fertility of re-partnered women than for those staying with the same partner.

We also explored how much the re-partnering process affects the total fertility of the re-partnered women, by predicting the total fertility of a selection of women with given characteristics. We found that quick-enough re-partnering allows women to reach at least the same total fertility as women who stayed with the same partner. If the women who separate and find a new partner all below median income, and/or already have more than one child, then the effect on overall fertility can be positive. On the other hand, if the women who are more likely to separate have higher incomes, the overall effect is zero or negative, depending on the time it took them to find a new partner.

Finally, by exploring the cross-country variability, we observe that the chances of having an additional child for both women who re-partner and those staying with the same partner are correlated with welfare generosity.

One could claim that a divorce law allowing quick and simple union dissolution might partially help reduce the time it takes for separating partners to form a new union and family.

Our study is not without limits. The first stems from the fact that the EU-SILC dataset does not provide information on individuals not living in the same household as the woman. We therefore do not know whether the partner has non-coresident children. Children from a previous union can represent a deterrent for an additional child; at the same time, if the partner does not have previous children, the desire for parenthood might sum with the value-of-children mechanism and drive the decision to have a child within the new union.

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TABLES

Table 1: Descriptive statistics

	Re-partnered women	Women with the same partner	Sign difference
Wave 1			
Number of children	1.75	1.97	***
Age of the youngest child	6.77	6.72	
Age of the mother: 20-24 years old	0.07	0.02	***
Age of the mother: 25-31 years old	0.26	0.17	***
Age of the mother: 32-38 years old	0.40	0.39	
Age of the mother: 39-45 years old	0.28	0.41	***
Tertiary education	0.26	0.33	***
Secondary education	0.49	0.47	*
Less than secondary education	0.24	0.20	***
Waves 2-3-4			
Newborn	0.22	0.14	***
Observations	2,269	98,472	

Notes: "Re-partnered women" are women who change partner over the course of the four waves or who go from being single to being in a couple. "Women with the same partner" are women who have the same partner over the course of the four waves. Source: European Survey on Income and Living Conditions, panel data, years 2007-2018.

Table 2: Exact matching

	Re-partnered women	Women with the same partner	Sign difference
Wave 1			
Number of children (wave 1)	1.71	1.71	
Age of the youngest child (wave 1)	6.72	6.72	
Age of the mother: 20-24 years old	0.06	0.06	
Age of the mother: 25-31 years old	0.25	0.25	
Age of the mother: 32-38 years old	0.40	0.40	
Age of the mother: 39-45 years old	0.28	0.28	
Tertiary education	0.26	0.26	
Secondary education	0.51	0.51	
Less than secondary education	0.23	0.23	
Waves 2-3-4			
Newborn (after wave 1)	0.22	0.19	***
Observations	2,110	26,768	

Notes: The two samples are also balanced for country of residence, but statistics are not reported.

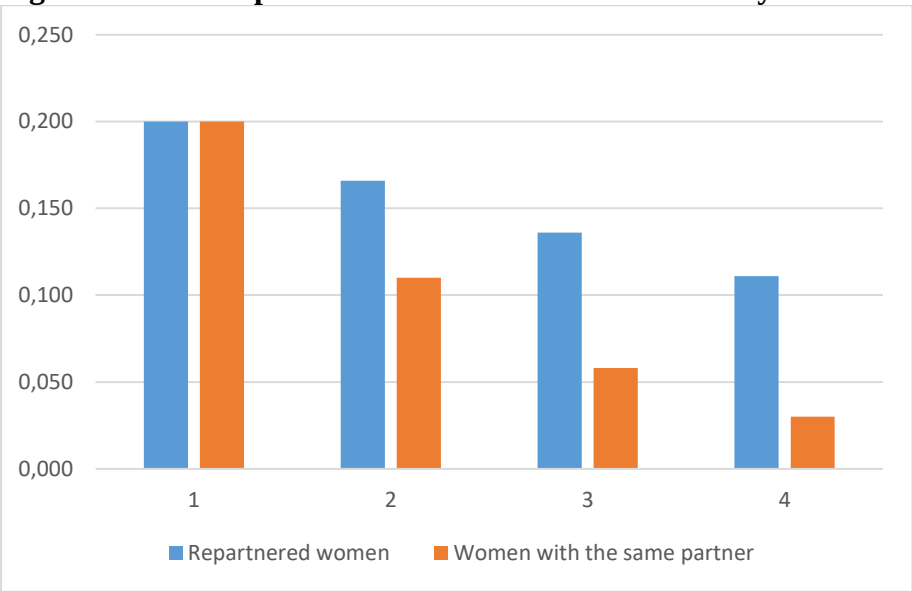
Table 3: Determinants of fertility decisions (Fully interacted model)

				Interactions with Re-partnered woman		
	Coef.	St. err.	Sig.	Coef.	St. err.	Sig.
Number of children	0.49	0.044	***	1.60	0.205	***
Age of the youngest child	1.09	0.040	**	1.03	0.064	
Age of the youngest child, squared	0.99	0.003	***	1.01	0.005	
Age of the mother	1.65	0.121	***	0.82	0.106	
Age of the mother, squared	0.99	0.001	***	1.003	0.002	*
Age of the partner	0.97	0.009	***	1.00	0.014	
Mother with tertiary education	1.22	0.156		0.88	0.197	
Partner with tertiary education	1.19	0.138		1.03	0.220	
Mother with secondary education	0.76	0.080	***	1.20	0.215	
Partner with secondary education	0.96	0.094		1.10	0.181	
Equivalized income, second quartile	1.22	0.113	**	0.84	0.147	
Equivalized income, third quartile	1.40	0.130	***	0.65	0.118	**
Equivalized income, fourth quartile	1.59	0.175	***	0.57	0.119	***
Re-partnered woman	8.11	16.239				
Constant	0.01	0.010	***			
Observations			28,740			

Notes: Fertility is explained by socio-demographic characteristics of the couple, by being a re-partnered woman, and by all interactions between the socio-demographic characteristics and being a re-partnered woman. Same sample and weights used in Table 2. Logistic regression. *** significant at 1% level, ** at 5%, * at 10%. 6 observations are lost (compared to Tables 2 and 3) because of missing information about the partner.

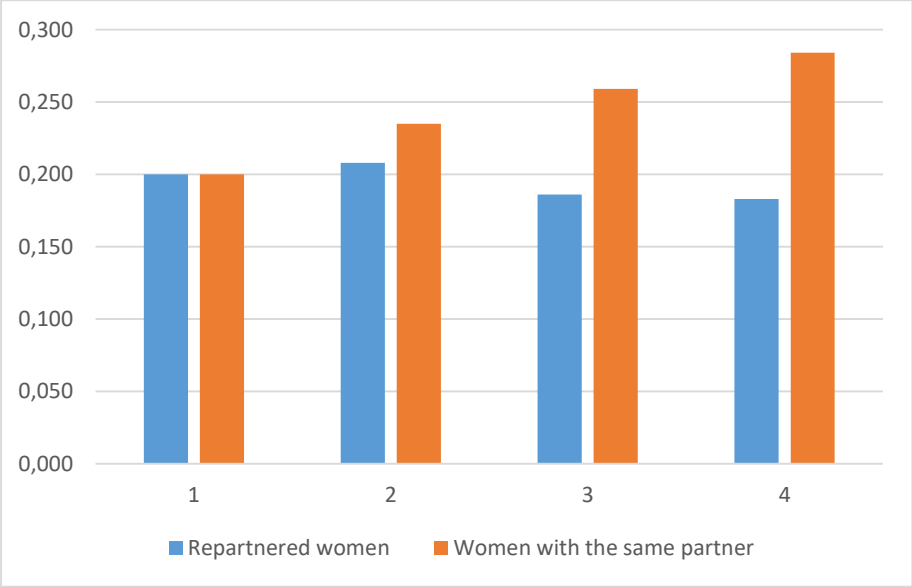
FIGURES

Figure 1A: The impact of number of children on fertility



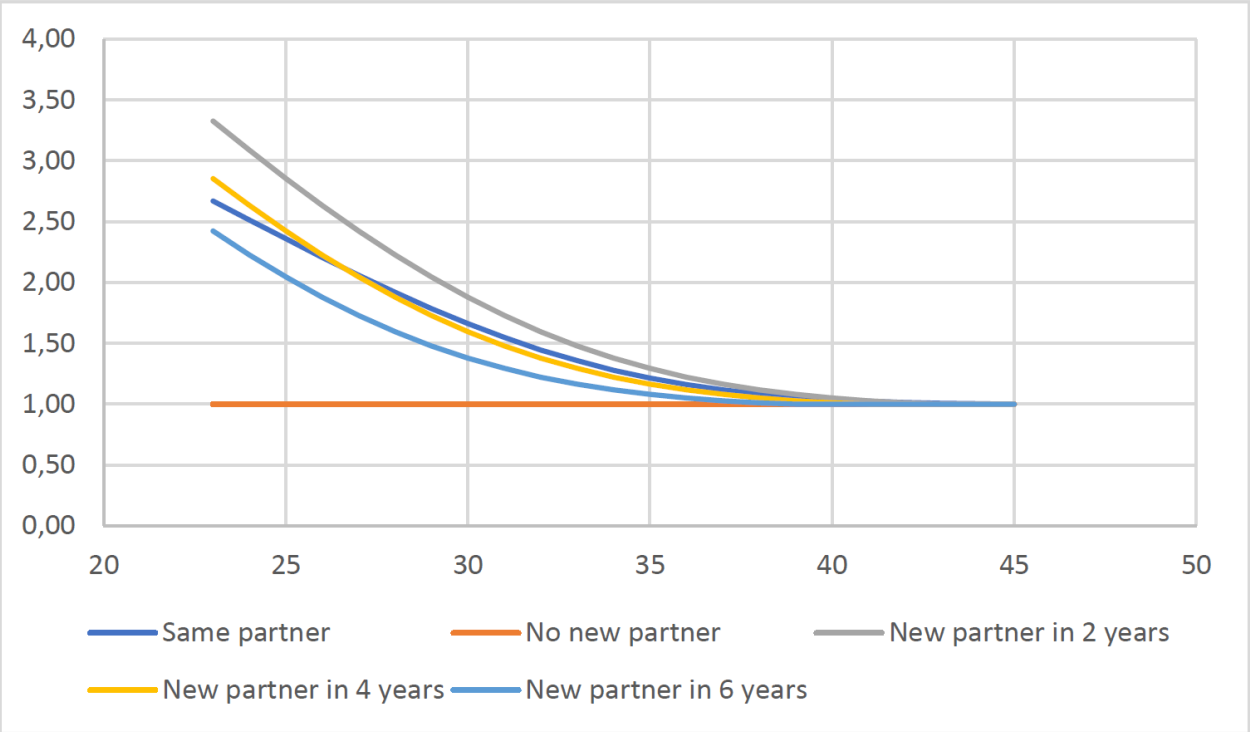
Notes: Predicted probability of having an additional child for mothers who already have 2, 3, 4 children, with a given probability of 20% of having an additional child when they already have 1 child. Predictions from estimated coefficients in Table 3.

Figure 1B: The impact of income on fertility



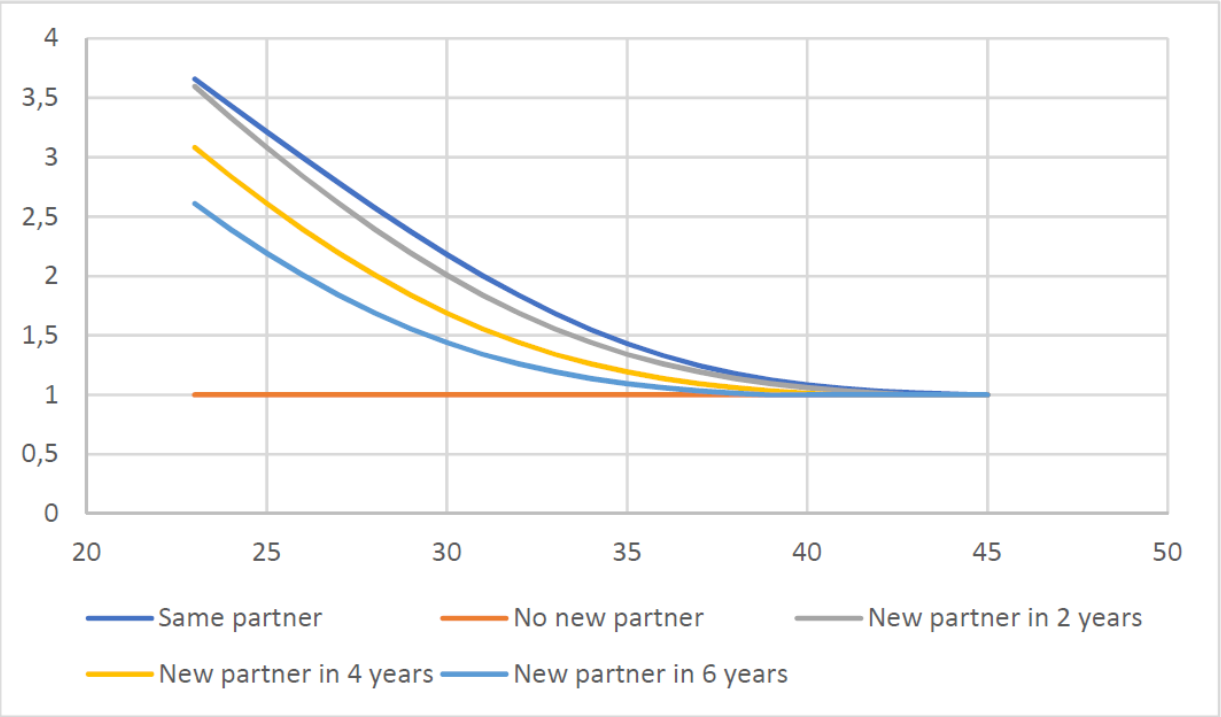
Notes: Predicted probability of having an additional child with income in the second / third / fourth quartile for mothers, with a given probability of 20% of having an additional child when her household income falls in the first quartile. Predictions from estimated coefficients in Table 3.

Figure 2A: Fertility scenarios (1 child, aged 6, parents' secondary education, second quartile of income)



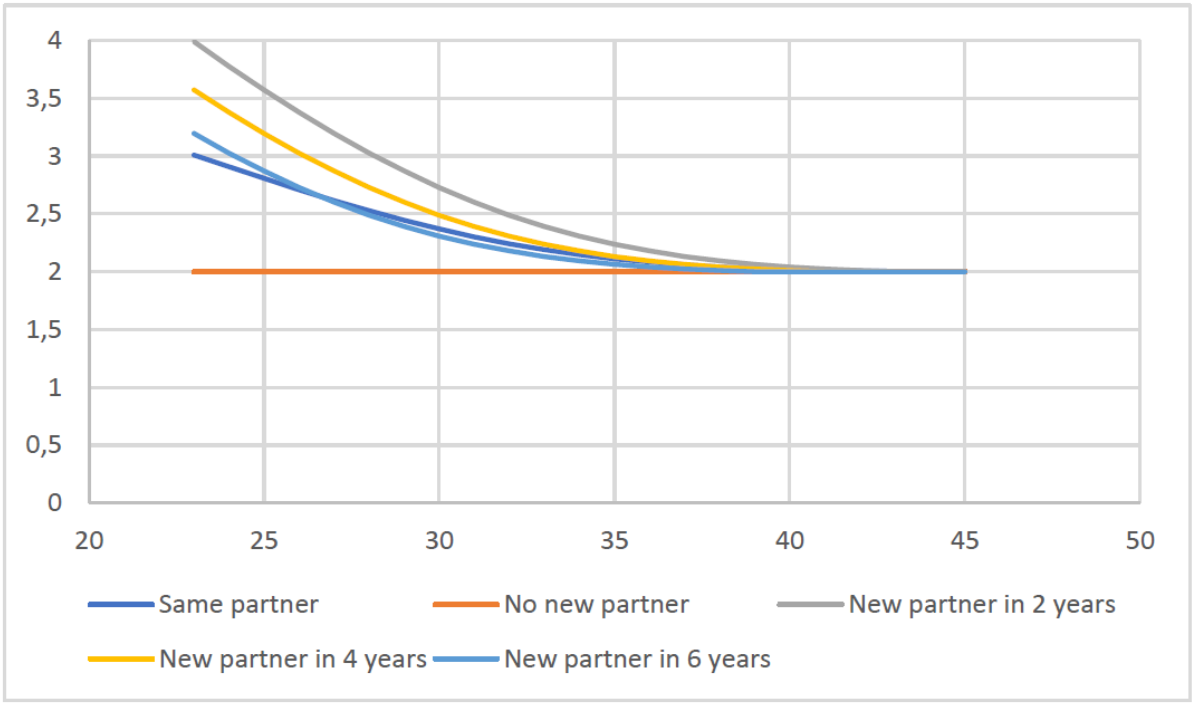
Notes: Expected number of children at the end of the fertile period (on the Y axis) for women who stay with same partner, who separate (at age x, on the X axis) and do not find a new partner, who separate (at age x, on the X axis) and do find a new partner in 2/4/6 years.

Figure 2B: Fertility scenarios (1 child, aged 6, parents' tertiary education, third quartile of income)



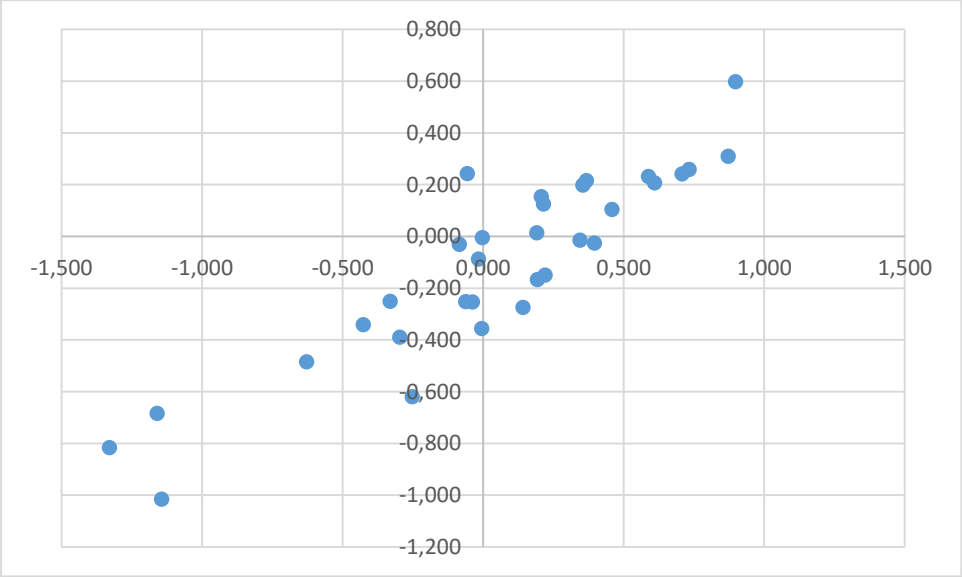
Notes: Expected number of children at the end of the fertile period (on the Y axis) for women who stay with the same partner, who separate (at age x, on the X axis) and do not find a new partner, who separate (at age x, on the X axis) and do find a new partner in 2/4/6 years.

Figure 2C: Fertility scenarios (2 children, youngest aged 6, parents' secondary education, second quartile of income)



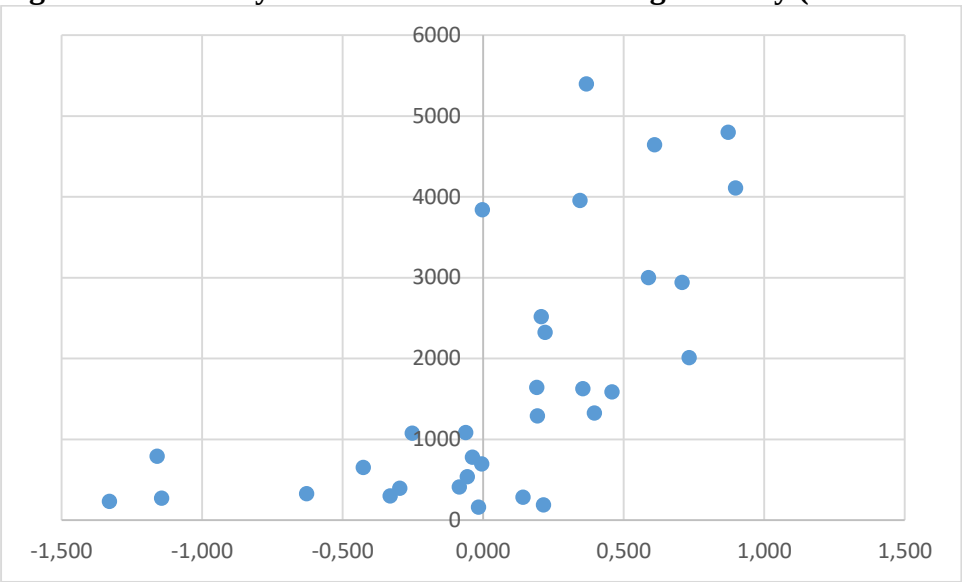
Notes: Expected number of children at the end of the fertile period (on the Y axis) for women who stay with the same partner, who separate (at age x, on the X axis) and do not find a new partner, who separate (at age x, on the X axis) and do find a new partner in 2/4/6 years.

Figure 3A: Correlation across random effects



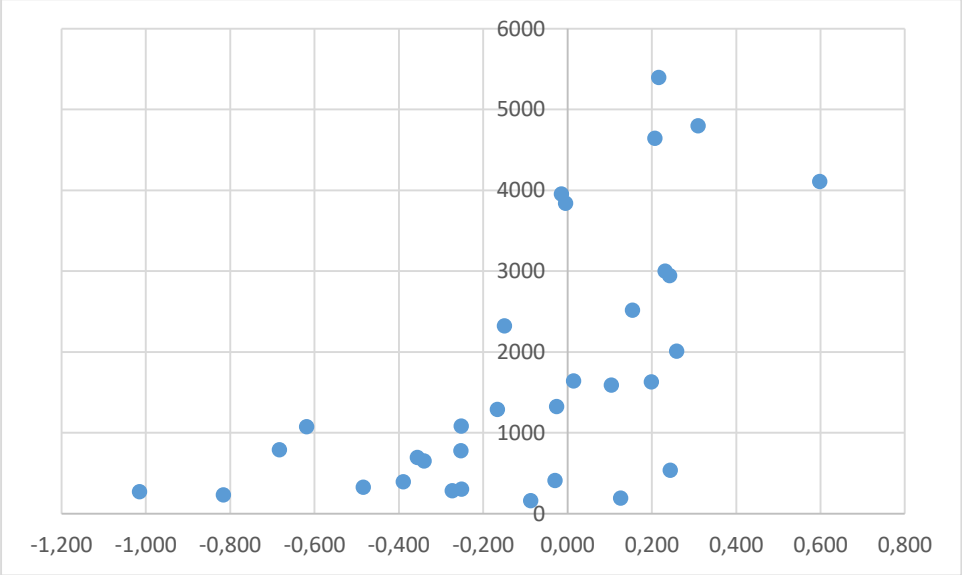
Notes: Random effects at country level of women with the same partner on the X axis; random effects at country level of re-partnered women on the Y axis. Correlation: 0.91***.

Figure 3B: Country random-effect and welfare generosity (women with the same partner)



Notes: Random effects on the X axis, average family allowances on the Y axis. Correlation: 0.64***.

Figure 3C: Country random-effect and welfare generosity (re-partnered women)



Notes: Random effects on the X axis, average family allowances on the Y axis. Correlation: 0.63***.

APPENDIX

Table A1: Attrition

	All women In wave 1	Women observed for four waves
Wave 1		
Number of children	1.93	1.93
Age of the youngest child	6.81	6.93
Age of the mother: 20-24 years old	0.03	0.02
Age of the mother: 25-31 years old	0.18	0.17
Age of the mother: 32-38 years old	0.38	0.39
Age of the mother: 39-45 years old	0.41	0.42
Tertiary education	0.31	0.32
Secondary education	0.47	0.48
Less than secondary education	0.22	0.20
Observations	188,086	114,138

Notes: Women aged 20-45 years old in wave 1, with at least one child under 18 years old.

Table A2: Fertility regression, with/out time dummies

	OR	St err	Sig	OR	St err	Sig
Re-partnered woman	1.23	0.074	***	1.23	0.074	***
(Year 2007)						
Year 2008				0.99	0.157	
Year 2009				1.24	0.197	
Year 2010				1.14	0.175	
Year 2011				1.17	0.181	
Year 2012				1.24	0.190	
Year 2013				1.32	0.207	*
Year 2014				1.01	0.163	
Year 2015				1.13	0.181	
Year 2016				0.93	0.154	
Year 2017				1.31	0.216	*
Year 2018				1.09	0.186	
Constant	0.23	0.007	***	0.21	0.025	***
Observations			28,788			

Notes: same sample and weights used in Table 2. Logistic regression. *** significant at 1% level, ** at 5%, * at 10%.

Table A3: Selection in a new partnership

	Logit	Probit	Bivariate probit	
	Fertility	Fertility	Fertility	New partner
Number of children	-0.705***	-0.337***	-0.306***	0,026
Age of the youngest child	0.087**	0.031*	0.031*	0,010
Age of the youngest child, sq.	-0.014***	-0.006***	-0.005***	0.000
Age of the mother	0.501***	0.230***	0.210***	-0.013
Age of the mother, squared	-0.010***	-0.005***	-0.004***	0.000
Age of the partner	-0.033***	-0.019***	-0.018***	0.030
Mother with tertiary education	0.196	0.116	0.118*	
Partner with tertiary education	0.178	0.079	0.075	
	-0.277***	-0.161***	-0.148**	
Mother with secondary education				
	-0.036	-0.044	-0.042	0.015
Partner with secondary education				
Equivalized income, second quartile	0.203**	0.106**	0.101**	
Equivalized income, third quartile	0.338***	0.174***	0.165***	
Equivalized income, fourth quartile	0.461***	0.244***	0.230***	
New partner (NP)	2.093	0.806	0.017	
Number of children*NP	0.468***	0.204***	0.187**	
Age of the youngest child*NP	0.027	0.033	0.033	
Age of the youngest child, squared*NP	0.008	0.002	0.002	
Age of the mother*NP	-0.203	-0.088	-0.078	
Age of the mother, squared*NP	0.004*	0.002	0.001	
Age of the partner*NP	-0.001	0.000	0.000	
Mother with tertiary education*NP	-0.125	-0.057	-0.055	
Partner with tertiary education*NP	0.030	0.054	0.050	
Mother with secondary education*NP	0.186	0.121	0.111	
Partner with secondary education*NP	0.095	0.090	0.085	
Equivalized income, second quartile*NP	-0.171	-0.090	-0.083	
Equivalized income, third quartile*NP	-0.437**	-0.238**	-0.224**	
Equivalized income, fourth quartile*NP	-0.562***	-0.306**	-0.285**	
Population: high density				0.131***
Population: medium density				0.043
Constant	-4.760***	-1.922***	-1.365***	0.216***
Observations		28,740		
Rho			0.436***	

Notes: The first column reports the coefficients of the same logistic regression as the one shown in Table 3 (but with coefficients instead of odds ratios). The second column reports estimates from the same specification but implementing a probit regression. The third and fourth columns report the estimates from the bivariate probit regression.

Table A4: Multilevel models

	Re-partnered women			Women with same partner		
	Coef.	St. err.	Sig.	Coef.	St. err.	Sig.
Number of children	-0.236	0.088	***	-1.193	0.038	***
Age of the youngest age	0.116	0.050	**	0.074	0.021	***
Age of the youngest age, squared	-0.006	0.003	*	-0.013	0.002	***
Age of the mother	0.279	0.099	**	0.619	0.043	***
Age of the mother, squared	-0.006	0.002	***	-0.012	0.001	***
Age of the partner	-0.034	0.010	***	-0.037	0.005	***
Mother with tertiary education	0.055	0.191		0.185	0.080	**
Partner with tertiary education	0.172	0.188		0.230	0.067	***
Mother with secondary education	-0.112	0.151		-0.260	0.071	***
Partner with secondary education	0.028	0.141		-0.071	0.058	
Equivalized income, first quartile	-0.002	0.140		0.131	0.054	**
Equivalized income, fourth quartile	-0.055	0.171		0.012	0.056	
Constant	-2.334	15489		-5.673	0.682	***
Country var	0.080	0.062	**	0.379	0.120	***
Observations		2,101			26,639	

Notes: Multilevel logistic regressions, separated for the samples of re-partnered women and women with the same partner.