

**Couples' second child fertility intentions and disagreement in Italy:  
A Bargaining Process Approach**

**La concordance y la discordance des intentions d'avoir un deuxième enfant dans  
la couple in Italie.**

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**Abstract:**

This paper investigates the determinants of couples' childbearing intentions for a second child in Italy by using a bargaining process approach.

Applying two econometric strategies, the analysis finds out that the level of educational attainment of the female partner is not an obstacle for the second childbearing. However, couples where she holds a University degree show more prudent attitudes towards a second childbearing. The working conditions of the female partner matter. When investigating the contrasting attitude, it is found that the woman contrasts less her partner's positive intention when she is more educated, while when she is unemployed or employed but there is no provision of childcare or if she perceives that another child might jeopardize her career she contrasts more.

**Key-Words:**

Fertility Intentions, Second Child, Bargaining Approach, Paid job, Unpaid Job, Multinomial Logistic Regression Model, Probit Model with Sample Selection.

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## **1. Introduction**

During the 1990s, fertility rates have decreased in the majority of the OECD countries to levels that are significantly below those needed to provide population replacement. Socioeconomic changes like the increased returns to human capital for women have made late childbearing a rational response for couples, but we have to bear in mind that not only from the demographic sphere, but also from the economic one, one of the most important decisions made by couples is the fertility choice. Actually, household decisions about fertility establish the family size which affects the allocation of resources within the household. From a macroeconomic perspective it is also true that couples' decisions about the number of children also set the size of future generations of consumers and workers affecting the economy's development. The empirical literature on fertility indicates that a couple's preferred family size is strongly related to a variety of socio-economic factors like income, education, assets, employment, religion, and age at marriage. The majority of the studies of household fertility decisions are based on Becker's model (1981) which states that all members in a family act to maximize one single household utility function. Using this model but taking also into consideration the gender variable, indirectly means that we are assuming that either the members of a couple prefer the same number of children or the woman follows her partner's preferences on family size. Moreover, Becker's model implies that income distribution between man and woman does not affect the household fertility decisions; any increase in income produces the same effect on fertility regardless of who earns it. Because of this assumption, the empirical literature on fertility – with the exception of a few studies – ignores the potential importance of men and women having different preferences regarding the number of children.

Recently, the importance of the partner's reproductive intentions has been recognized, even if few studies have provided in-depth analyses of the fertility plans of both partners (Thomson 1997; Hoem and Thomson 1998; Neyer 2000).

Obviously, this has to do with the lack of adequate data that have been often collected on female respondents, or on men and women separately, but not on both members of a couple. Nevertheless, even if in some surveys individuals have been

asked to report their partner's childbearing intentions, such responses have proved themselves inaccurate, because they strongly reflect the respondents' point of view (Testa and Toulemon 2006) and tend to underestimate the level of disagreement (Hoem and Thomson 1998).

This data employment has been justified according to the assumption that partners select each other if they share the same values, so the social and intimate characteristics of one partner usually coincide with the other partner's ones. Even if this approach has been taken as granted for years, Corijn et al. (1996) and more recently Crippen and Brew (2007) highlighted that sometimes the overlapping of the characteristics of the members of one couple is not precise and complete, so to obtain non-misleading results it is better to separately consider both components' features. For that reason and in order to accurately analyse the topic, by exploiting the household level data obtained thanks to the International Generation and Gender Program studies, the present paper investigates the determinants of partners' conflicting fertility intentions for a second child. Moreover, using the couple as main unit of reference, it analyses different aspects of each single member in the couple focusing in particular on paid and unpaid job.

The adopted approach is a parity specific one, since -as highlighted by Beckman in 1983- the influence of husbands and wives and vice-versa changes with the number of previously born children.

To my knowledge it does not exist any in-depth economic or demographic analysis of second-birth intentions in Italy that uses the bargaining approach within the couple, with the exception of the one by Rosina and Testa (2009) that focuses on the couples' intention for the first child and Cavalli and Rosina (2011) that provides a first comparison of the determinants of couples' intention for a first and for another child<sup>1</sup>.

The decision of analysing the second childbirth intention is due to its importance in the developed world as large proportions of women remain childless or bear only one child (Frejka and Ross 2001).

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<sup>1</sup> Also the quantitative research on couple childbearing intentions in the European context relies only on few papers (Thomson and Hoem 1998, Berrington 2004).

The paper is arranged as follows. Section 2 goes through the relevant theoretical framework. While Section 3 reviews the methods employed for the analysis, Section 4 presents the data. The hypotheses and the empirical specification are reported in Section 5, while the main empirical results are presented in Section 6. Finally Section 7 provides some conclusions and comments.

## **2. Demographic Background and Theoretical Framework**

The timing of marriage and the timing of childbearing are increasingly important aspects of fertility patterns. The emergence of low fertility levels and lowest-low fertility levels in Europe is the result of personal decisions made by individuals during the period known as the *transition to parenthood*.

Regarding the trend in the transition to parenthood in low fertility contexts, different issues can be highlighted. First, the postponement of the age at first birth: Europeans are becoming parents much later than in the past. Actually, the present context is characterised by a control of fertility and a spreading of informal union and non marital childbearing. Second, the traditional order between marriage and parenthood has more often become reversed: in the main European countries the rise in mean ages at first birth and the increase in extra-marital fertility have continued almost regularly. Third, nowadays extra-marital births are more accepted and widespread even if differences among countries persist (De Santis and Livi Bacci 2001; Van de Kaa 2002).

Italy was in the early 1990s one of the first countries to attain and sustain lowest-low fertility levels<sup>2</sup>, but this is not simply due to the emancipation of women in the labour market: despite the increase in education and in women's employment rate, Italy is still one of the Country in Europe with the lowest female participation to the labour market<sup>3</sup>.

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<sup>2</sup> The fertility level is *low* when fertility is below replacement, which is below 2.1 children per woman; it is *very low* when the fertility rate is below 1.5 children per woman; it is *lowest-low* when fertility is below 1.3 children per woman (Kohler et al. 2002).

<sup>3</sup> Source: ISTAT, 2001.

Note that across most the OECD countries, the cross-country relation between female labour force participation and total fertility rates in the given twenty years has become positive; in any case in 2006 Italy remains one of the countries with the worst fertility rates-female force participation combinations.

If we consider the bargaining process in connection with the division of labour within a couple -an extremely important aspect when we try to connect the demographic-social-economic perspectives- it is possible to find three different theories of the balance of occupational and household labour within the couple: the resource-bargain theories, the micro-economic family theories, and the theories of role trade-offs.

In 1960, scholars of resource-bargain theories (Blood and Wolfe, 1960) studied how "extra-familial" assets characterize the distribution of domestic tasks and conceptualize its division as a result of negotiations between the spouses. The outcomes of this process are considered to be influenced by the *power* of resources, such as educational credentials, occupational status, or income. As a result of the structurally asymmetrical distribution of these resources between men and women in the job market, men have a unique power advantage and are able to impose an unequal division of unpaid work. Later extensions based on Blau's (1994) include a biographical-personal dimension, conceptualize the division of labour as the result of recurrent negotiations and incorporate several other time-related mechanisms that can either support or invalidate a solution once it is adopted.

More recent micro-economic theories of the family (Becker, 1981) highlight the interdependence of family and occupation and include both productive and reproductive work. They are based on the economic theory of utility maximization and suggest that the (unequal) labour division between men and women is the rational result of the optimization process of family utility given the different specialization and earning potential of the genders. These differences suggest that the optimal solution is to marry and divide works and tasks according to an agreement in which women exclusively look after the children and domestic tasks while men stand in the labour market. Considering this one as the most efficient

productive strategy for the family and in line with its logic, the specialization of the spouses will tend to further foster along with the increase of marriage duration.

Finally, Bielby and Bielby (1989) considering the trade-off theory suggested that the cause of the unequal labour distribution within the couple is to be found in the asymmetric possibilities of role articulation between male and female. While women must trade-off between occupational and family roles, «contemporary normative expectation for the husband and father roles still do not include fully shared responsibility and involvement in household child-care activities» (Bielby and Bielby 1989, p. 777).

Considering both men and women and their contributions and interactions in shaping the fertility intentions, thanks to the works of Miller and Pasta (1995) and Thomson (1990 and 1997) we are able to note that males and females make independent contributions to fertility decisions, but the correlation between their fertility plans do not rule out the possibility of an internal disagreement within the couple.

This divergence creates the subsequent behaviour and its resolution depends both on the rule adopted within the couple in disagreement and on the social or individual levels of gender equity.

An important contribution to couples' attitude on the timing for the first child and in line with the first of the three theories mentioned before is represented by the work of Jansen and Liefbroer (2006) that, focusing on the Netherlands, highlight four different decision rules that may be adopted by partners who disagree on the intention of becoming parents in order to reach a final joint decision.

A first rule that partners may use in dealing with diverging attitudes is based on the literature on power relationships within couples and suggests that the attitudes of the most powerful partner will be decisive in the decision-making process. That is why it is called the "power rule".

A second rule is the so-called "golden mean" hypothesis and it is based on the assumption that spouses perceive each other as equals in all the spheres of family life. The corresponding decision rule is that partners view each other's attitudes as equally important and try to reach a compromise if they hold diverging opinions. The result will be that the decision will be midway between the preferences of both partners. Studies on intentions of couples toward childbearing assert that if the

member of a couple differ in the intended number of children they often try to strike a compromise exactly in this direction (Thomson 1997; Thomson et al. 1990).

The so-called “sphere of interest rule” is based on traditional ideas about a gender-specific division of household and paid labour and precisely it is based on the New Home Economics Theory (Becker 1981) which provides a theoretical rationale for a gender-specific division of labour.

Finally, it is not possible to rule out the chance that two partners in disagreement are not able to reach a joint accord, so another rule comes out: the “social drift rule”. Partners who apply such rule end up with the postponement of the decision(s) or simply resolve their divergences leading to the continuation of the existing *status quo*.

With a special focus on fertility intentions and realizations, Bühlmann, Elcheroth and Tettamanti (2010) analyzing data from the European Social Survey of 2004 show that while most of the European couples live in coherent egalitarian configurations of values in their pre-parental phase, they shift to a situation of tension between egalitarian values and gendered practices following the births of their first child. The three authors follow the approach developed by Krüger and Levy (2001) who hypothesized that women and men are endowed with a specific “master status” which, when activated by some kind of biographical events, leads to the privileged assignation of men to the occupational domain and of women to the familial domain<sup>4</sup>. They finally argue that it is only with the birth of the first child that an unequal division of work within the couple is established, probably by the reactivation of gendered identities that reflect past exposure to parental models.

### **3. Method of Analysis**

In this Section are briefly presented the two methods of analysis proposed in order to carry out the estimates: the multinomial logistic model and the probit model with sample selection.

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<sup>4</sup> The dominance of the status does not exclude the eventual participation in the second field, but such possibilities are subsidiary to prerequisites introduced in the principal domain.

### **3.1 The Multinomial Logistic Model**

The econometric model adopted for a first analysis is a logistic regression model. Logistic regression is part of the category of statistical models called *generalized linear models* and it allows one to predict a discrete outcome from a set of variables that may be continuous, discrete, dichotomous, or a mix of any of these. *Binomial logistic regression* is a form of regression which is used when the dependent is a dichotomous variable. *Multinomial logistic regression* is available to handle the case of dependents with more classes than two. When multiple classes of the dependent variable can be ranked, then *ordinal logistic regression* is preferred to multinomial logistic regression.

The independent variables in logistic regression can take any form: logistic regression makes no assumption about the distribution of the independent variables. For the relationship between the predictor and response variables the logistic regression function is used.

The dependent variable of interest in our case is made by four categories that represent the four different combinations of intentions between the two partners, that is “Both intend”, “both do not intend”, “she intends, he does not” and “he intends, she does not”. Given the unordered nature of the categories the model adopted in the investigation is a *multinomial logit model*. This model aims at capturing different dimensions within the same framework, precisely the sign of the intention (positive or negative) and its dynamics within the couple; this way allows to study the different effects of female and male characteristics on the positive or dissonant intention to have a second child.

### **3.2 Probit Model with Sample Selection**

The idea that factors affecting selection into the sample may simultaneously affect the outcome of interest is the main motivation for the introduction of the probit sample selection model, firstly developed in 1981 by van De Ven and van Praag while analysing the demand for deductibles in private health insurance (van De Ven and van Praag 1981). The probit model with sample selection is a particular specification for the Heckman sample selection model (Heckman 1976; Heckman 1979) with a

binary outcome and it perfectly suits this particular setting. Given that the last part of the study aims at understanding the main determinants that lead a woman to contrast her partner's positive intention for a second child, we need to consider the selection process affecting the model on couples who experienced the disagreement. Moreover, one of the main goal of the study is understanding the bargaining process within the couple regarding the intention for a second child or -in other words- the progression to the second birth given that the couple has reached parity one. One caveat concerns the selection process affecting the model on couples who already have one child. The selection may produce biased estimates if non observable characteristics correlate with the likelihood to intend to have a child of order n (in our case of order one) is also correlated with the probability of intending a child of next order n+1 (for us it means the second child). The data employed do not provide any information aimed at performing an event history analysis, so a model able to consider the probability of having experienced the first birth and the disagreement on second birth intentions was needed.

The model of interest can be expressed as follows (Billari and Wilson 2001). Let  $Y_1$  and  $Y_2$  be two binary variables such that  $Y_2$  can be observed only if  $Y_1 = 1$ . If  $Y_1^*$  is an observable outcome the hypothesis is that  $Y_1 = 1$  only when  $Y_1^* > 0$  and equal to zero if  $Y_1^* \leq 0$ . When  $Y_1 = 1$ , individuals (or couples) face the second binary choice  $Y_2$ ; for what concerns the latent propensity random variable  $Y_2^*$  it might be seen to be attached to the second binary choice too, so that  $Y_2 = 1$  if  $Y_2^* > 0$  and it is equal to zero otherwise.

In terms of equation the model is made by two equations:

$$(1) \quad Y_1^* = \alpha' z + \varepsilon_1 \quad \text{and} \quad Y_1 = I(Y_1^* > 0)$$

$$(2) \quad Y_2^* = \beta' x + \varepsilon_2 \quad \text{if} \quad Y_1 = 1,$$

where  $\alpha$  and  $\beta$  are vectors of unknown regression parameters,  $z$  and  $x$  are two sets of predictors that explain the latent propensity and  $I(A)$  is the characteristic function of the set A so that  $Y_1 = 1$  if  $Y_1^* > 0$  and it is equal to zero otherwise. Moreover, the correlation between the two error terms is equal to  $\rho$ . To easily link the theoretical

model with the following empirical specifications, suppose that it is the probability that the woman contrasts her partner's positive intention for a second child given that the couple disagrees on the topic. This development can only result in observed behaviour if the disagreement on the intention for a second child has taken place. On the other side, the propensity of experiencing the disagreement can be considered. As the same couple is involved in both processes at the same time, the two latent variables could be correlated and the results could be biased by such (not ignorable) selection.

#### **4. Data**

The data employed to conduct the analysis are from the Multipurpose Household Survey on "Family and Social Subjects", carried out in Italy by the Italian National Statistical Office (ISTAT) at the end of 2003 (November 2003) and part of the International Generation and Gender Program study<sup>5</sup>.

The survey focused on family structures and elements such as informal networks, help received during child-care, life as a couple and marriage, life cycle and intentions to leave from the parental home, to get married or to have children are included. The survey unit is the household, so this information on both members of the couple is available, but some building blocks of the questionnaire -in particular the ones referred to fertility intentions- are included into the self-administered part, in order to gain higher degree of independence between the answers of the partners in comparison to other different surveys in which both partners may be present at the interview. In any case, the same questions were asked to both partners; precisely information on fertility intentions were asked to people aged 18 to 49.

Given that the aim of the paper is to study the factors of the partners' disagreement in the couples' childbearing intentions, the investigation focuses on men and women living in a union. For that reason, firstly respondents who had at least one recorded

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<sup>5</sup> The collection of data from couples in family or fertility surveys has been granted in the International Generations and Gender Program. As a part of that program, the Italian survey on "Family and Social Subjects" conducted by ISTAT provides both female and the male partners responses on different demographic aspects and elements of the life course decisions and intentions.

biological child and one or more recorded unions have been selected. The final sample size when considering couples with one child consists of 1,330 couples and individuals are aged 25<sup>6</sup> to 49 years.

Referring to the fertility intention sphere, respondents were asked about fertility intentions in the following way: «Do you intend to have a child in the next three years?». The four different options presented in the survey were: “Surely not”, “Probably not”, “Probably yes” and “Surely yes”, but in order to conduct the present investigation I decided to group the categories together, two by two, precisely “Surely not” and “Probably not” on one side and “Probably yes” and “Surely yes” on the other side<sup>7</sup>.

Note that in literature it has been proved that the explicit reference to a precise temporal framework is able to drive individuals to give more faithful answers because they are supposed to be more predictive of future reproductive behaviour (Quesnel-Vallée and Morgan 2003); for that reason the whole analysis is focused on the child-three years timing preference measure.

In order to understand the level of disagreement between the partners in the sample, Table 1 presents a descriptive analysis. Female and male disagreement goes above 15% at advanced ages, while when the male partner in the couple is young, both male and female disagreement is very low. This last evidence may find support in the literature regarding the attitudes toward having children. For instance, Beets et al. (1999) found exactly that positive parenthood attitudes lead to having children at an earlier age.

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<sup>6</sup> 25 and not 18 because we selected parents of one child and none of them were less than 25.

<sup>7</sup> This action was done for sake of simplicity, but the author knows that in the sphere of the intentions there are a lot of differences in interpretation between the terms “probably” and “surely”, especially when the intentions are treated as predictor for the behaviour.

**Table 1.** Female and Male disagreement within couples with one child. Weighed data.

Disagreement by Gender		
	Male disagreement as percentage of couples with female positive intention for a second child	Female disagreement as percentage of couples with male positive intention for a second child
<b>Age (her)</b>		
<30	12.67	11.25
30 - 34	10.01	12.89
35 - 39	10.73	13.07
40 +	28.57	31.03
<b>Age (him)</b>		
<30	8.00	8.00
30 - 34	13.30	8.25
35 - 39	9.64	17.22
40 +	17.45	17.30

## 5. Variables and Hypotheses

This Section firstly proposes some of the hypotheses tested in the empirical analysis and secondly reports the analytic model, explaining in detail the independent variables that have been included in the specification.

### 5.1 Hypotheses

#### 5.1.1. Female's Employment Status and Education

The influence of labour market participation is a key issue to the fertility intention considering the Italian context, it is supposed that the relation between female childbearing intention for a second child and *female's employment status* is negative due to the scarce presence of childcare service experienced with the first child (Brewster and Rinfuss 2000). Nevertheless, the association between fertility and the labour force participation is not necessarily negative: fertility and labour force participation of women are competing in terms of time to allocate (Willekens 1991), but evidence of a positive effect of women's employment on birth risks has been found for East Germany (Kreyenfeld 2004) and Hungary (Ròbert and Bukodi 2005).

In order to understand in which direction the association goes the question about the feelings of a change in working life with the arrival of another child has been analyzed. Considering the employment strategies of individuals, it is possible to rationally expect that women who go back to full-time work when the child is really young are likely to prefer smaller families while those who work reduced hours may behave in such way in order to have more children.

Another variable of interest indirectly linked to the previous one is *female's education*<sup>8</sup>; given that women have the primary responsibility for the direct care for children even in a dual-earner family, they have to bear a large share of the couple's fertility cost. This cost is expected to be higher for highly educated women than for those with less education, therefore according to economic theory, the former group should have lower fertility intention, *ceteris paribus*.

### 5.1.2. *Quality of the Relationship*

In order to see how the dynamic of the decision of becoming parents for the second time within a couple it is interesting to consider the quality of the relationship. Actually, it seems reasonable to suppose that the more solid the relationship is, the lower is the probability that a member of a couple opposes the partner in the fertility intention sphere. In order to capture these elements, a series of different topics on the frequency of the disagreement with the partner in the last 12 months have been taken into consideration.

In general terms, two are the main disagreements reported by the female respondent: the first regards how to educate the child and the second how to spend money. Almost 65% of women in our sample declare that they disagree with the partner on such topics. Regardless the level of education and whether women do work or not, the gender division of the family chores may alone influence the attitude to disagreeing with the partner's positive or negative fertility intentions. Such dimension has been recognized of particular interest in the recent literature; actually Mills at al. (2008) found that unsatisfied women are more likely to contrast their partners' desire of becoming father and Miller and Short (2004) showed that in the US the arrival of a child is facilitated by a more equal division of domestic tasks.

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<sup>8</sup> The ISCED classification of the different levels of educational attainment has been used in the analysis; details are provided in Appendix a.

### *5.1.3. Individual Values*

The fact that being religious has a positive impact on individual's fertility level is well-known in literature; actually Adsera (2004) found that in Spain (1985) family size was similar among practicing and non-practicing Catholics, but a decade and a half later, practising Catholics portrayed significantly higher fertility than others. Similar results are found by Frejka and Westoff (2006) who examined the importance of religiosity in the transatlantic fertility differences finding that in southern Europe church attendance significantly determines progression to higher order births. More recently, Philipov and Berghammer (2007) found that all measures of religiosity are in general related to a higher expected and actual number of children.

In order to evaluate the effects of the other variables such as the level of education or the employment strategy net of the values component, the variable *mass attendance* as a proxy of the religiousness is considered. For what concerns couples' agreement or disagreement, it is expected that the religiousness of only one of the two components may increase the probability of disagreement within the couple.

## **5.2 The Analytic Model**

The analytic model includes five explanatory variables: female's education, employment status, strategy and perceptions about childcare availability in the working place, male's employment status, individual mass attendance and quality of the relationship.

Other control variables are included in the model (Table 2) and they relate to the *individual characteristics* of the respondents (age, number of siblings for both members and area of residence in Italy). The age of the first child is added among the controls in order to understand whether the spacing between the first and the (un)planned second one is important in shaping the fertility intention for a second child<sup>9</sup>. Table 2 reports the conditional distribution of the dependent variable of interest by each of the explanatory variables considered.

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<sup>9</sup> Note that the variable related to child spacing has been considered among the independent variables of interest in order to consider the selection effect: actually, the more the distance from the first birth increases, the more the couples that have a second child exit from the sample under investigation while the ones that decided not to intend to have another son/daughter become overrepresented.

**Table 2.** Distribution of respondents by independent and explanatory variables in the multinomial model. (Weighted data).

Respondent's distribution by independent variable for individuals with one child					
	Both intend	She intends, he does not	He intends, she does not	Both do not intend	N
<b>Age (her)</b>					
<30	63.39	8.04	8.04	20.53	224
30 - 34	63.17	7.08	9.35	20.40	353
35 - 39	37.35	4.50	5.62	52.53	356
40 +	5.04	2.02	2.26	90.68	397
<b>Age (him)</b>					
<30	66.67	5.80	5.80	21.73	69
30 - 34	64.29	9.86	5.78	20.07	294
35 - 39	48.64	4.63	10.21	36.52	405
40 +	15.30	2.67	3.20	78.83	562
<b>Area of residence</b>					
North	32.23	4.27	6.00	57.50	633
Centre	31.67	5.83	7.92	54.58	240
South	52.08	5.69	5.03	37.20	457
<b>Education (her)</b>					
Low (Isced 0 - 2)	34.83	4.31	5.28	55.58	511
Medium (Isced 3 - 4)	41.17	5.39	6.29	47.15	668
High (Isced 5 - 6)	43.05	5.96	7.28	43.71	151
<b>Education (him)</b>					
Low (Isced 0 - 2)	35.22	4.04	5.98	54.76	619
Medium (Isced 3 - 4)	42.71	5.80	5.62	45.87	569
High (Isced 5 - 6)	40.14	6.33	7.75	45.78	142
<b>Kind of marriage</b>					
Religious	39.89	4.73	5.77	49.61	1143
Civil	33.15	6.95	7.49	52.41	187
<b>Mass Attendance (her)</b>					
At least once a month	42.28	4.73	5.42	47.57	719
Less than once a month	35.02	5.41	6.71	52.86	611
<b>Mass Attendance (him)</b>					
At least once a month	44.04	4.77	5.87	45.32	545
Less than once a month	35.41	5.22	6.11	53.26	785
<b>Siblings (her)</b>					
Presence of Siblings	39.86	5.20	6.33	48.61	1154
Absence of Siblings	32.95	3.98	3.98	59.09	176
<b>Siblings (him)</b>					
Presence of Siblings	40.08	5.17	6.36	48.39	1180
Absence of Siblings	30.00	4.00	3.33	62.67	150

**Table 2.** –Continued.

Respondent's distribution by independent variable for individuals with one child					
<b>Female employment status</b>					
Employed	35.58	4.60	6.59	53.23	804
Unemployed	54.00	6.00	12.00	28.00	50
Housewife	43.36	5.75	4.20	46.69	452
Other	37.29	4.15	8.26	50.30	24
<b>Job attachment (her)</b>					
Part-time	43.95	2.69	7.62	45.74	223
Full-time	32.35	5.36	6.18	56.11	581
<b>Job Characteristics (her)</b>					
Flexible	33.12	4.22	7.81	54.85	474
Rigid	42.17	5.49	5.03	47.31	856
<b>Quality of the relation (her)</b>					
She satisfied division of tasks	41.05	4.77	5.84	48.34	1028
She not satisfied division of tasks	31.79	5.96	6.62	55.63	302
Disagreement on her job	51.03	4.83	5.52	38.62	145
Agreement on her job	36.95	5.24	5.95	51.86	1126
Disagreement on child edu	34.15	5.89	6.71	53.25	492
Agreement on child edu	41.31	4.56	5.55	48.58	811
Disagreement on money employment	41.06	5.27	6.10	47.57	492
Agreement on money employment	37.31	4.98	5.83	51.88	823
Disagreement on his time devoted to job	39.13	7.06	7.89	45.92	368
Agreement on his time devoted to job	38.38	4.37	5.33	51.92	938
<b>Age group of children</b>					
0 - 5	60.95	7.25	7.69	24.11	676
6 - 13	24.37	3.81	5.33	66.49	394
>13	0.86	0.86	2.58	95.70	233
<b>Kindergarten</b>					
Provided/paid by the employer	35.49	4.63	7.41	52.47	648
Privately provided/paid	42.23	5.43	4.69	47.65	682
<b>Perception of the relation another child-career (her)</b>					
Better situation with another child	42.56	14.89	6.38	36.17	47
Nothing changes with another child	42.06	4.90	5.05	47.99	673
Worse situation with another child	35.64	4.50	7.44	52.42	578

## **6. Main Findings**

### **6.1 Determinants of Couples' (Dis)Agreement on the Intention for a Second Child**

Table 3 reports the main results for the multinomial regression model.

Since we are dealing with the class of the logistic regressions, the obtained coefficients show the effects of the independent variables on a reference category which is "they both intend to have another child in the next three years".

First of all, considering the *level of education*, we are able to conclude that, net of the effects of the other independent variables, both the effects of the educational attainment for men and for women are not always significant and are unclear: actually, we saw significant effects of the highest levels of educational attainment.

To synthesize the main significant results, compared to couples where both partners have a positive intention for a second child:

- i) for those in which the *woman* is highly educated, the risk that she contrasts her partner's possible intention to have another child is lower: more educated women are less likely to oppose their partner's positive intention for another child;
- ii) for those in which the *man* is highly educated, the risk that she contrasts her partner's intention to have another child is higher: if his level of education is high and he wants another child, the couple results to be more in contrast with respect to the others that show positive concordant intentions.

In order to see if the differences in the reached educational level impacts on the couple's agreement-disagreement on fertility intentions, interactions terms have been included in the analysis: when there is a more traditional asymmetry, precisely when the male partner has a higher educational attainment compared with the one of the female partner, the propensity for the couple not to intend to have another child is higher (positive and significant coefficient). Furthermore, in case of couple's disagreement, if her education dominates, the probability that she contrasts her partner positive intention is higher, while the opposite occurs in case of a more traditional asymmetry.

Referring to the *labour market* sphere, not really in line with our initial hypothesis and with the trade-off between family and career, referring to the intention of making plans for a second child couples where there are full-time working women are not statistically different compared to couples where the female partner is a housewife. This result may be due to a selection effect: we can suppose that being a full-time housewife has become rather rare over time and those who follow this strategy or those who are unemployed are likely to be more family-oriented and wish to have larger families than other women.

If we consider the partners' disagreement we note -in line with the effect previously assumed- that part-time working women with a positive intention for a second child tend to be contrasted less often by the male (the variable is significant at 10% level). On the other side, the fact that the female partner is unemployed does not have any significant effect on the partners' disagreement. This may reflect the intrinsic attitude of Italians to a traditional idea about a gender-specific division of domestic tasks and paid job and of women's role as the primary care-giver.

On the contrary, the disagreement does not show any significant effect when it is the male in the couple who intends to have a second child while the employed female does not intend so.

Unfortunately, given the low number of part-time employed men (24 out of 1,330, so less than 1.9% of the men considered in the sample), we are not able to provide any evidence related to males' job strategy, so we cannot see if men who earn more are more likely to intend to have a second child, nor if the economic stability and/or wealth increase partners' agreement within a couple.

Differently, male employment status itself has an important and clear effect on partners' disagreement: actually, couples with one child where the man does not work tend to record higher level of contrast if compared with couples with an employed male partner and the level of contrast appears both when she has a positive intention and he has not and vice-versa. This contrast is probably due to the level of economic uncertainty that pervades the family: the fact that the coefficient is significant may reflect that the care for children has mainly remained women's responsibility and that income differences are of relative importance for second childbearing intentions in Italy.

Another interesting variable that refers in particular to the employed women and that links the working life and the fertility sphere is the perception of the working future. In particular, we see that compared to couples that agree on becoming parents again, couples where women believe that the job situation will become worse with another child have a positive probability of not intending to becoming parents again. The effect is higher when we refer to the category "he intends, she does not" and this means that worried women are more likely to oppose their partner if he has a positive intentions for a second child. A similar result could be highlighted when looking at the category "she intends, he does not": women that perceive a second birth as a good chance in terms of working situation are more likely to oppose their partners if they do not intend to become fathers again.

Moving to *the quality of the relation* and paying particular attention to what can be defined as "home management" we see that, net of other covariates, the satisfaction/non satisfaction with the gender division of domestic work does not have any significant effect on partners' agreement or disagreement.

Again related to what has been included in the class of the features that characterized the quality of the relation, but focusing on other kinds of disagreements that do not refer to the division of domestic duties, couples that recorded in the 12 months before the survey a high level of disagreement on everyday-life topics show different attitudes concerning the kind of argument they disagree on. Precisely, women with positive intentions to have a second child who have different opinions on the kind of education to provide the first child tend to be contrasted more often by the male partner. When the topic of interest is instead the frequency of the disagreements on the fact that the woman should work or not, the regression shows that compared to couples who agree on that topic, they are more likely to make plans for another baby. Precisely, the negative effect on "both do not intend" means that a "low quality couple" is more likely to make childbearing plans and this is a little far from our initial hypothesis. The effect is again strong when we look at the effect on "she intends, he does not"; in this case, it seems that women with positive intentions tend to be contrasted less often by the male partner when the issue of discordance is in the fact the she has to work or not.

Even if this result may appear counterintuitive at a first sight, it could find its explanation in some empirical analyses, in particular in one carried out in 2001 by Vuri (Vuri 2001a, 2001b) using the British Household Panel Survey. She found that having children makes it less likely for a marriage to break down and in particular it reduces the probability of a couple's marital dissolution by 4 percentage points.

For what concerns my finding and its link with the literature that started with Becker, the economic theory predicts that the probability of a marriage continuing increases along with the number of children because they represent the most important marital-specific "investment" of a couple during their marriage. Actually, crucial to this topic is Becker's analysis of marriage (1974), according to which marriages and cohabitations are seen as voluntary arrangements between two adults, formed to coordinate consumption and production activities, including the conception of children. However, we have to bear in mind that the potential stability of a marriage may affect the arrival of children: a couple's inclination to divorce may affect their decision to begin a family and their willingness to add children to an existing family. Hence, it might be that the presence of young children in a household discourages marital dissolution, but also that some other factors jointly determine family structure and fertility (for example, individuals who are less committed to their families may be more likely to divorce and less willing to have children).

Going on analysing the quality of the relation, two other issues become important: the recorded disagreement on how to spend money that enters the household and the internal discussions about the heaviness of the working activity for the male partners. Even as already mentioned the two subjects are recorded from our respondents as main causes of disagreement in the last 12 months, when we focus on topic related to disagreement on how to employ money, we see that there is no significant effect on our intentions. The same non-significant effect is recorded when the issue of yearly disagreement is the heaviness of his work on the union stability.

Concerning the *mass attendance* of the couple, it is found to be significantly associated with their fertility intentions: it is true that religious partners are more likely to become parents (the negative and significant coefficient related to "both do

not intend"), but this is not so relevant when we are dealing with individuals contrasting opinions.

Finally, the presence or absence of siblings has been analyzed as it is sometimes considered a forecaster for the size of the new family: in our case it never results significant, so it seems not to be influential of the bargaining process within the couples. This result could be due to the fact that it is not the presence of siblings but the number of siblings in the family of origin that may influence the number of wanted children; in literature the existence of a positive correlation between the fertility behaviour of parents and the one of their children has been found (even if Murphy and Knudsen (2002) recorded a weakening intergenerational fertility transmission over time).

Making some comments on the control variables employed, it has been found that older partners are more likely to agree on not having another kid, while couples with female less than 34 show a lower the probability of disagreement on a second-child intention. Interestingly, the same could not be said for the age of the man and his influence of the level of agreement or discordance: logically, it is the biological age of the woman that exerts more pressure. Moving the focus on the geographical dimension, we can see that couples that live in the Southern part of Italy are more likely to make plans for another child compared to partners that live in the Northern regions, while men that live in the South are less likely to oppose their partner if she does not intend to have another child while they plan the event. The first result is in line with the Italian socio-economic and demographic heterogeneity that for years has been stressing the geographical division between Northern and Southern regions in terms of number of children for each household (Billari, Philipov, and Baizan 2001). Referring to the second result, it is probably due to the more rigid gender role-division existing in the *Mezzogiorno*, where women are usually considered more suitable to look after the children and perform family-related tasks.

Finally, for what concerns the distance from the birth of the first child, unsurprisingly couples where the first kid is less than five years old are less likely to have a concordant negative fertility intention for a second child, while a positive agreement

on not planning a second childbearing is recorded when the first son/daughter is older than 13. The first significant negative effect means that couples with a young child are more likely to make positive fertility plans within the three years after the interview as compared to couples with older first child. This result is due to the fact that couples with one young child are more prone to intend to have a second child within three years in order to ensure shorter birth interval between the first and the second child.

The effect goes in the very same direction when we consider the disagreement within a couple: actually, in couples with a child older than 13, a male partner that shows a positive intentions for another kid tend to be contrasted more often by the female partner when dealing with the fertility intention.

**Table 3.** Fertility intention for a second child within the next three years for couples aged 25-49. Multinomial logistic model results. "Both intend to have a second child" is the reference category. Standard errors in parenthesis.

Multinomial Logistic Regression Results (without selection)						
	She intends, he does not	Marginal Effect	He intends, she does not	Marginal Effect	Both do not intend	Marginal Effect
<b>Age (her)</b>						
<30	-0.03 (0.48)	-0.001	0.73* (0.43)	0.102	-0.75*** (0.28)	-0.219
30 - 34	-0.10 (0.41)	-0.020	0.58* (0.35)	0.089	-0.96*** (0.22)	-0.258
35 - 39	ref. Cat					
40 +	0.97* (0.57)	0.008	0.67 (0.56)	0.028	1.65*** (0.30)	0.298
<b>Age (him)</b>						
<30	0.42 (0.65)	-0.025	-0.83 (0.62)	-0.039	0.016 (0.39)	0.013
30 - 34	0.78** (0.37)	0.046	-0.80** (0.34)	-0.045	0.08 (0.23)	0.014
35 - 39	ref. Cat					
40 +	0.14 (0.44)	0.001	-0.34 (0.39)	-0.039	0.48** (0.22)	0.123
<b>Area of residence</b>						
North East	-0.37 (0.41)	-0.007	-0.66* (0.38)	-0.025	-0.32 (0.25)	-0.045
North West	-0.49 (0.46)	-0.025	-0.00 (0.37)	-0.006	0.16 (0.25)	0.052
Centre	ref. Cat					
South	-0.70* (0.40)	-0.005	-0.91** (0.39)	-0.022	-0.85*** (0.25)	-0.158
Islands	-1.29** (0.58)	-0.027	-0.96** (0.51)	-0.024	-0.78** (0.32)	-0.137
<b>Siblings (her)</b>						
Presence of Siblings	0.04 (0.45)	0.001	0.36 (0.44)	0.030	-0.33 (0.24)	-0.086
<b>Siblings (him)</b>						
Presence of Siblings	0.16 (0.49)	0.005	0.56 (0.51)	0.029	-0.04 (0.27)	-0.033
<b>Education (her)</b>						
Low (Isced 0 - 2)	-0.06 (0.35)	-0.05	-0.12 (0.32)	-0.011	0.11 (0.19)	0.030
Medium (Isced 3-4)	ref. Cat					
High (Isced 5 - 6)	1.08 (1.10)	0.068	-2.14* (1.19)	-0.075	0.18 (0.67)	0.039
<b>Education (him)</b>						
Low (Isced 0 - 2)	-0.45 (0.34)	-0.027	0.36 (0.31)	0.015	0.21 (0.19)	0.052
Medium (Isced 3-4)	ref. Cat					
High (Isced 5 - 6)	-1.07 (1.18)	-0.034	2.40** (1.14)	0.092	-0.97 (0.71)	-0.403
<b>Age group of children</b>						
0 - 5	-0.34 (0.37)	-0.001	-0.64** (0.32)	-0.009	-1.15*** (0.19)	-0.236
6 - 13	ref. Cat					
> 13	1.43 (1.08)	0.026	2.60*** (0.90)	0.036	2.57*** (0.74)	0.318

**Table 3.** -Continued.

Multinomial Logistic Regression Results (without selection)						
	<b>She intends, he does not</b>	Marginal Effect	<b>He intends, she does not</b>	Marginal Effect	<b>Both do not intend</b>	Marginal Effect
<b>Kindergarten</b>						
NOT Provided/paid by the employer	-0.26 (0.54)	-0.012	0.46 (0.48)	0.032	-0.05 (0.29)	-0.023
<b>Mass Attendance (together)</b>						
At least once a month	-0.16 (0.28)	-0.002	-0.02 (0.25)	-0.012	-0.33** (0.16)	-0.073
<b>Female employment status</b>						
Employed Part-time	-1.05* (0.62)	-0.034	-0.30 (0.52)	-0.002	-0.31* (0.32)	-0.032
Employed Full-time	0.11 (0.43)	0.004	-0.03 (0.46)	-0.007	0.21 (0.26)	0.052
Housewife	ref. Cat					
Unemployed	-0.12 (0.69)	-0.003	0.66 (0.55)	0.084	-0.43* (0.46)	-0.140
<b>Job Characteristics (her)</b>						
Flexible	0.08 (0.40)	0.019	0.51 (0.37)	0.007	0.37 (0.23)	0.024
<b>Male employment status</b>						
Unemployed	1.79*** (0.58)	0.116	1.26** (0.65)	0.069	0.42 (0.49)	0.068
<b>Quality of the relation (her)</b>						
She NOT satisfied division of tasks	0.24 (0.33)	0.012	0.07 (0.31)	0.007	-0.05 (0.20)	-0.023
Disagreement on her job	-0.89** (0.46)	-0.018	-0.37 (0.39)	-0.009	-0.74*** (0.26)	-0.137
Disagreement on child education	0.57* (0.32)	0.025	0.25 (0.29)	0.014	-0.01 (0.18)	-0.029
Disagreement he works too much	0.38 (0.30)	0.020	0.29 (0.29)	0.020	-0.10 (0.19)	-0.048
Disagreement on money employment	-0.16 (0.31)	-0.009	-0.05 (0.28)	-0.004	0.04 (0.18)	0.017
<b>Perception of the relation another child-career (her)</b>						
Better situation with another child	1.02** (0.51)	0.088	0.41 (0.67)	0.037	-0.25 (0.44)	-0.129
Nothing change with another child	ref. Cat	-	-	-	-	-
Worse situation with another child	-0.01 (0.29)	-0.009	0.52** (0.27)	0.023	0.24** (0.17)	0.039
<b>Interactions</b>						
She Highly Educated*	-1.97 (1.33)	-0.046	2.43** (1.30)	0.096	-0.68 (0.76)	-0.361
He Poorly Educated	0.91 (1.33)	0.007	-2.04* (1.26)	-0.069	0.99* (0.80)	0.207
<b>Intercept</b>	-1.84** (0.80)		-2.93*** (0.82)		1.23*** (0.43)	

\*\*\*=Significant at p<0.01 Level, \*\*=Significant at p<0.5 Level, \*=Significant at p<0.1 Level.

Given that intending to have a second child is conditional to the fact of having had the first one and given the already mentioned nature of the data that did not allow to check the realization of the intention for the first child and the subsequent intention, the same analysis considering both childless couples and couple with one child (on a total of 1888 couples) using the Sample Selection Model has been performed and it is reported in Appendix b. The aim of the additional investigation is the one of checking the robustness of the previous findings; given that these further results suggest that random factors and unobservable characteristics are not correlated across the two equations, the conclusions based on couples with one child can be considered satisfactory.

## ***6.2 An extension: Understanding the Determinants of Females' Contrasting Attitude towards her Partners' Positive Fertility Intention for a Second Child***

This last part of the study aims at deepening the knowledge of the bargaining process and at understanding the main determinants of the disagreement within the couples. Particularly, Table 4 thanks to the use of a sample selection probit model already employed to check the robustness of the previous findings in Appendix b, proposes an extension studying the probability that a woman contrasts her partner positive intention for a second child conditional on the probability of being in disagreement on the progression to the second birth.

Before explaining the findings, it is important to highlight two different elements: first of all, given that any gains in terms of stability of the model or robustness have been recorded when the sample is made by both childless couples and households with one child, the sample under investigation is made by the couples that already experienced a first birth. Secondly, only 147 couples in the sample disagreed on the intention of having another child, so the empirical investigation aims at understanding which are the main determinants leading a woman to contrast/not contrast her partner's intention.

The results on the topic could be again divided into different areas as it has been done for the multinomial regression model.

Referring to the educational sphere and in particular to the highest level of educational attainment reached by both members in the couple, the regression suggests two important findings: when within the couple the female partner is more educated or both members record high level of educational attainment, the probability that the female contrasts her partner's positive intention is lower compared to the couples where the partners share the same low level of education. Note that differently from the covariates employed in the multinomial model, here the level of education is recorded as couple's level of education: precisely, given the low number of observations, here I considered the different composition within the couples in the sample in terms of education and as already mentioned, the reference category is "both the members are lowly educated" so they both completed the compulsory education or obtained the professional diploma.

If we deal with job-related features we find other interesting results especially if compared to the ones related to the educational levels: the probability that the female contrasts her partner's positive fertility intention is higher when she is unemployed or when she is employed but she experiences a lack of provision of childcare. Both these findings are coherent: if a woman is higher educated she has a lower probability of being unemployed or a higher probability of being employed in a sector/place with more facilities given that she is more productive and tends to self-select in sectors where there is even a lower discrimination in terms of wages. All such elements contribute to decrease her negative attitude towards another child.

Considering the perception about the relation between career and family, the results suggest that if the female partner perceives that with another child her career is at stake, the probability that within the couple she contrasts her partner's positive attitude is higher: this finding is coherent with the higher opportunity cost faced by the more career-oriented working mothers.

The age itself plays an interesting role: when she is older than 35 years old, the partners disagreement is driven by the male's higher probability of not intending to reach a second birth parity, while the opposite occurs when the male partner is older

than 35: in this second case it is the woman to have the higher probability of contrasting her husband's positive intention<sup>10</sup>.

Focusing on the correlation coefficient *rho* that helps to understand whether the sample selection model is an improvement over model that does not take (statistically) into consideration the selection process, looking at the statistically different from zero coefficient of the likelihood ratio test, it is possible to see the improvement in terms of likelihood: it implies that in order to deeply understand the determinants of females' contrasting intention, it is necessary to focus on the elements that affect the couples' probability of being in disagreement.

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<sup>10</sup> Other covariates have been added to the model like the highest level of educational attainment reached by both members' parents (*proxy* for the income/economic status or for the availability of external help with the child), but that independent variables did not explain the contrasting intentions.

**Table 4.** – Females' contrasting attitude towards her partners' positive fertility intention for a second child. Couples aged 25-49. Probit model with sample selection results.

Probit Model with Sample Selection - Regression Results							
Selection Equation, probability of discordance on the intention for a second child			Structural Equation, probability of female's contrasting her partner's positive intention for a second child				
	Coefficient	Robust Standard Error			Coefficient	Robust Standard Error	Marginal Effect
<b>Age (her)</b>			<b>Age (her)</b>				
<35	0.40***	0.12	<30		0.06	0.22	0.012
			30 - 34		ref. Cat	–	–
<b>Age (him)</b>			35-39		-0.59***	0.23	-0.091
<35	-0.11	0.12	40 +		-0.68**	0.31	-0.106
<b>Area of residence</b>			<b>Age (him)</b>				
North	-0.11	0.12	<30		-0.18	0.39	-0.029
Centre	ref. Cat	–	30 - 34		ref. Cat	–	–
South	-0.21	0.14	35-39		0.74***	0.29	0.161
Islands	-0.38**	0.19	40 +		0.64**	0.32	0.127
<b>Age group of children</b>			<b>Couple's Level of Education</b>				
0 - 5	0.14	0.11	Both Lowly educated (Isced 0 - 2)		ref. Cat	–	–
6 - 13	ref. Cat	–	She Highly Educated. He Lowly educated		-0.56*	0.3	-0.081
> 13	-0.42***	0.14	He Highly Educated. She Lowly educated		-0.43	0.31	-0.064
			Both Highly educated (Isced 3 - 6)		-0.54**	0.27	-0.096
<b>Male employment status</b>			<b>Female employment status-childcare availability</b>				
Unemployed	0.72***	0.22	Employed and Kindergarten provided/paid by the employer		ref. Cat	–	–
			Unemployed		0.70*	0.45	0.181
<b>Quality of the relation (her)</b>			Employed and Kindergarten NOT provided/paid by the employer		0.44**	0.22	0.082
Disagreement on Job-related topic	0.18*	0.09					
Agreement on Job-related topic	ref. Cat	–	<b>Perception of the relation another child-career (her)</b>				
			Better situation with another child		-0.33	0.33	-0.049
			Nothing change with another child		ref. Cat	–	–
			Worse situation with another child		0.36*	0.2	0.069
<b>Intercept</b>	-1.38***	0.14	<b>Intercept</b>		-1.39***	0.34	
No. of observation							1330
<i>rho</i>	0.79**						
LR Test	chi2(1)=	3.28					

\*\*\*=Significant at p<0.01 Level, \*\*=Significant at p<0.5 Level, \*=Significant at p<0.1 Level.

## **7. Summary of the Results and Concluding Remarks**

The importance of partner's reproductive intentions has been well recognized in both the demographic and economic literature, but a few of studies have provided analyses of further fertility plans of both partners; if the aim is to "explain" the childbearing behaviour, both members of the couple should explicitly be taken into account. Having a child is indeed a dyadic and not a unilateral decision. In this paper, I have tried to contribute to fill this gap carrying out a study on the fertility intentions for a second child, providing a unitary picture of concordant or discordant partners' intentions using a bargaining approach within married couples.

The data used to conduct the analysis are from the Multipurpose Household Survey on "Family and Social Subjects", carried out in Italy by the Italian National Statistical Office (ISTAT) at the end of 2003 (November 2003). Thanks to the use of a sub-sample of data, looking at the impact of educational attainment and labour-force strategies on the couples' agreement or disagreement on a second childbearing intention it has been found that it is almost in line with what one would expect from the economic and social theory.

Specifically, for what concerns the effect of the educational variables, the results are remarkable: on the one hand, when the female's level of education is considered it is found that if she is highly educated the couple itself is more liable to have a concordant negative intention for a second child. On the other hand, when the characteristics of both partners are simultaneously taken into consideration, we note that the propensity for the couple not to intend to have another child is lower if the female partner holds a higher level of education compared to the one of the husband. We can conclude that the assumed positive effect of female educational level on second childbearing intentions is confirmed as in Mills et al. (2008), but the positive effect of female education on partners' disagreement is not validated.

Referring to the labour force strategy, the findings support the initial hypothesis stating that in Italy the couples' intentions to have a child are more exposed to a partners' conflict if the woman works because working women have the double burden of both contributing to the financial situation of the household and of being

the main responsible of the childcare. Moreover, the results suggest that couples where both partners work are more exposed to the risk of a disagreement in childbearing plans. Relating this result to the theoretical framework covered in Section 2, females' working status encourages a shift from the application of a "power rule", where the powerful male partner is crucial to the decision making process, to a "golden mean rule", where there is an equivalent influence of both partners on the couple decisions.

Considering woman's satisfaction with the division of the domestic tasks, the variable appears not to have any significant impact on the couples' disagreement or agreement for a second child. Even if this contrasts with the findings of Mills et al. (2008), it is in line with Krüger and Levy (2001) that argue that with the birth of the first child, an unequal division of work within the couple is established.

It is also interesting to think about the other variables that belong to what I called *quality of the relationship* and linking them to the theoretical framework of Jansen and Liefbroer. The result is particularly interesting when the main topic of divergence is the frequency of disagreements on the fact that the woman should work or not: it suggests that compared to couples that agree on that topic, conflicting couples are more likely to make plans for another kid.

A robustness check of the obtained results in the investigation has been performed by applying the Probit Model with Sample Selection for couples who experienced a first birth. If compared to the multinomial logistic model, the results validate the findings on the topic illustrated in the first part of the paper.

Finally, in order to expand the investigation in the field, I tried to understand which the determinants that induce a woman to contrast her partner's positive intention for another child are, considering the probability that a couple records a disagreement. The findings related to the educational sphere suggest that i) when within the couple the female partner is more educated or, ii) both members record high level of educational attainment the female has a lower probability of contrasting her partner's positive intention. If we deal with the job-related features we find that the probability that the female contrasts her partner's positive fertility intention is higher when she is unemployed or when she is employed but she experiences a lack of provision of

(free) childcare. Moreover, the probability goes in the same direction if she perceives that with another child her career is at stake.

Differently from the majority of demographic and social studies, this paper does not take into account one of the most relevant features of the demographic trend, that is the differences in intentions and levels of agreement/disagreement between married and cohabiting couples. The feature is recognized to be an important variable to be considered in the analysis, but among our 1,330 couples that already have one child, we did not have any not-married cohabiting couples, so we were not able to give an overview on the differences between cohabiting and married couples' intentions for a second child.

Referring to the employed dataset, some other remarks may be highlighted. Precisely, the fact that using the data gathered with the Multipurpose Household Survey on "Family and Social Subjects" survey has a double nature. These data offered the possibility to analyze the household as a survey unit thanks to the availability of information on both members of the couple. However, they did not allow us to explore some dynamics in life events related for example to the sector of the employment (as private or public) or to the kind of contract (temporary or permanent). Since the intended parity (and the actual one) is changing over time with other life course events and since they influence each other dynamically, a longitudinal study that would allow building a dynamic model of simultaneous equations would be required to understand in depth such dynamics. Given the recent release of data by the National Statistic Office (ISTAT, September 2010) about the second wave of the survey employed in this investigation, further research will be based on the analysis of the relationship between couple's concordant/discordant intentions and their subsequent behaviour (Testa, Cavalli, and Rosina 2010, Cavalli, Testa, and Rosina 2010, 2011).

## **8. Acknowledgment**

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## **Appendices**

### Appendix a.

Different school levels, International Standard Classification of Education, 1997.

**Pre-primary Education**, ISCED Level 0. Institution-based and designed for children who are at least 3 years old.

**Primary Education**, ISCED Level 1. Have systematic introductory studies in core subjects, such as mathematics, reading, and writing. School participation at this level is mandatory in all Countries and generally lasts 5-6 years. Entry age varies between 4 years and 8 years.

**Lower-Secondary Education**, ISCED Level 2. Tends to have somewhat more subject-oriented education, the teachers are more specialized, and the numbers of instruction hours is higher than in primary education. Lower-secondary education is typically the last part of compulsory education.

**Upper-Secondary Education**, ISCED Level 3. Generally begins at the end of compulsory schooling. In the upper-secondary school, subject teaching is generally more advanced than at earlier stages. Students have considerable freedom to choose specialized subjects. The stage lasts from 1-5 years, depending on country and school system.

**Postsecondary nontertiary education**, ISCED Level 4. Programs sometimes require a secondary school qualification. They typically have more subject depth, are more specialized than secondary education, and are more often of too short a duration to fit into the ISCED 5 category.

**Tertiary education**, ISCED Level 5. Programs are more advanced than education offered at ISCED levels 3 or 4 and have a minimum duration of 2 years. They may require completion of a research project or a thesis and are meant to direct the participants to professions with high skill requirements or to research programs.

**Advanced tertiary education**, ISCED Level 6. Requires the submission of a thesis or dissertation. Students who complete this stage of education should have proved their ability to carry out and advanced research work.

## Appendix b.

Couples' agreement on fertility intention for a second child using a Probit Model with Sample Selection.

For what concerns the Probit Sample Selection Model used to check the robustness of the main findings of the analysis, the same explanatory variables that have been used to carry on the model without selection are employed. In the selection probit equation, I used as predictor information about past events that is supposed to influence the propensity of having a first birth and characteristics that are supposed to be fixed in time. Particularly, related to personal characteristics, for both partners we have information about the presence of siblings (that are supposed to be positively related to the propensity of having children), about the highest level of educational attainment and about the first kind of job<sup>11</sup>. In this last case, the recorded information is related to the kind of contract (temporary-permanent) and to the sector of employment (public-private). The underlying assumption is that individuals with a permanent contract and those employed in the public sector are more prone to enlarge the family so to experience a first birth thanks to the higher level of job protection. Moreover, information about the number of rooms in the first property house is used as a proxy of income. Finally information about the level of education of women's parents has been included: it is supposed that the existence of norms in the family of origin could exert some influence on the "first birth" event. Information about the conditional distribution of the dependent variable of interest for the 3,776 selected respondents (1,888 couples) is reported in Table b1.

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<sup>11</sup> Note that has been checked that the first job precedes at least 5 years the year of the survey and at least one year the year of the first birth for the couples that have already one child so that the information cannot be related to the intention of having a second child.

Table b1. Distribution of respondents by independent and explanatory variables in the probit sample selection model. (Weighted data).

Respondent's distribution by independent variable for individuals without/with one child					
	Both intend	She intends, he does not	He intends, she does not	Both do not intend	N
<b>Age (her)</b>					
<30	75.90	6.67	5.90	11.53	390
30 - 34	72.45	5.20	7.71	14.64	519
35 - 39	45.96	5.11	4.89	44.04	470
40 +	11.39	2.16	2.16	84.29	509
<b>Age (him)</b>					
<30	75.63	6.72	4.20	13.45	119
30 - 34	77.89	6.37	4.38	11.36	502
35 - 39	57.30	5.29	8.76	28.65	548
40 +	21.00	2.64	3.06	73.30	719
<b>Area of residence</b>					
North	45.05	4.14	4.69	46.12	917
Centre	44.08	5.62	7.40	42.90	338
South	60.66	4.90	4.58	29.86	633
<b>Education (her)</b>					
Low (Isced 0 - 2)	42.79	4.19	5.27	47.75	645
Medium (Isced 3 - 4)	52.46	4.62	4.93	37.99	974
High (Isced 5 - 6)	59.11	5.95	5.57	29.37	269
<b>Education (him)</b>					
Low (Isced 0 - 2)	45.64	3.87	5.45	45.04	826
Medium (Isced 3 - 4)	54.37	5.03	4.67	35.93	835
High (Isced 5 - 6)	50.66	6.17	5.73	37.44	227
<b>Kind of marriage</b>					
Religious	51.02	4.29	4.79	39.90	1609
Civil	44.80	6.81	7.17	41.22	279
<b>Mass Attendance (her)</b>					
At least once a month	52.62	4.43	4.73	38.22	994
Less than once a month	47.32	4.92	5.59	42.17	894
<b>Mass Attendance (him)</b>					
At least once a month	55.15	4.35	5.41	35.09	758
Less than once a month	46.73	4.87	4.96	43.44	1130
<b>Siblings (her)</b>					
Presence of Siblings	50.73	4.73	5.34	39.20	1648
Absence of Siblings	45.83	4.17	3.75	46.25	240
<b>Siblings (him)</b>					
Presence of Siblings	51.08	4.69	5.41	38.82	1664
Absence of Siblings	42.86	4.46	3.13	49.55	224
<b>Mother's Education (her)</b>					
Low (Isced 0 - 2)	49.44	4.16	5.08	41.32	1515
Medium (Isced 3 - 4)	53.54	7.87	3.94	34.65	254
High (Isced 5 - 6)	53.73	4.48	13.43	28.36	67
<b>Father's Education (her)</b>					
Low (Isced 0 - 2)	51.52	3.03	3.03	42.42	33
Medium (Isced 3 - 4)	50.09	4.72	4.97	40.22	1166
High (Isced 5 - 6)	50.30	4.24	5.76	39.70	660

Table b1. –Continued.

Respondent's distribution by independent variable for individuals without/with one child					
<b>Female employment status</b>					
Employed	49.47	4.48	5.30	40.75	1227
Unemployed	67.86	5.95	8.33	17.86	84
Housewife	48.34	4.98	4.24	42.44	542
Other	57.14	2.86	5.71	34.29	35
<b>Job attachment (her)</b>					
Part-time	48.10	4.50	6.92	40.48	289
Full-time	49.89	4.48	4.80	40.83	938
<b>Job Characteristics (her)</b>					
Flexible	47.22	3.71	6.42	42.65	701
Rigid	51.81	5.22	4.39	38.58	1187
<b>Quality of the relation (her)</b>					
She satisfied division of tasks	52.96	4.50	4.84	37.70	1488
She not satisfied division of tasks	39.50	5.25	6.25	49.00	400
Disagreement on her job	56.41	5.13	5.13	33.33	195
Agreement on her job	49.26	4.70	5.07	40.97	1616
Disagreement on child edu	36.55	5.62	6.22	51.61	498
Agreement on child edu	47.67	4.45	5.19	42.69	944
Disagreement on money employment	50.80	5.39	5.39	38.42	687
Agreement on money employment	49.49	4.24	4.92	41.35	1180
Disagreement on his time devoted to job	47.17	6.68	6.88	39.27	494
Agreement on his time devoted to job	50.99	3.91	4.57	40.53	1357
<b>Age group of children</b>					
0 - 5	60.95	7.25	7.69	24.11	676
6 - 13	24.37	3.81	5.33	66.49	394
>13	0.86	0.86	2.58	95.70	233
<b>Kindergarten</b>					
Provided/paid by the employer	49.58	3.88	5.87	40.67	954
Privately provided/paid	50.64	5.46	4.39	39.51	934
<b>Perception of the relation another child-career (her)</b>					
Better situation with another child	60.47	9.30	3.49	26.74	86
Nothing changes with another child	52.92	4.49	4.49	38.10	958
Worse situation with another child	47.11	4.39	6.27	42.23	798

Table b2 reports the results of the model on couples' agreement (disagreement) on the progression to the second birth conditional on the probability of experiencing the first birth. Precisely, in the Table the main goal is to understand which the probability of agreeing on the fact of intending to have or not to have a second child is, given the probability of experiencing the first birth. This further model has been introduced in order to check the robustness of the previous findings: actually, the econometric model adopted in Section 5 was a logistic regression model. As highlighted, the dependent variable of interest resulted in four categories that represented the four different combinations of intentions between the two partners. Despite the unordered nature of the categories that allowed capturing different dimensions within the same framework, a selection process might have biased the results, given that the sample for the second birth intentions included only couples with one child. Note again that, although the nature of the employed dataset does not allow us to have precise information regarding the past, it has been possible to use some retrospective information fixed once and for all in time, like the highest level of educational attainment, the presence or not of siblings, the kind of first job performed and its characteristics, parents' level of educational attainments, the number or rooms that the first property house had (as a proxy for the wellbeing of family of origin) and the mass attendance<sup>12</sup>. All the information has been used as *proxy* for embedded characteristics of the respondents that could help explain the propensity of having a first child.

Results from the agreement equation are usually in line with the previous findings and only in few cases factors that were important to explain the level of agreement or disagreement for a second childbearing play no significant role in the same decision when the selection effect is taken into account.

Among the factors that after the selection do not play any role anymore we can identify the part-time working strategy for the woman and the disagreement within the couple referring to the fact that the female partner should work or not.

As it is possible to check, the majority of the effects are now absorbed by the selection equation. Actually, the highest level of educational attainment, both male's

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<sup>12</sup> Mass attendance is here considered a proxy for being religious; it is acknowledged in literature since Ryder (1968) that religion is an invariant function of time for the majority of the individuals, as well as citizenship.

and female's employment characteristic of the first job and the individual mass attendance influence the probability of having a first child<sup>13</sup>.

Results of the likelihood ratio test indicated that the hypothesis of no relationship can be accepted for both estimations.  $Rho$ 's estimate is not significantly different from zero, which suggests that random factors and unobservable characteristics are not correlated across the equations, so our previous results are robust even after the employment of the sample selection model on the probability of having a first birth.

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<sup>13</sup> The model here presented is identified through the non linearity of the inverse Mills ratio, so by the functional form; the Author acknowledges that collinearity problems may yield to unrobust results, but there are no exclusion restrictions available to better identify the model given that no variables that are in the selection equation can be theoretically excluded from the structural one (Puhani 2000).

Table b2. Couple's agreement on the fertility intention for a second child within the next three years. Couples aged 25-49. Probit Model with Sample Selection.

Probit Model with Sample Selection - Regression Results						
Selection Equation, probability of having the first child			Structural Equation, probability of accordance on the intention for a second child			
	Coefficient	Robust Standard Error		Coefficient	Robust Standard Error	Marginal Effect
<b>Siblings (her)</b>			<b>Age (her)</b>			
Presence of Siblings	0.04	0.09	<30	-0.30*	0.17	-0.045
			30 - 34	-0.24*	0.14	-0.034
<b>Siblings (him)</b>			35-39	ref. Cat	—	—
Presence of Siblings	0.09	0.09	40 +	0.18	0.17	0.023
<b>Education (her)</b>			<b>Age (him)</b>			
Low (Isced 0 - 2)	0.21***	0.07	<30	0.19	0.23	0.022
Medium (Isced 3 - 4)	ref. Cat		30 - 34	0.11	0.13	0.014
High (Isced 5 - 6)	-0.25**	0.15	35-39	ref. Cat	—	—
			40 +	0.31**	0.14	0.039
<b>Education (him)</b>			<b>Education (her)</b>			
Low (Isced 0 - 2)	0.02	0.07	Low (Isced 0 - 2)	0.02	0.12	0.002
Medium (Isced 3 - 4)	ref. Cat		Medium (Isced 3 - 4)	ref. Cat	—	—
High (Isced 5 - 6)	0.13	0.13	High (Isced 5 - 6)	0.41	0.42	0.047
<b>Mother's Education (her)</b>			<b>Education (him)</b>			
Low (Isced 0 - 2)	0.17**	0.08	Low (Isced 0 - 2)	0.04	0.11	0.004
Medium (Isced 3 - 4)	ref. Cat		Medium (Isced 3 - 4)	ref. Cat	—	—
High (Isced 5 - 6)	-0.01	0.19	High (Isced 5 - 6)	-0.61	0.44	-0.125
<b>Father's Education (her)</b>			<b>Age group of children</b>			
Low (Isced 0 - 2)	0.1	0.24	0 - 5	0.04	0.12	0.005
Medium (Isced 3 - 4)	ref. Cat		6 - 13	ref. Cat	—	—
High (Isced 5 - 6)	0.02	0.06	> 13	0.26	0.2	0.029
<b>Female employment status. First Job</b>			<b>Area of residence</b>			
Unemployed	0.27***	0.11	North East	0.17	0.14	0.021
Employed	ref. Cat		North West	0.15	0.14	0.019
Permanent contract	0.1	0.07	Centre	ref. Cat	—	—
Temporary contract	ref. Cat		South	0.26*	0.15	0.03
Public sector	-0.1	0.07	Islands	0.37**	0.2	0.038
Private sector	ref. Cat	—				
<b>Male employment status. First Job</b>			<b>Siblings (her)</b>			
Permanent contract	0.14*	0.06	Presence of Siblings	-0.08	0.15	-0.011
Temporary contract	ref. Cat					
Public sector	-0.09	0.07	<b>Siblings (him)</b>			
Private sector	ref. Cat	—	Presence of Siblings	-0.23	0.17	-0.026
<b>Mass Attendance (her)</b>			<b>Kindergarten</b>			
At least once a month	0.10*	0.06	NOT Provided/paid by the employer	-0.09	0.16	-0.012

Table b2. -Continued

Probit Model with Sample Selection - Regression Results					
Selection Equation, probability of having the first child			Structural Equation, probability of accordance on the intention for a second child		
	Coefficient	Robust Standard Error		Coefficient	Robust Standard Error
<b>First property house</b>			<b>Mass Attendance (together)</b>		
Number of rooms	0.10***	0.02	At least once a month	-0.04	0.09
<b>Interactions</b>			<b>Female employment status</b>		
She Highly Educated*			Employed Part-time	0.16	0.19
He Poorly Educated	0.07	0.27	Employed Full-time	0.06	0.16
He Highly Educated*			Housewife	ref. Cat	
She Poorly Educated	-0.32	0.29	Unemployed	-0.37*	0.22
			<b>Job Characteristics (her)</b>		
			Flexible	-0.08	0.14
			<b>Male employment status</b>		
			Unemployed	-0.65***	0.25
			<b>Quality of the relation (her)</b>		
			She NOT satisfied division of tasks	-0.08	0.11
			Disagreement on her job	0.19	0.15
			Disagreement on child education	-0.12	0.11
			Disagreement he works too much	-0.23**	0.11
			Disagreement on money employment	0.07	0.1
			<b>Perception of the relation another child-career (her)</b>		
			Better situation with another child	-0.49**	0.23
			Nothing change with another child	ref. Cat	
			Worse situation with another child	-0.06	0.1
			<b>Interactions</b>		
			She Highly Educated*		
			He Poorly Educated	-0.32	0.48
			He Highly Educated*		
			She Poorly Educated	0.54	0.48
<b>Intercept</b>	-0.45**	0.19	<b>Intercept</b>	1.64***	0.28
No. of observation					1888
<i>rho</i>	-0.64	0.42			
LR Test	chi2(1)=1.82		Prob > chi2=0.18		

\*\*\*=Significant at p<0.01 Level, \*\*=Significant at p<0.5 Level, \*=Significant at p<0.1 Level.

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