Women Rule: Preferences and Fertility in Australian Households*

Elliott Fan† and Pushkar Maitra‡

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Abstract

Using a unique data set from Australia, we investigate how individual fertility preferences translate into fertility realizations. We find consistent evidence that the wife's preference is more important than the husband's preference in predicting subsequent births, no matter whether her initial fertility desire is higher or lower than that of her partner. We also explore the effects of the introduction of the non-means-tested *Baby Bonus* introduced in 2004 by testing whether the hypothesis that the cash transfers from the scheme increase the bargaining power of the partner with higher fertility rate, thus leading to an increase in fertility for couples with disagreement on fertility plan. Our findings do not support this hypothesis, neither do they suggest any significant fertility-enhancing effect of the scheme.

Key Words: Fertility Preference, Births, Within Couple Disagreements, Baby Bonus, Australia

JEL Codes: J12, J13, O12

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†Elliott Fan, SPEAR Centre, Research School of Economics, ANU College of Business & Economics, The Australian National University, Canberra ACT 0200, Australia. Email: elliott.fan@anu.edu.au

‡Pushkar Maitra, Department of Economics, Monash University, Wellington Road, Clayton Campus, VIC 3800, Australia. Email: Pushkar.Maitra@monash.edu

1 Introduction

Analysis of household behavior has traditionally been based on the idea that family members maximize a single utility function. This is known as the unitary household or common preference model. Underlying such models is the assumption of common preference ordering among family members that can be traced back to Becker (1960) (see also Becker, 1991). While this approach has proved to be useful for its elegance and analytical tractability, the hypothesis of a single utility function encompassing all family members has been increasingly challenged in recent years. Such challenges have included attempts at modelling individual utility to incorporate divergent and conflicting preference of different family members (see, for example, Manser and Brown, 1980; McElroy and Horney, 1981; Chiappori, 1988, 1992). Crucial to the notion of non-unitary models of the household is the notion of power (Pollak, 1994). Much of the empirical work using bargaining models has tested the resource pooling implication of the unitary model. Failure to accept the hypothesis of resource pooling generally leads to the conclusion that there exists some sort of bargaining process within the household.

This literature has been extended to examine the fertility effects of spousal differences. In the demography literature it has long been argued that males and females differ in their desires regarding fertility and family planning (see for example Mason and Taj, 1987; Pritchett, 1994). Empirically, it has been observed that men's and women's preferences both affect fertility and family planning (see Freedman and Thornton, 1980; Thomson, McDonald, and Bumpass, 1990; Bankole, 1995; Thomson, 1997; Dodoo, 1998; Thomson and Hoem, 1998). It is not clear, however, how large the magnitude of the effect of differing preferences is. Results are also mixed on whether women's or men's views have the stronger influence on childbearing, and on the extent to which disagreement inhibits births.

In purely economic terms, the demand for children originates from the utility that parents derive from children. Different preferences typically arise from differences in costs that accrue to men and women. Women have to carry the burden of child bearing and in most cases also the burden of child rearing. However, knowledge of different preferences is

not sufficient, because ultimately having one more child is a joint decision irrespective of whether or not preferences differ. How is this decision achieved and how relevant are the preferences of women in this respect? The answer to this question is important because it has significant implications for the design of population policies. If women have greater preferences for having additional children, then increasing the influence of women in the context of decision making will help increase the number of births. This explanation is particularly relevant in the context of most developed countries where the important issue facing policy makers is to raise the birth rate. The problem is surely very different for policy makers in developing countries, but even there the relative preferences of the husband and the wife remain important in trying to understand the effects of fertility related policies.

To fully analyze the relationship between preferences and fertility, one needs longitudinal data where one can follow the couple over time and examine whether their preferences are realized or not. There exist very few longitudinal data sets around the world that collect data on both fertility preferences and realized birth outcomes. One of the few that do is the Household Income and Labour Dynamics of Australia (HILDA) survey that has been conducted every year, beginning in 2001. The HILDA data contain a unique measure of fertility desire for both males and females aged $18 - 55$. This information, together with information about birth outcomes, is collected annually in the survey, making it possible to track the changes in both variables over time.

The advantage of using the HILDA data set is that it allows us to examine several important and related issues. First, what is the extent to which the husband's or the wife's preferences affect actual fertility outcomes?[1] Second, if the husband's and the wife's fertility desires differ, whose preference is more important in determining birth outcomes? Finally, how important is the sign of the within-couple difference in fertility preference? Examining the last issue is of particular interest as it involves testing of another possible aspect of intra-household decision making: the dominance on fertility decision is not unconditionally acquired by the wife or the husband, but by whoever holding the higher or the lower fertility desire.

[1]While it is true that around 25% of couples in our estimating sample are in a de facto relationship, we use the generic terms – husbands and wives – to denote the male and the female partners respectively.

The literature on the effect of preferences on fertility is quite scarce. This is primarily because of the lack of adequate data. There are a few exceptions. Thomson (1997), using data from the US, finds that husbands' desires and intentions influence couples' births to approximately the same degree as that of wives' desires and intentions. When there is a disagreement between the partners, each partner' intentions were shifted toward not having a child, and as a consequence they are less likely than average to have additional children. Using data from Sweden, Thomson and Hoem (1998) find that the husband's and the wife's fertility preferences are equally important in predicting subsequent births when their preferences are different, and both partners had the right to exert veto power over fertility decisions. Hener (2010), using the child preference data from the German Socio-Economic Panel, finds that fertility increases with the income share of the woman for a couple where the woman has a stronger preference to having children than her partner. Our results, however, are quite different from the findings of these previous studies. We find that it is the wife's preference that drives fertility outcomes irrespective of whether it is stronger or weaker than the husband's preference. Additionally we also find the effects of the wife's fertility preference in the two directions are symmetrical.

The time span of the data from HILDA also allows us to use the Australian Maternity Payment scheme (popularly known as the *Baby Bonus*) as a natural experiment to explore an important policy issue: how and to what extent will a cash transfer change the relative decision power over birth outcomes? Similar income policies have been widely employed to enhance fertility in other countries, and thus understanding their effects is of great importance. As a head-counted, non-means-tested scheme, the *Baby Bonus* offers a fixed stipend to the primary carer of a new born baby. It then carries the following two major implications: First, the *Baby Bonus* affects a couple's birth decisions through reducing the cost of having children (that is, by making children 'cheaper'). To the extent that a child is a normal good, both the income effect and substitution effect caused by this 'price' change should increase the probability of having more children.[2] Second, the effect

[2]Empirical evidence often suggests that public income incentives enhance fertility (see Rosenzweig, 1999; Milligan, 2005; McDonald, 2006; Cohen, Dehejia, and Romanov, 2007; Laroque and Salanie, 2008). From a broader perspective, it is often argued that cash transfers targeted towards women is associated with a change in household consumption patterns (Duflo, 2003; Ashraf, Field, and Lee, 2009) and in fertility outcomes (Eswaran, 2002; Seebens, 2005), due to an increase of women's bargaining power over household decisions.

of the program may operate through household bargaining – it enhances the bargaining power of the partner with higher fertility preference by making children less costly, because children are 'goods' that this partner prefers. In this paper, we conduct tests of the second implication by making use of the rich information about individuals' fertility preference from the HILDA data. As for the first implication, however, we are unable to precisely assess the overall fertility-enhancing effect of *Baby Bonus*, mainly due to lack of a proper control group.[3]

We find consistent evidence suggesting that the wife's fertility desire is more important in affecting the hazard of having an additional child in the subsequent 4 or 6 years. Further, the wife's preference is important in both directions – after controlling for the initial level of husband's fertility desire, the hazard of having an additional child is significantly higher if the wife's initial fertility desire exceeds that of her husband, and the risk is significantly lower if the wife's initial fertility desire is lower. Additionally, while the two effects are in opposite directions, they share a similar magnitude. As to the effect of the *Baby Bonus*, neither do we find any evidence suggesting that the introduction of the program alters the within couple decision making. We also do not find any evidence of an overall fertility-enhancing effect associated with this program.

The rest of the paper is organized as follows. In the next section (Section 2), we introduce the data set and provide detailed definitions of the key variables, followed by an introduction of the policy background of the *Baby Bonus* program (Section 2.1). In Section 3, we present the empirical strategies and the hypotheses to be tested in this paper. The empirical results are presented in Section 4. Finally, Section 5 concludes.

[3]The true effects of the *Baby Bonus* program are open to debate. Gans and Leigh (2009) and (Government, 2010, Page 41) find that the program has an influence on the timing of births. Lain, Ford, Raynes-Greenow, Hadfield, Simpson, Morris, and Roberts (2009) find an increase in birth rates in New South Wales for the first 2 years after the introduction of *Baby Bonus*, and Drago, Sawyer, Sheffler, Warren, and Wooden (2009) show that fertility intentions rose after the announcement of the program and the birth rate is estimated to have risen moderately as a result of the program. Similarly, Langridge, Nassar, Li, Jacoby, and Stanley (2010) find that, in Western Australia, *Baby Bonus* has been associated with an increase in fertility rate specially among women residing in the highest socio-economic areas. Using 19 years of birth and macroeconomic data, Sinclair, Boymal, and de Silva (2010) find a significant increase in birth numbers ten months following the announcement of *Baby Bonus*. While these studies might detect a post-program increase in fertility, the causal effect of the program is less clearly identified due to lack of a proper control group.

2 Data and Policy Background

The data used in this paper are from years 2001 to 2007 of the Household Income and Labour Dynamics of Australia (HILDA) survey that has been conducted annually from 2001. It is a nationally representative household longitudinal survey, of which the initial sample consists of 19,914 individuals in Australian households in 2001. The survey included modules on family and household formation, sources of income, and labour supply behaviors, etc. The collection of each wave of the data took place between August of the given year and March of the following year.

One unique aspect of the HILDA data set that we utilize in this paper is that it contains measures of fertility preferences and expectations for both males and females aged $18-55$. This information is collected by asking the respondents the following two questions.

1. Pick a number between 0 and 10 to show how you feel about having [a child/more children] in the future. We define this as *fertility desire* or *fertility preference*. In this paper we use the terms fertility desire and fertility preference inter-changeably.

2. Pick a number between 0 and 10 to show how likely you will have [a child/more children] in the future. We define this as *fertility expectation*.

In both cases, a larger number for the variable indicates a greater fertility preference/desire or expectation as the case may be. While in this paper we restrict ourselves to fertility desire, it needs to be mentioned that Fan and Ryan (2009) have shown that the two measures share a similar predictive power with respect to subsequent birth realizations.

In our estimating sample we include couples who are married or are in a de-facto relationship at the time of the survey. Thus, a couple leaves the sample if they separate or get divorced. We also restrict our sample to couples with the wife aged $18-40$ in any survey round, so couples are trimmed out of the sample when the wife reaches age 41.[4] At the same time, a small number of couples enter the sample every year mainly due to

[4]There is also attrition due to refusal to interview or other reasons. But the attrition rate is relative low for HILDA – only 6.7% per year.

family formation. We start with 1,636 couples in 2001. On average, 7.6% of the sample dropped out every year as a result of the wife turning 41. The attrition rate because of other reasons (marriage dissolution, death) is around 2.1% a year. Finally around 3.3% of the sample are new couples every year.

Table 1 presents the selected descriptive statistics for the estimating sample (of 1,636 couples) in 2001. Around 25% of these couples are in de facto relationship, and the average number of children per couple is 1.64; the average age of the husbands is 35 years, compared to 32 for the sample of wives; around 90% of the wives are in good health (are free from long term health condition, disability or impairment) compared to 87% of the husbands; the yearly income of the husbands is three times that of the wives; finally, the average fertility desire of the wives is slightly higher (4.42) than that of the husbands (4.33).

Figure 1 illustrates the average fertility desire for females aged 18 to 40 and their partners using the 2001 data. The two 'age profiles' are fairly close to each other, with the only difference being that the women's profile is slightly steeper. Figure 2 shows the relationship between 2001 desire and the incidence of having one child/more children in the following six years. The graph presents a clear positive (unconditional) correlation between fertility desire and subsequent births for both males and females, though there is a gap between the two curves when the value of desire is between around 4 and 8. Finally, Figure 3 presents the density distribution of the within-couple disparity in fertility desire, computed as the wife's desire minus the husband's desire. It is clear that the density is heavily concentrated on the middle points, and is roughly symmetrical with respect to zero (i.e., husbands and wives have similar preferences).

2.1 The *Baby Bonus* Program

On May 11, 2004, the Australian government announced the new Maternity Payment scheme, commonly referred to as *Baby Bonus*.[5] The primary aim of this program was

[5]Effectively the *Baby Bonus* scheme replaced two existing payments: the Maternity Allowance (MA) and a "baby bonus" administered through the Australian Tax Office. The MA was a relatively modest payment (a maximum of AU$842.64 per child at the time the scheme came to an end) which was restricted

to stop the slide in fertility rate in Australia and it was hoped that this kind of a cash payment would serve as an incentive to have children. Mr. Peter Costello, the then Federal Treasurer was unequivocal about this intention: he strongly urged Australian couples to have "*one [baby] for your husband, one for your wife and one for the country.*"[6]

The *Baby Bonus* was implemented in July of 2004, less than two months after it was announced, so that there was very little time gap between the announcement and the implementation of the program. As a start, the program provided a fixed amount of AU $\$3,000$ (= US \$2150 at the prevailing exchange rate at the time) to the primary carer of a child born on or after July 1, 2004. The most important aspect of this program was that it was not means tested. The payment was granted to the primary carer of each new-born child, regardless of the child's birth order, the income of the household, or any other observable characteristics of the parents and/or the household. The benefit level was later raised by 26% (or AU \$834) on July 1, 2006.[7]

3 Strategies

The starting point of our analysis is to examine the role of wife's fertility desire in predicting birth realizations, and compare it to the role of the husband's desire. Taking the advantage of longitudinal data, a straightforward way to do so is to estimate a Cox proportional hazards model specified as follows:

$$h\left(t|\,\Omega\right) = h_0(t)\exp(\beta_f FD_0^f + \beta_m FD_0^m + \mathbf{X}^f\gamma^f + \mathbf{X}^m\gamma^m + \mathbf{Z}\delta) \tag{1}$$

to women who were eligible for Family Tax Benefit, and thus by extension lived in households with at most modest incomes. The existing baby bonus was, on the other hand, administered through the tax system. While being potentially much more generous (with a maximum sum of up to AU\$12,500 per child available over a 5-year period following a birth) than the MA, the bonus seems to have not been widely utilized. Low utilization rates were probably due to the program functioning as a complicated and delayed tax rebate system. The most substantial payments were reserved for women with relatively high employment income in the year prior to birth, who subsequently remained out of the workforce for a total of five years.

[6] As in many other developed countries, after the post World War II boom, the total fertility rate declined in Australia, from a peak of 3.5 children per woman in 1961 to 1.75 in 2003 (http://www.abs.gov.au). These conditions triggered significant public debates in Australia about the causes of this decline and appropriate policy responses to reverse this trend (Gray, Qu, and Weston, 2008).

[7] Along with the first announcement in May 2004, it was announced that the amount of the baby bonus would go up in the future, but the jump of \$834 that happened in 2006 was unexpected in terms of the amount of the increase.

The hazard in the regression is defined by the incidence of a couple (indexed i) having a child, which is a function of t ($t = 2001, 2002, ..., 2007$) given the set of covariates Ω; $h_0(t)$ refers to the baseline hazard; FD_i^f and FD_i^m are the fertility desire measured at the beginning of the spell for the wife and the husband respectively; $\mathbf{X}_{it}^f$ and $\mathbf{X}_{it}^m$ are row vectors of individual characteristics for the wife and the husband, including age, age squared, education level, health, private income, and number of existing children; $\mathbf{Z}_{it}$ contains state dummies and a dummy variable indicating whether the couple are married or in a de facto relationship. In this model, the onset of risk is set at the time the couple first enters the sample, and failure is constituted by having a new birth. A spell is thus defined by the time spanning from a subject (that is, a couple) being first time observed in the sample to the time of failure (if failure is observed) or to the end of the sample period (if failure is not observed). After a couple is observed to have a new birth, say at time t, the couple is considered as a new subject with a spell starting at $t+1$.[8] The initial fertility desires of husband and wife (FD_i^f and FD_i^m) of this newly-formed subject refers to fertility desires measured at $t+1$. Due to the nature of our sample, observations are right-censored if the spells do not end in failure.[9]

In Equation (1), as FD_i^f is an ordered variable, $[\exp(\beta_f) - 1]$ describes the percentage change in the hazard of having a birth that is caused by a unit increment in wife's initial fertility desire, controlling for her husband's initial fertility desire. Similarly, $[\exp(\beta_m) - 1]$ represents the marginal effect of the husband's initial fertility desire. Through a direct comparison of these two effects in terms of percentage change, we are able to test whether the predictive power of the wife's initial desire is different from that of her husband's.[10]

[8] Note that we control for number of existing children in the regressions.

[9] We deal with the right-censoring in the model by assuming that any censoring occurs randomly and is unrelated to the reason of failure. Tied failures are addressed using the method of Breslow approximation.

[10] An alternative to using the hazard model (as in Equation 1) would be to use a Probit model to estimate the likelihood of having an additional birth. However one of the disadvantages of using a Probit model is that it does not allow updating of preferences following the birth of a child without causing endogeneity problems. The solution is to use preferences at the initial year, which can be assumed as pre-determined and unaffected by subsequent birth outcomes. The predicted power of these initial preferences are however likely to be limited to the first birth. After having one birth, the couples' fertility preferences can change and this breaks the link between initial preferences and later births. Thus, unlike the hazard model, the Probit model only allows us to estimate the average effect of initial preferences on the first birth that happens.

3.1 Effect of Within-couple Differences in Preferences

The model specified in Equation (1) is designed to investigate whether the two partners' preferences are equally important in predicting births in the future. The model, however, does not allow estimating the effect of within-couple disparity in fertility desire, it also does not allow an investigation of whether the sign of the disparity matters. To address these issues, we estimate a model that incorporates the within-couple disparity in both positive and negative directions. To do this we define a new variable $Diff$ as the value of the wife's desire minus the husband's desire. We then define three dummy variables as:

1. *Female wanting more*: $F\_more = 1$ if $Diff > 2$;
2. *Female wanting less*: $F\_less = 1$ if $Diff < -2$;
3. *No conflict*: if $Diff \in [-2, 2]$.

Figure 4 presents the average values of *F_more* and *F_less* over the different survey years. It is worth noting that the proportions of couples with $F\_more = 1$ and $F\_less = 1$ remain relatively stable over the different survey years.[11]

Throughout the regressions analyses below, the *no conflict* group always serves as the reference category. We then estimate the following regression:

$$h\left(t|\,\Omega\right) = h_0(t)\exp(\beta_m FD_0^m + \theta_1 F\_more_0 + \theta_2 F\_less_0 + \mathbf{X}^f\gamma^f + \mathbf{X}^m\gamma^m + \mathbf{Z}\delta) \qquad (2)$$

The within-couple difference in desire is defined as of the beginning of the spell, when the couple starts being at risk of having an additional child. Again, the initial value of the difference is assumed to be pre-determined and unaffected by subsequent birth outcomes.

The difference between Equations (1) and (2) lies in the inclusion of F_more_0 and F_less_0, both measured at the beginning of the spell, and the exclusion of FD_0^f in Equation (2). These changes make Equation (2) more flexible than Equation (1) by allowing the effect

[11] Our empirical results are highly robust to an alternative categorization of the *female wanting more* and the *female wanting less* groups based on a lower degree of disparity in fertility desire, where the three groups are categorized by (1) *female wanting more*: $F\_more = 1$ if $Diff > 1$; (2) *female wanting less*: $F\_less = 1$ if $Diff < -1$; and (3) *no conflict*: if $Diff \in [-1, 1]$.

of the wife's desire to be different when her desire is at least two points higher, two points lower, or within a disparity of two points when compared to her husband's desire. Results from Equation (2) are particularly helpful for testing the following alternative hypotheses of decision making within the household:

Model 1: If the wife's preference affects birth decisions despite whether the wife's desire is higher or lower than that of her husband, then $\theta_1 > 0$ and $\theta_2 < 0$ (or equivalently $\exp(\theta_1) > 1$ and $\exp(\theta_2) < 1$ when we interpret the results in terms of hazard ratio). A positive θ_1 implies that, compared to the *no conflict* group, the *female wanting more* (*F_more*) group face a higher hazard of having an additional child after the husband's initial desire is controlled for.[12] At the same time, a negative θ_2 suggests that the hazard is lower for the *female wanting less* (*F_less*) group. When we find $\theta_1 > 0$ and $\theta_2 < 0$, a test on $\theta_1 + \theta_2 = 0$ tells us whether the two effects are symmetric.

Model 2: In the case that the husband's desire dominates and wife's preference does not matter, both θ_1 and θ_2 should be zero because any deviation of the wife's desire from that of her husband does not have any effect on birth outcomes (that is, $\theta_1 = \theta_2 = 0$).

Model 3: It is possible that the dominance over birth decisions is not acquired by either the wife or the husband, but by whoever has the higher fertility desire. In this case, θ_1 ought to be positive because higher wife's desire drives up fertility. Meanwhile, θ_2 is expected to be zero because, after the husband's initial desire is controlled for, lower wife's desire does not lead to a lower fertility incidence. So we have $\theta_1 > 0$ and $\theta_2 = 0$.

Model 4: It is also possible that the birth decisions are dominated by whoever has the lower fertility desire. If so, θ_1 and θ_2 are expected to be zero and negative, respectively, i.e., $\theta_1 = 0$ and $\theta_2 < 0$.

[12] To be more precise, $exp(\theta_1)$ gives the hazard ratio of the risk of having an additional birth for the *F_more* group relative to the risk for the benchmark group.

3.2 Exploring the Effect of the *Baby Bonus*

A secondary aim of this paper is to explore household bargaining over birth decisions using the Australian *Baby Bonus* program as an experiment. By offering cash transfers to ease the financial burden of child raising, one possible effect of the program is enhancing the bargaining power of the partner, either the wife or the husband, whose fertility desire is higher than that of the other partner (if the two partners' preferences differ). On the other hand, though in practice either mother or father can claim the payment, the mother is usually assumed to be the principal recipient of the benefit. This might to some degree deliver privilege to mothers.[13] In this scenario, the provision of the *Baby Bonus* payment might enhance the bargaining power of the wife. To examine these possible effects, we employ the following regression function, which is modified from the family model given by Equation (2) in Section 3.1:

$$\begin{aligned} h\left(t|\,\Omega\right) \;=\; & h_0(t)\exp(\beta_m FD_0^m + \theta_1 F\_more_0 + \theta_2 F\_less_0 \\ & +\phi Y04 + \theta_1'(F\_more_0 \times Y04) + \theta_2'(F\_less_0 \times Y04) \\ & +\mathbf{X}^f\gamma^f + \mathbf{X}^m\gamma^m + \mathbf{Z}\delta) \end{aligned} \tag{3}$$

Equation (3) is different from equation (2) in the inclusion of two additional terms: the interaction terms of *F_more* dummy and *F_less* dummy with a dummy variable, denoted by $Y04$, indicating post-program years ($Y04 = 1$) or otherwise ($Y04 = 0$). The coefficients θ_1 and θ_2, therefore, represent the effects of the *F_more* dummy and the *F_less* dummy on the hazard of having an additional child, relative to the *no conflict* group, for the pre-program years. The coefficients θ_1' and θ_2', on the other hand, capture how the two effects change from the pre-program to the post-program years. If the provision of *Baby Bonus* did not alter the role of the within-couple differentials in fertility desire in forecasting birth outcomes, both θ_1' and θ_2' are expected to be zero.

[13]By legislation it is the primary carer who receives the payment. In the vast majority of cases, it is the mother of the child who is the eligible person. Using the infant cohort of the LSAC data set for Australia, Harrison, Ungerer, Smith, Zubrick, and Wise (2010) find that out of a sample of 5,107 infants aged between 3 and 19 months, 98% had the mother as the primary carer. This proportion goes down to 97.3% for children aged between 51 and 67 months (sample size is 4,983). If it is the mother who is making the claim, she does not need to provide her spouse's details. More information is available at: http://www.ato.gov.au/taxprofessionals/content.asp?doc=/content/38285.htm.

It is important to note that we are reluctant to use Equation (3) to estimate the overall birth-enhancing effect of *Baby Bonus*, that is, to interpret ϕ in Equation (3) as the policy effect on the hazard of having an additional child for the benchmark group. A reliable estimation of this effect can only be done by employing a proper comparison group, which must satisfy two assumptions – the control group is free from the effect of the policy, and no other factors cast unbalanced effects on the treatment and control groups simultaneously with the implementation of *Baby Bonus*. Since *Baby Bonus* is a nation-wide program, it is difficult to find a legitimate control group that well satisfies the two validity requirements. Thus, instead of testing for the sign and statistical significance of ϕ, we focus on testing θ_1' and θ_2'. Tests on θ_1' and θ_2' can be considered more reliable because these tests are based on comparisons when the *no conflict* group is used as the control group, which is well-defined and is more likely to satisfy the two validity requirements.

4 Results

We present the empirical results from estimating Equations (1), (2), and (3) described in Sections 4.1−4.3. Throughout all estimations, we focus on a sample comprised of married and de facto couples, of which the wife is aged $18-40$ in any of the survey years. We also show results based on sub-samples that consist of females of various age groups or samples of different years.

4.1 Effect of Fertility Desire on Birth Outcomes

Table 2 presents the corresponding hazard ratios from the Cox proportional hazards estimation of Equation (1). In column (1) we present estimates for the sample of couples with the wife aged $26-40$, which is considered as the age group with the highest likelihood of giving births. The estimated effect suggests that after controlling for the husband's initial fertility desire (FD_0^m, measured at the beginning of the spell), a unit increase in the initial fertility desire of the wife, FD_0^f, is associated with a 18 percent increase in the hazard of having an additional child. The corresponding effect for the husband's initial desire (FD_0^f) is significantly lower: it suggests that a unit increase in the initial fertility

desire of the husband, FD_0^m, is associated with a 10 percent increase in the hazard of having an additional child (though it needs to be noted that the effect is still statistically significant). The null hypothesis of equality of the two effects is rejected ($p-value = 0.044$ as shown in lower part of the same column).

Columns (2) and (3) suggest that the estimates of FD_0^f and FD_0^m are fairly robust to an extended sample that includes wives aged 21 to 25 (column (2)) and to an even larger sample that additionally incorporates those aged 18 to 20 (column (3)). All these results show that a unit increase in the wife's initial fertility desire is associated with a significantly higher hazard of having an additional child compared to a unit increase in the husband's initial fertility desire. In all cases, the null hypothesis of the effect of wife's desire being equal to that of the husband's desire is rejected.

Finally, to examine the robustness of the hazard model results, in column (4) we present the estimates from a Probit regression with the dependent variable being a dummy variable indicating whether the couple had any (at least one) child during the entire period $2002 - 2007$. The covariates remain the same as those in Equation (1). Thus, the regression reduces to a cross-sectional format using only the 2001 data. As shown in column (4), the results are qualitatively similar to those displayed in columns $(1) - (3)$. The estimated effects suggest that, after controlling for husband's initial desire (in this case the initial fertility desire or the fertility desire at the start of the spell is defined as of 2001), a unit increment in the wife's fertility desire in 2001 is associated with an increase of 3.8 percentage points in the incidence that the couple will have at least one child during the period of $2002 - 2007$. The effect of a unit increase in the husband's desire is lower (2.3 percentage points). Again, the null hypothesis of the equality of the effects for wife's and husband's fertility desire is rejected, but only at the 90% significance level ($p - value = 0.0777$). These results are consistent with findings from the hazard model.

4.2 Effect of Within-couple Differences in Preference on Birth Outcomes

Columns (1) and (2) in Table 3 presents the Cox proportional hazards regression results estimated using Equation (2), for the full sample and for a shorter sample based on

$2004-2007$ data, respectively. Note that the covariates $\mathbf{X}^f$, $\mathbf{X}^m$, and $\mathbf{Z}$ remain the same as those in Equation (1), and the full sample refers to couples with the female partner aged 18 to 40 in any survey round during 2001 and 2007. Our analysis here, again, focuses on testing the following four hypotheses:

Model 1: Wife's preference affects birth decisions in both directions ($\theta_1 > 0$ and $\theta_2 < 0$);

Model 2: Husband's preference dominates over birth decisions ($\theta_1 = \theta_2 = 0$);

Model 3: The dominance belongs to whoever has the greater desire for children ($\theta_1 > 0$ and $\theta_2 = 0$);

Model 4: The dominance belongs to whoever has the lower desire for children ($\theta_1 = 0$ and $\theta_2 < 0$).

The explanatory variables of interest are *F_more* and *F_less*. In column (1) where the full sample results are displayed, the estimated hazard ratio is 1.870 for couples in the *F_more* category and is 0.524 for couples in the *F_less* category. This implies that, compared to couples in the *no conflict* category, those in the *F_more* category have a 87 percent higher risk of having an additional child, while the risk is 47.5 percent lower for couples in the *F_less* group. The null hypothesis of $\theta_1 = -\theta_2$ cannot be rejected ($p - value = 0.9057$), suggesting that the effects are roughly symmetrical in magnitude (though in opposite directions).[14] Thus, these results are consistent with Model 1 that the wife's preference drives fertility decisions symmetrically in both directions: the wife's preference drives up fertility when her preference is higher than the husband's, and drags down fertility when her preference is lower. At the same time, our results reject both Models 3 and 4, suggesting that whether a partner has a higher or lower fertility desire does not alter his/her relative power over fertility decisions. What really matters is gender.

Figure 5 presents the estimated cumulative hazards for the three groups, *F_more*, *F_less* and *no conflict*, using the full sample. The hazard of having an additional child is consistently higher for couples in the *F_more* category, and lower for those in the *F_less* group.

[14]Note that we are testing $\theta_1 = -\theta_2$, which is equivalent to testing $exp(\theta_1) \times exp(\theta_2) = 1$ in terms of hazard ratio.

As we have noted, the *Baby Bonus* program was introduced on July 1, 2004. The fact that the *Baby Bonus* program was operational could potentially make the post-2004 period different from the pre-2004 period. We examine this possibility in a very conservative way by making a comparison between the full sample estimates with the estimates presented in column (2), where we restrict our sample to the $2004 - 2007$ period. The results, as displayed in column (2) of Table 3, are qualitatively similar to those in column (1): the estimated hazard ratio is 1.568 for couples in the *F_more* category and is 0.465 for couples in the *F_less* category, implying that compared to those in the *no conflict* category, the risk of having an additional child is 57 percent higher for couples in the *F_more* category and 53 percent lower for couples in the *F_less* category. Again we find that the effects are symmetrical and a formal test cannot reject the null hypothesis of equality of the two magnitudes ($p - value = 0.1871$).

In column (3) we present the marginal effects from a Probit estimation that mimics the one in Table 2 but incorporates instead the covariates employed in Equation (2) (that is, including FD_0^m, F_more_0 and F_less_0). Compared to the *no conflict* group, the birth incidence for the *F_more* group is estimated to be 22 percentage points higher, while it is 15 percentage points lower for the *F_less* group. Note again that here the initial fertility preference is defined as of 2001. The two effects are approximately symmetrical and a formal test cannot reject the null hypothesis of equality of the two magnitudes ($p - value = 0.6701$). Thus, the Probit results corroborate the results obtained from the Cox proportional hazards regression.

The estimations in this section present the following two interesting findings. First, since $\theta_1 > 0$ and $\theta_2 < 0$, our results reject the hypotheses that the dominance over fertility decisions belongs to the husband, the partner holding a higher fertility desire, and the partner holding a lower fertility desire. The results support the hypothesis that the wife's preference affects birth decisions irrespective of whether it is higher or lower than the husband's fertility desire. Second, the effects of wife's fertility desire in the two directions are roughly symmetrical in terms of magnitude.

4.3 Policy Effect: Did the *Baby Bonus* Scheme Make a Difference?

Table 4 presents the hazard ratios estimated from Equation (3). Recall that both the announcement and the implementation of the *Baby Bonus* program took place between the collections of 2003 and 2004 HILDA, so the $Y04$ dummy neatly separates the pre- and post-program time periods. In the specification of Equation (3), θ_1 captures the effect for *female wanting more* (*F_more*) relative to the *no conflict* group in the pre-2004 period, while θ_1' reflects how the effect changes from pre-2004 period to post-2004 period. θ_2 and θ_2' are accordingly defined for the *female wanting less* (*F_less*) variable.

Also recall that, in the preceding section, the results presented in Table 3 provides a first glimpse into the effect of the *Baby Bonus* on fertility decisions. A comparison of the results presented in columns (1) and (2) in Table 3 suggests that whether we include the pre-2004 sample or not does not make a qualitative difference in how *F_more* and *F_less* affect the hazard of having additional births.

The results presented in Table 4 corroborate these results. The estimated hazard ratios in column (1) are 1.898 and 0.529 for couples in the *F_more* and *F_less* categories, respectively, and both estimates are statistically significant. This indicates that in the period $2001-2003$, relative to couples in the *no conflict* category, couples in the *F_more* category face a 90 percent higher risk of having an additional child, while the risk is 47 percent lower for couples in the *F_less* category. The estimates of θ_1' and θ_2', however, are both fairly close to 0 (the corresponding hazard ratios are close to 1) and not statistically significant, indicating that the hazard ratios measured by $\exp(\theta_1)$ and $\exp(\theta_2)$ change only slightly from the pre-2004 to post-2004 years. Thus, these results suggest that the introduction of the *Baby Bonus* does not lead to a significant change in the relationships between the initial preferences and the risk of having a child, implying that the program does not enhance the decision power of either partner, wife or husband, or whoever holding a stronger fertility desire.

In column (2) we repeat our analysis but this time we restrict our sample to the period $2004-2007$. Here the post-2004 ($Y04$) dummy is replaced by a $Y06$ dummy, defined to

indicate years 2006 and 2007 ($Y06 = 1$) as the post-program years. By doing this, we are able to exploit the possible lagged effect, if lagged by two years, of the introduction of the *Baby Bonus* in 2004. Also, if there is only an immediate effect that takes place instantly after the policy commenced, this sub-sample can be used to examine the 2006 policy expansion that raised the benefit level of *Baby Bonus* by AU$834, which constitutes a second (though possibly weaker) experiment to explore the policy effect. Based on this sub-sample, we estimate the following regression:

$$\begin{aligned} h(t|\Omega) = h_0(t)exp(&\alpha + \beta_m FD_0^m + \theta_1 F\_more_0 + \theta_2 F\_less_0 \\ &+ \phi Y06 + \theta_1' \left(F\_more_0 \times Y06\right) + \theta_2' \left(F\_less_0 \times Y06\right) \\ &+ \mathbf{X}^f\gamma^f + \mathbf{X}^m\gamma^m + \mathbf{Z}\delta) \end{aligned} \tag{4}$$

The Cox proportional hazards regression results from estimating Equation (4) are presented in column (2) of Table 4. The results are qualitatively similar to those presented in column (1). The estimates of θ_1 and θ_2 indicate that in the period $2004-2005$, relative to couples in the *no conflict* category, couples in the *F_more* category have a 68 percent higher risk of having an additional child, while the risk is 55 percent lower for couples in the *F_less* category. Compared to the results in column (1), the estimated hazard ratio, $\exp(\theta_1')$, is lower (around 0.82), while the estimated $\exp(\theta_2')$ is higher (1.10), but neither of them is statistically significant. Once again we do not find any evidence supporting a significant impact of the *Baby Bonus* on the relationship between the initial preferences and the risk of having an additional child.

Finally, while the *Baby Bonus* can have an effect on fertility directly, it can in addition have an effect on fertility indirectly by changing the levels of fertility desire, and hence the within-couple disparity in the desire. So far we have not examined how the program and preferences interact so that the program would have such an indirect effect on fertility outcomes. To examine this, consider the following regression where we regress the within-couple difference in fertility desire (again, measured by the value of the wife's desire minus the husband's desire) for couple i in year t on a set of initial preferences. Specifically, the

regression is specified as:

$$Diff_{it} = \alpha + \beta_m FD^m_{i,2001} + \theta_1 F\_more_{i,2001} + \theta_2 F\_less_{i,2001} + \phi Y04 + \mathbf{X}^f_{it}\gamma_f + \mathbf{X}^m_{it}\gamma_m + \mathbf{Z}_{it}\delta + \eta Year_t + \varepsilon_{it} \quad (5)$$

where $FD^m_{i,2001}$, $F\_more_{i,2001}$, and $F\_less_{i,2001}$ refer to the husband's fertility desire, the *F_more* dummy, and the *F_less* dummy, all evaluated as of 2001. The results are presented in Table 5, where we do not find any evidence that the *Baby Bonus* has a significant effect on the within-couple difference in fertility desire, using either the full sample or the $2004 - 2007$ sub-sample.[15]

5 Conclusion

To briefly summarize our results, we find consistent evidence that the fertility preference of wives is more important in predicting birth outcomes, compared to the preference of husbands. The hazard of having an additional child is higher for couples in the *female wanting more* category, and is lower for couples in the *female wanting less* category: after controlling for the initial fertility desire for husband, the risk of having an additional child is 48 percent lower if the wife's initial desire is lower, and 83 percent higher if the wife's initial desire is higher. The wife's preference is the driving force behind fertility realizations.

As to the effect of the *Baby Bonus* program, we do not find any evidence to support the argument that the introduction of this program results in a change in the relationship between within couple difference in fertility desires at the beginning of the spell and the risk of having an additional child. These findings are not consistent with the hypothesis that the cash transfers from the scheme increase the bargaining power of the partner with a greater preference for another child, thus leading to an increase in fertility for couples with disagreement on fertility plan. Further, since the *Baby Bonus* offers payment to the

[15] For the sub-sample the initial conditions are defined as of 2003, not 2001. In this case, instead of using Equation (5), we estimate the following regression:

$$Diff_{it} = \alpha + \beta_m FD^m_{i,2003} + \theta_1 F\_more_{i,2003} + \theta_2 F\_less_{i,2003} + \phi Y06 + X^f_{it}\gamma_f + X^m_{it}\gamma_m + Z_{it}\delta + \eta Year_t + \varepsilon_{it}$$

primary carers of the newborn, which in the majority of the cases are mothers, our findings are not consistent with the hypothesis that the program enhances the bargaining power of wives. Finally, we do not find any solid evidence suggesting that the introduction of the *Baby Bonus* is associated with an increase in the risk of having additional children for the entire population.

Our findings are intriguing from a policy point of view. There is some literature suggesting that the introduction of the *Baby Bonus* has been associated with an increase in fertility rate, which in turn has led to calls for introduction of similar programs in other countries suffering from a general decline in fertility. In fact, the lack of a proper control group in the case of the *Baby Bonus* means that it is highly difficult to causally link the program to any observed changes in fertility. Although we do not find evidence that the introduction of the *Baby Bonus* has any behavioral implications in terms of altering within-household bargaining power, we believe that to fully understand the effect of a fertility-related public program one needs to take into account the possible household bargaining. From a broader perspective, the existence of within couple differences in preferences should be an important consideration for policy makers. After all, most household decisions are typically jointly made by the couple, and in general both partners' preferences matter if they are not completely consistent with each other. Thus, knowing about the within-couple disparity in preferences and how the two partners translate their preferences into decisions would help advance our understanding and prediction of the effects of public policies.

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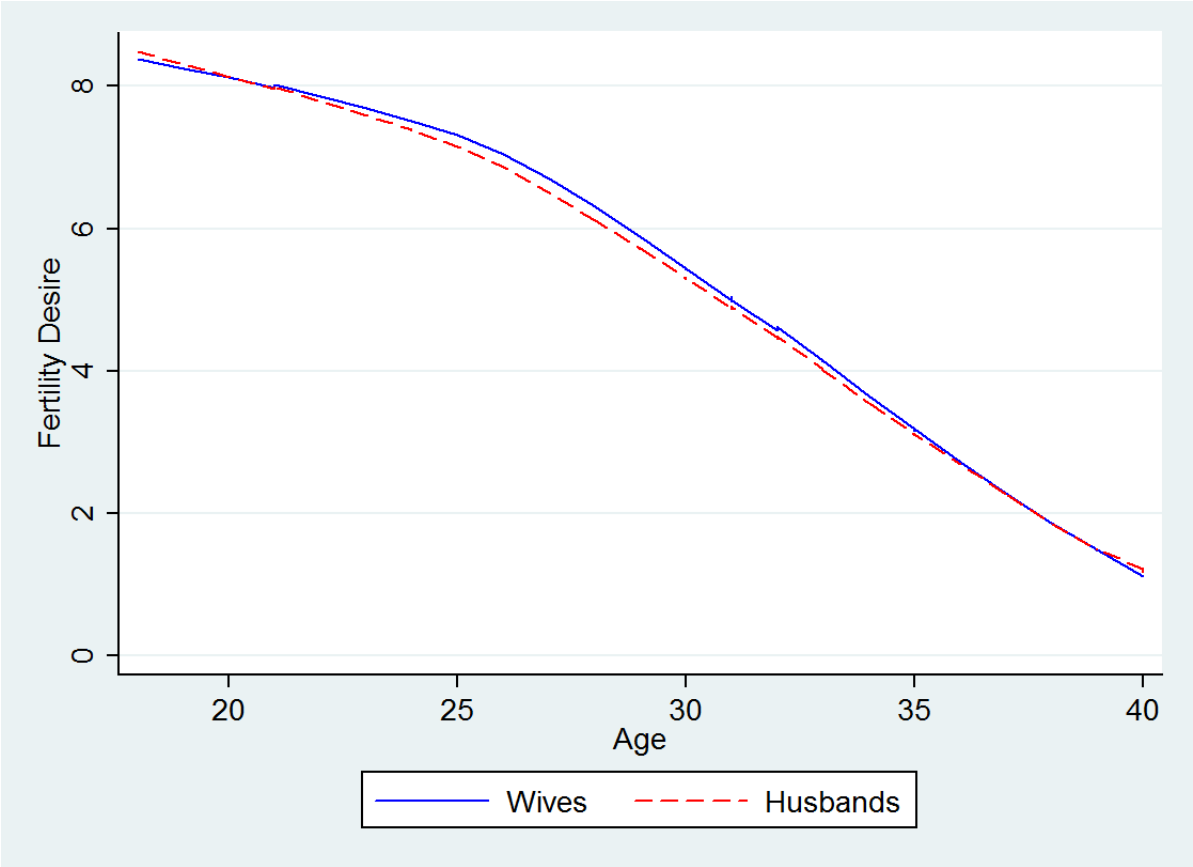
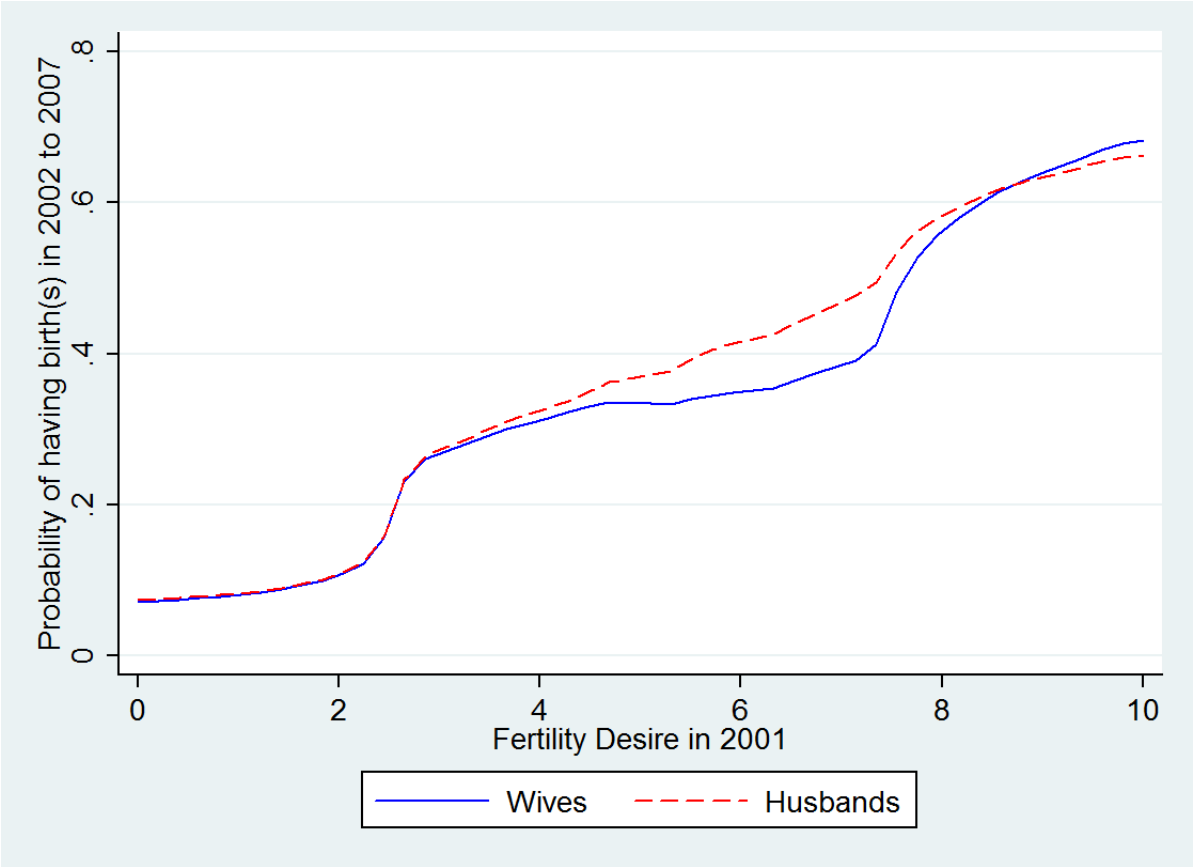
Figure 1: Age Profiles of Fertility Desire for Couples, 2001



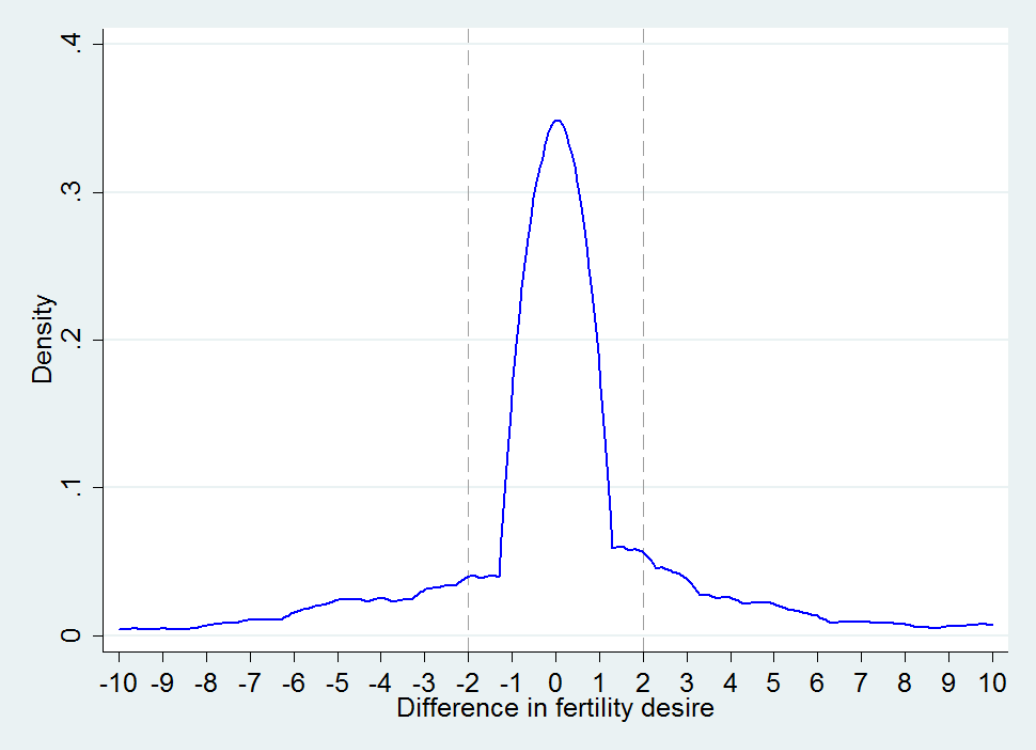
Source: Household Income and Labour Dynamics of Australia, 2001

Figure 2: Fertility Desire and Subsequent Birth Realisation for Couples



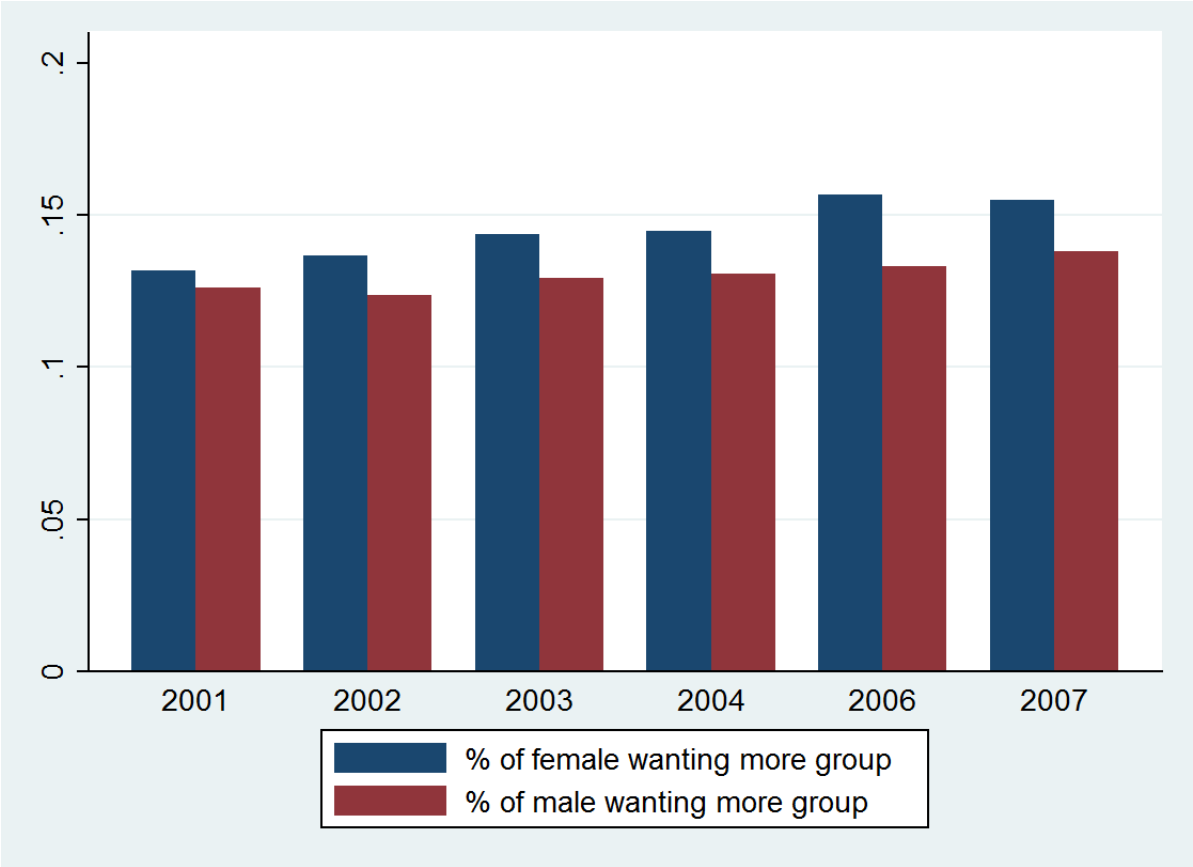
Note: The fertility desire is measured at 2001
Source: Household Income and Labour Dynamics of Australia, 2001

Figure 3: Within-couple Difference in Fertility Desire, 2001



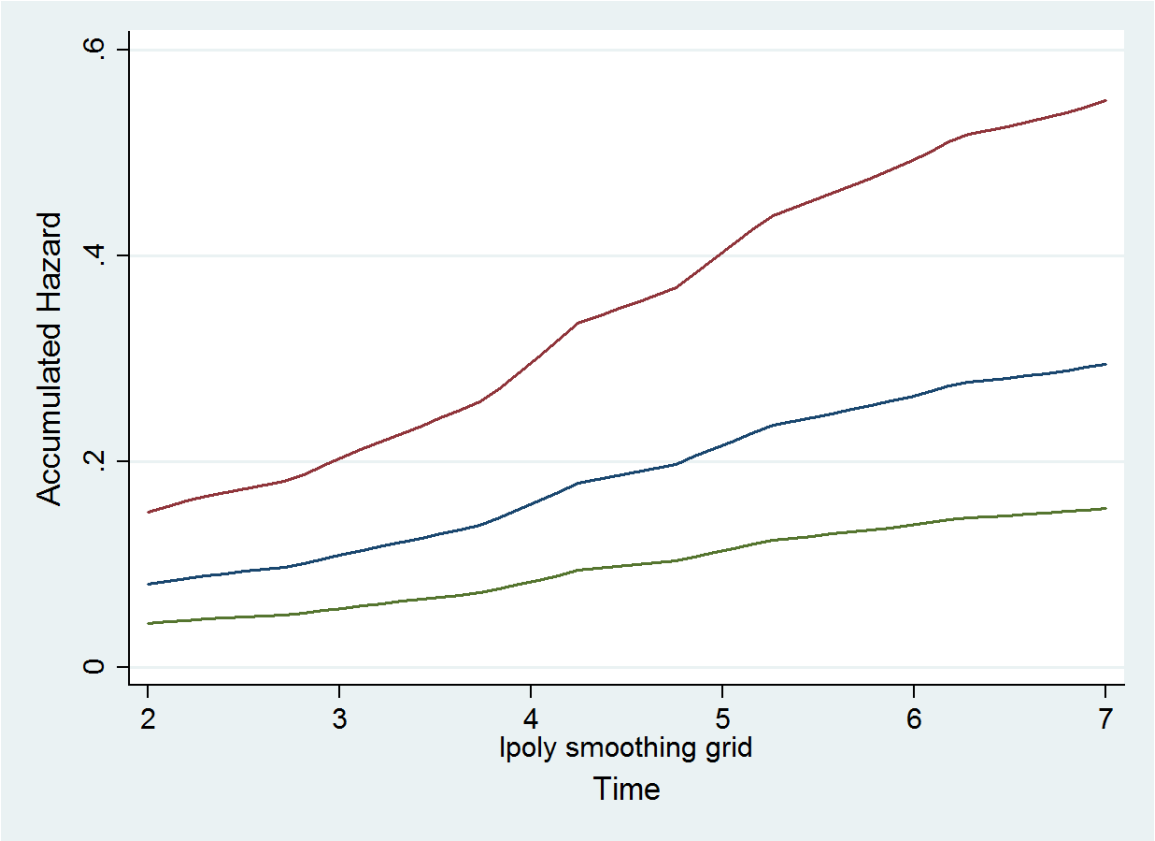
Note: The difference is measured as wife's desire minus husband's desire.
Source: Household Income and Labour Dynamics of Australia, 2001

Figure 4: Proportions of *F_more* and *F_less* Groups by Year



Note: The 2005 values are dropped as questionnaires asking for fertility desire are different from those of other years making the definitions of *F_more* and *F_less* for 2005 incomparable
Source: Household Income and Labour Dynamics of Australia, 2001-2004 and 2006-2007.

Figure 5: Estimated Cumulative Hazard for *F_more*, *F_less,* and *no-conflict* groups



Source: Household Income and Labour Dynamics of Australia, 2001-2004 and 2006-2007.

Table 1: Summary Statistics of Wives and Husbands Using 2001 data

	Female		**Males**	
	Mean	s.d.	Mean	s.d.
Age	31.99	5.54	34.87	6.86
Education (%)				
Grad diploma, grad certificate	0.06	0.23	0.04	0.20
Bachelor or honours	0.16	0.37	0.15	0.36
Adv diploma, diploma	0.11	0.31	0.08	0.27
Cert III or IV	0.12	0.32	0.32	0.47
Cert I or II	0.01	0.11	0.01	0.10
Cert not defined	0.00	0.05	0.00	0.00
Year 12	0.20	0.40	0.12	0.32
Year 11 and below	0.32	0.47	0.24	0.43
Health	0.90	0.31	0.87	0.34
Fertility desire	4.42	4.34	4.33	4.23
Yearly income ($\times 10^{-6}$)	0.02	0.02	0.05	0.05
F_more	0.12	0.33		
F_less	0.12	0.32		
In de facto relationship	0.25	0.43		
Total number of children	1.64	1.38		
Observations			1,636	

Health refers to a dummy variable indicating whether the respondent is free from long term health condition, disability or impairment (equal to 1) or otherwise (equal to 0).
All incomes are deflated to 2001 value.

Table 2: Parsimonious Regression Results

	Cox proportional hazard model			**Probit model**
	Wives aged			Incidence of
	$26-40$	$21-40$	$18-40$	having any child in $2002-2007$
	(1)	(2)	(3)	(4)
Wife's initial fertility desire (FD^f)	1.177***	1.190***	1.190***	0.038***
	(0.022)	(0.021)	(0.021)	(0.005)
Husband' Initial fertility desire (FD^m)	1.103***	1.094***	1.090***	0.023***
	(0.020)	(0.019)	(0.018)	(0.005)
Wife's age	0.968**	0.993	0.987	-0.012***
	(0.013)	(0.012)	(0.011)	(0.004)
Husband's age	0.986	0.985*	0.988	-0.006**
	(0.009)	(0.009)	(0.009)	(0.003)
Wife's health	1.531***	1.307*	1.272*	-0.032
	(0.247)	(0.181)	(0.171)	(0.051)
Husband's health	1.154	1.064	1.079	0.059
	(0.160)	(0.131)	(0.131)	(0.042)
In de facto relationship	0.805**	0.676***	0.674***	-0.119***
	(0.089)	(0.067)	(0.065)	(0.030)
Number of existing children $= 1$	1.554***	1.563***	1.539***	0.072
	(0.159)	(0.150)	(0.146)	(0.044)
Number of existing children ≥ 2	1.116	1.170	1.147	-0.035
	(0.145)	(0.146)	(0.142)	(0.041)
Wife's annual income	5.396	2.844	2.380	0.472
($\times 10^{-6}$)	(7.783)	(4.055)	(3.399)	(0.586)
Husband's annual income	2.260	1.906	1.748	0.390
($\times 10^{-6}$)	(1.922)	(1.606)	(1.479)	(0.366)
Test of equality of the coefficients of wife and husband's desires ($p-value$)	0.0440	0.0064	0.0041	0.0777
Test of the proportional-hazards assumption ($p-value$)	0.7589	0.8287	0.6643	
Number of subjects	2,228	2,474	2,530	
Number of failures	649	751	776	
Number of spells	6,047	6,742	6,847	
Number of observations				1,636

Hazard ratios are presented in columns $(1)-(3)$.
Imputed marginal effects are presented in column (4).
Robust standard errors in parentheses.
$^{***}p < 0.01,^{**}p < 0.05,^{*}p < 0.1$
Initial fertility desire refers to a subject's fertility desire in the entry year of a spell for the Cox proportional model, and to desire in 2001 for the Probit model.
Health refers to a dummy variable indicating whether the respondent is free from long term health condition, disability or impairment (equal to 1) or otherwise (equal to 0).
All incomes are deflated to 2001 value.
Other control variables include state dummies, time trend, and dummies for both husband's and wife's education levels.

Table 3: Examining the Effect of Within-couple Disparity in Fertility Desire on Fertility Realizations

	Cox proportional hazard model		**Probit Model**
	$2001-2007$	$2004-2007$	Incidence of having any child in $2002-2007$
	(1)	(2)	(3)
Husband's initial fertility desire (FD^m)	1.270***	1.314***	0.058***
	(0.020)	(0.030)	(0.004)
F_more	1.870***	1.568***	0.219***
	(0.182)	(0.221)	(0.047)
F_less	0.524***	0.465***	-0.147***
	(0.063)	(0.082)	(0.030)
Wife's age	0.984	0.985	-0.013***
	(0.011)	(0.015)	(0.004)
Husband's age	0.988	0.997	-0.006*
	(0.009)	(0.012)	(0.003)
Wife's health	1.275*	1.169	-0.028
	(0.171)	(0.196)	(0.050)
Husband's health	1.074	1.014	0.051
	(0.130)	(0.158)	(0.042)
In de facto relationship	0.665***	0.598***	-0.120***
	(0.065)	(0.075)	(0.031)
Number of existing children =1	1.572***	1.476***	0.066
	(0.150)	(0.180)	(0.044)
Number of existing children ≥ 2	1.095	1.183	-0.053
	(0.137)	(0.195)	(0.041)
Wife's annual income	2.918	0.750	0.592
($\times 10^{-6}$)	(4.171)	(1.343)	(0.589)
Husband's annual income	1.647	1.479	0.412
($\times 10^{-6}$)	(1.430)	(1.599)	(0.371)
$F\_more + F\_less = 1$	0.9057	0.1871	0.6701
$(p-value)$			
Test of the proportional hazards assumption$(p-value)$	0.7181	0.8409	
Number of subjects	2,530	1,709	
Number of failures	776	456	
Number of spells	6,847	3,740	
Number of observations			1,636

Hazard ratios are presented in columns $(1)-(3)$.
Imputed marginal effects are presented in column (4).
Robust standard errors in parentheses.
$^{***}p<0.01,^{**}p<0.05,^{*}p<0.1$
Initial fertility desire refers to a subject's fertility desire in the entry year of a spell for the Cox proportional model, and to desire in 2001 for the Probit model.
Health refers to a dummy variable indicating whether the respondent is free from long term health condition, disability or impairment (equal to 1) or otherwise (equal to 0).
All incomes are deflated to 2001 value.
Other control variables include state dummies, time trend, and dummies for both husband's and wife's education levels.

Table 4: Examining the Impact of *Baby Bonus* on Household Bargaining

	$2001-2007$	$2004-2007$
	(1)	(2)
Husband's initial fertility desire (FD^m)	1.271***	1.312***
	(0.020)	(0.030)
F_more	1.898***	1.690***
	(0.244)	(0.283)
F_less	0.529***	0.450***
	(0.083)	(0.100)
$Y04$	1.133	
	(0.494)	
$Y06$		0.819
		(0.492)
F_more $\times Y04$	1.003	
	(0.178)	
F_more $\times Y06$		0.821
		(0.219)
F_less $\times Y04$	0.990	
	(0.233)	
F_less $\times Y06$		1.098
		(0.395)
Wife's age	0.988	0.986
	(0.012)	(0.015)
Husband's age	0.987	0.997
	(0.009)	(0.012)
Wife's health	1.275*	1.164
	(0.172)	(0.195)
Husband's health	1.069	1.051
	(0.130)	(0.165)
In de facto relationship	0.665***	0.586***
	(0.065)	(0.074)
Number of existing children $= 1$	1.582***	1.462***
	(0.151)	(0.179)
Number of existing children ≥ 2	1.101	1.134
	(0.137)	(0.188)
Wife's annual income ($\times 10^{-6}$)	2.239	0.589
	(3.223)	(1.056)
Husband's annual income ($\times 10^{-6}$)	1.757	1.337
	(1.515)	(1.449)
$\theta_1 + \theta_1' = 0$	0.0000	0.1480
$\theta_2 + \theta_2' = 0$	0.0003	0.0136
$\theta_1 + \theta_2 = 0$	0.9840	0.3561
$\theta_1 + \theta_1' + \theta_2 + \theta_2' = 0$	0.9901	0.3314
Test of the proportional hazards assumption ($p-value$)	0.7609	0.9370
Number of subjects	2,530	1,709
Number of failures	776	456
Number of spells	6,847	3,740

Robust standard errors in parentheses.
$^{***}p < 0.01,^{**}p < 0.05,^{*}p < 0.1$
Initial fertility desire, *F_more* and *F_more* refer to a subject's fertility desire in the entry year of a spell.
Health refers to a dummy variable indicating whether the respondent
is free from long term health condition, disability or impairment
(equal to 1) or otherwise (equal to 0)
All incomes are deflated to 2001 value.
Other control variables include state dummies, time treand and dummies
for both husband's and wife's education levels.
θ_1 and θ_1' are coefficients of *F_more*
and *F_more* $\times Y04$ ($Y06$ in Column 2),
while θ_2 and θ_2' are coefficients of
F_less and *F_less* $\times Y04$ ($Y06$ in Column 2).

Table 5: Estimating the Impact of *Baby Bonus* on Within-Couple Difference in Fertility Desire

	$2002-2007$ (1)	$2004-2007$ (2)
$Y04$	0.025	
	(0.027)	
$Y06$		-0.007
		(0.045)
Husband's initial desire (FD^m)	0.003	-0.004
	(0.002)	(0.003)
F_more	0.211***	0.271***
	(0.026)	(0.033)
F_less	-0.305***	-0.338***
	(0.026)	(0.034)
Wife's age	-0.009***	-0.009***
	(0.003)	(0.003)
Husband's age	0.004**	0.004*
	(0.002)	(0.003)
Wifes health	-0.010	0.025
	(0.025)	(0.032)
Husband's health	0.017	0.030
	(0.024)	(0.028)
In de facto relationship	0.004	-0.021
	(0.021)	(0.024)
Number of existing children = 1	0.042*	0.038
	(0.024)	(0.027)
Number of existing children ≥ 2	0.057**	0.044
	(0.023)	(0.028)
Wife's annual income ($\times 10^{-6}$)	0.137	0.023
	(0.243)	(0.266)
Husband's annual income ($\times 10^{-6}$)	-0.377***	-0.343**
	(0.145)	(0.167)
Time trend	-0.010	-0.004
	(0.008)	(0.019)
Number of Observations	5,488	3,686

Robust standard errors in parentheses. Marginal effects are presented.
$^{***}p < 0.01, ^{**}p < 0.05, ^{*}p < 0.1$
Health refers to a dummy variable indicating whether the respondent is free from long term health condition, disability or impairment (equal to 1) or otherwise (equal to 0)
All incomes are deflated to 2001 value.
Other control variables include state dummies and dummies for both husband's and wife's education levels.