

Intra- Household Allocation and Bargaining

Power: Evidence from Chile

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Abstract

Until 1999 children born out of wedlock in Chile had different child support rights to those born to married couples. I interpret this law change as an increase in bargaining power of woman in cohabiting relationships. Using a panel of cross sectional data I find a decrease of 1 percentage point in the probability of working for men, and an increase of 2 percentage points in school attendance of children between 14 and 18 and boys between 0 and 5 years old. These results provide evidence against the unitary model as well as against the Nash bargaining model. The labor market outcomes support a model where the reduction in men's relative bargaining power is understood as a tax on wages: there is a proportion of income that is not allocated according to the money earner's preferences.

1 Introduction

The distribution of consumption within the household is crucial to the understanding of the well being of its members and the design of public policies. From

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a conceptual perspective, distinguishing the appropriate household model sheds light on how consumption decisions are taken while highlighting the importance of information, preferences, and power distribution within the household. Assuming efficiency of the intra-household allocation leads to policy interventions that could increase the utility of some household members to the detriment of others. It is possible to design mechanisms and interventions that could increase the welfare of all household members if this assumption is invalid.

The unitary model of the household is the starting point of the analysis of household decisions (for a summary of the literature see Lundberg and Pollak(1996) and Pollak(2005)). Proposed by Becker, the unitary model treats households as entities with unique preferences. That is, all household members have the same utility function or household decisions are taken using only preferences of one household member. In consequence, the family member who owns the family income or wealth is irrelevant for household decisions.

In contrast to the unitary model, there is a growing literature documenting that household outcomes are affected by the distribution of power within the household. (Lundberg, Pollak and Wales(1997), Duflo (2000), Duflo and Udry (2003), Rangel (2004), Fortin and Lacroix(1997)). Indeed, it has become commonly accepted that women spend their money more ‘wisely’. For example, cash transfer programs as Oportunidades in Mexico¹ give the transfer to the child’s mother, instead of the father.

A critical concern in the design of the tests of household models is the need for exogenous variation in resources distribution or bargaining power. For example, using labor income as a signal of bargaining power is incorrect because it is itself determined by the bargaining process: if we observe that more educated women work more, we can’t infer that the bargaining power made them work more. Therefore most of the recent literature has focused on changes or

¹Conditional cash-transfer program. For a description see Gertler and Boyce (2001).

differences in non labor income that are not subject to this critique.

However, if pre-couple formation labor income determines the ‘marriage market’ outcome, as suggested by Becker, and the bargaining occurs in the marriage market rather than within the marriage, non labor income is no longer a good proxy of bargaining power. If, for example, wealthier women match with men with preferences similar to theirs, we could observe that their non labor income is positively correlated with children’s outcome, but it will not reflect any bargaining within the household.

The ideal experiment is a random assignment of nonlabor income to husbands and wives. Such an experiment does not exist. For these reasons, the literature is moving towards using exogenous variation on resource ownership or bargaining power to study the effect of power distribution on family outcomes. For example, Lundberg, Pollak, and Wales(1997) use a change in public policy that affects the distribution of public transfers to the household. Dufo (2000) studies a different change in public policy that affects the level of transfers. Finally, Rangel(2004) investigates a change in alimony rights that would affect bargaining power.

In this paper I use a law change that increased child support rights for children from non married couples in Chile as the source of exogenous variation in the bargaining power distribution within cohabitant households. Child support for out of wedlock children increased from a level of "basic subsistence" to a level according to their "social status". Since children usually live with their mother if the couple splits, the law change would increase women’s bargaining power.

Using a panel of cross-sections, I find a 2 percentage point increase (for a mean of 0.81) in school attendance for children between 14 and 18 years old, a 2 percentage point increase (for a mean of 0.22) in daycare attendance for boys

between 0 and 5 years old, and a decrease in the probability of working of 1 percentage point for men. The results are robust to a false experiment where the data is arbitrary divided in a pre and post reform period.

The increase in school attendance can be interpreted as a movement towards women's' preferences in cohabiting relationships once their bargaining power increased. The decrease in the father's hours of work can be interpreted as a result of a substitution effect induced by the increase in the bargaining power of women. Both results add to the growing evidence against the unitary household model. The second sheds light on alternative household models.

The most commonly used model after the unitary household model is the collective model, which assumes Pareto optimality of the household outcome (Chiappori (1988)). Non cooperative models could lead to Pareto optimality, and it is argued that families would reach it since they have multiple opportunities to play the same game. However, family violence and abuse indicate that equilibrium is not always attained. Furthermore, the assumption of an efficient household allocation has been previously rejected by Udry (1996) and Duflo and Udry (2003). The first shows differences in productivity depending on which family member is the plot owner and the second uses rainfall shocks that affect crops differently and finds a change in the composition of expenditure.

The decrease in father's probability of working can be interpreted in the context of an individual maximization where a decrease in bargaining power is interpreted as a tax in his/her wages. This 'tax' would not be correcting any misallocation and it is therefore inefficient.

2 Institutional Change

2.1 Law Change

Chile has had a divorce law only since 2004. Before that there was a legal procedure called annulment, which implied the marriage never existed if the couple claimed that they did not live in the address they declared as legal residence when they got married. In that case the law representative did not have the legal power to marry them. This was a common and relatively expensive procedure, not usually an option for poor couples. Chile also does not have legal abortion.

In 2003, 53.8% of newborns were born out of wedlock in Chile, growing from 34.3% in 1990.² Until October 1999, differences between children of unmarried mothers and children of married parents were observed in names, inheritance, and child support rights. Children born out of wedlock were called "illegitimate", while children born inside a marriage were called "legitimate" children. The "type" of child was stamped in the certificate of birth, which is required for admission to schools.

Legitimate children had the right to child support that would allow them to reach a living status corresponding to their social level, whereas illegitimate children had only the right to a minimum subsistence level.³ Regarding inheritance, an illegitimate child had rights to one half of the portion that legitimate children had. Furthermore, children born out of wedlock didn't have legal grandfathers, which implied that they were not entitled to inheritance or child support from them when their parents were incapable of providing it.

All these differences were abolished in 1999, and since then there are no

² Anuario de estadísticas Vitales 2003. Instituto Nacional de Estadísticas, Chile.

³ The actual level was fixed by the judge and there is no data on its value. The average alimony now is between 50,000 and 150,000 pesos monthly (<http://www.economiaynegocios.cl>). (US\$86 and US\$258). The minimum wage is US\$208 approximately.

different child "types". The reform also changed the procedure to recognize children born out of wedlock. A natural first step to claim child support is to identify the father. The reform allowed the use of DNA to do that, and made the exam free when facing financial need⁴.

Alimony is mainly claimed for children⁵, but can also be claimed by elders from their child and within a marriage if one of the members can provide proof of financial need. The latter are usually not given if the demander has the ability to work. Before the law change, the mother had to show that the father was working and was able to pay, which resulted in a long and hard process, which mostly disadvantaged poor families.⁶ Now, it is assumed that the father can pay a minimum pension, which is approximately \$40,200 (Chilean pesos) for a child below 18 years old⁷ and 30% of the minimum income for each additional child. However, the pension cannot be higher than 50% of the income of the parent who is giving it.

If the father is declared as unable to pay, the grandfathers can be sued to pay instead of him. If a father does not pay the child support, he can be condemned to night arrest or can serve arrest for up to 15 days in prison.

2.2 Data and Descriptive Statistics

The data come from two sources: the Chilean National Survey of Socioeconomic Characterization (CASEN) and a two-wave panel constructed from it. CASEN is a nationally representative cross sectional survey with around 40,000 households (200,000 individuals) per wave.⁸ Seven waves of this survey (1990, 1992,

⁴However, practitioners claim that the effects of DNA test could be only observed from 2002, given the queue on getting it for free. Child support established before the law change did not automatically change and instead, a new trial is needed.

⁵Children under the age of 21, or 28 in the case of a full time student.

⁶Approximately one third of workers are self employed.

⁷It is 40% of the minimum income.

⁸The survey is funded by the Ministry of Planning and Cooperation and is implemented by the Economics Department of the University of Chile.

1994, 1996, 1998, 2000, and 2003) are used in the analysis: five of them (1990-1998) correspond to the period before the law change and two (2000 and 2003) to the period after the law change.

The first wave of the panel was formed from 5,326 randomly selected households from the 1996 CASEN. They come from four out of the country's thirteen regions, including the metropolitan region.⁹ 4,060 households were successfully found in 2001, the year of the second wave.

The survey does not have a question about children "types", but it allows one to identify the gender of the household head and whether they are married, cohabitants, widowed, annulled or single. In the analysis it will be assumed that children from cohabitant couples were born out of wedlock and therefore would have been classified as "illegitimate" before 1999, and children from married parents are "legitimate". Furthermore, it is not possible to distinguish if they live with their biological parents because the survey asks for the relationship with the household head and groups child and stepchild under the same code. This will bias the results downwards.

Table (1) shows descriptive statistics for married and cohabiting households. A higher percentage of married households have a male head, who is also more educated (9 versus 7.6 years of education). This difference in average education holds for mothers and fathers. Cohabiting couples are younger, with an average age of 33 for the mother and 37 for the father. Furthermore, they have a more disadvantageous background: they are poorer (47% versus 35%) and a lower proportion own their own house.

Children from cohabiting couples are slightly younger (8 versus 9.3 years old) and there is no gender difference. School attendance is always lower for them and the difference is bigger for the secondary age group (14 to 18 years

⁹Which represents 60.7% of the population. INE, Compendio Estadístico 2003 table 1.2.1-02.

old), where 79% of children from married relationships attend school while the attendance rate is only 69% for children from cohabiting relationships. Note that school attendance in primary school is close to universal in both groups. Finally, 8% and 11% of children from married and cohabiting relationships respectively work and this status is concentrated among boys.

3 Theoretical Framework

3.1 The Unitary Model

The unitary model assumes that the household makes decisions as one individual. All income is pooled and there is no bargaining. Therefore, changes in bargaining power would have no effect on household outcomes.

A simple setup of a bargaining model is one where the household maximizes:

$$\Psi = \delta_f U_f(c, l_f, l_m) + \delta_m U_m(c, l_f, l_m) \quad (1)$$

where f stands for female and m for male. The parameters, δ_f and δ_m represent the bargaining power of each member, c is a consumption good that can be bought in the market at price p_c , and l_f, l_m stands for leisure. Note that each household member has its own utility function, but it includes each other's consumption.

The maximization is subject to the following restrictions:

$$p_c c = w(h_f + h_m) + Y_f + Y_m \quad (2)$$

$$h_f + l_f = T, h_m + l_m = T \quad (3)$$

where Y_f and Y_m represent non labor income, and T is the total number of

hours that can be allocated to leisure or work. The solution of this problem gives a demand function for each of the goods of the form:

$$c = c(\delta_f, \delta_m, w, p_y, Y_f, Y_m, T) \quad (4)$$

It is clear from this setup that an increase in female's bargaining power should move the household's consumption bundle according to her preferences. If women give more value to the education of their children, we expect to see an increase in their education after an increase in their bargaining position.

On the other hand, under the unitary model, the objective function is $\Psi = U(c, l_f, l_m)$. There is no role of the weights δ_f and δ_m and changes in bargaining power have no effect. The demands have the form of $c = c(w, p_y, Y_f + Y_m, T)$

3.2 The Nash-Bargaining Model

McElroy and Horney (1980) propose a household bargaining model, where it is assumed that the allocation achieves the Nash solution of a two-person, non-zero sum game. Households maximize a utility-gain production function $N = [U^m(x) - V_0^m(p_m, Y_m, \alpha_m)] * [U^f(x) - V_0^f(p_f, Y_f, \alpha_f)]$, where m stands for male and f for female. The expressions in brackets represent the gain of being in a relationship.

$V_0^m(p_m, Y_m, \alpha_m)$ and $V_0^f(p_f, Y_f, \alpha_f)$ are the reservation utility for each member, which depends on the prices of the goods they consume (including wages), their non labor income (Y_m and Y_f), and the 'extrahousehold environmental parameters' (McElroy(1990)) α_m and α_f . These last parameters affect the reservation utility, but have no effect on their income or prices if they remain as a couple. For example, the legal change that increased child support for illegitimate children would increase α_f (and decrease α_m), but has no effect on prices or non labor income if the couple remains together.

The household maximizes N subject to a household budget constraint $\sum px = (w_m + w_f)T + Y_m + Y_f$. As before, the system implies demands of the form $x_i = x_i(p, Y_m, Y_f, \alpha_m, \alpha_f)$, but the structure imposed allows us to derive comparative statics.

It is worth noting that changes in the ‘extrahousehold environmental parameters’ will have no effect on the budget constraint, but only affect the utility-gain production function through the reservation utilities. Intuitively, an increase in α_f will change the family’s marginal rate of substitution between goods that she prefers and goods that he prefers. Considering his and her leisure, since the budget constraint does not change, the variation in the shape of the "iso-gain product curve" (the household indifference curve in the Nash context) unambiguously implies an increase in males’ labor supply and a decrease in females’ labor supply as long as women are "selfish".

Formally, McElroy and Horney (1980) define the "family rate of substitution" $FRS_{ij} = -\frac{dx_j}{dx_i} = \frac{N_i}{N_j}$, and show that

$$\begin{aligned} \frac{\partial FRS_{ij}}{\partial \alpha_f} &= \frac{U_j^f U_j^m}{N_j^2} * \left[\frac{U_i^f}{U_j^f} - \frac{U_i^m}{U_j^m} \right] * \left[\frac{\partial V_0^f}{\partial \alpha_f} (U^m - V_0^m) - \frac{\partial V_0^m}{\partial \alpha_f} (U^f - V_0^f) \right] \quad (5) \\ &= \frac{U_j^f U_j^m}{N_j^2} * [\Delta MRS_{ij}] * [W] \quad (6) \end{aligned}$$

The first and third term are positive. If she is ‘selfish’, then the second term is also positive.

3.3 A Tax Model

A basic tax model assumes that individuals only see the tax and do not value the goods on which the tax revenue is spent. From a household perspective, an increase in female’s bargaining power can be interpreted as a wage tax on

men as long as they do not value any of the goods that will be consumed by the household with this new sharing rule. That is, an increase in females' bargaining power increases fathers' contribution to the goods that she prefers, and for which he enjoys no benefit.

This contradicts the unitary model in several ways: household members have different utility functions, which depend on different goods and resources are not pooled, but extracted from each other. The model also contradicts the Nash bargaining model: household's members utilities are not interdependent and the solution to the bargaining problem is a not cooperative equilibrium.

The Slutsky equation for wage changes is:

$$\frac{\partial h}{\partial w} = \frac{\partial h}{\partial w} \Big|_{\bar{v}} + h \frac{\partial h}{\partial y} \quad (7)$$

An increase in taxes implies a decrease in the net wage. By the substitution effect, leisure increases and hours worked decrease. By the income effect, leisure should decrease and hours worked increase. The net impact is ambiguous and its size and sign is an empirical question.

3.4 Model Predictions

The unitary household model assumes that households act as one entity. Hence, the changes in the bargaining position of their members should have no effect on household outcomes.

Household bargaining models allow household members to have different utility functions, for which changes in bargaining power could affect household outcomes. In particular, in the Nash-bargaining model an increase in females' bargaining power decreases their worked hours and increases the male's worked hours.

Nash bargaining assumes that the household outcome will be efficient. If an

increase in female’s bargaining power is understood by her partner as a wage tax, the induced income and substitution effect lead to an uncertain effect on his labor supply, making its sign an empirical question.

The next section tests the unitary model, using both children’s outcomes (school attendance and child work) and parents’ labor market outcomes. Any effect of the law change can be interpreted as a rejection of the unitary household model. The sign and significance of the labor market outcome allows us distinguish between the Nash bargaining and tax model.

4 The Law Effect

4.1 Empirical Specification

Two sets of outcomes are studied: labor market outcomes (hours worked and work status) and child’s outcomes (school attendance and child work). The law effect will be identified from differences in the pattern of these outcomes between married and cohabitant households after 1999 compared to before¹⁰.

The identification assumption is the existence of a parallel trend between cohabitant and married couples in the absence of the law change. That is, for any period besides the period after the law change:

$$\begin{aligned} & (E[y_j|C = 1, t = 2] - E[y_j|C = 1, t = 1]) \\ & - (E[y_j|C = 0, t = 2] - E[y_j|C = 0, t = 1]) = 0 \end{aligned}$$

where y_j is the outcome of interest, $C = 1$ for cohabitant couples, and $C = 0$ for married couples and t is time¹¹.

¹⁰The available panel data is not useful to analyze the outcome of interest because of its sample size or the number of waves. First, cohabitant couples with children represent a small fraction of the 1996 sample (11%), which puts too much weight on the representativeness of each household. For children’s outcomes, there is a trend of dropping out of school after primary and it is not possible to distinguish between differences in patterns of this trend in cohabiting and married households and the law change effects. Finally, for women’s labor market outcome, their low participation rate deepens the sample size problem.

¹¹All comparisons are between cohabiting and married couples with children, where children are defined by their relationship with the household head. They are restricted to be less than

In a regression framework, this difference in difference specification is:

$$y_{jt} = \alpha_0 + \alpha_1 C_{jt} + \alpha_2 after + \alpha_3 after * C_{jt} + \mu_{jt} \quad (8)$$

The parameter of interest is α_3 , which will capture the effect of the law change in cohabitant couples.

There are observable differences between the cohabitant and married group. As long as these differences are constant across time and don't interact with the law effect, including controls should not change the relevant estimated coefficients. When using cross sectional data, I include observables that are stable over time in order to avoid potential endogeneities (for example, one should not include income in the labor market outcomes' equation because lack of work affects the income level) .

A concern with this approach is the existence of changes in the composition of the cohabitant and married group. For example, the law change might have induced more marriages, and therefore couples observed as cohabitant in 1998 would be in the married group in 2000. Figure (1) shows the percentage of households with children in these two marital status. Although it is possible to observe an increase in the importance of cohabitants, there is no observable break in the trend around the law change. Furthermore, panel data shows that 89% and 67% of married and cohabitant couples respectively remained in their group between 1996 and 2001.

For school attendance, child work, and work status, the regression is specified as a probit. For hours worked, both OLS and tobit results are reported.

18 years old each year because the law guarantees them the right to alimony until that age and to increase the likelihood of having them living with their parents. Table (2) shows the percentage of children living with their parents by age.

Children from other family "types" (single or annuled) were not included because of their small sample size.

4.2 Results

4.2.1 School Attendance and Child Work

In this section individual level regressions are used to study the effect of the law change in children’s outcomes: school attendance and child work. Both are interesting when considering children’s welfare and can also shed light on intra-household bargaining.

Table (3) shows school attendance at different ages. In 1998, 23% of children between 0 and 5 years old were attending school, which increases to 98% of those the primary school age range (6-13 years old). The corresponding figure is 81% for children in secondary school age.

Three age groups are defined according to Chilean schooling levels: pre-school (0-5 years old), primary school (6-13 years old), and secondary school (14-18 years old). Since school attendance is close to universal for the primary age group, the reform effect is not expected to be observed in this group.

Figures (2), (3), and (4) show the average school attendance for each age group separately for cohabiting and married couples. All of them show a decrease in the gap between married and cohabiting after the law change, but the difference is more striking in figure (2) for the oldest group (14-18 years).

Tables (4), (5), and (6) show children level regressions of school attendance for each age group. Three sets of regressions are shown: one for the whole sample, and one for boys and girls separately. For each set, four regressions are shown. In the first one, no controls are included besides the child’s age. The second includes household head schooling and age together with an urban and regional dummies. Children’s age is replaced by age dummies in the last two regressions to capture any non linear effects of age. The tables report the marginal effects from probit estimations. Standard errors are clustered at the household level.

Table (4), shows the impact of the law change on school attendance of children between 14 and 18 years old. Children from cohabitant couples increase their school attendance by 2 percentage points with respect to children from married couples after the law change. Because no income transfer was established with the law change for the household types under study, the effect is a direct response to changes in women's bargaining position¹².

The magnitude and significance of the effect is stable to different specifications and the standard errors are smaller for girls than for boys. This is the age group for which a larger effect was expected. The increase in school attendance of 2 percentage points is relevant given that the mean of the dependent variable is 0.81 for the whole sample.

As expected, table (5) shows no significant effect of the law change for the age group 6 to 13 years old neither for the whole sample, nor when it is divided by gender. Since school attendance is almost universal in this group there is not margin to move.

Finally, the effect on the youngest age group can be seen in table(6), where we observe an increase in school attendance of 1 to 1.4 percentage points, significant at the 10% level. When the sample is divided by gender, the coefficient on the interaction is only significant for boys and implies an increase in school attendance of 2-2.8 percentage points.

A concern with these results is that they may reflect an underlying trend in cohabitant versus married households and not the effect of the law change. To address this concern, false experiments are implemented in the pre-law change period. In this case, I artificially define the before period as the years 1990 to 1994 and the after period as 1996 to 1998. In the absence of an underlying

¹²The law change implies income transfers increases to households with children from former cohabitant relationships that no longer live together. Since the sample only includes households with cohabiting or married parents, they should not be affected by these transfers unless they have children from other cohabitant relationships. There is no reason to assume that the latter would be stronger for cohabitant or married couples.

trend specific to the cohabitant group, the interaction between the cohabitant and after dummy should be insignificant.

Tables (7) and (8) show the result of the false experiment for school attendance of the oldest and youngest age group. No effect is found for the interaction when the sample is pooled or when it is separated by gender. This suggests the absence of an underlying trend that could explain the previous results for these age groups.

A second outcome of interest regarding child's welfare is child work. The surveys only ask labor market questions to individuals who are 12 years or older. Given that the effect on school attendance was found for the age group 14-18, the sample is restricted to that age group. Table (9) shows a decrease in the probability of child work for the older age group of 0.01 at different levels of significance for the whole sample and for boys. No significant effect is found for girls.¹³

Table (10) shows that prior to the law change there was no trend in child work. Although the statistical significance of the law effect is not as robust as in the case of school attendance, the sign and magnitude of the coefficients are as expected.

Finally, to address potential confounding effects of the economic cycle, tables (11), (12), and (13) show that the magnitude and significance of the results remain when including the regional unemployment rate as one of the controls.

Therefore, the law change increased school attendance of children of high school age and boys between 0 and 5 years old in 2 percentage points. The law also reduced child work by one percentage point, but this effect is not as robust as the effect on school attendance.

¹³Studying and working are not mutually exclusive activities: a 21.2% of working children were also studying in 1998.

4.3 Labor Market Outcomes

Two labor market outcomes are analyzed for the household head and his/her partner: work status and hours worked. Given that these are household outcomes, the regressions are at the household level. For each of these outcomes, two regressions are shown. The first is specification (8) and the second includes the person's schooling, age, a urban dummy, and a set of regional dummies.

Figures (5) and (6) show the proportion of working "mothers" and "fathers". It can be seen that less than 40% of women work and those in cohabiting relationships are more likely to be working than those who are married. The inverse is true for males: those in the latter are more likely to be working. Figure (6) shows a decrease in the gap between married and cohabiting fathers after 1999. Figures (7) and (8) show the monthly average hours worked of mothers and fathers respectively. No clear pattern can be identified from them.

Given the censoring of hours worked, both OLS and tobit coefficients are presented for this outcome¹⁴. In the case of work status, the marginal effect of the probits are shown.

Table (14) shows the results of the difference in difference regression for these two outcomes. The first four columns show the marginal effect when the dependent variable is log of mother's hours worked. The coefficients for the OLS and tobit specification are similar. Including controls, there is a 4% decrease in worked hours for the mother. However, the standard errors are large and the coefficients are not significant.

In the next four columns the dependent variable is log of hours worked for the father. In all specifications the coefficient of interest is significant and implies a decrease in hours worked between 7 and 11% (for a mean of 4.1). This change is not expected from the Nash bargaining model, which implied an increase of

¹⁴When $\log(\text{hours})$ is missing, it is replaced by zero.

male's hours worked as consequence of the increase of female's bargaining power.

The last four columns of table (14) show the marginal effect from probit regressions when the dependent variable is the probability of working for females and males respectively. As before, no significant effect is found for women. However, a significant decrease in males' probability of working is found, when controls are included. The coefficient implies a decrease in the probability of working of 0.01 (for a mean of 0.79). The two results in male's labor market outcomes imply a law change effect both on the intensive and extensive margin.

As before, the existence of underlying trends explaining these results is tested with a false experiment, which is shown in table (15). Depending on the controls and the specification used (OLS or Tobit), a significant effect on male's hours worked is found. In the case of the probability of being working, the relevant coefficient is never significant. The former suggests the existence of an underlying trend that could explain the previous effect found for males' hours worked.

Finally, to address the concern of business cycles effects, table (16) shows that all results are robust to the inclusion of the regional unemployment rate. There is no effect on the coefficients and the standard errors are smaller.

Summing up, no effect is found on female's labor outcomes and an effect on both the extensive and intensive margin is found for male's labor supply. The effect on the probability of working is more robust to the false experiment than the effect on hours worked. These results contradict the Nash-bargaining model predictions and are compatible with a tax model in which the increase in sharing produced by the increased female's bargaining power is understood by men as an income tax.

5 Conclusion

Evidence from Chile adds to the growing literature that rejects the unitary household model. Using exogenous variation provided by a law change that increased child support for out of wedlock children, I find that school attendance of children between 14-18 years and boys between 0-5 years old increase by 2 percentage points. Furthermore, reflecting interactions between labor market outcomes and the intra-household bargaining, I find a decrease in fathers' probability of working of one percentage point.

Both results reject the unitary household model because changes in bargaining power imply changes in household outcomes. These results highlight the importance of considering household interactions when analyzing the impact of public policies. Even though the law change did not have any impact on cohabitant and married household's income and did not establish a subsidy, household incentives and outcomes changed.

Fathers' labor market outcomes allow us to distinguish between the Nash-bargaining and a tax model in favor of the second. The first predicts a decrease in men's leisure in response to an increase in females' bargaining power as long as females are egoistic, whereas the second implies an ambiguous effect depending on the size of the income and substitution effect.

Different preferences within the household implied that a law change that only affected the household bargaining power distribution had real effects in relevant outcomes such as school attendance. This suggests that understanding the correct institutional setting for household interactions potentially has a role in attaining socially desirable outcomes.

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Figure 1: Households by Marital Status

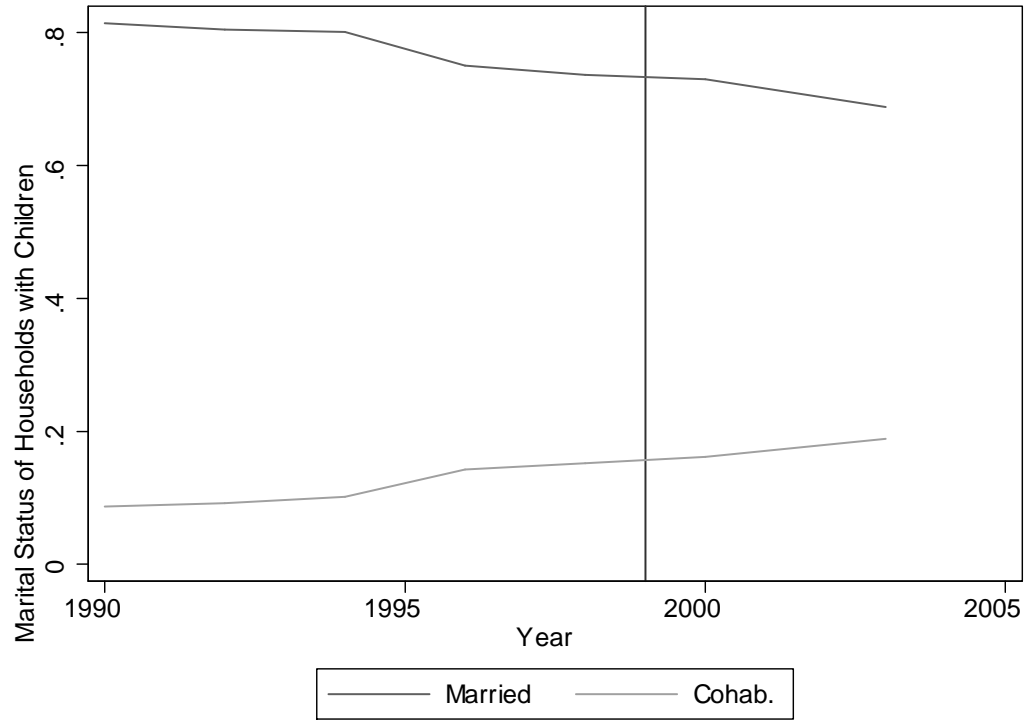


Figure 2: % School Attendance

Age Group : 14 - 18

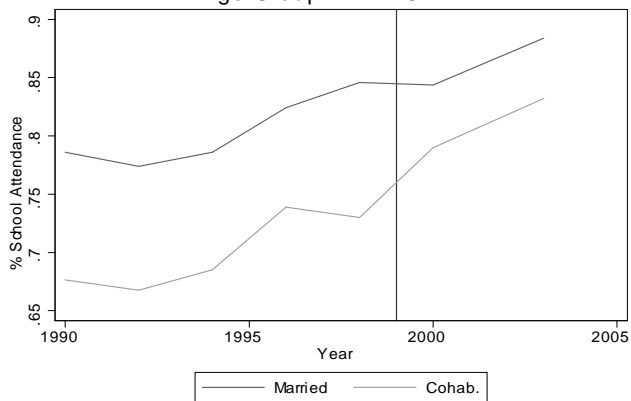


Figure 3: % School Attendance

Age Group : 6 - 13

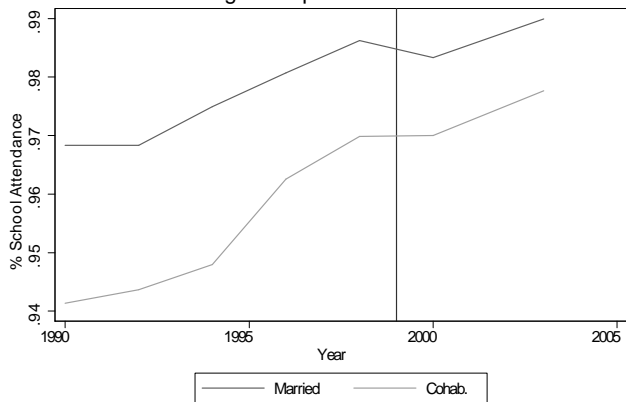


Figure 4: % School Attendance



Figure 5: % Working

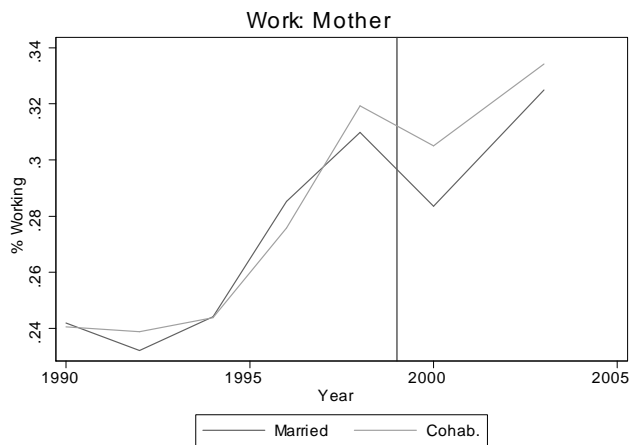


Figure 6: % Working

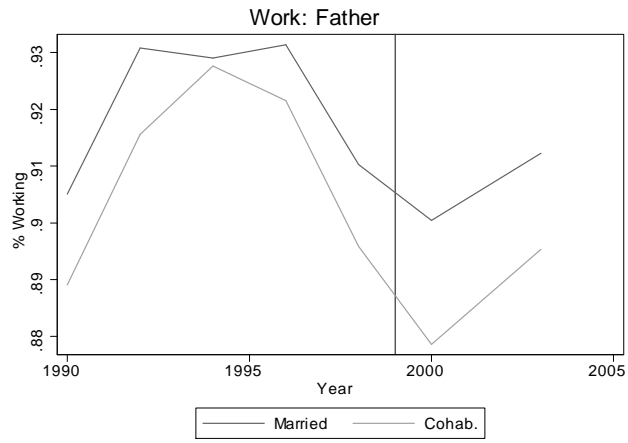


Figure 7: Hours Worked

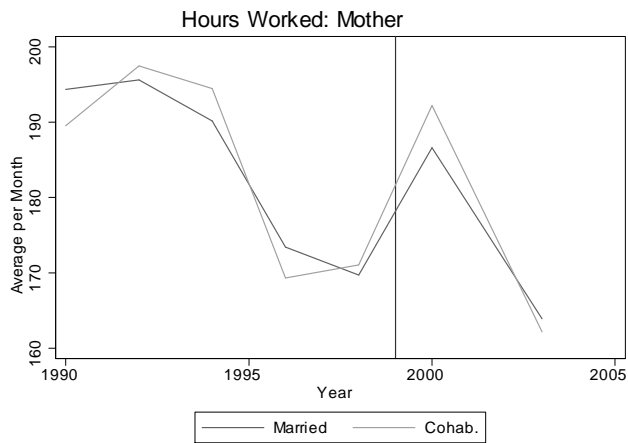


Figure 8: Hours Worked

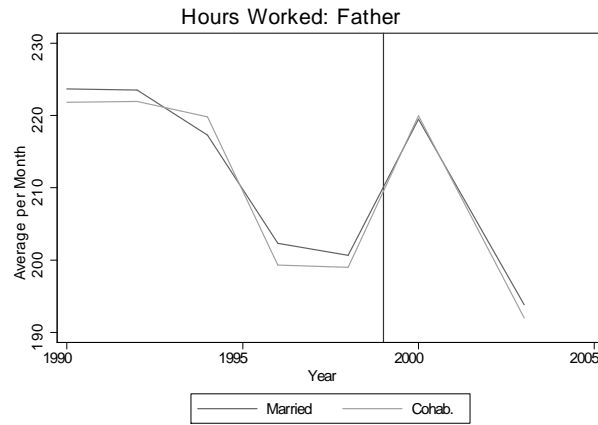


Table 1: Cross Section. Descriptive Statistics

	1990-1998	
	Married	Cohabiting
<u>Head of Household</u>		
% Male Head	0.98	0.94
Education	8.96	7.64
Age	39.83	37.57
<u>Father</u>		
Education	8.97	7.65
Age	39.88	37.62
<u>Mother</u>		
Education	8.82	7.38
Age	36.36	33.40
<u>Household</u>		
% Poor	0.35	0.47
% Home Ownership	0.59	0.47
<u>Children</u>		
Age	9.25	8.00
Male	0.51	0.51
% Attendance		
All	0.70	0.60
Boy	0.70	0.59
Girl	0.70	0.62
By age		
14-18 years	0.79	0.69
6-13 years	0.98	0.95
0-5 years	0.20	0.17
% Working		
All	0.08	0.11
Boy	0.11	0.16
Girl	0.04	0.06

Table 2: Percentage Children living with Parents. 1998

	All	Married	Cohabitant
0	0.95	0.98	0.97
1	0.96	0.98	0.98
2	0.96	0.98	0.99
3	0.97	0.98	0.98
4	0.96	0.98	0.98
5	0.97	0.99	0.98
6	0.97	0.99	0.99
7	0.97	0.99	0.99
8	0.98	0.99	0.99
9	0.98	1.00	0.99
10	0.97	0.99	0.99
11	0.97	0.99	0.99
12	0.97	0.99	0.99
13	0.97	0.99	0.98
14	0.97	0.99	0.98
15	0.95	0.99	0.97
16	0.94	0.98	0.95
17	0.93	0.98	0.97
18	0.90	0.97	0.95
19	0.84	0.94	0.90
20	0.79	0.93	0.90
21	0.77	0.92	0.74
22	0.69	0.85	0.65
23	0.64	0.81	0.52
24	0.57	0.72	0.34
25	0.54	0.58	0.27

% of individual that are "children" or "grandchildren" of the household head. All includes married, cohabitant, annuled, single and widows.

Table 3: School Attendance by Age

	1990	1992	1994	1996	1998	2000	2003
0	0.01	0.01	0.01	0.01	0.01	0.01	0.01
1	0.02	0.02	0.02	0.03	0.03	0.03	0.04
2	0.05	0.05	0.06	0.08	0.09	0.10	0.10
3	0.13	0.14	0.16	0.18	0.22	0.21	0.26
4	0.25	0.25	0.28	0.33	0.37	0.35	0.46
5	0.49	0.49	0.54	0.60	0.65	0.64	0.73
6	0.86	0.84	0.88	0.90	0.92	0.91	0.93
7	0.98	0.97	0.98	0.98	0.99	0.99	0.99
8	0.99	0.99	0.99	0.99	0.99	0.99	0.99
9	0.99	0.99	0.99	0.99	0.99	0.99	1.00
10	0.99	0.99	0.99	1.00	0.99	0.99	1.00
11	0.99	0.99	0.99	0.99	0.99	0.99	1.00
12	0.98	0.98	0.98	0.99	0.99	0.99	0.99
13	0.95	0.96	0.97	0.97	0.98	0.98	0.99
14	0.92	0.91	0.93	0.94	0.95	0.96	0.97
15	0.84	0.85	0.85	0.88	0.90	0.91	0.94
16	0.77	0.77	0.79	0.80	0.84	0.84	0.90
17	0.70	0.67	0.69	0.75	0.77	0.80	0.83
18	0.55	0.53	0.53	0.59	0.60	0.60	0.65
19	0.41	0.41	0.35	0.43	0.40	0.38	0.41
20	0.27	0.25	0.26	0.35	0.34	0.30	0.33
21	0.20	0.21	0.23	0.31	0.29	0.28	0.29
22	0.15	0.15	0.16	0.24	0.24	0.22	0.27
23	0.11	0.11	0.13	0.21	0.21	0.20	0.24
0-5	0.16	0.16	0.18	0.20	0.23	0.22	0.27
6-13	0.97	0.96	0.97	0.98	0.98	0.98	0.99
14-18	0.75	0.75	0.76	0.79	0.81	0.82	0.86
19-23	0.23	0.22	0.23	0.31	0.29	0.28	0.30

Table 4: School Attendance. Children 14-18

Average Dep. Var	All			Boy			Girl			
	0.81		0.80			0.82				
After*Cohabitant Dummy	0.02 [2.75]	0.02 [2.54]	0.02 [2.52]	0.02 [2.0]	0.01 [1.23]	0.02 [2.02]	0.01 [1.25]	0.02 [2.49]	0.02 [1.97]	0.02 [2.42]
After Dummy	0.07 [21.58]	0.06 [21.5]	0.06 [21.6]	0.07 [16.18]	0.06 [16.22]	0.07 [16.22]	0.06 [16.25]	0.06 [15.2]	0.06 [15.83]	0.06 [15.32]
Cohabitant Dummy	-0.10 [14.23]	-0.09 [12.78]	-0.09 [12.79]	-0.10 [10.84]	-0.08 [8.84]	-0.10 [10.85]	-0.08 [8.84]	-0.09 [9.74]	-0.10 [10.12]	-0.09 [9.77]
Age	-0.08 [90.02]	-0.08 [87.83]		-0.09 [67.28]	-0.09 [65.87]			-0.08 [59.31]	-0.07 [58.45]	
Gender	-0.02 [7.34]	-0.01 [6.18]	-0.02 [6.32]							
Household Head Schooling	0.021 [57.85]		0.021 [58.11]		0.02 [45.65]		0.02 [45.78]		0.02 [38.91]	0.02 [39.14]
Household Head Age	0.001 [7.69]	0.001 [7.87]	0.001 [7.87]		0.00 [6.82]		0.00 [6.91]		0.00 [4.32]	0.00 [4.51]
Urban Dummy	0.082 [25.62]	0.082 [25.65]	0.082 [25.65]		0.09 [19.61]		0.09 [19.63]		0.08 [17.88]	0.08 [17.91]
Age Dummies		X	X			X	X			
Observations	84,394	83,585	84,394	83,585	43,759	43,350	43,759	43,350	40,635	40,235

Absolute value of t statistics in brackets
 Note: Regional Dummies Included (not shown)
 Marginal Effects from Probit.
 Clustered by Household

Table 5: School Attendance. Children 6-13

Average Dep. Var	All			Boys			Girls			
	0.98		0.98	0.98		0.98	0.98		0.98	
After*Cohabitant Dummy	0.002 [0.92]	0.001 [0.54]	0.001 [0.92]	0.001 [0.54]	0.001 [0.41]	0.001 [0.28]	0.002 [0.87]	0.001 [0.43]	0.002 [0.98]	0.001 [0.5]
After Dummy	0.009 [10.76]	0.008 [12.31]	0.007 [10.56]	0.006 [11.87]	0.008 [8.53]	0.007 [9.25]	0.01 [7.23]	0.01 [8.72]	0.01 [6.81]	0.01 [8.0]
Cohabitant Dummy	-0.013 [7.78]	-0.009 [6.63]	-0.011 [7.72]	-0.007 [6.57]	-0.014 [6.49]	-0.010 [5.69]	-0.01 [4.81]	-0.01 [3.93]	-0.01 [4.88]	0.00 [3.89]
Age	0.005 [32.81]	0.004 [32.63]	0.006 [23.75]	0.006 [24.12]	0.005 [24.12]	0.005 [24.12]	0.01 [22.71]	0.00 [22.33]	0.00 [22.33]	0.00 [22.33]
Gender	-0.002 [2.4]	-0.001 [2.84]	-0.002 [3.07]	-0.001 [3.53]						
Household Head										
Schooling		0.002 [21.24]		0.001 [20.12]	0.002 [16.05]	0.002 [15.47]		0.00 [14.76]		0.00 [13.7]
Household Head										
Age		0.000 [0.37]		0.000 [0.2]	0.000 [0.21]	0.000 [0.23]		0.00 [0.32]		0.00 [0.02]
Urban Dummy		0.013 [17.8]		0.010 [16.87]	0.012 [12.01]	0.010 [11.36]		0.01 [13.65]		0.01 [13.02]
Age Dummies			X	X	X	X		X	X	X
Observations	141,999	140,775	141,999	140,775	72,481	71,842	72,481	69,518	68,933	69,518

Absolute value of t statistics in brackets

Note: Regional Dummies Included (not shown)

Marginal Effects from Probit

Clustered by Household

Table 6: School Attendance. Children 0-5

Average Dep. Var	All			Boys			Girls					
	0.22	0.010	0.014	0.010	0.027	0.020	0.028	0.021	0.000	-0.001	-0.001	-0.002
After*Cohabitant Dummy	0.014 [1.9]	0.010 [1.45]	0.014 [1.86]	0.010 [1.4]	0.027 [2.67]	0.020 [2.14]	0.028 [2.71]	0.021 [2.16]	0.000 [0.01]	-0.001 [0.12]	-0.001 [0.1]	-0.002 [0.22]
After Dummy	0.057 [17.39]	0.066 [20.54]	0.058 [17.48]	0.068 [20.64]	0.053 [12.17]	0.064 [14.69]	0.055 [12.18]	0.066 [14.73]	0.060 [13.19]	0.068 [15.2]	0.062 [13.32]	0.071 [15.32]
Cohabitant Dummy	-0.001 [0.11]	0.013 [2.64]	-0.001 [0.11]	0.013 [2.66]	-0.011 [1.76]	0.003 [0.52]	-0.011 [1.78]	0.003 [0.5]	0.011 [1.62]	0.023 [3.4]	0.011 [1.66]	0.024 [3.45]
Age	0.123 [142.04]	0.121 [135.55]	0.123 [142.04]	0.122 [103.09]	0.122 [103.09]	0.120 [98.33]	0.122 [98.33]	0.120 [98.33]	0.124 [85.45]	0.123 [97.2]	0.123 [97.2]	0.123 [97.2]
Gender	0.000 [0.19]	-0.001 [0.44]	0.000 [0.17]	-0.001 [0.45]								
Household Head Schooling		0.010 [27.74]		0.010 [27.61]		0.010 [21.34]		0.011 [21.16]		0.010 [19.35]		0.010 [19.33]
Household Head Age		0.000 [2.5]		0.000 [2.31]		0.000 [1.59]		0.000 [1.45]		0.000 [2.08]		0.000 [1.95]
Urban Dummy		0.084 [32.38]		0.087 [31.96]		0.087 [25.03]		0.090 [24.69]		0.081 [22.28]		0.084 [22.01]
Age Dummies			X	X			X	X			X	X
Observations	88,788	88,107	88,788	88,107	45,554	45,200	45,554	45,200	43,234	42,907	43,234	42,907

Absolute value of t statistics in brackets

Note: Regional Dummies Included (not shown)

Marginal Effects from Probit

Clustered by Household

Table 7: School Attendance. Children 14-18. False Experiment

Average Dep. Var	All			Boys		Girls			
	0.78	0.77	0.80						
After*Cohabitant Dummy	0.001 [0.1]	0.005 [0.41]	0.001 [0.08]	0.004 [0.38]	-0.01 [0.47]	0.00 [0.14]	-0.01 [0.49]	0.01 [0.68]	0.01 [0.72]
After Dummy	0.060 [13.95]	0.035 [8.59]	0.060 [13.98]	0.035 [8.63]	0.06 [10.21]	0.03 [5.41]	0.06 [10.27]	0.04 [7.32]	0.04 [7.29]
Cohabitant Dummy	-0.123 [10.38]	-0.107 [9.35]	-0.123 [10.39]	-0.107 [9.34]	-0.12 [7.7]	-0.09 [6.23]	-0.12 [7.69]	-0.12 [7.44]	-0.12 [7.49]
Age	-0.089 [69.41]	-0.087 [68.39]	-0.089 [68.39]	-0.087 [68.39]	-0.10 [51.89]	-0.09 [51.21]	-0.08 [45.45]	-0.08 [45.48]	-0.08 [45.48]
Gender	-0.020 [5.62]	-0.017 [4.89]	-0.021 [5.71]	-0.017 [4.96]					
Household Head Schooling		0.026 [49.8]		0.026 [49.9]		0.03 [39.03]		0.02 [33.84]	0.02 [33.93]
Household Head Age		0.001 [6.23]		0.001 [6.32]		0.00 [5.19]		0.00 [3.87]	0.00 [4.0]
Urban Dummy		0.110 [23.51]		0.111 [23.53]		0.12 [18.15]		0.10 [16.4]	0.10 [16.43]
Age Dummies			X	X	X	X	X	X	X
Observations	50,215	49,669	50,215	49,669	26,009	25,735	26,009	23,934	24,206
						25,735		24,206	23,934

Absolute value of t statistics in brackets
 Note: Regional Dummies Included (not shown)
 Marginal Effects from Probit.
 Clustered by Household

Table 8: School Attendance. Children 0-5. False Experiment

Average Dep. Var	All			Boys			Girls					
	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20			
After*Cohabitant Dummy	0.008 [0.94]	0.006 [0.68]	0.008 [0.91]	0.006 [0.66]	0.012 [0.96]	0.011 [0.96]	0.012 [0.95]	0.011 [0.95]	0.006 [0.46]	0.001 [0.11]	0.005 [0.44]	0.001 [0.09]
After Dummy	0.049 [14.33]	0.035 [10.95]	0.051 [14.4]	0.037 [11.05]	0.049 [10.58]	0.034 [7.96]	0.051 [10.63]	0.036 [8.03]	0.049 [10.33]	0.036 [7.99]	0.051 [10.38]	0.038 [8.07]
Cohabitant Dummy	-0.012 [2.03]	0.004 [0.59]	-0.012 [2.02]	0.004 [0.6]	-0.023 [2.94]	-0.008 [1.04]	-0.024 [2.96]	-0.008 [1.05]	0.000 [0.05]	0.016 [1.83]	0.000 [0.02]	0.017 [1.87]
Age	0.109 [108.17]	0.105 [100.52]	0.103 [73.57]	0.108 [78.95]	0.108 [78.95]	0.103 [73.57]	0.103 [73.57]	0.103 [73.57]	0.110 [77.34]	0.106 [72.62]	0.106 [72.62]	0.106 [72.62]
Gender	0.000 [0.14]	-0.001 [0.38]	0.000 [0.15]	-0.001 [0.36]								
Household Head Schooling	0.009 [23.42]	0.009 [23.42]	0.010 [23.28]	0.010 [23.28]	0.010 [17.99]	0.010 [17.99]	0.010 [17.85]	0.010 [17.85]	0.009 [16.36]	0.009 [16.36]	0.009 [16.29]	0.009 [16.29]
Household Head Age	0.001 [4.31]	0.001 [4.12]	0.001 [3.28]	0.001 [4.12]	0.001 [3.28]	0.001 [3.28]	0.001 [3.11]	0.001 [3.11]	0.001 [3.07]	0.001 [3.07]	0.001 [2.97]	0.001 [2.97]
Urban Dummy	0.069 [23.57]	0.069 [23.57]	0.071 [18.43]	0.071 [23.3]	0.072 [18.43]	0.072 [18.43]	0.075 [18.22]	0.075 [18.22]	0.066 [16.08]	0.066 [16.08]	0.068 [15.86]	0.068 [15.86]
Age Dummies			X	X		X	X	X		X	X	X
Observations	58,716	58,262	58,716	58,262	30,255	30,020	30,255	30,020	28,461	28,242	28,461	28,242

Absolute value of t statistics in brackets
 Note: Regional Dummies Included (not shown)
 Marginal Effects from Probit.
 Clustered by Household

Table 9: Child Work. Children 14-18

Average Dep. Var	All			Boy			Girl			
	0.093	0.131	0.051							
After*Cohabitant Dummy	-0.01 [1.95]	-0.01 [1.32]	-0.01 [1.33]	-0.02 [2.19]	-0.01 [1.22]	-0.02 [2.2]	-0.01 [1.24]	-0.002 [0.34]	-0.002 [0.44]	-0.002 [0.32]
After Dummy	-0.03 [17.5]	-0.03 [16.42]	-0.03 [16.45]	-0.06 [16.39]	-0.05 [16.16]	-0.06 [16.41]	-0.05 [16.17]	-0.013 [7.89]	-0.017 [7.94]	-0.013 [6.54]
Cohabitant Dummy	0.04 [9.36]	0.03 [7.86]	0.03 [7.88]	0.06 [8.16]	0.04 [6.47]	0.06 [8.17]	0.04 [6.47]	0.020 [4.53]	0.026 [5.19]	0.021 [4.56]
Age	0.04 [62.42]	0.03 [58.21]	0.06 [37.84]	0.06 [53.28]	0.05 [51.2]			0.022 [34.03]		
Gender	0.07 [39.31]	0.06 [37.88]	0.06 [37.84]							
Household Head Schooling		-0.01 [38.2]	-0.01 [38.15]		-0.01 [35.6]		-0.01 [35.56]	-0.004 [17.88]		-0.004 [17.9]
Household Head Age		0.00 [8.04]	0.00 [8.08]		0.00 [6.68]		0.00 [6.69]	-0.001 [4.66]		-0.001 [4.73]
Urban Dummy		-0.03 [17.22]	-0.03 [17.25]		-0.06 [17.82]		-0.06 [17.83]	-0.011 [5.44]		-0.012 [5.45]
Age Dummies			X			X	X		X	X
Observations	84,394	83,585	84,394	83,585	43,759	43,350	43,759	40,635	40,235	40,235

Absolute value of t statistics in brackets
 Note: Regional Dummies Included (not shown)
 Marginal Effects from Probit

Table 10: Child Work. Children 14-18. False Experiment

	All	Boy	Girls	
Average Dep. Var	0.109	0.156	0.058	
After*Cohabitant Dummy	-0.006 [0.8]	-0.009 [1.39]	-0.006 [0.8]	-0.01 [1.86]
After Dummy	-0.023 [7.98]	-0.011 [4.32]	-0.023 [8.01]	0.00 [0.84]
Cohabitant Dummy	0.060 [7.26]	0.047 [6.41]	0.060 [7.27]	0.04 [4.18]
Age	0.043 [50.12]	0.038 [47.12]	0.038 [42.97]	0.02 [26.58]
Gender	0.089 [34.28]	0.076 [33.21]	0.089 [34.25]	0.03 [3.91]
Household Head Schooling	-0.011 [33.78]	-0.011 [33.64]	-0.011 [31.32]	-0.01 [15.96]
Household Head Age	-0.001 [6.79]	-0.001 [6.8]	0.00 [5.95]	0.00 [3.46]
Urban Dummy	-0.047 [15.79]	-0.047 [15.82]	-0.047 [15.95]	-0.02 [5.7]
Age Dummies		X	X	X
Observations	50,215	49,669	50,215	49,669
		26,009	25,735	26,009
			25,735	26,009
			24,206	23,934
			24,206	24,206
			23,934	23,934

Absolute value of t statistics in brackets
Note: Regional Dummies Included (not shown)
Marginal Effects from Probit

Table 11: School Attendance. Children 14-18. Regressions with Regional Unemployment Rate

<i>Average Dep. Var</i>	0.81			
After*Cohabitant Dummy	0.02 [2.67]	0.02 [2.6]	0.02 [2.67]	0.02 [2.58]
After Dummy	0.06 [17.75]	0.07 [19.13]	0.06 [17.8]	0.07 [19.21]
Cohabitant Dummy	-0.10 [14.13]	-0.09 [12.89]	-0.10 [14.16]	-0.09 [12.9]
Age	-0.08 [90.05]	-0.08 [87.84]		
Gender	-0.02 [7.31]	-0.01 [6.19]	-0.02 [7.45]	-0.02 [6.34]
Regional Unemployment Rate	0.004 [5.36]	-0.004 [3.22]	0.004 [5.41]	-0.004 [3.22]
Household Head Schooling		0.021 [57.66]		0.021 [57.92]
Household Head Age		0.001 [7.68]		0.001 [7.87]
Urban Dummy		0.082 [25.67]		0.083 [25.7]
Age Dummies			X	X
Observations	84,394	83,585	84,394	83,585

Absolute value of t statistics in brackets
 Note: Regional Dummies Included (not shown)
 Marginal Effects from Probit.
 Clustered by Household

Table 12: School Attendance. Boys 0-5 . Regressions with Regional Unemployment Rate

<i>Average Dep. Var</i>	0.22			
After*Cohabitant Dummy	0.03 [2.59]	0.02 [2.24]	0.03 [2.62]	0.02 [2.26]
After Dummy	0.04 [9.64]	0.08 [14.8]	0.05 [9.65]	0.09 [14.9]
Cohabitant Dummy	-0.01 [1.61]	0.00 [0.26]	-0.01 [1.64]	0.00 [0.24]
Age	0.12 [103.07]	0.12 [98.27]		
Regional Unemployment Rate	0.005 [4.92]	-0.009 [5.86]	0.005 [4.93]	-0.009 [5.92]
Household Head Schooling		0.010 [21.21]		0.011 [21.03]
Household Head Age		0.000 [1.45]		0.000 [1.31]
Urban Dummy		0.087 [24.98]		0.089 [24.63]
Age Dummies			X	X
Observations	45,554	45,200	45,554	45,200

Absolute value of t statistics in brackets
 Note: Regional Dummies Included (not shown)
 Marginal Effects from Probit.
 Clustered by Household

Table 13: Child Work. Children 14-18. Regressions with Regional Unemployment Rate

<i>Average Dep. Var</i>	0.093			
After*Cohabitant Dummy	-0.01 [1.87]	-0.01 [1.34]	-0.01 [1.88]	-0.01 [1.35]
After Dummy	-0.03 [14.36]	-0.03 [14.1]	-0.03 [14.38]	-0.03 [14.14]
Cohabitant Dummy	0.04 [9.28]	0.03 [7.9]	0.04 [9.3]	0.03 [7.92]
Age	0.04 [62.39]	0.03 [58.1]		
Gender	0.07 [39.3]	0.06 [37.88]	0.07 [39.31]	0.06 [37.84]
Regional Unemployment Rate	-0.002 [4.82]	0.001 [1.63]	-0.002 [4.82]	0.001 [1.65]
Household Head Schooling		-0.01 [38.05]		-0.01 [38.04]
Household Head Age		0.00 [8.04]		0.00 [8.08]
Urban Dummy		-0.03 [17.23]		-0.03 [17.26]
Age Dummies			X	X
Observations	84,394	83,585	84,394	83,585

Absolute value of t statistics in brackets
 Note: Regional Dummies Included (not shown)
 Marginal Effects from Probit

Table 14: Cross Section. Labor Market Outcomes.

Average Dep. Var	Ln(Mother Hours Worked)		Ln(Father Hours Worked)		Tobit (1)		Tobit (2)		Father Works		
	OLS	Tobit (1)	OLS	Tobit (1)	OLS	Tobit (1)	OLS	Tobit (2)	OLS	Probit (2)	
	1.4		4.1				0.28			0.79	
After*Cohabitant Dummy	0.04 [1.10]	-0.03 [0.84]	-0.07 [2.66]**	-0.11 [4.51]**	-0.10 [4.05]**	-0.07 [2.96]*	-0.11 [4.51]**	0.01 [0.96]	-0.01 [1.2]	0.00 [1.14]	-0.01 [1.95]
After Dummy	0.14 [10.82]**	0.09 [7.03]**	-0.21 [21.67]**	-0.16 [16.01]**	-0.15 [16.13]**	-0.22 [21.79]**	-0.16 [16.01]**	0.04 [15.39]**	0.03 [12.64]**	-0.02 [9.62]**	-0.01 [7.0]**
Cohabitant Dummy	0.03 [1.42]	0.31 [14.09]**	-0.11 [7.04]**	-0.16 [9.33]**	-0.15 [9.48]**	-0.12 [6.8]	-0.16 [9.33]**	0.01 [2.32]*	0.07 [14.5]**	-0.01 [4.25]**	-0.02 [6.7]**
Schooling		0.15 [92.91]**	0.14 [89.52]**	0.04 [31.73]**	0.03 [31.73]**	0.04 [31.31]**	0.04 [31.31]**		0.03 [86.58]**		0.01 [29.23]**
Age		0.03 [51.17]**	0.03 [44.22]**	-0.03 [70.14]**	-0.03 [70.14]**	-0.03 [70.14]**	-0.03 [70.14]**		0.01 [46.86]**		0.00 [59.3]**
Urban Dummy		0.24 [19.29]**	0.30 [23.4]**	-0.11 [11.02]**	-0.12 [11.28]**	-0.11 [11.28]**	-0.12 [11.28]**		0.06 [21.57]**		-0.02 [14.11]**
Observations	155,130	153,876	153,987	152,653	153,987	153,987	152,653	155,130	153,876	153,987	152,653

Absolute value of t statistics in brackets

* significant at 5%; ** significant at 1%

Note: Regional Dummies Included (not shown)

(1) Marginal effect on E[ln(hours)|X]

(2) Marginal effect from probit.

Table 15: Cross Section. Labor Market Outcomes. False Experiment

<i>Average Dep. Var</i>	Ln(Father Hours Worked)				Father Works	
	OLS		Tobit (1)		Probit (2)	
	4.2				0.81	
After*Cohabitan Dummy	-0.05 [1.56]	-0.06 [1.96]	-0.05 [1.6]	-0.06 [2.05]*	-0.004 [0.67]	-0.004 [0.75]
After Dummy	-0.20 [18.23]**	-0.20 [18.79]**	-0.21 [17.59]**	-0.21 [18.09]**	-0.004 [2.28]	-0.008 [4.63]
Cohabitan Dummy	-0.06 [2.66]**	-0.09 [4.34]**	-0.06 [2.64]*	-0.10 [4.36]**	-0.009 [2.24]*	-0.015 [3.8]*
Schooling		0.03 [25.55]**		0.04 [25.28]**		0.005 [23.98]**
Age		-0.03 [44.69]**		-0.03 [58.93]**		-0.004 [48.42]**
Urban Dummy		-0.15 [12.67]**		-0.16 [12.89]**		-0.023 [13.73]**
Observations	93,084	92,201	93,084	92,201	93,084	92,201

Absolute value of t statistics in brackets

* significant at 5%; ** significant at 1%

Note: Regional Dummies Included (not shown)

(1) Marginal effect on $E[\ln(\text{hours})|X]$

(2) Marginal effect from probit.

Table 16: Cross Section. Labor Market Outcomes. With Regional Unemployment Rate

	Ln(Mother Hours Worked)			Ln(Father Hours Worked)			Mother Works			Father Works		
	OLS	Tobit (1)	Tobit (2)	OLS	Tobit (1)	Tobit (2)	Probit (1)	Probit (2)	Probit (1)	Probit (2)	Probit (2)	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Average Dep. Var	1.4			4.1					0.28			0.79
After*Cohabitant Dummy	0.04 [1.10]	-0.02 [0.76]	0.030 [0.87]	-0.039 [1.29]	-0.067 [2.72]**	-0.101 [4.15]**	-0.074 [3.02]**	-0.114 [4.61]**	0.006 [0.97]	-0.007 [1.08]	-0.004 [1.14]	-0.007 [1.98]*
After Dummy	0.14 [10.13]**	0.14 [8.48]**	0.169 [10.86]**	0.183 [10.63]**	-0.228 [22.25]**	-0.199 [16.71]**	-0.240 [22.23]**	-0.214 [16.23]**	0.040 [14.45]**	0.047 [13.55]**	-0.016 [8.8]**	-0.013 [6.72]**
Cohabitant Dummy	0.03 [1.42]	0.30 [13.86]**	0.042 [1.71]	0.339 [13.38]**	-0.108 [6.91]**	-0.144 [9.19]**	-0.113 [6.68]**	-0.156 [9.05]**	0.010 [2.31]*	0.069 [14.2]**	-0.012 [4.26]**	-0.019 [6.61]**
Regional Unemployment Rate	0 [0.10]	-0.024 [4.66]**	-0.001 [0.37]	-0.030 [5.63]**	0.013 [5.83]**	0.024 [6.48]**	0.013 [5.42]**	0.025 [6.01]**	0.000 [0.38]	-0.006 [5.97]**	0.000 [0.11]	0.001 [2.0]*
Schooling		0.151 [92.71]**		0.141 [89.29]**	0.035 [31.91]**		0.038 [31.47]**			0.029 [86.34]**		0.005 [29.29]**
Age		0.031 [51.03]**		0.030 [44.07]**	-0.029 [55.97]**		-0.029 [70.03]**			0.006 [46.69]**		-0.004 [59.27]**
Urban Dummy		0.238 [19.28]**		0.298 [23.41]**	-0.106 [11.00]**		-0.117 [11.26]**			0.057 [21.57]**		-0.020 [14.13]**
Observations	155130	153876	155130	153876	153987	152653	153987	152653	155130	153876	153987	152653

Absolute value of t statistics in brackets

* significant at 5%, ** significant at 1%

Note: Regional Dummies Included (not shown)

(1) Marginal effect on E[ln(hours) | X]

(2) Marginal effect from probit.