IDB WORKING PAPER SERIES No. IDB-WP-368

Conditional Cash Transfers, Female Bargaining Power and Parental Labour Supply

Rafael Novella
Laura Ripani
Guillermo Cruces
María Laura Alzúa

November 2012

Inter-American Development Bank
Labor Markets / Social Sector (SCL/LMK)

Conditional Cash Transfers, Female Bargaining Power and Parental Labour Supply

Rafael Novella
Ph.D. candidate at the Institute for Social and Economic Research (ISER), University of Essex (UK) and Young Professional at the Inter-American Development Bank

Laura Ripani
Lead Specialist at the Inter-American Development Bank

Guillermo Cruces
Deputy Director of the Center for Distributive, Labor and Social Studies (CEDLAS) at the Universidad Nacional de La Plata, Argentina (UNLP), and IZA Research Fellow

María Laura Alzúa
Senior Researcher at the Center for Distributive, Labor and Social Studies (CEDLAS) at the Universidad Nacional de La Plata, Argentina (UNLP)

Inter-American Development Bank

2012

Cataloging-in-Publication data provided by the
Inter-American Development Bank
Felipe Herrera Library

Conditional cash transfers, female bargaining power and parental labour supply / Rafael Novella ... [et al.].
p. cm. (IDB working paper series ; 368)
Includes bibliographical references.
1. Women—Economic conditions—Latin America. 2. Women in development—Latin America. 3. Labor market—Latin America. I. Novella, Rafael. II. Ripani, Laura. III.
Cruces, Guillermo. IV. Alzúa, María Laura. V. Inter-American Development Bank. Social Sector.VI. Series

http://www.iadb.org

Rafael Novella: grnove@essex.ac.uk.
Laura Ripani: laurari@iadb.org
Guillermo Cruces: gcruces@cedlas.org
María Laura Alzúa: malzua@cedlas.org

ABSTRACT[1]

Recent empirical evidence has indicated that Conditional Cash Transfer (CCT) do not have an aggregate effect on adult labour supply, however little attention has been paid to the role of other intrahousehold dynamics. This paper examines how the bargaining power structure of households affects the parental labour supply response to CCT programmes. We analyse randomized experimental designs from rural areas of Honduras (PRAF), Mexico (PROGRESA), and Nicaragua (RPS), and find that CCT programmes slightly change paternal and maternal labour supply and that this effect depends on the distribution of power in the household.

KEYWORDS: conditional cash transfer, labour supply, female bargaining power

JEL CODES: I38, J22, D13

[1] We would like to thank Mark Bryan and Patrick Nolen for the extensive discussion and comments, and Mariano Bosch and Norbert Schady and the participants at the 7th IZA/World Bank Conference "Employment and Development" 2012 for their helpful suggestions. Any remaining errors are our own.

1. Introduction

Conditional Cash Transfer (CCT) programmes are generally designed to increase children's human capital, mainly through a monetary incentive that is given to poor families when observable conditions (school attendance, vaccinations, medical controls, etc.) are regularly fulfilled. The positive impacts of some of these programmes, especially in Latin America and the Caribbean (LAC), include reducing child labour, increasing school enrolment, and increasing health check-ups. Having observed overwhelming positive effects from CCTs several countries in Asia and Africa have decided to implement similar policies. CCT designs, however, do not generally account for secondary effects that could occur, for instance a change in adult labour supply.

According to Fiszbein et al. (2009), unforeseen and unintended individual behavioural responses are partially responsible for the fact that, for most CCTs, the impact of the CCT transfer on consumption is smaller than the magnitude of the transfer itself.[2] In particular, one may observe a lower increase in education or health than expected because adults in the beneficiary household may react to the CCT supplying a different amount of labour for one of several reasons: a pure income effect that increases the demand of leisure; increases in the time allocated to accomplish the programme conditionalities (e.g. bringing children to school and health centres); or adults may work fewer hours to continue being, or become, eligible for the programme if the CCT is means tested. CCTs might also lead to an increase in adults' labour supply if, for instance, households need to compensate for the reduction in household income associated with a decrease in child labour or to afford the increase in school expenditures. Exploring the labour supply responses to CCT programmes is crucial to better understand the income generation processes of the poor and to assess potential poverty traps. It is also important for shaping policy discussion and how to better design CCTs.

This paper investigates the effect of CCT programmes on the labour supply of parents in rural Honduras, Mexico, and Nicaragua. We apply similar estimation methods to homogenised datasets corresponding to the randomized experimental evaluation designs of the *Programa de Asignación Familiar* (PRAF) in Honduras, the *Programa de Educación, Salud y Alimentación*

[2] For Honduras, Mexico and Nicaragua, and other countries, Fiszbein et al. (2009) find that the impact of CCTs on per capita consumption for the median household is significantly lower than the ratio daily per capita transfer/median daily per capita consumption of households in the control group.

(PROGRESA) in Mexico, and the *Red de Protección Social* (RPS) in Nicaragua.[3] However, unlike other studies, this paper will allow for CCT programmes to have heterogeneous effects due to differing bargaining power structures in the household.

The three programmes provide a good opportunity to evaluate the heterogeneous effects of CCTs on adult labour supply due to different power structures in the household. In the three programmes analysed, the intended recipients of the transfers were women.[4] They, however, differ in the average size of the cash transfer. PRAF is the least generous programme with a cash transfer equivalent to 4 percent of household consumption, followed by RPS with a transfer equivalent to 18-20 percent of household consumption, and finally PROGRESA with a cash transfer equivalent to 20-40 percent of household consumption.[5]

Recent studies have attempted to empirically solve the theoretically ambiguous effect of CCTs on adult labour supply. In particular, Alzúa et al. (2010) focus on the same CCT programmes studied in this paper, finding no discernible effects on individual (adult men and women) or household-aggregated adults' labour supply. Another strand of research allows for differences in preferences between decision-takers in the household (non-unitary models of the household) and examines how the intrahousehold allocation of resources reacts to CCT programmes. In general, this literature finds that CCT programmes change the pattern of resource allocation in correspondence to the gender of the parent accordingly (Gitter and Barham, 2008; Schady and Rosero, 2007).[6]

This paper builds on the existing evidence by empirically examining a model that allows for heterogeneous effects of CCT programmes on parental labour supply related to the distribution of power within the household. In the absence of an experimental design separating men and women as different treatment groups, this paper explores whether pre-existing differences in parental labour supply are consistent with the distribution of power in the household. The sample considered in this paper is restricted to intact couple households (i.e. households where the child's mother and father are observed living in the same household in the

[3] To increase comparability, the different datasets were harmonized following common criteria and methodology, described in CEDLAS (2009).
[4] In PRAF and PROGRESA, mothers are defined as the payee (Fiszbein et al., 2009), while in RPS the payee is the child's primary caregiver, who corresponds to the mother in 95% of households (Maluccio and Flores, 2005)
[5] Alzúa et al., 2010; Bouillon and Tejerina, 2007; Gertler, 2004.
[6] The study of Schady and Rosero (2007) analyses the effect of an unconditional cash transfer programme in Ecuador, the *Bono de Desarrollo Humano*, on the share of expenditure in food. As the authors mention, even though this programme was unconditional, it promoted investments in the human capital of children.

entire period of analysis). First, we control for the pre-treatment effects of bargaining power on labour supply to test whether differences in fathers' and mothers' labour supply respond to differences in the distribution of power within the household. Second, to account for potential heterogeneous effects of CCT programmes with regards to household power structures, we include interactions of our bargaining power measure and the treatment.

We find evidence that CCTs affect the labour supply of couples in our samples. In the sample of PROGRESA, the CCT seems to reduce maternal labour supply (probability of being employed) and increase paternal labour supply (worked hours). RPS seems to reduce paternal worked hours. In addition, our results show that the CCT impacts on labour supply of mothers and fathers varies with the distribution of power in the household. Particularly in PRAF, the CCT allows women with more bargaining power to decrease their labour supply and make their husbands increase their labour supply. Overall, however, the impact of CCT on adult labour supply is small and in most cases insignificant.

This paper contributes to the scarce literature evaluating heterogeneous impacts of CCT programmes related to the distribution of power in the household. Despite the increasing amount of research on the impact of CCTs on parental labour supply, there are no studies looking at whether having more power allows women to change their labour supply differently. In doing this, we bring structural concepts taken from 'non-unitary' models of the household to the estimations of effects using randomized evaluation designs. This paper also contributes to expand the literature on the effects of social programmes on labour supply, which has been mainly focused on developed countries (Moffitt, 2002 and 2003; Blundell and Hoynes, 2004; Michalopoulos et al., 2005; Meghir and Phillips, 2008).

The rest of this paper is structured in the following way. Section 2 discusses the theoretical impacts of CCT programmes on adults' labour supply and the findings in the empirical literature about the impacts of CCT programmes on labour supply. Section 3 briefly describes the most relevant features of the three CCT programmes evaluated. Section 4 describes the empirical approach of this paper. Section 5 shows the empirical results and Section 6 concludes.

2. CCTs and Labour Supply

This section discusses the literature on the potential impacts of CCTs on the labour supply of adults in the household, and the literature on the effects of bargaining power distribution on the allocation of household resources (Section 2.1). In addition, this section discusses previous attempts to measure the impacts of CCT programmes on adults' labour supply (Section 2.2).

2.1 Theoretical Framework

Economic theory suggests several channels through which CCT programmes might affect work decisions of beneficiary households. In addition to those suggested by the 'unitary' model of the household (Becker, 1991), the 'collective' model of the household (Chiappori, 1988 and 1992) suggests an additional effect of the CCT on adults' labour supply related to the distribution of power in the household. The combined effect of all the potential channels is, from a theoretical point of view, ambiguous and therefore needs to be resolved empirically.

First, the CCT transfer represents for beneficiary households, a direct, exogenous increase in non-labour income and is therefore a pure income effect that relaxes the budget constraint. If leisure is a normal good, this effect is expected to reduce labour supply. The second channel is related to the potential decrease in household income due to the reduction in child labour. If this is the case, we might expect a positive response of adults' labour supply to compensate for the reduction in total household income, which might mitigate the negative impact of the transfer on adults' labour supply. Third, fulfilling the CCT conditionalities might require behavioural responses in the labour supply of adults. For instance, a CCT with conditionalities on school attendance might reduce the time spent by an 'idle' child at home, reducing the parental time dedicated to childcare, which may now be spent in the labour market. The CCT might also make parents increase the amount of time dedicated to childcare (e.g. bringing children to school, health centres).[7] This is applicable to any direct and indirect time cost associated with fulfilling the conditionalities of the programme.[8]

[7] Parker and Skoufias (2000) show evidence that PROGRESA made mothers modified the allocation of time to fulfil programme obligations.

[8] Additionally, Fiszbein et al (2009) distinguish a 'price effect' channel, through which households (beneficiaries or not) might modify their supply of labour with the objective of becoming eligible for the programme or continue receiving it. Skoufias and Parker (2000) rule out this option in the case of PROGRESA, since the transfer is given to the households for three years, irrespective of the family income, which eliminates any disincentive effect on work.

Moving beyond the standard utility model, the 'collective' model of the household posits a utility function for each agent in the household (Chiappori 1988 and 1992). 'Collective' models, in opposition to 'unitary' models of the household, suggest that the household allocation of resources results from the interaction of the utility function of different agents in the household, which are aggregated into a household's utility function through the weighted average of the different agents' utilities. Weights consist of distributional factors reflecting individuals' distribution of power in the household decision. Among the main factors determining power distribution are unearned income (Thomas, 1990 and 1994; Hoddinott and Haddad, 1995), relative education (Thomas, 1994; Frankenberg and Thomas, 2003; Beegle et al. 2001), and assets brought to marriage (Fafchamps and Quisumbing, 2002).

In contrast to the 'unitary' model, in 'non-unitary' models the identity of the transfer recipient matters. Duflo (2003) exploits a natural experiment in South Africa to find that pensions received by women improved children's (particularly girls) anthropometric status while those received by men had no such effect. Similarly, for the United Kingdom, Lundberg et al. (1997) find that a policy change that redistributed the child allowance from husbands to wives resulted in a substantial increase in expenditures on children's clothing. Similarly, unearned income under the control of women (Thomas, 1990) and maternal education (Thomas, 1994; Emerson and Souza, 2007) have been found to have a bigger effect on children's health and educational outcomes, relative to the equivalent for fathers.

Based on alike empirical evidence and similar to most programmes in the region, the design of the three CCT programmes studied in this paper targeted women as the recipient of the transfer, with the objective of maximizing the effects of the programme (Bouillon and Tejerina, 2007). This special feature in the design of the CCT might also modify the allocation of a household's resources through the impact on the intrahousehold power distribution. The measure of bargaining power used in this study, which has been extensively used in the literature, corresponds to the ratio of the number of years of school completed by the mother divided by the number of years of school completed by the father in the household (Basu and Ray, 2002; Beegle et al., 2001; Thomas 1994; Schady and Rosero, 2007; Gitter and Barham, 2008). The main assumption behind this indicator is that a larger ratio of female to male education reflects that women have more power. Intuitively, having relatively more education suggests that women have better options outside marriage, such as opportunities in the labour market and so better

potential gains if an agreement with the partner is not reached (their *threat points* in bargaining models). Theoretically, in a cooperative household model setting, parental relative education may represent a *distribution factor* affecting the Pareto weights associated to parents' utilities. These weights summarize the intrahousehold decision process and finally determine the location of the household resource allocation on the Pareto-efficient frontier. Browning et al. (2011) argue that the Pareto weights have a natural interpretation in terms of decision powers. For instance, an increase in a wife's Pareto weight results in a move along the Pareto set in the direction of higher utility for her (and lower utility for her husband). Then, in a pure economic sense, a larger weight would correspond to more power and better outcomes for the wife.

The expected effect of maternal bargaining power on parental labour supply is also ambiguous and depends, among other factors, on women's preferences. On the one hand, an increase in women's bargaining power might lead them to decrease their supply of labour and either lead to an increase in their consumption of leisure or time dedicated to household chores, including accomplishing the conditionalities of the CCT programme (e.g. bringing children to school or health centre). On the other hand, having more power might allow women to overcome traditional gender roles and supply more labour.

2.2 Previous Findings

Partly due to their success targeting vulnerable populations, relatively low administration costs and history of improving indicators related to human capital investments on education, health and poverty indicators, CCT programmes keep receiving special attention in the empirical literature. Bouillon and Tejerina (2007), Fiszbein et al. (2009), and Ferreira and Robalino (2010) offer detailed and comparative descriptions of CCT programmes, their eligibility criteria, subsidy target (child or household), and main findings. Most CCT programmes in the LAC region, with the exception of minor training components in some programmes, do not directly aim to affect adult employment in beneficiary households. Once a household is selected for the programme, the work decisions of the household do not affect eligibility.

In recent years, several papers have tried to identify the impact of CCT programmes on adult labour supply, finding contrasting results both in magnitude and direction. Applying mostly non-parametric methods to data of the randomized interventions, evaluations of the '*Beneficio de Prestação Continuada'* (BPC), *'Bolsa Família'* and other CCTs in Brazil (Bourgignon et al., 2003; Freije et al., 2006; Medeiros et al., 2008), *'Familias en Acción'* in Colombia (Attanasio et

al., 2004), *'Bono de Desarrollo Humano'* (BDH) in Ecuador (Edmonds and Schady, 2012)[9] have not found any impact of the CCT programmes on adults' labour supply. Other evaluations have found a positive impact of the CCT programme on adult labour supply: for *'Chile Solidario'* in Chile (Galasso, 2006), for '*Jefes de Hogar'* in Argentina (Gasparini et al., 2007). Lastly, for '*Bolsa Família'* and other CCTs in Brazil (Tavares, 2010; Ferro et al., 2010; Teixeira, 2010), and for *'Ingreso Ciudadano'*/*'Plan de Atención Nacional a la Emergencia Social'* (PANES) in Uruguay (Borraz and Gonzalez, 2009) the authors found a significant negative impact of the CCT transfer on adults' hours of work.

The impact of CCT programmes on the labour supply of adults in the three countries analyzed in this paper has also received attention in the literature. No evidence of impact of CCT programmes on adults' labour supply has been found for PRAF in Honduras (Alzúa et al., 2010), and PROGRESA in Mexico (Parker and Skoufias, 2000; Skoufias and Di Maro, 2008; Alzúa et al., 2010). The evidence found for RPS in Nicaragua is ambiguous. On the one hand, Alzúa et al. (2010) found no impact of the CCT on adult labour supply. On the other hand, while only looking at worked hours in agricultural activities, Maluccio and Flores (2005) found a small but significant negative impact of the CCT transfer. Even though these studies analyze male and female labour supply separately, they do not examine potential heterogeneous effects of CCTs on adults' labour supply related to the distribution of power in the household. The latter represents a lack of evidence in the literature that this study intents to cover.

Notwithstanding the contrasting effects in some programmes, most CCTs do not seem to affect adults' labour supply. Fiszbein et al (2009) suggest possible reasons. First, it may be due to the fact that the demand of leisure is inelastic to changes in income for CCT beneficiaries (and therefore, the transfer almost does not alter the labour supply). Second, it may also be the case that the CCT programme has a negative net effect on household budget (reduction of income associated with reduction of child labour and increase in schooling costs and small transfer amount). As Fiszbein et al. (2009) mention, this may explain why the BDH in Ecuador does not show negative effects on labour supply while the RPS in Nicaragua, with a considerable higher transfer sum, has a negative impact on adults' labour supply. Third, it is plausible that households consider the transfer as a temporary income source. Finally, it might be that

[9] Although, the BDH is an unconditional cash transfer programme, it promoted investment in children human capital.

evaluating labour supply changes soon after the implementation of the programme may lead to underestimate the long-term effects of CCT.

In addition to looking at labour market responses in terms of participation and intensity of participation (working hours), some other papers have focused on the impact of CCT programmes on changes in economic sectors and activities. Lehmann (2010) finds that CCTs increased the marginal utility of leisure of beneficiaries in Mexico, reducing the time allocated to home production. While no evidence of changes in production is found, time allocated to the commercialization of home-produced goods changed, which according to the author may be an overlooked variable in studies that do not find any significant impact of transfers on labour supply. Galiani (2009) reports that there is evidence that PROGRESA beneficiary households increased their participation in microenterprise activities and made larger investments in agricultural production activities, which are expected to have long-lasting effects on treated households. Skoufias et al. (2008) analyse a different type of intervention, the unconditional in-kind and cash transfer programme *'Programa de Apoyo Alimentario'* in poor rural areas in southern Mexico. They find that the transfer does not affect labour market participation but it does induce beneficiaries to change sector of employment from agricultural to non-agricultural activities. Skoufias and Di Maro (2008) find evidence that CCT transfers enable beneficiaries, at least initially, to change from low-paid family business jobs to salaried-jobs.

All the studies cited above use a 'unitary model' of the household, leaving aside another dimension of the impact of CCT programmes on labour supply that has been scarcely explored: the intrahousehold changes in the allocation of resources and time. Del Carpio and Macours (2009) find evidence that households receiving the CCT *'Atención a Crisis'* in Nicaragua tend to rebalance the intrahousehold distribution of resources, reducing labour hours for older boys who used to work more and for those with a lower education level. In a similar way, Barrera-Osorio et al. (2008) find that the impact of CCT varies within the household: sisters of the treated child living in the household are less likely to attend school and more likely to participate in labour markets, in comparison to the control group.

The intrahousehold dimension offers a potential source of variability in household responses to CCT programmes that has not being explored in much detail in the empirical literature. In this respect, it is interesting to note the qualitative evidence shown by Maluccio et al. (2005), indicating that RPS transfers allow adult males in beneficiary households to afford

working in their own lands or closer to their homes instead of travelling long-distances for paid-work. Additionally, Parker and Skoufias (2000) show evidence that mothers in PROGRESA increased the time allocation for childcare, while Skoufias (2005) discusses quantitative and qualitative evidence that PROGRESA is associated to more participation of women in the household decision-making process, to a positive change of men's attitudes toward women, and to an increase in women empowerment.

3. The CCT Programmes: PRAF, PROGRESA and RPS

The three CCT programmes studied in this paper applied experimental designs, including the collection of data before the treatment (baseline survey) and post-treatment (follow-up surveys), for households in treatment and control groups. The three interventions targeted rural areas in poor regions. PROGRESA interviewed all households in treatment and control localities, while PRAF and RPS surveyed only a random sample of treated and control households. The following paragraphs briefly describe the three CCT programmes.[10]

Honduras' PRAF

The *Programa de Asignación Familiar* (PRAF) was implemented by the Government of Honduras in the early 1990s as a compensatory mechanism to mitigate the impact of macroeconomic adjustments on the poor and to alleviate structural poverty. After several expansion phases, in 2008 it reached a target population of 173,000 households containing children aged between 0 and 14 years, constituting one of the largest welfare programmes in the country. The objective of the programme is to encourage poor households to invest in human capital (primarily education and health) through conditional cash transfers.

This paper focuses on the second phase of the programme (PRAF II, hereafter PRAF). According to Bouillon and Tejerina (2007), with a yearly budget of US$17 million (0.2 percent of the country's GDP), the programme directly benefits 47,800 rural households through average monthly transfers of US$4 and US$5 for the health and education components, respectively.

This phase of the PRAF intervention was implemented in 2000, and geographically targeted at the municipality level in the poorest region of the country. Fifty randomly selected

[10] For complete descriptions of the programmes, see: Todd (2004) for PROGRESA, Glewwe and Olinto (2004) for PRAF, and Maluccio and Flores (2005) for RPS.

municipalities formed the treatment group, of a total of 70, with the 20 additional municipalities forming the control group.

The original experimental evaluation of PRAF consisted of the evaluation of three different types of interventions (a demand-side intervention only, a supply-side intervention only, and a combination of both),[11] assigned to three different sub-groups of treatment households. However, the supply-side intervention was never implemented and the mixed intervention was implemented in just a few communities (Glewwe and Olinto, 2004). Therefore, the empirical results presented below are based on the control group and the municipalities in the first treatment sub-group, consisting of 40 municipalities, of which 20 belong to the treatment group and 20 to the control group.

This paper uses the baseline survey carried out in the last quarter of 2000 and a follow-up survey in 2002. Sample attrition is approximately 8 percent. According to Bouillon and Tejerina (2007), 80 percent of eligible households effectively received an annual average transfer of US$18 per capita (corresponding to the 3.6 percent of the total annual per capita expenditures of targeted households).

Mexico's PROGRESA

In 1997, Mexico began implementing the first phase of PROGRESA (later, in 2002, renamed *Oportunidades)* in rural areas. It was geographically targeted by locality, based on a poverty index. From an initial group of 506 localities selected for the first round, 320 were randomly selected to participate in the PROGRESA programme (i.e., qualifying households in these localities would be eligible to participate), while the programme was not deployed in the remaining 186 localities. Households in the latter, were still subject to the data collection process, and thus constituted the control group for the programme's evaluation.

The data used in this study originates from the PROGRESA Evaluation Survey ENCEL (*Encuesta de Evaluación de los Hogares*). The estimates below are based on the initial baseline survey (collected between November 1997 and March 1998), and three follow-up surveys (November 1998, March and November 1999).

[11] The demand-side intervention consisted in providing families with monetary payments, while the supply-side intervention in providing assistance to communities to finance a work plan in health services and assistance to schools.

According to Bouillon and Tejerina (2007), at the time of the first evaluation in 1999, with a yearly budget of US$777 million (0.2% of the country's GDP), the programme transferred, on average, US$7-US$30 and US$15 in its education and health and nutrition components, respectively, to 2.6 million rural households.

Nicaragua's RPS

The *Red de Protección Social* (RPS) conditional cash transfer programme was implemented in 2000 with the main objective of improving households' human capital. The first phase consisted of a three-year pilot in two rural areas in north-western Nicaragua, Madriz and Matagalpa, in which poverty rates were above the national average. The 42 communities with the lowest levels of a multidimensional marginality index within the intervention area were selected for the initial intervention. RPS was implemented in 21 randomly selected localities (treatment group), whilst the other 21 were assigned to the control group (Maluccio and Flores, 2005).

This paper uses two out of the three surveys conducted in these 42 localities: the baseline survey, carried out in the third quarter of 2000, and the first follow-up survey, carried out in 2001. The sample attrition rate is approximately 7 percent, and according to Maluccio and Flores (2005), it is similar among control and treatment communities. According to Maluccio and Flores (2005), 95 percent of households were eligible to participate and participation rates were of the same magnitude and not affected by adult literacy, household income, or marital status.

Bouillon and Tejerina (2007) summarize additional characteristics of RPS. First, the RPS average annual transfer was US$302, with an annual average subsidy, per household, of US$224 and US$112 for the education and health components, respectively. Second, transfers were paid bi-monthly, conditional on attending training courses (on nutrition and health practices), health check-ups (for children under 5 years), and school attendance (for children aged 7-13 who had not completed the fourth grade). Third, while the school attendance grant was a fixed amount per family, the school material support consisted of an additional transfer of US$21 per child.

4. Empirical Strategy

This section presents the empirical strategy for estimating the effect of CCT programmes on the labour supply of adults while accounting for differences in the power share of mothers in the household. The experimental design in the three countries provides a strong identification strategy that allows us to attribute the differences in fathers' and mothers' labour supply between treatment and control groups to the impact of the corresponding CCT programme.

In equation (1), L_{ict}^{s} represents the supply of labour of adult i (father or mother), in community c at time t; A_t is a set of dummy indicators for time periods; P_c is a dummy indicator for whether the adults live in a community of intervention; $Treat_{ct}$ is the interaction term of treatment year and the treatment status of the household (P_c); μ_{ic} represents time-invariant unobservable characteristics specific to adult i in community c, and v_{ict} represents an unobserved idiosyncratic and time-variant error term.

$$L_{ict}^{s} = \alpha_0 + \sum_{t=1}^{T} \alpha_t A_t + \gamma P_c + \delta Treat_{ct} + \mu_{ic} + v_{ict} \quad (1)$$

The outcomes of interest correspond to an indicator for whether the individual is employed and the weekly working hours in all occupations. Given data restrictions, the first indicator corresponds to a simple definition of participation, i.e. it is not possible to distinguish between unemployed and inactive workers.[12] The second outcome, the number of working hours, is defined only for those individuals with strictly positive number of hours.

In equation (1), δ corresponds to the difference-in-difference (DID) estimator of the programme impact.[13] Providing that P_c is randomized, $E(\mu_{ic}|Treat) = 0$, $E(v_{ict}|Treat) = 0$, and therefore, the parameters δ, corresponding to the DID estimator of the programme impact, are consistently estimated. The estimates of the parameter δ shown below correspond to comparisons of households according to whether they were offered treatment (i.e. whether they

[12] This distinction is possible only in the RPS sample, however to maintain comparability a more basic definition of labour participation is adopted.

[13] δ represents the average effect of immediate and lagged impacts of treatment. We combine the post-treatment measures into a single measure of the impact of the treatment in a treatment year δ given that one of the programmes studied includes only a baseline and one follow-up survey and the other programmes include two (RPS) and three (PROGRESA collected information on individual employment in three follow-ups and on working hours in only two follow-ups, November 1998 and November 1999) follow-ups in addition to the baseline, and to facilitate comparability between CCTs.

were randomly assigned to a treatment group), known as intention to treat (ITT) effects. Given the random assignment to treatment group in the three samples, the ITT effect can be interpreted as the causal effect of the offer of the CCT on parental labour supply. However, it is important to recall that some of those offered CCT might have declined to participate.

An assumption of the DID method is that there are no systematic compositional changes within control and treatment groups, which happens when particular characteristics of the control and treatment groups make them react differently to common macro shocks. Adding observed covariates to equation (1) helps to control for compositional change and improves precision of the programme's estimated impact.

$$L_{ict}^{s} = \alpha_0 + \sum_{t=1}^{T} \alpha_t A_t + H'\beta + E'\beta + \gamma_1 P_c + \delta Treat + \mu_{ic} + v_{ict} \quad (2)$$

Equation (2) controls for characteristics at individual (mother and father) and household level to allow the trends in labour supply to vary with individual and household characteristics. The vector H in equation (2) includes the number of children aged 0 to 2 and aged 3 to 5; boys and girls aged 6-7, 8-12, and 13 to 18; men and women aged 19 to 54 and men and women over the age of 55. The set of covariates E includes the years of schooling, age and age squared of both father and mother in the household.

Equation (2) does not intend to separately identify the income and non-income effects of CCT programmes on the labour supply of adults. After including household consumption in an equation similar to (2), Hoddinott and Skoufias (2004) and Gitter and Barham (2008), argue that the associated coefficient represents the non-income effects of CCT programmes. Including measures of consumption or income would not be appropriate in our case, given the very likely reverse causality problem between household income and labour supply. Therefore, in this paper the coefficient on the variable $Treat$, δ, should be interpreted as the total average effect of the CCT programme on the labour supply of parents.

As a measure of bargaining power, this paper considers the ratio of the school years completed by the mother and by the father in the household. We make two main assumptions: first, there are no unobservable characteristics that may have affected the matching of parents in the marriage market and at the same time affect the labour supply; and second, relative education (the education of females in comparison to males) effectively reflects maternal bargaining power

in the household decision process. Similar measures have been used in other studies in developing countries (Thomas, 1990 and 1994; Beegle et al., 2001; Basu and Ray, 2002; Schady and Rosero, 2007; Gitter and Barham, 2008). Following Gitter and Barham (2008), 1 is added to both the numerator and the denominator, to avoid an undefined ratio in those households where fathers have zero years of schooling.

$$BP = \frac{(mother's\ years\ of\ schooling + 1)}{(father's\ years\ of\ schooling + 1)} \quad (3)$$

Thus, including this expression in equation (2), we obtain:

$$L_{ict}^{s} = \alpha_0 + \sum_{t=1}^{T} \alpha_t A_t + H'\beta + E'\beta + \gamma_0 BP + \gamma_1 P_c + \delta Treat + \varphi(Treat * BP) + \mu_{ic} + v_{ict} \quad (4)$$

In addition to including the years of schooling of both parents in the bargaining power indicator, BP, they are included separately to account for different opportunities in labour markets. Note that the bargaining power indicator is included in equation (4) both separately and interacted by the household treatment status. The impact of pre-existing conditions regarding the distribution of power in the household is captured by the coefficient on the indicator of relative education (γ_0). The interaction term allow us to identify whether the CCT programme has any differential impact on labour supply according to the maternal bargaining power.[14]

In the PRAF sample in Honduras, 29 and 25 percent of fathers and mothers respectively reported not having formal education in the baseline year. In the PROGRESA sample, around 3 percent of mothers and fathers reported not having formal education in the baseline year. In the case of RPS, 39 and 40 percent of fathers and mothers respectively reported not having formal education in the baseline year.

Equations (1) (2) and (4) are separately estimated for mothers and fathers using Ordinary Least Squares (OLS), with standard errors clustered at the household level to adjust for the non-independence of observations in the same household.

[14] BP enters equation (4), in a simple, linear way. To account for non-linearities, in a different specification, we include three separate dummies for mothers with less (base category), equal, and more power than their husbands (as in Table 1), and their interactions by Treat. Because this specification does not show evidence of non-linear effects, we do not include in the next section, but the results are available on request.

5. Empirical Results

5.1 Attrition and Baseline Balance

The sample considered in this paper is restricted to couple households, who are observed as intact in the entire period of analysis (2 waves in PRAF and 3 waves in PROGRESA and RPS samples). Household attrition between the baseline and the follow-up surveys was 7 percent in PRAF, 35 percent in PROGRESA, and 9 percent in RPS. In Table 1, in the Appendix A, we explore the differences between non-attritor (present in all waves) and attritor (missing in at least one follow-up survey) households. For each programme, the first column shows the baseline mean for non-attritors and the second column the equivalent for attritors. The third column shows whether a t-test on the equality of means between attritors and non-attritors is statistically significant. As expected, attrition is not random: attritor couples are younger, have more schooling years, and live in smaller households. Furthermore, for RPS and PROGRESA, parents additionally work more among attritor households.

For each programme, the fourth column of Table 1 (Appendix A) shows whether attrition differs across treatment and control groups. For each characteristic, at baseline, column (4) shows the difference-in-difference estimate: $(I_{att=1} - I_{att=0}) - (C_{att=1} - C_{att=0})$, where I and C stand for treated and control households, and att for the attrition status (1 for attritors, 0 for non-attritors) of the household. For few variables, attrition seems not to be random across treatment and control groups, particularly in the PROGRESA sample.

Although attritors and non-attritors seem to differ in some characteristics, the randomized evaluation design should ensure that within non-attritor households, the control and treatment groups at the baseline are similar. Table 2, in the Appendix A, shows a validity test of the randomized assignment of households to either the treatment or the control groups using the baseline data. Balancing is verified when there are no significant differences in mean-comparisons of observed characteristics across treatment and control groups. For each programme, the first column represents means of the baseline characteristic for the control group, the second column baseline means for the treatment group, and the significance of a test for whether the difference is statistically significant. Results show very good balance overall across the programmes. The few differences are likely to be the product of chance and do not

invalidate the use of a difference-in-difference strategy. However, additional controls will be included in the estimation of impacts.

5.2 Maternal Bargaining Power and Labour Supply: Preliminary Evidence

This section describes the distribution of our indicator of mothers' bargaining power and discusses the relation between power and the selected labour outcomes (working hours and employment) (Table 1). It additionally provides basic difference-in-difference estimations, similar to equation (1), for the effect of the CCT on labour supply in each subsample of households, defined according to their power structure (Tables 2 and 3).

Table 1: Maternal Bargaining Power

	Maternal Bargaining Power (BP) [a]	Control	Treatment	diff.[b]	All
PRAF - Honduras	BP<1	0,37	0,40		0,38
	BP=1	0,33	0,27	***	0,30
	BP>1	0,30	0,33		0,32
PROGRESA - Mexico	BP<1	0,32	0,34		0,33
	BP=1	0,34	0,33		0,33
	BP>1	0,34	0,33		0,34
RPS - Nicaragua	BP<1	0,29	0,28		0,29
	BP=1	0,42	0,39		0,40
	BP>1	0,29	0,33		0,31

Source: Authors´calculations (2012)

*Notes: [a] BP=[(years of schooling completed by mother+1)/(years of schooling completed by father+1)]. [b] t-test on the equality of means between control and treatment households. *Significant at 10%, **Significant at 5%, ***Significant at 1%.*

Table 1 shows the proportion of households where mothers have more education (BP>1), less education (BP<1), and equal education (BP=1) than their partners, among both control and treatment groups, and for the three CCTs considered.

The distribution of our indicator of bargaining power is not homogeneous across the three samples. The sample of PRAF is the one with the highest concentration of women with less education than their husbands (38 percent). In contrast, households in the PROGRESA sample are evenly distributed along the three levels of relative education between parents. Finally, the sample of RPS has a higher concentration of parents with the same level of education (40

percent).[15] Table 1 shows that across different levels of maternal bargaining power, the distribution of households between control and treatment groups is similar in most of the cases. The only exception is found in the PRAF sample, where the control group has slightly more households in which women and men have the same schooling years as the treatment group.

The average maternal bargaining power, measured as in equation (3), is 1.41 for PRAF, 1.13 for PROGRESA, and 1.45 for RPS, with differences between treatment and control groups that are not statistically significant.[16] Figure 1, in the Appendix A, shows the distribution of our indicator of maternal bargaining power in the three samples. The nearly one third of women with more education than their husbands show levels of schooling that are considerably higher than that of their husbands. In other words, in the three samples, about two thirds of women are less or equally "powerful" as their husbands, but in about one third of households, in those where women have more education than their husbands, maternal power is relatively higher.[17]

Table 2: Baseline Means and DID Estimates of Weekly Hours Worked

Maternal Bargaining Power (BP)[a]	PRAF - Honduras		PROGRESA - Mexico		RPS - Nicaragua	
	(1)	(2)	(1)	(2)	(1)	(2)
	Baseline means	Diff.-in-diff.	Baseline means	Diff.-in-diff.	Baseline means	Diff.-in-diff.
Father's working hours (cond. on working)						
BP<1	40,01	-0.61	43,60	1.93	41,55	-0.95
BP=1	39,54	2.21*	42,46	2.34	40,92	-4.30*
BP>1	39,80	0.82	43,66	2.22	42,36	-2.78
Total	39,80	0.71	43,24	2.16**	41,56	-2.87
Mother's working hours (cond. on working)						
BP<1	27,69	-3.75	38,02	-2.39	24,69	0.30
BP=1	30,71	-0.21	39,69	4.19	26,75	-8.91
BP>1	33,07	-0.07	34,06	9.51	25,26	-4.59
Total	30,45	-1.45	37,07	3.56	25,70	-4.77

Source: Authors´calculations (2012)

*Notes: (1) Mean value at baseline for all (control and treatment) households. (2) [I_(t=1) - I_(t=0)] - [C_(t=1) - C_(t=0)], where I and C stand for treated and control households, and t for time. [a]BP=[(years of schooling completed by mother+1)/(years of schooling completed by father+1)]. *Significant at 10%, **Significant at 5%, ***Significant at 1%.*

[15] A similar distribution for the sample of RPS is found in Gitter and Barham (2008).

[16] The t-statistic associated to the mean-comparison of BP across treatment and control households is -0.23 for PRAF, 0.09 for PROGRESA, and -0.32 for RPS.

[17] Among the group of households with more powerful women, the education of women is, in average, 2 to 3 times higher than the education of their husbands (2.91 in PRAF, 1.73 in PROGRESA, and 2.98 in RPS).

As previously mentioned, the theoretical relationship between maternal bargaining power and parental labour supply is ambiguous and needs to be verified empirically. The pre-treatment association between maternal bargaining power and adults' labour supply is explored in Tables 2 and 3.[18] For the three countries and for parents with positive number of worked hours, Table 2 shows the average weekly worked hours of fathers and mothers at the baseline, according to the distribution of power in the household and totals (columns 1). As bargaining power in the household becomes more balanced or shifts toward women, the labour supply of mothers seems to increase. Particularly in PRAF, in households with more powerful women (BP>1), women work 5 hours more than in households where women are less powerful (BP<1).[19] In PROGRESA and RPS, in households where power is more balanced (BP=1), qualitatively, women work more hours than those living in households where husbands have more power (BP<1). Interestingly, the top part of Table 2 (columns 1) shows that, in all three samples, husbands work relatively more in households with more powerful women (BP>1) relative to households where power is more balanced (BP=1) and those where husbands have more power (BP<1). This suggests that husbands compensate for the reduction of labour supply of more powerful women.

[18] Table 3, in the Appendix A, explores the balance of the randomization process across levels of maternal power in the household. Overall, samples seem to be balanced. However, there are some differences between treatment and control groups in mean worked hours, particularly in PROGRESA, and some in mean employment rate, in PRAF.
[19] The mean-comparison t-test is significant at the 5% level.

Table 3: Baseline Means and DID Estimates of Parental Employment

Maternal Bargaining Power (BP)[a]	PRAF - Honduras		PROGRESA - Mexico		RPS - Nicaragua	
	(1)	(2)	(1)	(2)	(1)	(2)
	Baseline means	Diff.-in-diff.	Baseline means	Diff.-in-diff.	Baseline means	Diff.-in-diff.
Father's employment						
BP<1	0,92	0.01	0,97	0.03**	0,98	0.01
BP=1	0,92	0.01	0,96	0.02	0,95	-0.04
BP>1	0,89	-0.05	0,97	0.01	0,98	-0.00
Total	0,91	-0.00	0,97	0.02*	0,97	-0.01
Mother's employment						
BP<1	0,22	0.02	0,09	0.03	0,14	-0.07*
BP=1	0,22	0.05	0,10	0.02	0,13	0.03
BP>1	0,25	-0.03	0,12	0.01	0,17	0.01
Total	0,23	0.01	0,10	0.02	0,14	-0.01

Source: Authors´calculations (2012)

*Notes: (1) Mean value at baseline for all (control and treatment) households. (2) [I_(t=1) - I_(t=0)] - [C_(t=1) - C_(t=0)], where I and C stand for treated and control households, and t for time. [a]BP=[(years of schooling completed by mother+1)/(years of schooling completed by father+1)]. *Significant at 10%, **Significant at 5%, ***Significant at 1%.*

Similarly, Table 3 shows the employment rate of fathers and mothers at the baseline, according to the distribution of power in the household and totals (columns 1). The bottom part of Table 3 shows that maternal employment seems to also be positively related to the distribution of power: women are more likely to be employed when they have more bargaining power in the household.

Both in terms of working hours and employment, the pre-treatment relationship between maternal bargaining power and maternal labour supply seems to be, at least qualitatively, positive, which might suggest that more powerful mothers are able to overcome traditional gender roles and supply more labour.

An initial estimation of the effect of the CCT programmes is shown in columns (2), in the last two tables.[20] They show the basic difference-in-difference estimator, δ, in equation (1), comparing the changes in male and female working hours (Table 2) and employment (Table 3) between treatment and control households, before and after the treatment, by level of maternal power within the household.[21] Overall, the impact of CCT programmes on parental working

[20] Figures 2 and 3, in the Appendix A, show the distribution of mean weekly hours worked and employment rates among treatment and control groups at baseline and follow-ups.

[21] It is worth mentioning that the estimated total effects are comparable to the ones estimated in Alzúa et al. (2010), however a different sample is used and δ corresponds to an average effect in our study.

hours and employment, seem to be fairly small. PROGRESA seems to impact, positively, paternal labour supply (working hours and employment). Particularly, its positive impact on father's employment seems to be concentrated in those households where mothers have less power (Table 3). In PRAF and RPS, even though no overall effects are found, the programmes seem to affect fathers' working hours in households where the distribution of power is more balanced: they work two more hours as a consequence of PRAF and four fewer hours as a consequence of RPS (Table 2). On the other hand, these CCT programmes have almost no impact on maternal labour supply. The only statistically significant effect is found in the RPS sample for mothers living in households where they have less power. They seem to be less likely to work as a consequence of the programme (Table 3).

In sum, our indicator of maternal bargaining power seems to be related to parental labour supply before the implementation of the CCT programmes. However, a first estimation of the impact of the CCTs on adults' labour supply does not show strong evidence of any impact related to what we expect theoretically. Despite the randomization setting in the three programmes, this might be due to the fact that this initial difference-in-difference estimation does not include controls for characteristics which account for any systematic differences in baseline and trends.

5.2.1 Econometric Results

This section discusses the estimation of equations (2) and (4), including controls for potential differences between control and treatment groups at the baseline, for two main indicators of labour supply: weekly worked hours (Table 4) and employment (Table 5). We use regression difference-in-difference to account for the evidence shown in the previous section about a pre-treatment association between maternal bargaining power and adults' labour supply and to control for other characteristics, accounting for any systematic differences in baseline and trends.

To begin with, we estimate a specification that does not account for heterogeneous effects, related to the distribution of power in the household (equation 2), of CCTs on worked hours (Table 4) and employment (Table 5).[22] These estimations are similar to the ones previously estimated in the literature under a 'unitary' setting of the household. And so, they help to

[22] Full results are available on request.

contextualize this study among previous studies and offer a benchmark for the following discussion on the additional effect of maternal bargaining power.

Table 4: Effect of CCT on Parental Worked Hours – no Maternal Bargaining Power

OLS	PRAF		PROGRESA		RPS	
	Males	Females	Males	Females	Males	Females
Post-treatment period = 1	-2.851***	-4.686***	-2.761***	-4.022	3.335***	18.291***
	(0.429)	(1.426)	(0.707)	(4.523)	(0.891)	(3.644)
Post-treatment period = 2	-	-	-2.530***	-3.925	3.551***	6.217*
	-	-	(0.690)	(4.394)	(0.857)	(3.209)
If CCT treatment group = 1	0.866*	0.203	-2.205***	-0.077	1.600	-2.855
	(0.458)	(1.907)	(0.724)	(3.426)	(1.021)	(2.957)
CCT treated * Year (Treat)	0.727	-1.156	2.137**	0.064	-2.918***	-3.627
	(0.563)	(2.285)	(0.869)	(5.273)	(1.129)	(4.490)
Observations	5342	1078	7690	548	4329	644
R-squared	0.05	0.10	0.02	0.12	0.03	0.17

Source: Authors´calculations (2012)

*Notes: Additional controls include paternal and maternal age, age-squared and years of education; number of family members aged 0-2, 3-5; number of males and females family members aged 6-7, 8-12, 13-18, 19-54, and 55 or more. Standard errors clustered at the community level in parentheses. *Significant at 10%, **Significant at 5%, ***Significant at 1%.*

The first two rows in Tables 4 and 5 correspond to the coefficients α_t in equation (2), which represent the time trends common to control and treatment groups. The third rows correspond to the coefficient γ_1 in equation (2), which represent pre-treatment differences between the treatment and control groups. As discussed before, despite randomization, treatment and control households were different in some characteristics at baseline. In particular, the difference in employment rate and worked hours shown in Table 2, in the Appendix A, are reflected in these coefficients. Finally, the coefficients on the interaction terms (Treat) correspond to δ in equation (2) and represent the difference-in-difference estimation of the programmes impact.

Overall, the effect of CCTs on maternal worked hours is negligible. In contrast, PROGRESA increases fathers' supply of labour by two hours, and RPS makes fathers supply three fewer hours of work (Table 4). Table 5 shows only one significant and negative impact of CCT on parental employment: PROGRESA reduces maternal employment by about 3 percentage points.

Table 5: Effect of CCT on Parental Employment – no Maternal Bargaining Power

Linear Probability Model	PRAF		PROGRESA		RPS	
	Males	Females	Males	Females	Males	Females
Post-treatment period = 1	0.024*	0.001	-0.003	-0.014*	-0.005	-0.055***
	(0.014)	(0.023)	(0.007)	(0.008)	(0.012)	(0.019)
Post-treatment period = 2	-	-	0.018***	-0.031***	0.006	-0.062***
	-	-	(0.006)	(0.007)	(0.011)	(0.021)
If CCT treatment group = 1	0.012	-0.059**	0.009	0.031**	0.010	-0.006
	(0.015)	(0.025)	(0.008)	(0.012)	(0.013)	(0.026)
CCT treated * Year (Treat)	-0.007	0.015	-0.002	-0.028**	-0.013	-0.009
	(0.019)	(0.030)	(0.008)	(0.011)	(0.015)	(0.026)
Observations	5836	4496	11848	11912	4515	4481
R-squared	0.06	0.08	0.05	0.01	0.09	0.04

Source: Authors´calculations (2012)

*Notes: Additional controls include paternal and maternal age, age-squared and years of education; number of family members aged 0-2, 3-5; number of males and females family members aged 6-7, 8-12, 13-18, 19-54, and 55 or more. Standard errors clustered at the community level in parentheses. *Significant at 10%, **Significant at 5%, ***Significant at 1%.*

Despite the differences in sample definition and econometric specifications,[23] the estimations here are reasonably similar to those previously found in the literature. Alzúa et al. (2010) also find (weak) evidence that RPS reduces fathers' labour supply (by 2 - 3 weekly worked hours, compared to 3 fewer hours here; and, in 1 - 2 percentage points less probability of being employed, compared to 1 percentage point here). Their estimated impact of PRAF is also statistically insignificant. For PROGRESA, they find a positive impact on fathers' worked hours (of about an hour in the first follow-up, compared to the 2 hours increase found here) and a negative impact on mothers' employment (in about 2 percentage points in the second follow-up, compared to 3 percentage points here).[24] Similarly, Maluccio and Flores (2005) find that RPS significantly reduces men worked hours (by 6 hours compared to 3 hours here) and do not affect women worked hours and adults' labour participation.

The other covariates included, when statistically different from zero, show the expected relation with parental labour supply.[25] Older parents work more but at diminishing rates. Mothers' education is, almost always, positively related to more working hours and employment.

[23] Unlike other studies, it is worthy of note that we consider a sample of couple households and use additional demographic controls in the difference-in-difference estimation.

[24] The found negative effect of PROGRESA on males' worked hours and females' employment contradict the neutral impacts found by Skoufias and Di Maro (2008) and Skoufias and Parker (2000).

[25] Full results are available on request.

The exception is PROGRESA, where more educated women work fewer hours. A husband's education does not seem to be associated with his own labour supply, but surprisingly in PRAF and PROGRESA husbands' education seems to be associated with higher labour supply of their wives. As expected, the presence of young children in the household is generally negatively related to maternal labour supply and, in a few cases, related to paternal labour supply.

We now turn to the estimation of equation (4), which accounts for potential heterogeneous effects related to the distribution of power in the household, of CCTs on worked hours (Table 6) and employment (Table 7).[26] As before, the first two rows show time trends common to control and treatment groups, and the fourth rows represent pre-treatment differences between treatment and control groups. This specification allow us to separately identify the effect of pre-treatment maternal bargaining power (coefficient on *BP*) and whether CCTs has a heterogeneous effect related to bargaining power (coefficient on *Treat*BP*) on the labour supply of both parents. Given that by definition (see equation 3), our indicator of maternal bargaining power cannot be zero, Tables 6 and 7 look at the potential heterogeneous effect of *BP* at its mean value (1.4 in PRAF, 1.1 in PROGRESA, and 1.5 in RPS).

The pre-treatment effect of maternal bargaining power (*BP*), coefficient γ_0 in equation (4), is significant in the sample of PROGRESA and RPS, which is consistent with the unconditional means shown in Table 2. Before CCT implementation, additional maternal bargaining power was associated with fewer working hours (9.3) for mothers in PROGRESA and with more working hours (0.7) for fathers in RPS. In a cooperative setting of the household, if our indicator of relative education does reflect maternal bargaining power, we should expect more powerful women to be more likely to assert their own set of preferences and allocate more resources towards the commodities they care more about. Particularly in the PROGRESA sample, this evidence suggests that, before the implementation of the CCT, more powerful women were allowed to assert their preferences and work less in labour markets.

[26] Full results are available on request.

Table 6: Effect of CCT on Parental Worked Hours – with Maternal Bargaining Power

OLS	PRAF		PROGRESA		RPS	
	Males	Females	Males	Females	Males	Females
Post-treatment period = 1	-2.851***	-4.581***	-2.758***	-3.157	3.326***	18.388***
	(0.429)	(1.431)	(0.707)	(4.699)	(0.891)	(3.653)
Post-treatment period = 2	-	-	-2.527***	-3.426	3.535***	6.206*
	-	-	(0.691)	(4.403)	(0.857)	(3.212)
Maternal bargaining power (BP)	0.031	-0.815	-0.027	-9.340**	0.685*	1.077
	(0.231)	(0.652)	(0.871)	(4.307)	(0.354)	(1.652)
If CCT treatment group = 1	0.865*	0.212	-2.213***	-0.207	1.607	-2.809
	(0.456)	(1.906)	(0.724)	(3.434)	(1.021)	(2.953)
CCT treated * Year (Treat)	0.727	-1.577	2.129**	-1.175	-2.909**	-3.651
	(0.563)	(2.292)	(0.869)	(5.342)	(1.127)	(4.593)
Treat*BP	-0.004	-0.966	-1.105	3.508	-0.767**	-0.650
	(0.212)	(1.065)	(0.803)	(3.613)	(0.378)	(1.776)
Constant	36.637***	32.821***	47.944***	27.276	41.037***	24.805
	(2.861)	(10.715)	(3.934)	(23.693)	(3.926)	(19.568)
Observations	5342	1078	7690	548	4329	644
R-squared	0.05	0.11	0.02	0.13	0.03	0.17

Source: Authors´calculations (2012)

*Notes: Maternal bargaining power (BP) centered at its mean value on each country. Additional controls include paternal and maternal age, age-squared and years of education; number of family members aged 0-2, 3-5; number of males and females family members aged 6-7, 8-12, 13-18, 19-54, and 55 or more. Standard errors clustered at the community level in parentheses. *Significant at 10%, **Significant at 5%, ***Significant at 1%.*

In Table 6, the coefficients on *Treat* show the difference between adults' working hours in treated and control households (i.e. the CCT treatment effect), at mean values of *BP*. In addition, Table 4, in the Appendix A, shows differences evaluated at different levels of *BP*. In particular, we evaluate the treatment effect at three values of *BP*: (i) at the mean value of *BP* for those households where mothers have less power than their husbands (*BP<1*); (ii) at the mean value of *BP* for those households where power between parents is equally distributed (*BP=1*); and, (iii) at the mean value of *BP* for those households where mothers have more power than their husbands (*BP>1*).[27]

At the mean value of maternal bargaining power (*BP*=1.1), fathers in PROGRESA-treated households work 2.1 hours more than fathers in control households (similar to the results in Table 4). The positive effect of PROGRESA on fathers' working hours does not seem to be constant at different levels of BP (Table 4, in the Appendix A). The effect is positive at the mean

[27] The mean values of *BP* corresponding to the three types of households, according to the bargaining power distribution, are: for PRAF (0.47; 1; 2.91), for PROGRESA (0.64; 1; 1.73), and for RPS (0.42; 1; 2.98).

values of *BP* for households where women have less power and where the power is equally distributed. However, at high levels of *BP* (mean of *BP* for households where mothers have more power), PROGRESA does not make fathers work more hours than those in the control group. On the other hand, on average, RPS reduces the working hours of fathers in treated household (by 2.9 hours, similar to the results in Table 5). However, contrary to what is expected, it seems that the negative effect of RPS on paternal working hours is increasing with the level of maternal bargaining power in the household (Table 4, in the Appendix A).

In addition to examining differences between adults in treatment and control groups (differences in intercept), Table 6 also examines heterogeneous treatment effects among the treated (differences in the slope coefficient *Treat*BP*). Among treated households in the RPS sample, a marginal increase in maternal bargaining power is associated with a reduction (0.77 hours) in the father's working hours. No evidence of heterogeneous impacts of CCTs related to the distribution of power in the household on adults' working hours is found in the other samples.

Table 7: Effect of CCT on Parental Employment – with Maternal Bargaining Power

Linear Probability Model	PRAF		PROGRESA		RPS	
	Males	Females	Males	Females	Males	Females
Post-treatment period = 1	0.024*	0.001	-0.003	-0.014*	-0.005	-0.055***
	(0.014)	(0.023)	(0.007)	(0.008)	(0.012)	(0.019)
Post-treatment period = 2	-	-	0.018***	-0.031***	0.006	-0.062***
	-	-	(0.006)	(0.007)	(0.011)	(0.021)
Maternal bargaining power (BP)	-0.015**	-0.001	-0.008	0.008	-0.002	-0.004
	(0.008)	(0.013)	(0.017)	(0.017)	(0.005)	(0.010)
If CCT treatment group = 1	0.012	-0.059**	0.009	0.031**	0.010	-0.006
	(0.015)	(0.025)	(0.008)	(0.012)	(0.013)	(0.026)
CCT treated * Year (Treat)	-0.007	0.015	-0.002	-0.028**	-0.013	-0.009
	(0.019)	(0.030)	(0.008)	(0.011)	(0.015)	(0.026)
Treat*BP	0.017**	-0.037***	-0.005	0.003	-0.006	0.011
	(0.007)	(0.011)	(0.011)	(0.014)	(0.008)	(0.011)
Constant	0.734***	0.130	0.855***	-0.032	0.704***	0.080
	(0.094)	(0.134)	(0.072)	(0.059)	(0.077)	(0.088)
Observations	5836	4496	11848	11912	4515	4481
R-squared	0.07	0.09	0.05	0.01	0.09	0.04

Source: Authors´calculations (2012)

*Notes: Maternal bargaining power (BP) centered at its mean value on each country. Additional controls include paternal and maternal age, age-squared and years of education; number of family members aged 0-2, 3-5; number of males and females family members aged 6-7, 8-12, 13-18, 19-54, and 55 or more. Standard errors clustered at the community level in parentheses. *Significant at 10%, **Significant at 5%, ***Significant at 1%.*

Table 7 shows the effect of CCT programmes on parental employment. The pre-treatment effect of maternal power (coefficients on *BP*) is only significant in the PRAF sample, where additional maternal bargaining power is associated with a reduction of 1.5 percentage points on father's probability of being employed.

Similarly to Table 5, Table 7 shows that the average treatment effect of CCTs on adults' employment (coefficient on *Treat*) is only significant in the sample of mothers in PROGRESA. At the mean value of maternal bargaining power (*BP*=1.1), receiving PROGRESA makes mothers 2.8 percentage points less likely to work relative to mothers in control households. Table 5, in the Appendix A, shows that this negative effect is constant at different levels of *BP*. Moreover, the evidence shown in Table 5, in the Appendix A, reaffirms that PRAF and RPS do not affect differently, the employment probability of parents in treatment and control groups, when evaluated at different levels of *BP*.

In addition, even though the coefficients on *Treat* in Tables 5 and 7 do not show a statistically significant treatment effect of PRAF on adults' labour supply, Table 7 shows evidence that the treatment effect, among those treated, varies with *BP*. Among PRAF-treated households, the coefficient on *Treat*BP* shows that a marginal increase in maternal bargaining power is associated with an increase (by 1.7 percentage points) in the probability of working for fathers and a reduction (by 3.7 percentage points) in the probability of working for mothers. This evidence suggests that as a consequence of the CCT, additional power allows mothers to supply less labour, which might lead (directly or indirectly) their husbands to increase their labour supply.

5.3 Conclusions

This paper examines the effect of Conditional Cash Transfer (CCT) programmes on the labour supply of adults in rural Honduras, Mexico and Nicaragua, using homogenized datasets of each country's randomized experimental evaluation. We argue that in addition to the regular channels through which CCTs might affect adults' labour supply, which has been explored by previous literature using mainly the 'unitary' model of the household, the distribution of power in the household might play a role in explaining unintended behavioural responses capable of offsetting CCTs transfers.

A special feature in the design of these programmes allows for the exploration of these potential effects: with the object of maximizing effects (mainly, on child human capital

accumulation), women were targeted as the recipient of the transfer. Considering the household's decision-making process in a cooperative setting, such a change is likely to produce different reactions depending on the distribution of power within the household and women's preferences. Using a sample of couple households who are observed as intact in the entire period of analysis, we calculate our measure of bargaining power as the ratio of the number of years of school completed by the mother to the number of years of school completed by the father to explore how it could potentially lead to different impacts of CCTs on two main indicators of labour supply: weekly worked hours (intensive margin) and employment (extensive margin).

After verifying potential attrition bias and the randomization of households in control and treatment groups, we use firstly an unconditional difference-in-difference estimator to capture the impact of the CCTs on labour supply. To control for random differences at baseline and observable characteristics related to time trends, we then include additional covariates to the basic difference-in-difference estimator.

Overall, as previous literature has found, CCTs seem to have relatively limited effects on adults' labour supply. However, we find evidence that PROGRESA slightly reduced maternal labour supply (employment) and slightly increased paternal labour supply (worked hours). While its impact on maternal employment is constant across different levels of power distribution in the household, the positive effect of PROGRESA on paternal working hours is concentrated only in households where mothers have less power or the distribution of power in the household is balanced. RPS reduces paternal labour supply, and contrary to what is expected, this seems to increase as maternal bargaining power increases. In the PRAF sample we do find heterogeneous effects of the CCT related to maternal bargaining power. Among treated households, a marginal increase in maternal bargaining power reduces maternal labour participation and increases paternal participation. This suggests that the CCT allows women who have more power in the household to change the allocation of resources to a preferred situation for them.

In most cases, however, the impact of these CCTs on adult labour supply is small and insignificant, even when heterogeneity due to the distribution of power in the household, is considered. Despite the large differences in CCT sizes, we do not find that the changes in labour supply to be correlated with the size of the grant. This also strongly suggests that there are little adult labour supply changes due to the CCT.

Fiszbein et al. (2009) offer some explanations for the absence of larger effects of CCTs on adults' labour supply. It might be that the income elasticity of leisure is very low among poor households. It is also likely that accomplishing the CCT conditionalities implies increasing costs in an amount similar, or higher, than the transfer itself. It might also be that the transfer is perceived by households as temporary, rather than permanent. Finally, the authors suggest that potential labour supply effects are being studied too soon after the implementation of the programmes, and therefore, potential long-run effects are not being captured.

5.4 References

Alzúa, M.L., G. Cruces, and L. Ripani. 2010. "Welfare Programs and Labor Supply in Developing Countries. Experimental Evidence from Latin America." CEDLAS, Working Papers 0095, CEDLAS, Universidad Nacional de La Plata.

Attanasio, O., C. Meghir, and M. Vera-Hernandez. 2004. "Baseline Report on the Evaluation of Familias en Acción." Open access publications from University College London, University College London.

Barrera-Osorio, F., M. Bertrand, L.L. Linden, and F. Perez-Calle. 2008. "Conditional Cash Transfers in Education Design Features, Peer and Sibling Effects Evidence from a Randomized Experiment in Colombia." NBER Working Papers 13890, National Bureau of Economic Research, Inc.

Basu, K. and R. Ray. 2002. "The Collective Model of the Household and an Unexpected Implication for Child Labor: Hypothesis and an Empirical Test." Policy Research Working Paper Series 2813, The World Bank.

Becker, G.S. 1991. *A Treatise on the Family*. Cambridge, MA: Harvard Univ Press.

Beegle, K., E. Frankenberg, and D. Thomas. 2001. "Bargaining Power within Couples and Use of Prenatal and Delivery Care in Indonesia." *Studies in Family Planning* 32 (2):130–146.

Blundell, R. and H.W. Hoynes. 2004. "Has 'In-Work' Benefit Reform Helped the Labor Market?" In *Seeking a Premier Economy: The Economic Effects of British Economic Reforms, 1980-2000*, NBER Chapters. National Bureau of Economic Research, Inc, 411–460.

Borraz, F. and N. González. 2009. "Impact of the Uruguayan Conditional Cash Transfer Program." *Latin American Journal of Economics-formerly Cuadernos de Economía* 46 (134):243–271.

Bouillon, C.P. and L.R. Tejerina. 2007. *Do We Know What Works? A Systematic Review of Impact Evaluations of Social Programs in Latin America and the Caribbean*. Inter-American Development Bank.

Bourguignon, F., F.H.G. Ferreira, and P.G. Leite. 2003. "Conditional Cash Transfers, Schooling, and Child Labor: Micro-Simulating Brazil's Bolsa Escola Program." *The World Bank Economic Review* 17 (2):229–254.

Browning, M., P.A. Chiappori, and Y. Weiss. 2011. *Family Economics*. Cambridge University Press.

CEDLAS. 2009. "A Guide to the SEDLAC: Socioeconomic Database for Latin America and the Caribbean." Tech. rep., CEDLAS and The World Bank. Available online at www.cedlas.org.

Chiappori, P.A. 1988. "Rational Household Labor Supply." *Econometrica* 56 (1):63–90.

———. 1992. "Collective Labor Supply and Welfare." *Journal of Political Economy* 100 (3):437–467.

Del Carpio, X.V. and K. Macours. 2009. "Leveling the Intra-household Playing Field: Compensation and Specialization in Child Labor Allocation." Policy Research Working Paper Series 4822, The World Bank.

Duflo, E. 2003. "Grandmothers and Granddaughters: Old-Age Pensions and Intrahousehold Allocation in South Africa." *The World Bank Economic Review* 17 (1):1–25.

Edmonds, E.V. and N. Schady. 2012. "Poverty Alleviation and Child Labor." *American Economic Journal: Economic Policy* 4(4): 100-124.

Emerson, P.M. and A.P. Souza. 2007. "Child Labor, School Attendance, and Intrahousehold Gender Bias in Brazil." *The World Bank Economic Review* 21 (2):301–316.

Fafchamps, M. and A.R. Quisumbing. 2002. "Control and Ownership of Assets within Rural Ethiopian Households." *Journal of Development Studies* 38 (6):47–82.

Ferreira, F.H.G. and D. Robalino. 2010. "Social Protection in Latin America: Achievements and Limitations." Policy Research Working Paper Series 5305, The World Bank.

Ferro, A.R., A.L. Kassouf, and D. Levison. 2010. "The Impact of Conditional Cash Transfer Programs on Household Work Decisions in Brazil." In *Child Labor and the Transition between School and Work (Research in Labor Economics, Volume 31)*, edited by R.K.Q. Akee, E.V. Edmonds, and K. Tatsiramos. Emerald Group Publishing Limited, 193–218.

Fiszbein, A., N.R. Schady, and F.H.G. Ferreira. 2009. *Conditional Cash Transfers: Reducing Present and Future Poverty*. World Bank Policy Research Report. World Bank.

Frankenberg, E. and D. Thomas. 2003. "Household Decisions, Gender and Development: Measuring Power." In *Household Decisions, Gender and Development: A Synthesis of Recent Research*, edited by A. Quisumbing. International Food Policy Research Institute (IFPRI), 29–36.

Freije, S., R. Bando, F. Arce, C. Medina, and R. Bernal. 2006. "Conditional Transfers, Labor Supply, and Poverty: Microsimulating Oportunidades [with Comments]." *Economía* 7 (1):73–124.

Galasso, E. 2006. "With Their Effort and One Opportunity: Alleviating Extreme Poverty in Chile." Development Research Group, The World Bank.

Galiani, S. 2009. "Reducing Poverty in Latin America and the Caribbean." CEDLAS, Working Papers 0088, CEDLAS, Universidad Nacional de La Plata.

Gasparini, L., F. Haimovich, and S. Olivieri. 2007. "Labor Informality Effects of a Poverty-Alleviation Program." CEDLAS, Working Papers 0053, CEDLAS, Universidad Nacional de La Plata.

Gertler, P. 2004. "Do Conditional Cash Transfers Improve Child Health? Evidence from PROGRESA's Control Randomized Experiment." *American Economic Review* 94 (2):336–341.

Gitter, S.R. and B.L. Barham. 2008. "Women's Power, Conditional Cash Transfers, and Schooling in Nicaragua." *The World Bank Economic Review* 22 (2):271–290.

Glewwe, P. and P. Olinto. 2004. "Evaluating the Impact of Conditional Cash Transfers on Schooling: An Experimental Analysis of Honduras' PRAF Program." *Unpublished manuscript, Department of Economics, University of Minnesota* .

Hoddinott, J. and L. Haddad. 1995. "Does Female Income Share Influence Household Expenditures? Evidence from Cote d'Ivoire." *Oxford Bulletin of Economics and Statistics* 57 (1):77–96.

Hoddinott, J. and E. Skoufias. 2004. "The Impact of PROGRESA on Food Consumption." *Economic Development and Cultural Change* 53 (1):37–61.

Lehmann, C. 2010. "Benefiting Without Receiving Money? Externalities of Conditional Cash Transfer Programmes on Schooling, Health and the Village Economy." Policy Research Brief 13, International Policy Centre for Inclusive Growth.

Lundberg, S.J., R.A. Pollak, and T.J. Wales. 1997. "Do Husbands and Wives Pool Their Resources? Evidence from the United Kingdom Child Benefit." *The Journal of Human Resources* 32 (3):463–480.

Maluccio, J.A., M. Adato, R. Flores, and T. Roopnaraine. 2005. "Nicaragua: Red de Protección Social - Mi Familia. Rompiendo el Ciclo de Pobreza." International Food Policy Research Institute (IFPRI) Briefs.

Maluccio, J.A. and R. Flores. 2005. "Impact Evaluation of a Conditional Cash Transfer Program: The Nicaraguan Red de Proteccion Social." Research Reports 141, International Food Policy Research Institute (IFPRI).

Medeiros, M., T. Britto, and F.V. Soares. 2008. "Targeted Cash Transfer Programmes in Brazil: BPC and the Bolsa Familia." Working Paper 46, International Policy Centre for Inclusive Growth.

Meghir, C. and D. Phillips. 2008. "Labour Supply and Taxes." IZA Discussion Papers 3405, Institute for the Study of Labor (IZA).

Michalopoulos, C., P.K. Robins, and D. Card. 2005. "When Financial Work Incentives Pay for Themselves: Evidence from a Randomized Social Experiment for Welfare Recipients." *Journal of Public Economics* 89 (1):5–29.

Moffitt, R.A. 2002. "Welfare Programs and Labor Supply." In *Handbook of Public Economics*, *Handbook of Public Economics*, vol. 4, edited by A.J. Auerbach and M. Feldstein, chap. 34. Elsevier, 2393–2430.

———. 2003. *Means-Tested Transfer Programs in the United States*. NBER Books. National Bureau of Economic Research, Inc.

Parker, S. and E. Skoufias. 2000. "The Impact of PROGRESA on Work, Leisure, and Time Allocation." Final report on PROGRESA, International Food Policy Research Institute (IFPRI).

Schady, N. and J. Rosero. 2007. "Are Cash Transfers Made to Women Spent Like Other Sources of Income? " Policy Research Working Paper Series 4282, The World Bank.

Skoufias, E. 2005. "PROGRESA and Its Impacts on the Welfare of Rural Households in Mexico." Research Reports 139, International Food Policy Research Institute (IFPRI).

Skoufias, E. and V. Di Maro. 2008. "Conditional Cash Transfers, Adult Work Incentives, and Poverty." *Journal of Development Studies* 44 (7):935–960.

Skoufias, E., M. Unar, and T. González-Cossío. 2008. "The Impacts of Cash and In-Kind Transfers on Consumption and Labor Supply: Experimental Evidence from Rural Mexico." Policy Research Working Paper Series 4778, The World Bank.

Tavares, P.A. 2010. “Efeito do Programa Bolsa Familia Sobre a Oferta de Trabalho das Maes.” *Revista Economia e Sociedade* 41.

Teixeira, C.G. 2010. “A Heterogeneity Analysis of the Bolsa Familia Programme Effect on Men and Women’s Work Supply.” Working Papers 61, International Policy Centre for Inclusive Growth.

Thomas, D. 1990. “Intra-Household Resource Allocation: An Inferential Approach.” *The Journal of Human Resources* 25 (4):635–664.

———. 1994. “Like Father, like Son; Like Mother, like Daughter: Parental Resources and Child Height.” *The Journal of Human Resources* 29 (4):950–988.

Todd, P. 2004. “Design of the Evaluation and Method Used to Select Comparison Group Localities for the Six Year Follow-up Evaluation of Oportunidades in Rural Areas.” *Technical Note, SEDESOL, Mexico*.

5.5 Appendix A

Table 1: Differences between Non-Attriting and Attriting Couples

	PRAF-Honduras				PROGRESA-Mexico				RPS-Nicaragua			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
	Non-Attritors (n=1472)	Attitors (n=225)	Mean diff.	Diff in Diff	Non-Attritors (n=2296)	Attitors (n=2283)	Mean diff.	Diff in Diff	Non-Attritors (n=755)	Attitors (n=137)	Mean diff.	Diff in Diff
Total consumption per capita	540,92	623,67		94.80	203,21	202,63		-0.68	311,02	308,97		-24.06
Maternal age	34,84	32,68	***	-1.11	35,49	35,68		1.54**	33,71	31,41	**	0.85
Paternal age	39,96	38,04	**	-1.64	39,71	39,75		1.46*	38,89	36,80	*	1.38
Maternal years of schooling	2,52	3,10	***	0.55	4,61	4,80	**	-0.43**	1,98	1,74		-1.17***
Paternal years of schooling	2,70	3,20	**	0.41	4,52	4,72	**	-0.21	1,92	1,69		-0.75*
Maternal bargaining power (BP)[a]	1,41	1,48		-0.08	1,13	1,14		-0.06	1,45	1,37		-0.31
Household size	5,98	5,12	***	-0.15	5,21	4,95	***	-0.02	5,87	5,77		0.16
Number of children 0 - 2	0,78	0,72		-0.03	0,44	0,47		-0.05	0,55	0,71	***	0.08
Number of children 3 - 5	0,71	0,54	***	0.01	0,54	0,51		-0.07*	0,65	0,72		0.08
Number of boys 6 - 7	0,24	0,24		-0.02	0,18	0,15	**	-0.01	0,23	0,18		-0.02
Number of girls 6 -7	0,20	0,21		0.12**	0,17	0,14	***	-0.01	0,23	0,28		0.09
Number of boys 8 - 12	0,47	0,42		-0.14	0,41	0,35	***	-0.00	0,50	0,42		-0.09
Number of girls 8 - 12	0,50	0,33	***	-0.02	0,39	0,32	***	-0.02	0,47	0,45		0.03
Number of boys 13 - 18	0,43	0,25	***	0.00	0,41	0,35	***	-0.02	0,42	0,46		0.19
Number of girls 13 - 18	0,35	0,32		0.02	0,36	0,34		0.07*	0,41	0,34		-0.04
Number of men 19 - 54	1,10	0,96	***	-0.06	1,03	1,04		0.05*	1,15	1,06	*	-0.19*
Number of women 19 -54	1,01	0,88	***	0.02	1,02	1,00		0.02	1,02	0,95	*	0.05
Number of men 55 or more	0,13	0,15		0.00	0,15	0,17		0.01	0,14	0,12		0.01
Number of women 55 or more	0,06	0,08		-0.05	0,09	0,11	**	0.02	0,08	0,07		-0.03
Mother is employed (yes=1)[b]	0,23	0,25		-0.11	0,10	0,12		0.07***	0,14	0,10		-0.02
Father is employed (yes=1)[b]	0,91	0,91		0.03	0,97	0,97		0.01	0,97	1,00	**	-0.01
Maternal hours of work (cond. on working)[b]	30,45	32,62		-8.19	37,07	37,47		5.98	25,70	34,28		-12.35
Paternal hours of work (cond. on working)[b]	39,80	39,61		0.29	43,24	45,43	***	3.24***	41,56	42,44		-3.13

Source: Authors´calculations (2012)

*Notes: For each CCT program, column (1) shows the mean of the baseline characteristic for the non-attritors (presented in all waves); column (2) baseline means for the attritors (missing in at least one follow-up); and, column (3) shows the level of statistically significance of a t-test on the equality of means between columns (1) and (2). Column (4) test for whether attrition differs across treatment and control groups. Thus, it shows the difference-in-difference estimate: [I_(att=1) - I_(att=0)] - [C_(att=1) - C_(att=0)], where I and C stand for treated and control households, and att for the attrition status of the household. The number of observations 'n' at the top of columns (1) and (2) represents the maximum number of household on each group, however, smaller samples might have been used to calculate means, due to missing data. [a] BP=[(years of schooling completed by mother+1)/(years of schooling completed by father+1)]. [b] For comparison with other tables in the paper, these mean values are conditional on no-missing data on BP. *Significant at 10%, **Significant at 5%, ***Significant at 1%.*

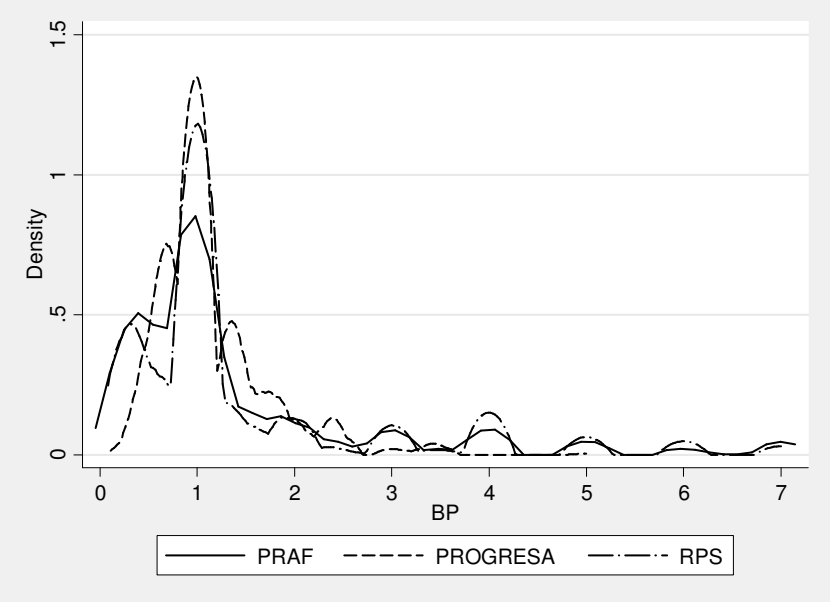
Table 2: Baseline Means and Randomization Balance

	PRAF-Honduras		PROGRESA-Mexico		RPS-Nicaragua	
	Control	Treatment	Control	Treatment	Control	Treatment
Total consumption per capita	499,08	580,91 *	202,51	203,70	305,21	315,94
Maternal age	35,22	34,48	35,78	35,28	33,46	33,92
Paternal age	40,56	39,40 *	40,12	39,42	38,36	39,33
Maternal years of schooling	2,43	2,61	4,54	4,66	1,81	2,12 *
Paternal years of schooling	2,62	2,79	4,41	4,60	1,82	2,01
Maternal bargaining power (BP)[a]	1,40	1,41	1,13	1,12	1,43	1,47
Household size	5,95	6,00	5,19	5,22	5,96	5,79
Number of children 0 - 2	0,76	0,80	0,43	0,45	0,58	0,53
Number of children 3 - 5	0,67	0,74 *	0,52	0,56	0,71	0,59 **
Number of boys 6 - 7	0,23	0,25	0,18	0,17	0,23	0,23
Number of girls 6 -7	0,20	0,20	0,17	0,17	0,25	0,22
Number of boys 8 - 12	0,46	0,48	0,41	0,41	0,49	0,50
Number of girls 8 - 12	0,50	0,50	0,39	0,40	0,49	0,46
Number of boys 13 - 18	0,46	0,40 *	0,39	0,43	0,43	0,42
Number of girls 13 - 18	0,35	0,35	0,38	0,35	0,42	0,41
Number of men 19 - 54	1,10	1,10	1,04	1,03	1,14	1,17
Number of women 19 -54	1,00	1,01	1,04	1,02	1,02	1,03
Number of men 55 or more	0,15	0,12	0,15	0,15	0,14	0,14
Number of women 55 or more	0,06	0,06	0,10	0,09	0,07	0,09
Mother is employed (yes=1)[b]	0,26	0,20 **	0,11	0,10	0,15	0,14
Father is employed (yes=1)[b]	0,90	0,92	0,97	0,96	0,97	0,97
Maternal hours of work (cond. on working)[b]	30,13	30,88	38,29	36,10	26,64	24,82
Paternal hours of work (cond. on working)[b]	39,33	40,25 **	44,51	42,36 ***	40,65	42,32

Source: Authors´calculations (2012)

*Notes: [a] BP=[(years of schooling completed by mother+1)/(years of schooling completed by father+1)]. [b] For comparison with other tables in the paper, these mean values are conditional on no-missing data on BP. The level of statistically significance of a t-test on the equality of means between control and treatment households is shown next to the 'Treatment' column. *Significant at 10%, **Significant at 5%, ***Significant at 1%.*

Figure 1: Maternal Bargaining Power (BP)



Source: Authors´calculations (2012)

Table 3: Baseline Means and Randomization Balance by Maternal Bargaining Power

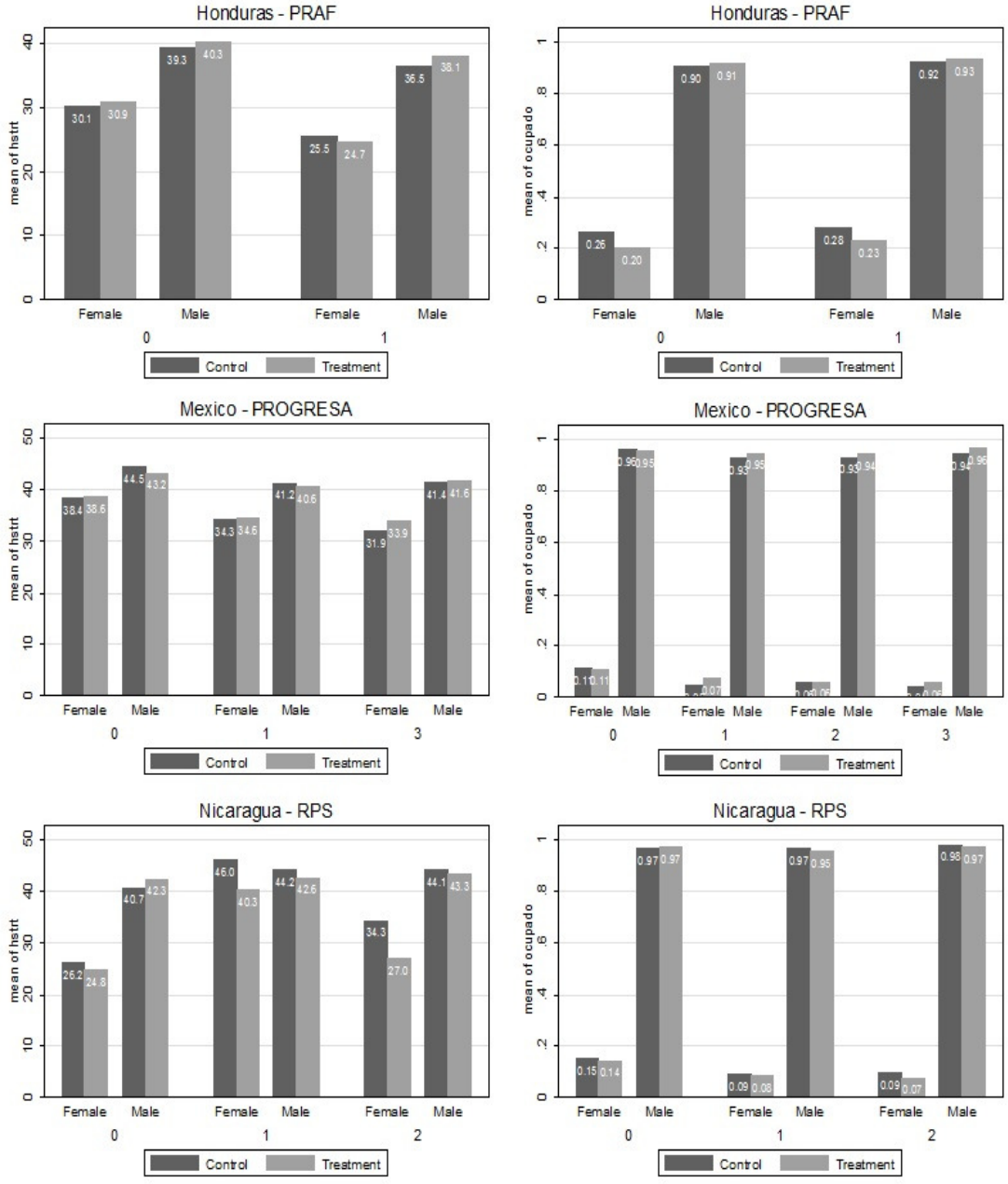
	Maternal Bargaining Power (BP) [a]	Baseline mean of Weekly Worked Hours for…		Baseline mean of Employment for…	
		Control	Treatment diff.[b]	Control	Treatment diff.[b]
PRAF - Honduras					
Paternal working hours	BP<1	39,43	40,51	0,92	0,92
	BP=1	39,32	39,81	0,93	0,92
	BP>1	39,20	40,29	0,86	0,92 *
	Total	39,33	40,25 **	0,90	0,92
Maternal working hours	BP<1	26,52	29,23	0,26	0,18 *
	BP=1	30,38	31,30	0,24	0,20
	BP>1	33,75	32,25	0,28	0,23
	Total	30,13	30,88	0,26	0,20 **
PROGRESA - Mexico					
Paternal working hours	BP<1	44,91	42,73 *	0,98	0,96
	BP=1	44,26	41,17 **	0,96	0,96
	BP>1	44,37	43,16	0,97	0,97
	Total	44,51	42,36 ***	0,97	0,96
Maternal working hours	BP<1	40,77	35,50	0,10	0,08
	BP=1	41,54	37,97	0,11	0,10
	BP>1	32,48	35,05	0,10	0,13
	Total	38,29	36,10	0,11	0,10
RPS - Nicaragua					
Paternal working hours	BP<1	41,45	41,64	0,99	0,97
	BP=1	39,19	42,50 **	0,94	0,96
	BP>1	41,90	42,69	0,97	0,99
	Total	40,65	42,32	0,97	0,97
Maternal working hours	BP<1	27,00	22,84	0,12	0,16
	BP=1	25,57	28,16	0,15	0,11
	BP>1	27,88	23,13	0,17	0,16
	Total	26,64	24,82	0,15	0,14

Source: Authors´calculations (2012)

*Notes: [a] BP=[(years of schooling completed by mother+1)/(years of schooling completed by father+1)]. [b] t-test on the equality of means between control and treatment households. *Significant at 10%, **Significant at 5%, ***Significant at 1%.*

Figure 2: Parental Weekly Hours Worked

Figure 3: Parental Employment



Source: Authors´calculations (2012)

Table 4: Effect of CCT on Parental Weekly Worked Hours at Different Levels of BP

	PRAF		PROGRESA		RPS	
"Treat" at the mean values of *BP* …	Males	Females	Males	Females	Males	Females
for hh where mothers have less power	0.731	-0.674	2.665***	-2.875	-2.117*	-2.979
(*BP* <1)	(0.585)	(2.447)	(0.947)	(6.020)	(1.225)	(5.476)
for hh where mothers have equal power	0.729	-1.185	2.268***	-1.617	-2.564**	-3.358
(*BP* =1)	(0.564)	(2.308)	(0.873)	(5.473)	(1.155)	(4.913)
for hh where mothers have more power	0.721	-3.035	1.466	0.930	-4.083***	-4.646
(*BP* >1)	(0.663)	(2.873)	(0.999)	(5.245)	(1.220)	(4.506)

Source: Authors´calculations (2012)

Notes: each row corresponds to a separate regression where maternal bargaining power (BP) has been centered at its mean value within each type of household (those where mothers have less power than their husbands; those where power is equally distributed; and, those where mothers have more power than their husbands). The main results are shown in Table 6 and the full model is available on request. Standard errors clustered at the community level in parentheses.

Table 5: Effect of CCT on Parental Employment at Different Levels of BP

	PRAF		PROGRESA		RPS	
"Treat" at the mean values of *BP* …	Males	Females	Males	Females	Males	Females
for hh where mothers have less power	-0.022	0.050	0.001	-0.029**	-0.007	-0.021
(*BP* <1)	(0.020)	(0.032)	(0.009)	(0.013)	(0.017)	(0.028)
for hh where mothers have equal power	-0.014	0.030	-0.001	-0.028**	-0.010	-0.014
(*BP* =1)	(0.019)	(0.031)	(0.008)	(0.011)	(0.015)	(0.026)
for hh where mothers have more power	0.018	-0.041	-0.004	-0.026*	-0.022	0.008
(*BP* >1)	(0.021)	(0.034)	(0.010)	(0.014)	(0.019)	(0.030)

Source: Authors´calculations (2012)

*Notes: each row corresponds to a separate regression where maternal bargaining power (BP) has been centered at its mean value within each type of household (those where mothers have less power than their husbands; those where power is equally distributed; and, those where mothers have more power than their husbands). The main results are shown in Table 7 and the full model is available on request. Standard errors clustered at the community level in parentheses. *Significant at 10%, **Significant at 5%, ***Significant at 1%.*