Social assistance and labor market intra-household decisions.
Evidence from a regression discontinuity design *

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Abstract

This paper investigates for intra-household responses in labor market behavior of couples to a cash transfer program in Uruguay – Asignaciones Familiares-Plan de Equidad (AFAM-PE), and explores whether changes in women’s own resources control affect additional domains, as their responsibility in specific decisions of household. The identification strategy exploits both the fact that the monetary transfer is targeted to women and a local random assignment into the AFAM-PE which exogenously change the intra-household distribution of resources across applicant households. Based on a regression discontinuity design and in a follow-up survey, the study finds that the financial incentives of the program have significant negative effects on the formality choice of women at the eligibility cut-off, but no robust effect on the margin of employment. This responses appears to be associated to movements across registered and unregistered jobs, and do not depend on their partner’s labor supply. In contrast, there are no significant evidence of labor market responses of men to AFAM-PE. When other spheres of the household decision-making are explored, suggestive evidence is found that the AFAM-PE increase the likely that women in eligible households make decisions (according to their perceptions) on her own.

Keywords: conditional cash transfer program, intra-household allocations, labor market behavior, women’s decision making, RD design, Uruguay.

JEL Codes: H31, O15, D13, J22.

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1 Introduction

Conditional cash transfers (CCTs) programs—monetary payments delivered to poor households conditional to their members meet certain requirements, as school attendance of children or health care visits, are the main social assistance policy in developing countries. The aims of this type of programs are both to alleviate current poverty while simultaneously seek to break the intergenerational transmission of poverty. Since the introduction of CCTs by the 1990s, much research has been undertaken to assess whether or not those programs were successful. This research has demonstrated that the CCTs led to unprecedented falls in poverty rates (e.g., Fiszbein and Schady, 2009), improvements in education (e.g., Glewwe and Kassouf, 2004), nutrition and health (e.g., Gertler, 2004; Barham, 2011) and do not appear to significantly reduce labor supply (e.g., Alzúa et al., 2013), although they may have effects in labor formality (Garganta and Gasparini, 2015). Most of the existing literature, however, has generally focused on the behavioral effects of CCTs considering the household implicitly as a single unit. Much less is known about the CCTs impacts on the intra-household outcomes, even when the benefits of such social policies can accrue to adults within a household rather than to a unitary household unit or in equal proportion to all family members.

With the purpose to achieve their objectives, in general all the grants to beneficiary households of CCTs are entitled to the mother (or to the women adult in charge) of the targeted child population. This common feature is based on the arguments that either women are more efficient in managing of resources (than their male counterparts) or they use money to improve the well-being of children (Thomas, 1990; Duflo, 2003; World Bank. 2007). This gender-based targeting, supports the need of considering a wide range of questions that are raised by the CCTs programs, as those on intra-household distributional effects.

This paper helps to close this gap by considering individuals in couple and analyze how a CCT program in Uruguay targeted to poor households with children—Asignaciones Familiares- Plan de Equidad (AFAM-PE), affects their intra-household allocations, mainly, the labor market decisions. If the CCTs programs as the AFAM-PE led individuals in couples to change their labor market behavior, these changes not only could have efficiency consequences but also could have impacts on different domains of family, such as, on the decision making process or the possibility of breaking down the partnership. Thus, investigating for those behavioral responses at the household level is important both because it provides a more complete picture of the CCTs consequences and because it allows to explore for the presence of unintended effects, which may be crucial for the long-term success of this type of social policies or may have important implications for new policy designs.

The AFAM-PE is a compelling case for this area of study. Unlike most transfer programs in the region, the AFAM-PE is not exclusively targeted to extremely poor households. The budget and the coverage (both in urban and rural areas) of the AFAM-PE

\[1\] For a survey of the CCTs impacts on several individual and household domains, see Fiszbein and Schady (2009).
situate it among the most important programs in Latin America (Bastagli, 2009). Additionally, because income testing is effectively monitored by authorities and the average amount of the transfer is by 52% of the work income of the adult, one can presume that the program generates strong financial incentives on labor market behavior.

Economic theory provides ambiguous predictions of the expected effects of CCTs on labor market intra-household decisions. Under the standard unitary model of household, the combination of income effect of the benefit and price effect induced by income-means testing unambiguously lead to predictions of reduction in labor supply of household members. In addition, the income testing might affect behavioral responses on informality decisions of adults, because of the implicit taxation on registered employment. As the unitary model considers the household as a unit with unique preferences, family choices are not affected by which member controls the household’s income (see review by Lundberg and Pollak, 1996). In consequence, the monetary transfer target to women in beneficiary households would not have distributional effects on family’s members outcomes, as labor market decisions. In contrast to the unitary model, a growing literature models the household’s decision making as a process of bargaining, in which the family’s outcomes are affected by the distribution of power within the household (see e.g. Chiappori, 1988, 1992). Therefore, those household models predict that changes in distribution of resources (or bargaining power) within the household as consequence of the gender-based targeting of CCTs could affect differently their member’s outcomes.

Empirically, a major challenge to explore for intra-household distributional effects is how to obtain an exogenous source of variation in elements which might affect (indirectly) the choices of individuals. A social transfer policy as the AFAM-PE program, which redistribute resources within eligible households, offers an excellent opportunity to address that concern. In particular, this study takes advantage of a local random assignment of applicant households into the program which exogenously alters the distribution of non labor income of the household. The eligibility rule for AFAM-PE entails computing a predicted poverty score to applicant households based on their baseline socioeconomic characteristics. Only those applicant households whose predicted poverty score is above a determined threshold are eligible for the AFAM-PE, which generates a strong discontinuity in the probability of being assigned into the program. Once eligible, the monetary transfer to the household is targeted to the mother (or the women in charge of children) in the family. According to the administrative records of the program over 90% of those who are entitled for the benefits are women.

Based on a sharp regression discontinuity design (RD) and on a follow up survey of applicant households, this study analyzes the effect of the AFAM-PE on the household decisions, by comparing outcomes of couples closely above (i.e., the treatment group) and below (i.e., the comparison group) the program eligibility cut-off.

The insights from the RD analysis may be summarized in four broad conclusions. First, the AFAM-PE affects the labor market decisions of individuals in couples in beneficiary

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2See Section 3 for details about the scope of the AFAM-PE program and comparisons with other CCTs program in developing countries.
households. However, those responses are basically concentrated on women behavior. The RD estimates show evidence that the program reduces significantly the maternal registered employment by 17-21 percentage points at the eligibility cut-off, and increases their likelihood of non-employment by 9-13 percentage points, although the last result is not robust for all the models estimated.\(^3\) The no response of men in couple’s labor supply to AFAM-PE, contrast with the evidence found for other studies on CCTs impact on household’s labor market decisions (see e.g., Novella et al., 2012). A possible explanation for this finding is, as argued by Martinez (2013), that the increase in female bargaining power (because the transfer is targeted to them) is interpreted by men as tax on wages, such as the (positive) income effect is compensated by a (negative) substitution effect. Second, the negative effect on registered employment of women in couples seems to be associated to changes in transitions across registered and informal employments. In particular, the estimates show a decline in transitions of women into formality from unregistered jobs. Third, there is not significant heterogeneity in the responsiveness to incentives of AFAM-PE according to the individual’s partner employment status. Fourth, when the empirical analysis focus on other domains of household decisions rather than labor market choices some responses to the program are found. While seems not to exist evidence that the AFAM-PE alters the probability of marital dissolution of couples in beneficiary households, it appears to affect the women’s (perceived) ability to take part in the decision process within the household, particularly, in the usage of money. Mothers are 12 to 19 percentage points more likely to decide about food expenses after their household become eligible for AFAM-PE. This result, appears to be explained by both a decrease in probability that others adults rather than the women take this decision and that the decisions are made jointly by both parents in household. It is also consistent with the suggestion that the program, by giving the income directly to the women, improves their position in the decision making process within the household. Indeed, the possible change in the bargaining power of women in couples could be a possible and plausible interpretation for their behavioral responses in labor market to the AFAM-PE. The robustness analysis performed do not provide evidence that reject the validity of the assumptions underlying the RD estimates.

This paper contributes to three different strands of literature. First, it adds to a little but growing number of studies that analyze the effect of CCTs programs on labor market behavior (see Bosch and Manacorda, 2012 for a recent survey). Most of the existing work in this literature, however, analyzed the labor supply responsiveness considering the household as an individual unit. This paper, therefore, represents one of the first efforts for analyzing the distributional effects of CCTs programs on labor market decisions of household. As in Novella et al. (2012), the results in this paper indicate that such programs alter differently parents labor market decisions, and that this effect could be associated to changes in the distribution of power within the household. Unlike Novella et al.’s paper, this study considers the effect of CCTs on informality choices of parents, and

\(^3\)Registered (or formal) employments, in contrast to unregistered (or informal) employments, are define in this article as jobs registered with the Social Security Administration for which payroll taxes are payed and provide access to social insurance benefits.
finds that this margin of response to monetary incentives is very important, as expected in a context of limited enforcement capacity.

Second, this paper is related to a burgeoning literature that examines the effects of gender-based targeting of CCTs programs on intra-household decision making dynamics. The literature finds that deliver to mother (or senior women) the monetary transfers in household affects the levels of female bargaining power (Attanasio and Lechene 2002; Handa et al., 2009; de Brauw et al., 2013), the allocation of household resources towards investment in family well-being, in particular on children (Djebbari, 2005; Schady and Rosero, 2008; Bobonis, 2009), and marriage (Bobonis, 2011). This paper contributes to this literature by presenting evidence on intra-household distributional effects by investigating the effects of a CCT program on labor market decisions of the household. In addition, this study provides evidence on the responsiveness of household to AFAM-PE in other domains rather than labor market behavior, as decisions on marriage and women’s decision-making power.

Third, a sizable literature examines for different representations of the intra-household decision making by empirically testing for the pooling of the resources by household members. Traditionally, the literature has used changes in labor income or pre-couple-formation of non labor income as indicators of variation in the distribution of resources within household to estimate the extent household pooled income (see Thommas, 1990; Browning et al., 1994; Fortin and Lacroix, 1997). However, methodological limitation with this approach imply that usefulness and policy implications of these test are limited. For these reasons, the literature is moving towards exploiting experimental or quasi-experimental variation in the distributions of household resources to design tests of household models (Lundberg et al. 1997; Attanasio and Lechene 2002; Duflo, 2003, Rangel 2006, Bobonis, 2011; Martinez, 2013). This paper adds to this literature by using a public policy that alters the distribution of non-labor income in the household and by estimating how the family’s outcomes are affected by the distribution of resources.

Finally, the findings in this paper offer important considerations for the ongoing policy debate in developing countries about the gender-based-targeting design of the social assistance programs and their effects on beneficiaries. Ignoring the disincentives effect on labor market decisions of CCTs, despite the improvements in the women’s role in the decision making process or family well-being, could substantially underestimate the overall impact on women well-being and and decision-making empowerment.

The rest of the document is organized as follows. Section 2 presents the literature review, while Section 3 explains the relevant characteristics of the program under study. Section 4 presents the main predictions. Section 5.1 describes the data used and Section 5.2 presents the identification strategy. Finally, Sections 6 and 7 present the results and principal conclusions.
2 Literature Review

2.1 Overview of the household behavioral model

The baseline model of household behavior relies on the assumption that the household makes decisions as a single agent. Unitary household models resume the decision process, either by the power of consensus (Samuelson, 1956) or by a "benevolent dictator" (Becker 1981, 1991), by a representative utility function based on a set of common preferences and a common aggregate budget constraint. Therefore, the household choices are based either in the agreed on the utility function derived of each choice to be made or by an altruistic dictator, who represents the tastes and preferences of household members and maximizes the utility of whole family. A central prediction of the unitary model is that only the household’s pooled income influence the choices. This implies that the income allocation across family members does not matter for time and expenditure decisions. Therefore, under the hypothesis that the household is a single decision unit, “who receives” the income –for instance, the mother in the case of the monetary transfer of mostly CCT’s programs, should not have distributional effects on household allocations of its members (the income is “pooled”).

Since 1980’s, the unitary model of household has been increasingly criticized from both theoretical and empirical perspectives. Though there is no consensus in literature on alternative models to analyze the decision making process within the household –cooperative approaches, non-cooperative, collective or mixtures of them, all the new developments characterize it as a bargaining process (for a survey, see Xu, 2007). As a result, changes in bargaining power could affect differently the outcomes of household’s members, and the results on household outcomes will depend on the solution to the bargaining problem. In these models, policies that alter intra-household allocation of resources can generate distributional effects across household members. The main characteristics and implications of two of the more salient non-unitary models, the intra-household bargaining and collective decision-making model, are presented bellow.

2.1.1 Nash bargaining model

The initial developments, in line with the neoclassical tradition, consisted in deepening the individualistic foundations of consumer theory by claiming that the members of the household should be consider independently rather than all together as maximizing agents. In this framework, Manser and Brown (1980) and McElroy and Horney (1981), proposed models that rely on cooperative game theory based on a Nash’s solution. In the simplest case of negotiation, there are two people with well defined interests and clearly perceived in the form of two respective utility functions. These people can choose to cooperate or not. When they do not cooperate we face what is called "fall-back position". The bargaining problem arises from the existence of many collusive arrangements possible.

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4See, Manser and Brown (1980); McElroy and Horney (1981); Folbre (1986); Mencher (1988); Sen (1983, 1990); Thomas (1990); Bourguignon and Chiappori (1994); Browning et al. (1994); Moehling (1995); Udrey (1996); Agarwal (1997).
each one better than their fall-back positions or outside options for both members (e.g. divorces). As consequence of this bargaining process, each individual according to his/her preferences tries to allocate the household income towards his/her personal needs and preferred goods.

Following McElroy and Horney (1981), the household maximizes a utility-gain function (represented by a “Nash-product” function), subject to a pooled budget constrain, as expressed below:

\[
W = \left[ U^f(X; k^h, \mu^h) - V^f(p^0; \Phi^f) \right] * \left[ U^m(X; k^h, \mu^h) - V^m(p^0; \Phi^m) \right]
\]

\[
\Phi^i = \Phi(e, y^i, P^i; k^i, \mu^i)
\]

where the superscripts on the individual utility functions indicate male (m) or female (f), X represents the consumption vector (including leisure), V is the reservation indirect utility function, prices are partitioned into public (p^0) and private (p^i) good prices, and \(\Phi^i\) represents a function of the characteristics that influence the outside options of each of the members of the couple if the bargaining process fails. The outside options depend on the distribution of non-labor income and parameters (e) that influence the status under the threat point condition but do not affect preferences or the budget constraint.\(^5\) This parameters, also called “distributional factors” include, for instance, indicators for the (re)marriage market competitiveness, laws governing divorce or child support.

Households are constrained in time and by their budgets, which are represented by the following equations:

\[
P.X = (w^f l^f + w^m l^m) + (y^f + y^m)
\]

\[
P = (p; w^f; w^m)
\]

\[
Y = y^f + y^m
\]

\[
L = l^f + l^m
\]

where \(w\) is the market wage, \(l\) is the time allocated to work and \(y\) is the individual-level non-labor income. The consumption goods can be bought in the market at a price \(p\). The reduced-form demand function is represented by:

\[
X^i = X(P, Y, e, y^m, y^f; k^h, \mu^h)
\]

Notice that demands functions depends on the “distributional parameters”, as well as on the allocation of income between the heads and not just on total income - i.e., income pooling no longer hold.

\(^5\)The threat points represent the maximal utility from some kind of a default outcome. In general, this default case has been interpreted as an outside option that is external to the household (e.g. divorce).
2.1.2 Collective model

The collective model is a generalization of the Nash bargaining model (see Chiappori, 1988, 1992; Bourguignon et al., 1993; Browning and Chiappori, 1998; Chiappori and Ekeland, 2001). Such types of models abstract from a specific bargaining rule, and the only requirement is that the individuals in the decision making process reach Pareto-efficient agreements.

In the basic collective model, the household maximizes a household’s utility function composed by the utility functions of both heads, represented by:

\[ W = \theta U^f(X, k^h, \mu^h) + (1 - \theta) U^m(X, k^h, \mu^h) \]

where \( k^h \) and \( \mu^h \) represent observed and unobserved characteristics of the household, and the parameter \( \theta \) (known as Pareto weights), belonging to the unit interval, reflects the relative importance of each of the heads in the total household utility. The maximization is constrained to the same budget constraint as above. If the weighting parameter is assumed to be constant, the collective framework corresponds to the consensus unitary model as in Samuelson (1956). While the “Beckerian” dictator model is reproduced if the weight factor is set at one or zero. If the weighting parameter is assumed to be function (as above) of prices, income distribution across households heads, and distributional factors, \( \theta(e, y^f, y^m, P) \), the solution of the household problem for each individual gives the following demand function:

\[ X^i = X(P, Y, L, k^h, \mu^h, \theta) \]

which depends on the weights of the respective bargaining powers, the prices of work and goods, the time allocated to work by each member and the respective individual-level non labor-incomes, as follows. As before, from this setup an increase in the bargaining power of one of the heads should move the household’s consumption according to his/her preferences, and income pooling not necessarily hold.

Finally, notice that under the unitary household approach, changes in bargaining power have no effect on outcomes (no role for weight \( \theta \), or the non-dictator utility function gets zero weight in \( W \)). Therefore, the solution under the unitary household gives a demand function for each household-member of the form:

\[ X^i = X(P, Y, L, k^h, \mu^h) \]

2.2 The bargaining process

A central issue in the bargaining models is how the bargaining power of individuals is defined. It is usually defined by a number of factors among which the most relevant one is the fall-back position, the external options that the person face if the bargaining process fails. Factors that affect opportunities of spouses outside marriage can influence the intra-household balance of power and the final allocation of resources, even if the marriage
does not actually dissolve (Chiappori et al., 2002). The fall-back position indicates the strength of the person in the bargaining process. If in case of a break in the bargaining process a person ends up in a worse situation, his or her ability to achieve a favorable outcome as a result of the bargaining process would be weakened. The answer to rupture is a general qualitative property of cooperative conflict (Sen 1990). Relative incomes and the distribution of total intra-household income play an important role in defining the bargaining strength of each member. However, these are not the only possible variables that may affect the intra-household decision process. Factor such as the sex ratio, laws regulating alimony, programs conditional on marital status, support orders and the right to remarry as well as those defining marital property and its division at divorce, are also relevant factors to consider (Chiappori et al., 2002). Even social networks, religion or general sociocultural norms can be considered among the distributional factors.

Other elements affecting the bargaining power are the answer to the perceived interest and the response to the perceived contribution. If the perception of self-interest of one of the individuals who take part in negotiating assign a lower value to his or her own well-being, then the collusive solution would be less favorable to that person from the point of view of welfare. On the other hand, if it is perceived that a person makes a greater contribution to the overall opulence of the group, then it can be understood that the agreement should be a more favorable solution for this person. Finally, perceptions of the contributions of each member to the household may depend on how "visible" is the work done. Work at home or unpaid work is commonly seen as less valuable than the work that is paid, and takes place in the field of the "productive economy" (Sen 1990, Agarwal 1997). Similarly, perceptions of the needs may differ from the actual needs. The systematic underestimation of the contributions and needs of women and girls in a system where these are considered important distributive principles, reinforces gender discrimination in the allocation of resources in the home (Agarwal 1997). In this framework, external cash income can have a positive impact on the bargaining power of women in the home through three channels: a better position of rupture, a clearer perception of their individuality and wellness, and greater perceived contribution to the economic position of the family. Supporting this idea, Duflo (2011) establishes that the proportion of income with which each member contributes, has a significant impact on how much weight is given to the purchase of goods and services preferred by him or her. This is why the proportion of household income to which women contribute is important in the possibility of affecting the decisions made within the household, in particular regarding the use of money. However, there is a relation of simultaneity between employment and economic empowerment. The quality of the labor market employment affects economic empowerment of women, but on the other hand, it is likely that the higher the level of decision and exercise of economic decisions, the higher quality employment would have a woman and therefore the economic empowerment of women impact on the results they can achieve in the labor market. Thus, a critical element when testing models of household is the need for a source of exogenous variation in the bargaining power.

According to Duflo (2011) when welfare agencies decide to transfer the money to the
women on the basis that they will use it in assets that contribute to the development, they implicitly recognize that women are not completely powerless. Otherwise the money would be appropriate immediately by their husbands and there would be no difference between transferring the money to the mother or father. The author states that in practice there are good reasons to believe that real families are located somewhere between these two extremes. Family members have different preferences and ideas on the best way to spend household income and each of these ideas has a weight in the final decision based on the information of each member and their bargaining power. In this context, the share of household income contributed by each member has an important impact in terms of spending favors the goods he or she prefers.

3 The Asignaciones Familiares-Plan de Equidad Program

The AFAM-PE, approved in December 2007 (Law 18.227), is the most important social assistance program, both in coverage and cash benefits, directed at poor-income families with children in Uruguay. It was designed as the main component of a strategy called “Plan de Equidad” to further address poverty and inequality. This program targets households in vulnerable socioeconomic conditions that include either a pregnant mother or a child less than 18 years old. Monetary transfers to beneficiary households are conditional on meeting some requirements including school attendance and health controls. At the beginning of 2008, the AFAM-PE transfers covered 275 thousand children from vulnerable households. In 2014, the program reached nearly 370,000 children in poor and vulnerable households, a figure that corresponds to 42 per cent of children under the age of 18 in Uruguay. The budget for the cash transfer component of program in 2013 was just over 0.35% of GDP. The coverage and the budget of the AFAM-PE situate it among the most important programs in Latin America.

3.1 Postulation, eligibility and structure of benefits

To postulate for AFAM-PE, households must complete an application (referred to as the baseline survey in our study) which captures an array of socioeconomic data, including: household characteristics, education, labor market participation, condition and ownership of living space and income. To be eligible, household applicants to the program have to meet two conditions. First, a household per capita income level below a predetermined

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6See Manacorda et al. (2011) for more detail on the goals, components and implementation of PANES. For an analysis of the evolution of the system of Asignaciones Familiares in Uruguay see Arim et al. (2009).

7Own estimate based on microdata from the Continuous Household survey of the National Institute of Statistics (ECH-INE 2013)

8The information on AFAM-PE’s budget was facilitated by the staff of the Ministerio de Desarrollo Social (Ministry of Social Development).

9By comparison, Bolsa Familia reaches almost 24% of the population of Brazil (with a budget of 0.4% of the GDP in 2006; Progresa/Oportunidades covered 20% with a budget of 0.4% of the GDP in 2006, PRAF in Honduras covered 15% of the population with an investment of 0.2% of the GDP in 2001; Chile Solidario covered 6% of the population using 0.1% of the GDP in 2001; Familias en Acción in Colombia covered 5% with 0.1% of the GDP in 2005; and Red de Protección Social in Nicaragua covered 3% at 0.2% of the GDP in 2005 (Bastagli, 2009).
threshold (i.e., income test). In 2014 this threshold was UYU 4,517 (USD 196, exchange rate June 2014) for household with two or less members and UYU 5,570 (USD 242) for households with more than two members, respectively. After the income verification test, participation in the AFAM-PE was determined through a predicted income score (known as the Indice de Carencias Críticas or ICC) based on a large set of socioeconomic characteristics provided by the household in the baseline survey. The poverty score rank the applicants households and only those with a ICC above a certain threshold were eligible to enroll into the AFAM-PE (i.e. proxy means test), provided that they had at least one pregnant woman or a child younger than 18 years old in the home.\textsuperscript{10} The household income used for the income test is calculated as the highest number reported on either self-declared income (on the application) or from registered sources of labor income and other social security benefits reported to the Administration of Social Security (\textit{Banco de Previsión Social}, henceforth ASS). Households were informed that they would be taken out of the program if they were determined to be eligible but had income reported to the ASS that showed that they exceeded the income threshold during the participation in the program. For those households already enrolled in the AFAM-PE, the ASS preforms the income test (using only formal income sources) every two months.\textsuperscript{11}

The monetary transfer is delivered monthly, varies in accordance to the number of children in the household, and increases when the child attends secondary school.\textsuperscript{12} The amount is adjusted on an equivalence scale. The total benefit granted to a household can be calculated thus:

$$AFAM - PE_h = \beta \times (kids_{18})^{0.6} + \delta \times (kids_{18\text{sec}})^{0.6}$$

(1)

In which $kids_{18}$ is the number of children less than 18 years of age in the household who comply with qualifications for eligibility, $menor_{18\text{sec}}$ is the number of children that attend high school, $\beta$ and $\delta$ are the amounts granted according to level of education. These amounts are adjusted periodically according to the evolution of the Consumer Price Index (IPC). In 2014 $\beta =$UYU 1,096 (USD 48) and $\delta =$ UYU 470 (USD 20). The average income transfer for a beneficiary household with two kids in 2014 was UYU 2,374 (USD 103).

The recipient of the cash transfer is mostly the women in charge of children within the eligible household. According to the administrative data of the program, approximately 90\% of benefit recipients are women (mostly the mother of the children). Preference is given for women as studies show that the women are most likely to use additional income towards the well-being of the family. Households lose the benefit if they do not comply

\textsuperscript{10}Two different thresholds were used, one for Montevideo (the capital of Uruguay) and one for the rest of the provinces of Uruguay.

\textsuperscript{11}The ICC was developed by researchers at the University of the Republic (see, Amarante et al., 2011c). ICC estimates are based on a probit model that measure the probability of being under a critical threshold of income per capita. To obtain this result, a function that uses many household variables is applied, based on the baseline survey. The task of calculating the ICC and monitoring the households that comply with regulations falls to the BPS and the Ministry of Social Development (MIDES). To avoid any type of manipulation, households have not been told how eligibility is determined, nor what specific variables are used for the model, its variations, or the specific eligibility thresholds. Additionally, MIDES conducts visits to households so as to verify that the information is provided reflects reality.

\textsuperscript{12}The transfer includes an amount destined to disable children whether or not they are attending school.
with the conditionalities of the program (schooling and health controls) or if they do not pass the proxy-means test. Once the household qualify for the AFAM-PE, they receive the benefit until the child turns 18 years old, conditional on meeting the requirements of the program.

3.2 Assignment rule and discontinuity in the program participation

As was previously described, conditional on meeting the income test eligibility for the AFAM-PE is determined as a function of a predicted income score based on household pre-treatment characteristics. Only households with a score that falls above the predetermined threshold are eligible. This eligibility rule generates a discontinuity in the probability of participation into the program at the cut-off point. The Figure 1 plots the proportion of household applicants that were enrolled into the program at any given point in time since its implementation in 2008, presented as a function of the predicted income score. The data corresponds to applicant households that are part of the universe of analysis and comes from the administrative records of the program (described below). The ICC is normalized at the eligibility threshold and divided into intervals. Visually, the probability of participating in AFAM-PE is approximately 98% greater for households with an ICC higher than the threshold. Hence, Figure 1 clearly shows that the eligibility mechanism into AFAM-PE based on the score creates a very strong discontinuity in the likelihood of participation, similar to that generated by a random assignment, but at eligibility cut-off point. Therefore, the empirical analysis in this paper is based on the comparison of behavior of adults in (two-parent) eligible households and non-eligible households closed to the discontinuity point. Section 5.2 below addresses some of the caveats with this comparison, the identification strategy and some robustness tests to validate it.

4 Predicted effects on household labor market decisions

The AFAM-PE, represents an increase in the non-labor income of eligible households conditional to accomplish the program requirements. The economic theory suggests a number of predictions, a priori ambiguous, about how households might response in their labor market decisions to the program. Under the standard utility model of household, the AFAM-PE’s cash transfer alters the trade-off between household consumption of leisure and labor supply by relaxing the budget constraint. Therefore, if leisure is a normal good, the combination of income effect of the benefit and price effect induced by means testing

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13 The data corresponds to the period from January 2008 to September 2010 and includes applicants households (eligible and non-eligible) used to design the follow-up sample aimed to evaluate the program impacts (see section 5.1).

14 The eligibility threshold corresponds to the year 2010. In general this figure (and the remaining figures) are centered on zero, so that the standardized ICC increases as it moves from left and right along the horizontal axis. Each point, (black circle) represents the percentage of candidate households that participate in the AFAM-PE at each interval of the standardized predicted income score. Additionally, the data is adjusted using a second grade polynomial on each side of the discontinuity.

15 This first-stage effect is formally estimated in a regression framework and reported in section 6.
unambiguously lead to predictions of reduction in labor supply of household heads.\textsuperscript{16} Since in the unitary model, the distribution of total non-labor income across family members plays no role in determining individual labor supplies, the AFAM-PE´s benefit in hands of mothers should no affect differently the labor decision of women and men in couple - at least, throughout a power redistribution channel.

Those predictions are based on the assumption that the AFAM-PE does not affect the weights assigned to the preferences of women and men in the household welfare function. That is, the AFAM-PE is assumed to not affect the intra-household bargaining process, and thus the household allocation decisions. However, under bargaining models the cash transfer by the AFAM-PE favoring women (in the event of outside marriage opportunities) should correspond to an improvement in their negotiation position and \textit{via} an increase in the bargaining power affect the allocation decisions of households in couple. In such case, an increase in female bargaining power should have effect on women´s labor supply, although, the expected effects are ambiguous and depends, among other factors, on women´s preferences. On the one hand, an increase in female´s bargaining power might decrease both their labor force participation and working hours (a pure income effect) and lead to an increase in either consumption of leisure or time spent to unpaid household work - e.g. bringing children to school in order to fulfill the AFAM-PE conditionalities. On the other hand, an increase in negotiation power might allow women in couple to overcome traditional gender roles and increase their supply of labor. Regarding to labor market choices of men, the increase in women´s bargaining position within the household should lead to a increase in male supply via a standard income effect.

In addition to the standard labor supply margins of responses, AFAM-PE´s income testing might affect behavioral responses on informality decisions of adults, as it acts like an implicit tax on registered employment (Bosch and Manacorda, 2012).\textsuperscript{17} In this case, the effect of the AFAM-PE on unregistered employment is ambiguous. On the one hand, the benefit might push some individuals previously in formal employment towards unregistered jobs due to a “switching effect” induced by the means testing. On the other hand, for some (infra-marginal) individuals who held unregistered employment prior to the program, the cash transfer may have a negative income effect declining labor force participation.\textsuperscript{18}

The AFAM-PE yields a range of predicted effects on various margins of labor market response of beneficiary households:

(1.a) Increase (decrease) in non-employment (working hours) of both household heads if household behave as unitary model.

(1.b) Increase (decrease) in non-employment (working hours) of women and a decrease

\textsuperscript{16}The fulfilling of conditionalities might also affect labor supply decisions of household by altering the associated time costs, as parental time dedicated to childcare. In this case, the theoretical prediction on labor supply response is ambiguous and the direction of the effect depends on whether or not there was an increase in the associated cost of fulfilling the conditionalities for the household´s adults.

\textsuperscript{17}In practice, the ASS tracks formal sources of household income for income testing.

\textsuperscript{18}Additionally, the income testing could generate incentives for household’s adults in registered employment to under-declare labor income in order to hide incomes to ASS authorities, and thus remain eligible to the program. Available sources of information do not permit us to examine this hypothesis empirically.
(increase) in non-employment (working hours) of men if household behaves as a collective model.

(2) Either, decrease or increase of unregistered employment of both parents depending on the relative strength of the switching and income effects.

(3) Decrease in registered employment (due to an income and/or a switching effect).

While the discussion has thus far referred to effects on labor supply, the AFAM-PE may also yield behavioral responses in other domains of the household, as marriage/cohabitation and marital dissolution. On the one hand, the program could lead a change in the gains from marriage in the marriage market. For instance, the increase in non-labor income may become more attractive the situation of single women and potentially single parents relative to married women, which might lead to an increase in marital dissolution and the formation of new couples. Additionally, the cash transfer in hands of women might improve their economic independence and, in consequence, the marital dissolution could increase. In contrast with those predictions, the increase in total income of household could reduce the conflicts related to the intra-household allocation of resources, and thus lead to a reduction in marital dissolution.

In sum, as the net effect of the AFAM-PE program on labor market choices (with the exception of registered employment responses) and marital transitions are ambiguous, their sign and size are an empirical question which would be addressed in the empirical analysis.

5 Empirical approach

5.1 Data and sample selection

The analysis employs two data sources collected at the individual level linked through a unique national identity number. The main data source is a follow-up survey of household applicants (eligible and non-eligible) to AFAM-PE which was aimed to the impact evaluation of the program, called the "Encuesta de Seguimiento de Condiciones de Vida" (Life Conditions Follow-up Survey, hereafter ESCV).\(^1\) With the aim of limiting strategic answers, surveyed households were not informed about exact use of the survey. The survey included questions on household composition, education, living conditions, income, labor market participation, and perceptions and attitudes. The ESCV comes from a stratified random sample of AFAM-PE administrative records, representing households whose poverty score was close to the eligibility threshold\(^2\). The optimal interval of the (standardized) ICC in the neighborhood of the cut-off is \([-0.0426; 0.0727]\). The original size

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1\(^{1}\)This survey was designed by researchers at the Instituto de Economía (IECON) of the UDELAR, in collaboration with MIDES and other researchers at the Institute of Statistics and in the Department of Sociology at UDELAR (Amarante and Vigorito, 2011c).

2\(^{2}\)The sampling frame consists of 161,573 households that had enrolled in the program as of September 2010. The sample used a stratified sampling method at the local level (52 locations). The follow-up survey was collected in the period September 2011- February 2013. While the non-response rate for the whole sample was 33.4 percent, for the eligible households the rate was 19.5 percent and for the non-eligible household it reached to 47 percent. Therefore, from the households that were originally sampled for the follow-up survey, 1,409 eligible households (out of 1,750) and 889 non-eligible (out of 1,700) were successfully interviewed.
of the sample was 1,700 households with an ICC below the threshold (non-eligible) and 1,750 households with an ICC above the cut-off point (eligible).

Data of the follow-up survey was linked to the administrative registers of the program provided by the Ministry of Social Development (Ministerio de Desarrollo Social, henceforth MIDES), the institution that jointly with the ASS rules the AFAM-PE. The administrative records provides a rich database of socioeconomic information at the moment that the (eligible and non-eligible) household applied to the AFAM-PE for the relevant period of the analysis. The baseline information includes: demographic characteristics, education, labor market participation, income sources, and durable assets, among others. Part of this data was used in the income and proxy means testing to determine whether a household was eligible for participation.

For this study we select a sample of 1,097 women and men aged 18 to 64 years old, who are members of two-parent household with children under 18 years old, and are AFAM-PE applicants, either eligible or ineligible with an (standardized) ICC ranging from \([-0.0426, 0.0727]\).\(^{21}\) Table 1 illustrates the sample’s descriptive statistics at the baseline and post-treatment period.

5.2 Regression discontinuity (RD) design

The empirical method in this work exploits a discontinuity in the eligibility rule to participate into the AFAM-PE, which creates the opportunity for using a sharp RD design.\(^{22}\) As showed in Figure 1, the assignment to the program is a deterministic function of the assignment variable, the household predicted poverty score (\(ICC\)): only those applicant households whose score is above the cut-off point were eligible for the AFAM-PE program and to receipt the monetary transfer - which basically was entitled to women in charge of children. The basic RD model can be specified as follows:

\[
Y_{hi} = \alpha + \beta ELEG_{hi} + F(Z_h) + \epsilon_{hi} \tag{2}
\]

where \(Y_i\) is the outcome variable of men / women in household \(h\) with the value of the standardized \(ICC\), \(Z_h\) (computed at household level). The standardized poverty score is computed as \(Z_{hi} = ICC_{hi} - U\), where \(ICC\) represents the predicted income score and \(U\) is the eligibility threshold. The main outcomes of interest corresponds to labor market status, i.e., non-employment, registered employment and unregistered employment, and

\(^{21}\)The age restrictions on this sample limit the study to economically-active individuals. The lower limit is based on the fact that individuals under 18 years are part of the AFAM-PE’s target population. Refining the sample to adults who are not students (90.8% of the studied population) does not alter the results and thus, to maintain estimate potential, they were included. Additional restrictions implies not considering individuals who claim to be retired or inactive pensioners, nor individuals for whom no information is available from the baseline survey, largely new household members (9.2% of the original sample). Including these individuals does not alter substantively the main results.

\(^{22}\)See Imbens and Lemieux (2008) and Lee and Lemieux (2010) for a more detailed discussion of RD design.
also to the hours worked (conditioned on being employed). The empirical analysis also explores for additional household’s outcomes as marriage and decision-making process. \( F(Z_{hi}) \) is a smooth function of the assignment variable \( Z \) (the forcing variable), which captures the effect of the standardized poverty score on the outcome of interest, while \( ELEG_i \) is an indicator variable that indicates whether the adults belongs to a household whose score is above the threshold. This is defined as:

\[
ELEG_{hi} = \begin{cases} 
1 & \text{si } Z_{hi} > 0 \\
0 & \text{si } Z_{hi} \leq 0 
\end{cases}
\]

The aim is to estimate the effect \( \beta \) of the program (eligibility for AFAM-PE) on the outcome of interest. Identification is based on the key assumption that \( F(.) \) is a continuous function, which means that program eligibility is the only source of discontinuity in the outcome variable around the cut-off point. Under this assumption, the potential discontinuity in the outcome variable around the threshold can be interpreted as the causal effect of the AFAM-PE. Section 6.3 presents evidence that supports this assumption. Therefore, the effect of the program, \( \beta \), is obtained by estimating the discontinuity in the empirical regression function at the point where the forcing variable switches from 0 to 1 (i.e., the eligibility threshold).

In practice, the estimated effect of the program depends on how the function \( F(.) \) is estimated. In this work, the estimations are based on various parametric functions of \( Z_{hi} \), to balance the trade-off between bias and precision. Regressions specification use different polynomial forms, including linear, quadratic and cubic, as well as linear and quadratic models with different slopes on either side of the eligibility threshold (separate regressions on both sides of the discontinuity). Standard errors are estimated by clusters on the ICC. Additionally, the model can be extended by adding baseline covariates and analyzing whether the results of the estimations are affected. For the seek of simplicity in interpretation, the econometric model is estimated by least squares (OLS) based on linear probability model (unless explicitly stated otherwise). Marginal effects from non linear models (either, Logit and Probit) were in general similar and thus not reported.

6 Empirical results

6.1 Labor market outcomes of women and men in couples

6.1.1 Graphical evidence

The graphical representation of the discontinuity is an integral part of RD design (Lee and Lemieux, 2010). Indeed, the lack of graphical evidence on the impact of the program would make it difficult to support a different result through the more detailed regression-based analysis that follows. Thus, this section presents graphical depiction of how the relevant labor market outcomes vary around the eligibility cut-off point. The relevant labor market outcomes considered in this work are employed, registered employment,
unregistered employment and worked hours. Employed is a dummy variable that takes the value of one for those individuals in age of working (more than 14 years old) who are employed, and zero for those who are unemployed or inactive; while not employed is the opposite. Registered employment is a dummy that takes the value of one for those individuals in age of working who are employed and make contributions to social security, and takes the value of zero if the person is employed but do not contribute to social security system (i.e. works in the informal labor market), or the person is unemployed or inactive. Not formal is a dummy that takes the value of one if the person is employed and do not contribute to the social security system, and takes the value of zero if the person is employed and makes contributions to the social security system or if the person is unemployed or inactive.

Figures 2 to 5 present graphs for employment, registered employment, unregistered employment, and hours worked (positive hours) as a function of the standardized poverty score, for a sample population of women and men in two-parent households. The circles represent raw labor outcomes rates (Figures 2 to 4) and average hours worked (Figure 5), respectively. The solid line represents the predicted values of a first order polynomial on the standardized poverty score, which divides observations above and below the eligibility threshold. Whereas the unrestricted means reflects the underlying noise in the data, the regression lines better capture the trends in the data and the magnitude of the discontinuity of the variable at the cut-off point.

For women, Figure 2 suggests that the employment rate slightly falls on the discontinuity threshold (l.h.s graph), while the effect of AFAM-PE on men appears to be not important (r.h.s graph). The lower levels of employment rates for women compared to men is in line with evidence for Uruguay that women in couples in poor households have clear difficulties to attached with labor market activities. This pattern of low integration of mother into the labor market in Uruguay is also observed for women in non-vulnerable households (of course, except for those highly educated mothers in high-income households). Focusing on registered employment, the figures revels registered employment drops for both parents in eligible household at the cut-off point (Figure 4). Importantly, this drop is quite large for women relative to the results for men. On the other hand, Figure 4 indicates a decline in unregistered employment for both women and men in eligible households, but again, this effect appears to be more important for mothers (l.h.s. graph). In particular, in the case of women the sharp drop in registered employment at the eligibility cut-off (Figure 3) seems to be mostly associated to a “switching effect” channel than a labor force participation effect. Finally, for number of hours worked (intensive margin of employment), results do not reflect a clear discontinuity at the threshold for both, men and women in eligible households (Figure 5).

6.1.2 Basic RD estimates

This section formally exploits the poverty score discontinuity in the AFAM-PE program by the assignment rule to estimate the RD models presented in section 5.2. Table 2, presents the estimated effect of the AFAM -PE on the key labor market outcomes, that
is, employment, registered employment, unregistered employment and hours worked, for the sample analysis -women and men in couples with children in eligible and non-eligible households. Table 2 reports the RD estimation of the coefficient of interest which captures the discontinuity at the threshold of the standardized poverty score, previously illustrated in the Figures. Columns report estimates of the RD model estimated by OLS, separately for women (columns (1) to (5)) and men (columns (6) to (10)), by using specifications with different order of polynomials for $F(.)$: non-polynomials, first-order, quadratic, cubic and linear spline model (which is a more flexible functional form of $F(.)$, allowing different slopes on either side of the threshold). Although results are presented for men and women separately, the main specification estimates a single RD model by adding to Eq. 2 an indicator for gender and the interaction with the variable capturing the eligibility condition ($ELEG_{hi}$) in order to obtain reasonable statistical power. Rows in 2 show RD estimations on the labor market outcomes of interest for specification without including controls to the regressions (Panel A) and by adding variables to control for household socioeconomic status (Panel B).

Estimates in Panel A indicates a relative high positive effect of AFAM-PE on non-employment of eligible women around eligibility cut-off which ranges between 9.1 and 13.1 percentage points, although not robust across specifications. Row 2 in Panel A, present the estimates for unregistered employment, which suggest that eligible women increased their probability of being in an informal job between 7.0 and 8.8 percentage points. This result (jointly with the decline in employment) is consistent with the increase in unregistered employment was mainly channeled through an increase in informality of those previously in registered employment, rather than a decline in participation on those in unregistered jobs. However neither of the five estimates are statistically significant. Regarding to registered employment, estimates suggest that program eligibility has large impact on this outcome for mothers in couples. As shown in the first four columns of Panel A, eligibility coefficients are always positive and significant, at least at five-percent level. Overall all models, the magnitude of the effect range between 17.6 and 21.3 percentage points of registered employment. By dividing the estimate expressed in percentage points by the employment rate of the ineligibles women at the cut-off point (51%), the fraction concerned by the disincentive effect at the discontinuity could be recuperated, i.e., between 38.6% and 44.9% of eligible women. Finally, row 4 analyzes the effect of AFAM-PE on the intensive margin of employment, and finds a negative impact on eligible women’s hours worked (conditional on being working) though non statistically significant at usual levels. Neither, statistically significant or robust effects on labor market outcomes were found for women’s partners in eligible households. Finally, the estimates are largely insensitive to control for individual and household covariates (Panel B). Henceforth, the RD regression models with the same covariates as Panel B are used as the baseline specification.23

In conclusion, while no effect is found on males labor market outcomes, a negative effect on registered employment and employment - although no stable across specification;
is found for women at the eligibility cut-off point. The no response of men’s labor supply to AFAM-PE, although not expected according to the predictions in Section 4, could be explained if the increase in female bargaining power is interpreted by men as an income tax. If that would be the case, the positive response in men labor supply by the income effect may be compensated by negative substitution effect. On the other hand, the absence of a robust negative effect of AFAM-PE on women’s employment, which would be expected since mothers in beneficiaries households have more control over household resources, suggests that the pure income effect may be counterbalanced by other factors. For instance, the increase in redistribution of power might allow women in couples to overcome traditional gender roles and increase their labor supply. In particular, if program’s conditionalities reduce the maternal time dedicated to childcare. Unfortunately, there is not available data that allows to check for those hypothesis. However, estimates do not allow to rule out the possibility that both forces explain that result. Taken together, the pattern of results in this section contradicts the predictions of the unitary model and seems to be compatible with household models that predicts changes in intra-household allocation decisions as consequence of cash transfer that favors one member of the beneficiary household.

6.1.3 Employment transitions

Since the availability of labor market information on applicant’s household members at baseline, it is possible to use a panel data setting to follow people in two-time periods - i.e., when they applied to AFAM-PE and then when the follow up survey was collected. The relevant labor outcomes considered at the baseline are the same those considered with the follow up survey data, i.e. not employed, registered employment and unregistered employment.

This information allows us to examine whether the AFAM-PE led to changes in the rate at which individuals in couples entered and left the different labor market status. That is, the impact of AFAM-PE on (two-time-points) employment transitions can be directly assessed, which is useful to explore for changes in labor market dynamics. To perform the transition analysis, the AFAM-PE effect is estimated on both the probability of staying in any of the three labor market status analyzed so far, and on the probability of entry to each one of those employment status from the two remaining. The former set of probabilities are labeled as persistence probabilities and the latter as entry probabilities.

24 In a simple tax model, the increase in female bargaining power may be interpreted by her partner as a tax on his wage as long as the change in power redistribution increases the man’s contribution to the goods that woman prefers and from which he do not experience utility. See for instance, Martinez (2013) for evidence that supports that prediction.

25 Registered employment is a dummy that takes the value of one for those individuals who registered contributions to social security system in this period, and takes the value of zero for those who did not registered contributions to social security system. Not formal is a dummy that takes the value of one if the person was employed and did not registered contributions to the social security system in this period, and takes the value of zero if the person registered contributions to the social security system or if the person was not employed. Not employed is a dummy that takes the value of one for those who did not have neither registered employment or not registered employment and zero for those who take value of one in registered or not registered employment.

26 The labor market transition RD model asses how the probability of individuals of being in a labor
The estimated treatment effects are shown in Tables 3 and 4, for women and men respectively. Columns in those tables report the point estimates for persistence (rows in Panel (a)) and entry probabilities (rows from Panel (b) to Panel (d)) from regression models that control by different polynomial forms for the running variable.

For sample of women in Table 3, no significant effect of the AFAM-PE is found on persistence probabilities in non-employment (row 1 in Panel (a)), nor impact on entry probabilities into employment is detected for any of the RD models estimated (Panel (b)). However, as was expected from the predictions above as well as the earlier reported empirical results, there is some sizable effect in transitions probabilities in the last two labor market status.

Results in row 2, Panel (a), show that the program increased eligible women’s persistence rate in unregistered employment, and that the magnitude of the effect ranges between 18.9 and 22.6 percentage points, being statistically significant across all estimations. Point estimates in Panel (c) revels a sizable increase in the entry probability into informal employment from registered employment but this effect is not statistically significant, and there is no evidence (at usual statistically levels) of an increase in inflow to informal employment out of non-employment.

In turn, row 3 in Panel (a) shows that persistence rate along registered employment margin decline for eligible women for the AFAM-PE and the magnitude of the impact is located in the range of -19.1 to -26.4 percentage points, although this effect is not statistically significative for none of the specifications considered. Indeed, entry rate to registered employment from unregistered employment for the same group of women shows a sizable reduction in the range of -17.2 to -23.0 percentage points, although not stable across specifications (row 3 in Panel (d)). For the sample of men, results presented in Table 4 do not show evidence of any significant effect of the AFAM-PE program on the employment transitions.

In general, estimates of the AFAM-PE program’s effect on employment transitions at eligibility cut-off are consistent with both theoretical predictions and with those results found earlier for employment levels. Results do not show robust evidence that the AFAM-PE is associated with some significant income effects, by discouraging individuals to be employed. On the other hand, the negative effect on registered employment of women in couples seems to be associated to a decline in transitions into formality from unregistered jobs. The fact that persistence in unregistered employment increased suggests that lower transition rates to formal employment from informality could be also a plausible explanation for a decline in registered employment levels. This findings suggest that the AFAM-PE reduces the incentives of beneficiaries to actively search for registered employments, which is consistent with the evidence found for other CCTs programs (see e.g., Garganta and Gasparini, 2015).
6.1.4 Heterogeneous responses of labor market outcomes by partner’s employment status

The AFAM-PE introduces differential incentives for different household configurations, in particular, according to the partner’s employment status of individuals in couples. The work and formal employment disincentives of women (men) whose partners were employed should be stronger relative to those whose partners were not employed, since for the former depending on the partner’s (registered) earnings the household could become ineligible for the benefit. This section aims to explore for such heterogeneity across individual’s responses in labor market decisions depending on their partner’s employment status. It should be stressed that the identification of these effects arises from the assumption that labor market status of the individual’s partner is exogenously given.\footnote{Additional estimates which consider the employment status of partners at baseline instead of the post-treatment status do not show different patterns of results as those discussed in this section.}

Table 5 reports the RD estimations on the labor market outcomes of interest for different polynomial specification of the running variable. Panel A and Panel B, present the estimates for the sample of women and men, respectively. The estimates of the relevant coefficients presented in both Panels in 5, distinguish between the women (men)’s partners employment status, labeled “Partner works” and “Partner does not works”.\footnote{The specification of the RD model estimated extends the Eq. (2) by including additional indicators on whether or not the fact that individual’s partner was employed at baseline and interactions with the variable indicator for eligibility.} For the sample of women, there is not conclusive evidence of sizable heterogeneity in program effects depending on their partner’s employment status. In particular, the AFAM-PE induces a statistically and significant decline in registered employment of women (as was documented above), however, this effect is not statistically different whether or not her partner is employed. On the other hand, for the sample of men, the AFAM-PE program has virtually zero effect on labor market outcomes and this results irrespective of the labor status of their partners.

6.2 Effects of the AFAM-PE on marital dissolution and decision making process

The AFAM-PE might have affected the behavior of individuals in couples in dimensions other than labor market decisions. The following sections explore the impact of the program on adults’ decisions about whether to dissolve their marital relationship and the decision making process within the household.

6.2.1 Program effects on marital dissolution

As discussed in Section 4, the expected impact on marital dissolution of couples in eligible households is ambiguous, and it depends if the utility gains from the AFAM-PE were or were not lower within the marriage than after the marital dissolution. In order to empirically address this issue, Table 6 present estimates from RD models of transitions into marital dissolution for the sample of women who were in couple in the pre-treatment
period. The outcome of interest, marital dissolution, indicates whether mothers in union (either a cohabiting relationship or a marriage) at baseline breakdown this relationship by either, entering into a new union or not (separated, divorced, widowed, or single). Columns in this table report the impact’s coefficients for different specifications of the RD model.

The first row in 6 shows estimate of the AFAM-PE’s effect on union dissolution for the whole sample of women. Treatment effects are not statistically significant for any of the RD model estimated, showing no evidence of changes in marital dissolution rate as consequence of the program. Rows 2 and 3 explore for possible heterogeneous effect by the employment status of women’s partner. As for the whole sample of women, there is not evidence that the AFAM-PE affected differently the marital status of women according to the employment situation of their partners at baseline.

In sum, these results imply that for such women in couple in eligible household the effect of marriage or union do no vary significantly as a result of the enrollment into the AFAM-PE program. This finding contrast with the existent evidence from other CCT’s programs as the Mexican’s PROGRESA, which although small in magnitude, induced a significant increase in marital dissolution among eligible couples (Bobonis, 2011). The results in this section, also contrast with the findings for developed countries, as United States and United Kingdom, which suggest that families react in their marriage decisions to incentives of welfare programs (Groeneveld, 1980; Bitler et al., 2002, Francesconi et al., 2009).

### 6.2.2 Intra-household decision making and perceptions

As discussed in Section 2 and 4, a possible interpretation of the results so far, is that the AFAM-PE’s program might improve the bargaining power of women, and through this channel affecting the intra-household decisions. More precisely, by giving the monetary transfer directly to the women, the program could enhance their role in the decision processes within the household. Unfortunately, in the current setting and with the available data it is difficult to directly test whether or not this channel is explaining (at least partially) the above results. However, the follow-up questionnaire contains a unique feature that allows to check whether the AFAM-PE has had some direct effect on the process of decision making, at least as perceived by the women answering the questionnaire. In particular, by using collected information on who makes the decisions within the household relative to some consumption decisions, this section explores whether receipt of cash transfer is associated with more declared decision making power of women. If the AFAM-PE represents an improvement in the bargaining position of eligible women, it would be expected to see an increase in their ability of taken part in the (perceived) decision-making process within the households, and in particular, on the usage of money.\(^{29}\) The specific decision making questions used for this proposal are: “Who decides how much to spend on food at home?” and, “If anyone in the household receives additional money for any work,

\(^{29}\)Self-declared information from surveys has been commonly used in previous studies to analyze the household decision-making process. See for instance, Attanasio and Lechene (2002); Morozumi (2011).
gift or new cash-transfer from the state: who decides how to spend it?\textsuperscript{30}. The survey asks to the recipient of AFAM-PE’s benefit, i.e., basically mothers in applicant households, about who is the responsible for making decisions regarding to those aspects. Answers to the decision-making questions include any combination of the following people is responsible for making the decisions: the respondent himself, his partner, both household ‘s heads, other members of the household, the respondent has to consult with all the household’s members. \textsuperscript{31}Based on these two decision-making questions and their possible responses, two outcome variables are constructed:

1. Refers to who decides on food expenses in household, and it is coded as 1, 2, or 3 if “other or your husband decide”, “You decide”, or “Both decide”, respectively.
2. Refers to who decides on additional many in household, and it is coded as 1, 2, 3, or 4 if “other or your husband decide”, “Depends on who receives it ”, “You decide”, or “Both decide”, respectively.

The estimation strategy relies on a multinomial logit framework to examine the impact of AFAM-PE eligibility on the involvement in the decision-making process for the sample of women. The multinomial logit model allows to jointly estimate the probabilities of the women’s perception about who holds the decision-making power in the management of the money within household, as a result of being eligible to the AFAM-PE. The following model is estimated:

\[
whodecides_{hi} = \alpha + \beta ELEG_{hi} + F(Z_{hi}) + X’\delta + \epsilon_{hi}
\]  

(3)

where \(whodecides\) is coded as explained above, according to which of both decision-making questions are used for the empirical analysis. The function \(F(Z_{hi})\) and the indicator for eligibility \(ELEG_{hi}\) are defined as in Equation 3 above, while the vector \(X\) includes the individual and household covariates at baseline used in the earlier estimates. Marginal effects from the RD multinomial logit estimation are reported in Tables 7 and 8.

Table 7 examines the effect of AFAM-PE on the decision process on food expenses. In row 1, the coefficient for “others or your husband decide” is statistically insignificant, though the marginal effect is negative in almost all the specifications. Mothers are statistically significantly more likely to decide about food expenses after their household become eligible for AFAM-PE (row 2). This effect is robust across specifications and large –according to the answers, there is an increase in the range of 12.5 to 18.9 percentage points in the probability that the eligible woman decide on food expenses relative to those

\textsuperscript{30}¿Quién decide cuánto se gasta en comida en el hogar?”, “Si alguien del hogar recibe dinero adicional por algún trabajo, regalo o nueva transferencia del Estado: ¿quién decide como gastarlo?)

\textsuperscript{31}For the question about who decides how much to spend on food at home, the possible answers given to the respondent are: 1) you decide, 2) your partner, 3) both decide, 4) another woman in the home, 5) another man in the home, 6) yo have to consult with all the household’s members, 9) not known. For the question about who decides how to spend additional money received for any work, gift or new cash-transfer from the state, the possible answers given are: 1) it depends on who receives it, 2) you decide, 3) you have to give it to your partner, 4) both decide, 5) yo have to consult with all the household’s members. 
in ineligible household around cut-off point. Finally there is decline in the probability of the women and her husband jointly decide on food expenses after the AFAM-PE, although this effect is no robust across specifications.

Table 8 presents estimates for the decisions regarding to who decides how to spend any additional money. Results do not show any significant effect of the program on this decision making question but the answer that the women (the respondent) makes the decision on her own (row 3). The marginal effects are always positive, meaning that is more likely that women decides about the management of the additional money in the household, however the size of this effect is small and not always statistically significant for the different regressions estimated.

Taken together those results, there is suggestive evidence that the AFAM-PE increase the probability that women in eligible households make (according to their perceptions) decision on her own, at least on those decision making issues asked in the follow-up survey. This fact, seems to be explained by both a decrease in probability that others adults rather than the women take this decision and that the decisions are made jointly by the couple. These findings are consistent with the suggestion that the program, by giving the income directly to the women, improves their position in the decision making process within the household. If that would be the case, a change in the bargaining power of women in couples could be a possible and plausible interpretation for their behavioral responses in labor market.

6.3 Robustness Analysis

The main identification assumption for validity of the RD estimates in this paper, is that $F(.)$ in model 2 is a continuous function at the discontinuity threshold. This assumption could be violated in at least two ways: first, if program enrollment had favored only households with adults who were unemployed or unregistered employed, and, second, if applicants lied about the socioeconomic characteristics when filled the application form, perhaps as part of some form of strategic behavior. If this type of “manipulation” were possible in perfect way, applicants with ICC higher and lower than the eligibility thresholds would have systematically different observable and unobservable characteristics, potentially biasing the estimates.

As has been pointed out, the households were not informed about how application form would be used, nor were they told what exact criteria would be used for program enrollment—the method by which the ICC was constructed. In addition, specifications about eligibility have never been published, making it improbable that applicants were aware of how to manipulate answers, at least in any exacting manner. Moreover, the Figure1 shows that approximately all of the eligible households (according to the poverty income score) have become participants while almost no household that is ineligible has received the benefit. This suggests that it is highly unlikely that some households have been favored, for example, by the MIDES or the ASS representatives who have been implementing and operating the program. To more formally explore for this possibility, the Equation 2 is estimated for the employment as well as for baseline covariates (age,
gender, education, region, head of household, number of household members, average age of household). For there to be some type of systematic manipulation, one should observe a discontinuity in the pre-treatment variables around the threshold of eligibility. (Lee, 2008; McCrary, 2008). Figure 6 presents the results for the employment outcome of women and men in couple by using different polynomial specifications for the forcing variable. Estimates show no evidence of any discontinuity in the pre-treatment employment rate at eligibility cut-off point. Figure 7 shows the RD estimates for a set of pre-treatment covariates. This figure indicates that none of the estimated discontinuities are statistically different from zero but those variables capturing schooling for men (Panel a) and the average of schooling for the household’s members (Panel c).

An additional and more direct test for the assumption of continuity, is to examine the density of the forcing variable at the cut-off point. If there were manipulation of the eligibility rule, for example, some ineligible households were erroneously computed a higher poverty score, one would expect an excess of bunching of households just above the eligibility threshold. Figure 8 presents the proportion of households with different standardized poverty score levels in the neighborhood of the threshold. Following the test proposed by McCrary (2008) the graph includes the estimation of local linear kernel regressions of the (logarithm) predicted income score density separately on both sides of the eligibility cut-off point for AFAM-PE. As can be seen in the graph, the log-difference between the frequency of the right and left of the threshold is not statistically significant different from zero.\textsuperscript{32} In sum, the results of this section confirm the validity of the RD design used in this study.

7 Conclusions

Considering two-parent households with children, this study uses the fact that the assignment mechanism to AFAM-PE program in Uruguay exogenously alters the distribution of non-labor income across applicant’s households by targeting the monetary transfer (mostly) to the mother within eligible households, to investigate for intra-household distributional responses in some domains of family’s decisions, mainly, labor market choices, such as participation, registered employment and informality.

Based on a RD design and on a program’s follow-up survey, this study stress five policy-relevant empirical results. First, the financial incentives of the the AFAM-PE have effects on labor market behavior of women in eligible households, mainly, on the formality margin of choice. Second, the negative effect of women’s labor formality is associated to lower probability to remain in registered employments and lower rates at which entered to it from informal jobs. However, women’s responses not appear to be heterogeneous –as some theoretical model predicts (e.g., Galiani and Weinschelbaum, 2012), upon their partner’s labor supply. Third, while the gender-based-targeting of the transfer could have altered the marriage decisions, no effect on partnership breakeven is found. This evidence is consistent with most of previous studies for developing countries, but contrasts

\textsuperscript{32}The point estimate (standard error) for the test is -0.157 (0.155). The optimal bandwith of the intervals is calculated following McCrary (2008)
strongly with the findings for various welfare programs in developed countries, particularly in the U.S. Fourth, results provides suggestive evidence that the AFAM-PE increases the likelihood that women in eligible households make (according their perceptions) decisions on her own. Finally, there are overall virtual no responses on the analyzed aspects of behavior of men.

On the policy side, these results have important implications for the design of social assistance in developing countries. The result that the AFAM-PE generates strong disincentives to formalization is very important, and complements a growing literature indicating the negative effect of CCTs programs on this margin of labor market (Bosch and Manacorda, 2012). Even more important is the finding that this unintended effect is focused in recipient women, in particular, this program operates in a context in which most of its women beneficiaries are characterized by having weak labor trajectories and poor conditions to participate in the labor market and the possibility of taking jobs which give them access to insurance coverage, due to the low levels of human capital and the high cost to enter the labor market given by the difficulties of reconciling work and family life. Thus, this evidence, while do not imply abandoning the strategy of Latin American region in expanding the non-contributory social protection system to address poverty and the lack of insurance mechanism for vulnerable, suggests the need to discuss new designs in order to reduce the discourages effects of such policies (see e.g., Cruces and Bergolo, 2013, Levy, 2008).

This study offers suggestive considerations for the ongoing debate about the impacts of these programs on gender equality and agency for the women for LAC countries. In this study, we find that even if the program does not lead to major changes in the status of women or how women are viewed by their social environment, the fact that the women are the earners of the transfer, has immediate consequences for decision-making at home. The suggestive evidence that AFAM-PE cash transfer delivered to women make them to take grater responsibilities for decision in specific spheres, as the target of household’s expenditure, reinforce the arguments that policies which increase the overall resource control of women within the household are efficient instruments to increase their decision making sphere and autonomy. In this sense, the CCT programs have an important role by increasing the material basis that allows the ability to choose between different possible options. However, transferring cash to women does not necessary imply an increase in women’s control over household resources. If this gender-based targeting reduce labor supply or discourage to take formal jobs (as in the AFAM-PE case), women may earn less labor income and reduce the amount of resource in their control. Even more, a group of studies suggest that as women access to social assistance only as mothers – appealing to the idea that care is considered the responsibility of them (and not of fathers), in particular, if cash transfers are conditional on fulfillment of conditionalities that require time; the CCTs could reinforce the reproductive role of woman, perpetuating gender stereotypes and the social organization of work (Rodríguez Enriquez 2011). Finally, the empirical evidence in this study supports the affirmation about the relevance of understanding the correct model for household interactions when designing and analyzing the impact of public policies.
References


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### Table 1: Summary statistics for men and women in couple by eligibility status

#### 1. Follow-up survey

<table>
<thead>
<tr>
<th></th>
<th>Panel A. Eligible household</th>
<th>Panel B. Ineligible household</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Age (years)</td>
<td>40.5</td>
<td>8.8</td>
</tr>
<tr>
<td>Schooling (years)</td>
<td>8.2</td>
<td>2.5</td>
</tr>
<tr>
<td>Montevideo</td>
<td>0.3</td>
<td>0.4</td>
</tr>
<tr>
<td>No household members</td>
<td>4.0</td>
<td>1.1</td>
</tr>
<tr>
<td>Nº Children 0-5 years old</td>
<td>0.4</td>
<td>0.7</td>
</tr>
<tr>
<td>Avg. age in household (years)</td>
<td>36.6</td>
<td>6.2</td>
</tr>
<tr>
<td>Avg. schooling in household</td>
<td>8.4</td>
<td>1.8</td>
</tr>
<tr>
<td>wife/husband employed</td>
<td>0.5</td>
<td>0.5</td>
</tr>
</tbody>
</table>

#### 1.2. Outcomes

<table>
<thead>
<tr>
<th></th>
<th>Panel A. Eligible household</th>
<th>Panel B. Ineligible household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment rate</td>
<td>0.9</td>
<td>0.3</td>
</tr>
<tr>
<td>Registered employment rate</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Unregistered employment rate</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Worked hours (h&gt;0)</td>
<td>44.7</td>
<td>15.7</td>
</tr>
<tr>
<td>Per-capita household income</td>
<td>3362</td>
<td>2291</td>
</tr>
</tbody>
</table>

#### 2. Baseline

<table>
<thead>
<tr>
<th></th>
<th>Panel A. Eligible household</th>
<th>Panel B. Ineligible household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>39.8</td>
<td>9.0</td>
</tr>
<tr>
<td>Schooling (years)</td>
<td>6.7</td>
<td>3.0</td>
</tr>
<tr>
<td>Montevideo</td>
<td>0.3</td>
<td>0.4</td>
</tr>
<tr>
<td>No household members</td>
<td>4.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Avg. age in household (years)</td>
<td>37.4</td>
<td>7.6</td>
</tr>
<tr>
<td>Avg. schooling in household</td>
<td>7.0</td>
<td>1.9</td>
</tr>
</tbody>
</table>

#### 2.2. Outcomes

<table>
<thead>
<tr>
<th></th>
<th>Panel A. Eligible household</th>
<th>Panel B. Ineligible household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment rate</td>
<td>0.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Registered employment rate</td>
<td>0.2</td>
<td>0.4</td>
</tr>
<tr>
<td>Unregistered employment rate</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Per-capita household income</td>
<td>1347</td>
<td>904</td>
</tr>
</tbody>
</table>

### Notes:

The eligibility indicator is equal to one if the ICC of the household is above the eligibility threshold. The sample includes individuals between 18 and 64 years of age. “SD” refers to the standard deviation while “N” refers to the number of observations.
Table 2: RD estimates of the effect of AFAM-PE on couples’ labor market outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Women</th>
<th>Men</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean of ineligibles</td>
<td>Mean of ineligibles</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>Not employed</td>
<td>0.28</td>
<td>0.091</td>
<td>0.116</td>
</tr>
<tr>
<td>Unregistered employment</td>
<td>0.20</td>
<td>0.081</td>
<td>0.085</td>
</tr>
<tr>
<td>Registered employment</td>
<td>0.51</td>
<td>-0.191***</td>
<td>-0.213***</td>
</tr>
<tr>
<td>Worked hours (h&gt;0)</td>
<td>35.68</td>
<td>-3.625</td>
<td>-1.102</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Women</th>
<th>Men</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean of ineligibles</td>
<td>Mean of ineligibles</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>Not employed</td>
<td>0.28</td>
<td>0.091</td>
<td>0.128</td>
</tr>
<tr>
<td>Unregistered employment</td>
<td>0.20</td>
<td>0.090</td>
<td>0.090</td>
</tr>
<tr>
<td>Registered employment</td>
<td>0.51</td>
<td>-0.211***</td>
<td>-0.218***</td>
</tr>
<tr>
<td>Worked hours (h&gt;0)</td>
<td>35.68</td>
<td>-3.342</td>
<td>-1.054</td>
</tr>
</tbody>
</table>

Notes: The table shows the estimated effect of being eligible for the AFAM-PE on the results of the labor market. The eligibility indicator equals one if the ICC of the households is above the eligibility threshold. The sample includes men and women between 18 and 64 years of age in two-parent households. The regressions are estimated for a linear probability model. Columns 1 to 5 and 6 to 10 in Panel A include polynomials of grade 0, 1, 2, 3 and linear spline for women and Men respectively, of the standardized ICC. Panel B also include pre-treatment controls: age, (5 categories) education, (4 categories), head of household, separate indicators for missing values for each variable, and a indicator of whether the household was surveyed in Field 1 and 2 (this variable is included in all regressions). The standard errors (in brackets) correspond to clusters by standardized ICC. The median of the dependent variables correspond to the group of adults in households that were ineligible for the program. *significant to 10%; **significant to 15% ***significant to 1%
Table 3: RD estimates of the effect of AFAM-PE on women’s labor market outcomes by pre-treatment employment status

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Coefficient [standard error]</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(a) Persistence probability</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-employment</td>
<td>0.077, 0.079</td>
<td>0.044</td>
<td>0.094</td>
<td>0.045</td>
<td>0.045</td>
<td>601</td>
<td></td>
</tr>
<tr>
<td>Unregistered employment</td>
<td>0.189**, 0.194**</td>
<td>0.222**</td>
<td>0.226*</td>
<td>0.216**</td>
<td>601</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registered employment</td>
<td>-0.197, -0.204</td>
<td>-0.196</td>
<td>-0.264</td>
<td>-0.191</td>
<td>601</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>(b) Entry probability to non-employment from</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unregistered employment</td>
<td>-0.012, -0.010</td>
<td>-0.045</td>
<td>0.005</td>
<td>-0.044</td>
<td>601</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registered employment</td>
<td>0.025, 0.027</td>
<td>-0.011</td>
<td>0.053</td>
<td>-0.010</td>
<td>601</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>(c) Entry probability to unregistered employment from</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-employment</td>
<td>0.034, 0.039</td>
<td>0.067</td>
<td>0.070</td>
<td>0.061</td>
<td>601</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registered employment</td>
<td>0.172, 0.177</td>
<td>0.207</td>
<td>0.211</td>
<td>0.201</td>
<td>601</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>(d) Entry probability to registered employment from</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-employment</td>
<td>-0.111, -0.118</td>
<td>-0.111</td>
<td>-0.164</td>
<td>-0.106</td>
<td>601</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unregistered employment</td>
<td>-0.177**, -0.185*</td>
<td>-0.178</td>
<td>-0.230*</td>
<td>-0.172</td>
<td>601</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: the table reports the estimation of the effect of being eligible for the AFAM-PE on the results of the labor market for women conditional on their pre-treatment labor status. The indicator for eligibility equals one if the ICC of the households is above the eligibility threshold. The sample includes women between 18 and 64 years of age in two-parent households. The regressions are estimated for a linear probability model. The columns 1 to 5 include polynomials of grade 0, 1, 2, 3 and linear spline model of the standardized ICC, including pre-treatment covariates: age, (5 categories) education, (4 categories), head of household, separate indicators for missing values for each variable, and a indicator of whether the household was surveyed in Field 1 and 2. The standard errors (in brackets) correspond to clusters by standardized ICC. *significant to 10%; **significant to 15% ***significant to 1%.
Table 4: RD estimates of the effect of AFAM-PE on men’s labor market outcomes by pre-treatment employment status

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Coefficient</th>
<th>[standard error]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>(a) Persistence probability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-employment</td>
<td>0.103**</td>
<td>0.125**</td>
</tr>
<tr>
<td></td>
<td>[0.041]</td>
<td>[0.052]</td>
</tr>
<tr>
<td>Unregistered employment</td>
<td>0.150*</td>
<td>0.122</td>
</tr>
<tr>
<td></td>
<td>[0.077]</td>
<td>[0.100]</td>
</tr>
<tr>
<td>Registered employment</td>
<td>0.043</td>
<td>0.048</td>
</tr>
<tr>
<td></td>
<td>[0.113]</td>
<td>[0.125]</td>
</tr>
<tr>
<td>(b) Entry probability to non-employment from Unregistered employment</td>
<td>0.022</td>
<td>0.045</td>
</tr>
<tr>
<td></td>
<td>[0.025]</td>
<td>[0.036]</td>
</tr>
<tr>
<td>Registered employment</td>
<td>-0.005</td>
<td>0.018</td>
</tr>
<tr>
<td></td>
<td>[0.057]</td>
<td>[0.058]</td>
</tr>
<tr>
<td>(c) Entry probability to unregistered employment from Non-employment</td>
<td>0.098</td>
<td>0.071</td>
</tr>
<tr>
<td></td>
<td>[0.132]</td>
<td>[0.146]</td>
</tr>
<tr>
<td>Registered employment</td>
<td>-0.038</td>
<td>-0.066</td>
</tr>
<tr>
<td></td>
<td>[0.099]</td>
<td>[0.114]</td>
</tr>
<tr>
<td>(d) Entry probability to registered employment from Non-employment</td>
<td>-0.201</td>
<td>-0.196</td>
</tr>
<tr>
<td></td>
<td>[0.132]</td>
<td>[0.144]</td>
</tr>
<tr>
<td>Unregistered employment</td>
<td>-0.172**</td>
<td>-0.167*</td>
</tr>
<tr>
<td></td>
<td>[0.079]</td>
<td>[0.100]</td>
</tr>
</tbody>
</table>

Notes: the table reports the estimation of the effect of being eligible for the AFAM-PE on the results of the labor market for men conditional on their pre-treatment labor status. The indicator for eligibility equals one if the ICC of the households is above the eligibility threshold. The sample includes men between 18 and 64 years of age in two-parent households. The regressions are estimated for a linear probability model. The columns 1 to 5 include polynomials of grade 0, 1, 2, 3 and linear spline model of the standardized ICC, including pre-treatment covariates: age, (5 categories) education, (4 categories), head of household, separate indicators for missing values for each variable, and a indicator of whether the household was surveyed in Field 1 and 2. The standard errors (in brackets) correspond to clusters by standardized ICC. *significant to 10%; **significant to 15% ***significant to 1%.
Table 5: RD estimates of the effect of AFAM-PE on couples’ labor market outcomes by partner’s employment status

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Coefficient [standard error]</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>N</th>
<th>Panel A. Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Partner works</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not employed</td>
<td></td>
<td>0.076</td>
<td>0.075</td>
<td>0.040</td>
<td>0.099</td>
<td>0.036</td>
<td>601</td>
<td></td>
</tr>
<tr>
<td>Unregistered employment</td>
<td></td>
<td>0.090</td>
<td>0.093</td>
<td>0.121</td>
<td>0.125</td>
<td>0.113</td>
<td>601</td>
<td></td>
</tr>
<tr>
<td>Registered employment</td>
<td></td>
<td>-0.166**</td>
<td>-0.168*</td>
<td>-0.161</td>
<td>-0.224*</td>
<td>-0.149</td>
<td>601</td>
<td></td>
</tr>
<tr>
<td>(b) Partner does not work</td>
<td></td>
<td>0.176</td>
<td>0.175</td>
<td>0.144</td>
<td>0.213</td>
<td>0.142</td>
<td>601</td>
<td></td>
</tr>
<tr>
<td>Unregistered employment</td>
<td></td>
<td>0.185</td>
<td>0.188</td>
<td>0.212</td>
<td>0.216</td>
<td>0.204</td>
<td>601</td>
<td></td>
</tr>
<tr>
<td>Registered employment</td>
<td></td>
<td>-0.360*</td>
<td>-0.362*</td>
<td>-0.356*</td>
<td>-0.429**</td>
<td>-0.347*</td>
<td>601</td>
<td></td>
</tr>
</tbody>
</table>

| (a) Partner works              |                             |         |         |         |         |         |     | Panel B. Men   |
| Not employed                   |                             | 0.038   | 0.063   | 0.004   | 0.000   | 0.021   | 491 |               |
| Unregistered employment        |                             | 0.122   | 0.106   | 0.083   | 0.067   | 0.090   | 491 |               |
| Registered employment          |                             | -0.160** | -0.169  | -0.087  | -0.068  | -0.111  | 491 |               |
| (b) Partner does not work      |                             | 0.010   | 0.034   | -0.014  | -0.018  | 0.002   | 491 |               |
| Unregistered employment        |                             | 0.007   | -0.009  | -0.027  | -0.045  | -0.020  | 491 |               |
| Registered employment          |                             | -0.017  | -0.025  | 0.040   | 0.063   | 0.018   | 491 |               |

<table>
<thead>
<tr>
<th>Polynomial terms in running variable</th>
<th>No</th>
<th>Linear</th>
<th>Quadratic</th>
<th>Cubic</th>
<th>Linear spline</th>
</tr>
</thead>
</table>

Notes: the table reports the estimation of the effect of being eligible for the AFAM-PE on the results of the labor market form men and women conditional on pre-treatment labor status of the partner. The indicator for eligibility equals one if the ICC of the households is above the eligibility threshold. The sample includes men and women between 18 and 64 years of age who were in two-parent households in the baseline. The regressions are estimated for a linear probability model. The columns 1 to 5 include polynomials of grade 0, 1, 2, 3 and linear spline model of the standardized ICC, including pre-treatment covariates: age, (5 categories) education, (4 categories), head of household, separate indicators for missing values for each variable, and a indicator of whether the household was surveyed in Field 1 and 2. The standard errors (in brackets) correspond to clusters by standardized ICC. *significant to 10%; **significant to 15% ***significant to 1%. 
Table 6: RD estimates of the effect of AFAM-PE on union dissolution, overall and by partner’s pre-treatment employment status

<table>
<thead>
<tr>
<th>Sample of analysis</th>
<th>Coefficient [standard error]</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>All households</td>
<td></td>
<td>0.010</td>
<td>0.036</td>
<td>0.015</td>
<td>0.089</td>
<td>0.012</td>
<td>436</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[0.033]</td>
<td>[0.060]</td>
<td>[0.063]</td>
<td>[0.077]</td>
<td>[0.060]</td>
<td></td>
</tr>
<tr>
<td>Partner was employed</td>
<td></td>
<td>0.012</td>
<td>0.042</td>
<td>0.024</td>
<td>0.097</td>
<td>0.020</td>
<td>436</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[0.034]</td>
<td>[0.062]</td>
<td>[0.062]</td>
<td>[0.075]</td>
<td>[0.060]</td>
<td></td>
</tr>
<tr>
<td>Partner was not employed</td>
<td></td>
<td>-0.005</td>
<td>0.023</td>
<td>0.008</td>
<td>0.078</td>
<td>0.005</td>
<td>436</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[0.067]</td>
<td>[0.079]</td>
<td>[0.083]</td>
<td>[0.094]</td>
<td>[0.080]</td>
<td></td>
</tr>
<tr>
<td>Polynomial terms in running variable</td>
<td>Linear Quadratic Cubic Linear spline</td>
<td>No</td>
<td>Linear</td>
<td>Quadratic</td>
<td>Cubic</td>
<td>Linear</td>
<td>spline</td>
</tr>
</tbody>
</table>

Notes: The table shows the estimated effect of being eligible for the AFAM-PE on marital dissolution. The eligibility indicator equals one if the ICC of the households is above the eligibility threshold. The sample includes women between 18 and 64 years of age in two-parent households. The regressions are estimated for a linear probability model. Columns 1 to 5 include polynomials of grade 0, 1, 2, 3 and linear spline model of the standardized ICC. All estimates include pre-treatment controls: age, education, and head of household, separate indicators for missing values for each variable, and a indicator of whether the household was surveyed in Field 1 and 2. The standard errors (in brackets) correspond to clusters by standardized ICC. *significant to 10%; **significant to 15% ***significant to 1%
Table 7: RD estimates of the effect of AFAM-PE on women’s decision making measure: women reporting over decisions on food expenses

<table>
<thead>
<tr>
<th>Mean of</th>
<th>Coefficient [standard error]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td>Others or your husband decide</td>
<td>0.08</td>
</tr>
<tr>
<td>(0.022)</td>
<td>(0.035)</td>
</tr>
<tr>
<td>You decide</td>
<td>0.28</td>
</tr>
<tr>
<td>(0.057)</td>
<td>(0.068)</td>
</tr>
<tr>
<td>Both decide</td>
<td>0.63</td>
</tr>
<tr>
<td>(0.060)</td>
<td>(0.075)</td>
</tr>
</tbody>
</table>

Notes: The table shows the estimated effect of being eligible for the AFAM-PE on who decides on food expenses. The eligibility indicator equals one if the ICC of the households is above the eligibility threshold. The sample includes women between 18 and 64 years of age in two-parent households. The regressions are estimated for a linear probability model. Columns 1 to 5 include polynomials of grade 0, 1, 2, 3 and linear spline model of the standardized ICC. All estimates include pre-treatment controls: age, (5 categories) education, (4 categories), head of household, separate indicators for missing values for each variable, and a indicator of whether the household was surveyed in Field 1 and 2. The standard errors (in brackets) correspond to clusters by standardized ICC. *significant to 10%; **significant to 15% ***significant to 1%.

Table 8: RD estimates of the effect of AFAM-PE on women’s decision making measure: women reporting over decisions on additional money

<table>
<thead>
<tr>
<th>Mean of</th>
<th>Coefficient [standard error]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td>Others or your husband decide</td>
<td>0.06</td>
</tr>
<tr>
<td>(0.026)</td>
<td>(0.039)</td>
</tr>
<tr>
<td>Depends on who receives it</td>
<td>0.19</td>
</tr>
<tr>
<td>(0.031)</td>
<td>(0.036)</td>
</tr>
<tr>
<td>You decide</td>
<td>0.1</td>
</tr>
<tr>
<td>(0.036)</td>
<td>(0.038)</td>
</tr>
<tr>
<td>Both decide</td>
<td>0.65</td>
</tr>
<tr>
<td>(0.052)</td>
<td>(0.067)</td>
</tr>
</tbody>
</table>

Notes: The table shows the estimated effect of being eligible for the AFAM-PE on who decides on additional money. See notes to Table 7.
Figures

Figure 1: Assignment to AFAM-PE: program eligibility and participation

Notes: The figure shows the proportion of households that participate in the AFAM-PE as a function of the standardized ICC. It graphs the predetermined values of a linear model on each side of the eligibility threshold.

Figure 2: Employment rate and AFAM-PE eligibility, women and men in couple

a) Women

b) Men

Notes: The figures show the average value of the labor market results as a function of the standardized ICC. They graph the predetermined values of a quadratic spline model on each side of the threshold.
Figure 3: Registered employment rate and AFAM-PE eligibility, women and men in couple

Notes: The figures show the average value of the labor market results as a function of the standardized ICC. They graph the predetermined values of a quadratic spline model on each side of the threshold.

Figure 4: Unregistered employment rate and AFAM-PE eligibility, women and men in couple

Notes: The figures show the average value of the labor market results as a function of the standardized ICC. They graph the predetermined values of a quadratic spline model on each side of the threshold.
Figure 5: Hours worked (conditional on working) and AFAM-PE eligibility, women and men in couple

a) Women  

b) Men

Notes: The figures show the average value of the labor market results as a function of the standardized ICC. They graph the predetermined values of a quadratic spline model on each side of the threshold.

Figure 6: RD estimates of the effect of AFAM-PE on pre-treatment employment rate

a) Women  

b) Men

Notes: The figures show the average value of the pre-treatment characteristics as a function of the standardized ICC. They graph the predetermined values of a quadratic spline model on each side of the threshold.
Figure 7: RD estimates of the effect of AFAM-PE on pre-treatment individual characteristics

a) Women

b) Men

c) Household

Notes: The figures show the average value of the pre-treatment characteristics as a function of the standardized ICC. They graph the predetermined values of a quadratic spline model on each side of the threshold.

Figure 8: Density of the forcing variable. Predicted poverty score, relative to the cut-off

Notes: The figures show the density of the standardized ICC used for eligibility to AFAM-PE in the vicinity of the discontinuity point. The point estimate (standard error) for the test is -0.157 (0.155). The optimum bandwidth and size ranges are calculated following McCrary (2008).