Universidad de los Andes
Escuela de Gobierno
Alberto Lleras Camargo

No. 48
Octubre 2017
ISSN 2215 – 7816 (En línea)

Documentos de Trabajo

Escuela de Gobierno Alberto Lleras Camargo

With a Little Help from my Friends: the Multiplier Effect of Public Subsidies through Private Support

Sandra García & Jorge Cuartas

Serie Documentos de Trabajo 2017

Edición No. 48

ISSN 2215 – 7816

Edición digital

Septiembre de 2017

© 2017 Universidad de los Andes - Escuela de Gobierno Alberto Lleras Camargo

Carrera 1 No. 19 -27, Bloque AU

Bogotá, D.C., Colombia

Teléfonos: 3394949, Ext. 2073

escueladegobierno@uniandes.edu.co

http://egob.uniandes.edu.co

Director Escuela de Gobierno Alberto Lleras Camargo
Eduardo Pizano de Narváez

Autores
Sandra García Jaramillo, Jorge Cuartas

Jefe de Mercadeo y Comunicaciones Escuela de Gobierno Alberto Lleras Camargo
Camilo Andrés Torres Gutiérrez

Gestora Editorial Escuela de Gobierno Alberto Lleras Camargo
Angélica María Cantor Ortiz

Gestor Comunicaciones Escuela de Gobierno Alberto Lleras Camargo
Camilo Andrés Ayala Monje

El contenido de la presente publicación se encuentra protegido por las normas internacionales y nacionales vigentes sobre propiedad intelectual, por tanto su utilización, reproducción, comunicación pública, transformación, distribución, alquiler, préstamo público e importación, total o parcial, en todo o en parte, en formato impreso, digital o en cualquier formato conocido o por conocer, se encuentran prohibidos, y solo serán lícitos en la medida en que cuente con la autorización previa y expresa por escrito del autor o titular. Las limitaciones y excepciones al Derecho de Autor solo serán aplicables en la medida en se den dentro de los denominados Usos Honrados (Fair Use); estén previa y expresamente establecidas; no causen un grave e injustificado perjuicio a los intereses legítimos del autor o titular; y no atenten contra la normal explotación de la obra.

With a Little Help from my Friends: the Multiplier Effect of Public Subsidies through Private Support[Ψ]

By Sandra García[*] & Jorge Cuartas [**]

Abstract

Conditional cash transfer (CCT) programs have become an important component of social assistance in developing countries. CCTs, as well as other cash subsidies, have been criticized for allegedly crowding out private transfers. Whether social programs crowd out private transfers is an important question with worrisome implications, as private support represents an important fraction of households' income and works as a risk sharing mechanism in developing countries. Furthermore, empirical evidence on the effect of public transfers on private transfers is mixed. This paper contributes to the literature by using a unique dataset from the quasi-experimental evaluation of a CCT in Colombia and an empirical strategy that allows us to correct for pre-existing differences between treated and control groups. Our results suggest that the public transfer did not crowd out private transfers, neither in the short-run nor in the middle-run. Instead, it increased the probability of receiving support in cash, in kind, and in non-paid labor from different private sources by approximately 10 percentage points. Moreover, we find that the monetary value of private transfers increased by 20% for treated households, suggesting that the public transfer had a multiplier effect on household income through private support. Information about the program design suggests that some of its features, such as community meetings and delivery of information, may be important in explaining these effects. The findings give insights on the way social programs could have a twofold positive effect on households' well-being, both through their direct impacts and by affecting inter-household dynamics.

Key words: Conditional Cash Transfer, Public Transfers, Private Transfers, Inter-household transfers, Crowding-out.

[Ψ] We are grateful to the Colombian Social Prosperity Department (DPS) and the Más Familias en Acción team, especially Juliana Arbeláez and Pilar Beira, for sharing details about the program's original design and for their comments. We also thank Irv Garfinkel, Carlos Felipe Cantor and Martín Montenegro for their comments. This research was supported through funding from the Universidad de los Andes research fund.

[*] School of Government, Universidad de los Andes. E-mail: sagarcia@uniandes.edu.co.

[**] School of Government, Universidad de los Andes. E-mail: ja.cuartas10@uniandes.edu.co

Resumen

Los programas de Transferencias Monetarias Condicionadas (TMC) se han convertido en un componente muy importante de la política social en países en desarrollo. Los TMC, al igual que otros subsidios monetarios, han sido criticados por supuestamente desplazar transferencias privadas. Si programas sociales de este estilo desplazan transferencias privadas es una cuestión importante con implicaciones preocupantes, en la medida que el apoyo privado representa una fracción importante del ingreso de los hogares y funciona como un mecanismo de diversificación de riesgo en países en desarrollo. Más aún, la evidencia empírica del efecto de las transferencias públicas en las transferencias privadas es mixta. Este documento contribuye a la literatura utilizando una base de datos única de la evaluación cuasiexperimental de una TMC en Colombia y una estrategia empírica que nos permite corregir diferencias preexistentes entre los individuos del grupo de tratamiento y control. Nuestros resultados sugieren que la transferencia pública no desplazó las transferencias privadas, ni en el corto plazo ni en el mediano plazo. Por el contrario, esta incrementó la probabilidad de recibir apoyo en dinero, en especie, y en trabajo no remunerado de diferentes fuentes privadas en aproximadamente 10 puntos porcentuales. Adicionalmente, encontramos que el valor monetario de las transferencias privadas aumentó en 20 % para los hogares tratados, sugiriendo que la transferencia pública tuvo un efecto multiplicativo en el ingreso de los hogares mediante apoyo privado. Información sobre el diseño del programa sugiere que algunas de sus características, tales como los encuentros comunitarios y entrega de información, pueden ser importantes para explicar estos efectos. Los hallazgos entregan evidencia sobre cómo programas sociales pueden tener un efecto doble sobre el bienestar de los hogares, tanto con su impacto directo así como en las dinámicas entre los hogares.

Palabras clave: Transferencias Monetarias Condicionadas, transferencias públicas, transferencias privadas, transferencias entre hogares.

Content

1. Introduction

Conditional Cash Transfer (CCT) programs have become an important component of social assistance in developing countries over the last two decades. In 2010, most Latin American countries included CCTs as part of their social protection systems, as did more than 15 countries in Asia and Africa (Stampini & Tornarolli, 2012). The impressive growth in the prevalence of CCTs has been accompanied by evidence about its positive effects on beneficiaries' poverty level, consumption, schooling, and nutritional and health status (Fiszbein et al., 2009). Nevertheless, some studies have raised the concern that CCTs can have unexpected negative effects, by crowding out private transfers (Albarran & Attanasio, 2003).

This question is worth examining, because public cash transfers may be an inefficient policy instrument for poverty alleviation if they displace private support. Economic theory predicts that in the presence of altruism, public transfers will displace private transfers (Barro, 1974; Becker, 1974). From a policy perspective, crowd-out of private transfers by public transfers could be worrisome. This is particularly so in developing countries, where market imperfections and the pervasive risk faced by poor households render private transfers a common safety net and risk-sharing mechanism; indeed, in the developing world private transfers represent an important fraction of households' income (Cox & Jimenez, 1990; Cox, Eser, & Jimenez, 1998; Fafchamps, 2011). Yet evidence on this issue is mixed; some studies find that public transfers (such as pensions or public subsidies) crowd out private transfers (e.g., Albarran & Attanasio, 2003; Jung, Pirog, & Lee, 2016), while others partially reject this hypothesis, particularly in the context of CCTs (Nielsen & Olinto, 2007; Teruel & Davis, 2000).

This paper analyzes this question by examining whether a specific CCT targeted to poor households in a developing country crowds out inter-household private transfers. The CCT we study is *Familias en Acción* (FA), Colombia's most important social welfare program since 2001. FA provides cash subsidies to poor households with children. To receive the subsidy, households must comply with some conditions, including school enrollment and attendance, and regular health check-ups for children under five. In addition, the first phase of FA offered additional services designed to foster awareness of the importance of

education, health, and social support. Some of these services included delivery of information (through booklets and interactive games), community activities facilitated by program staff and local leaders, and the establishment of regular meetings for program beneficiaries (DNP, 2006).

We use unique quasi-experimental data collected from the impact evaluation of the program. This allows us to identify inter-household private transfers with a high level of specificity in terms of the type of each transfer (in-cash, in-kind, or in unpaid labor) and its source (family, friend, neighbor). We use baseline, first follow-up (approximately 2 years afterward), and second follow-up (approximately 5 years after baseline) surveys to estimate short term and middle term impacts of the CCT through a difference-in-differences (DD) strategy. Our methodology allows us to eliminate unobservable pre-existing differences, under the assumption that there are no differences in time-variant characteristics, which is plausible given that treated and control groups were matched previously to be as comparable as possible (Gómez et al., 2004). To assess whether estimates are unbiased, we perform additional robustness checks using a matched DD approach.

Our results show that the CCT did not crowd out private in-cash or in-kind transfers, nor did it crowd out support in unpaid labor between households. On the contrary, the CCT actually increased the likelihood of participating families receiving support from neighbors by 3.4 percentage points at first follow-up. At second follow-up, the program increased the probability of receiving support from any private source by 10.1 percentage points, from neighbors by 6.3 percentage points, and from relatives by 3.7 percentage points. Moreover, the program had a multiplicative effect on household income: it increased the total average value of private transfers received by households by 32% at first follow-up and 38% at second follow-up compared to baseline levels. We also find larger effects on rural areas compared to urban areas. Data about participation in program meetings, as well as beneficiaries' knowledge of program materials, suggest that these program features play an important role in explaining the effects we find.

Our contribution to the literature on the relationship between public and private transfers is threefold. First, we extend our analysis of the crowding-out of public transfers to a wider range of households or individuals than previous studies. Most of the literature in developing countries examines inter-household transfers among parents and children (e.g., Cox and Jimenez, 1992; Jensen, 2003 Schoeni, 2002). In this paper, we examine transfers among friends, neighbors, and relatives beyond parents and children. Second, we consider a more comprehensive universe of private support, examining not only cash transfers, but also in-kind transfers and unpaid labor help. Third, we contribute to the literature on the effect of CCTs on private transfers, where evidence is still mixed (Albarran & Attanasio, 2003; Nielsen & Olinto, 2007; Teruel & Davis, 2000).

The remainder of the paper proceeds as follows. Section 2 discusses related literature, presenting theoretical models and empirical evidence on the relationship between public and private transfers. Section 3 describes the CCT and the particular features planned by program staff to build social capital and foster collaboration. Section 4 presents the data and summarizes descriptive statistics. Section 5 presents the identification strategy. Section 6 summarizes the main results, including the overall effect of the program on the likelihood of receiving private support and the value of the support, heterogeneous treatment effects, and possible mechanisms. The final section concludes and presents policy implications.

2. Related Literature

2.1. Motives of giving and expected effects of public transfers on private transfers

The literature is not unanimous on the motives for giving, which has divergent implications for the expected impact that public transfers have on private transfers. There are three main theoretical hypotheses for the motives for private transfers, which in turn lead to conflicting predictions for the possibility of crowd-out: the altruistic model, the exchange motive model, and the mutual insurance hypothesis.

First, the altruistic model suggests that individuals care about other individuals' well-being; hence, transfers depend on the financial situation of donors and recipients (Barro, 1974; Becker, 1974; Kazianga, 2006). The altruistic model predicts that the donor will take into

account losses or gains in the recipient's income (or well-being in general) to compensate his or her via private transfers. According to this model, it is expected that public transfers will have a crowding-out effect, both on the probability of receiving a private transfer and on its monetary value (Albarran & Attanasio, 2003). For example, if the recipient receives a public transfer, then the donor will reduce his or her support because the recipient's economic well-being is being improved by another source.

Second, the exchange model states that the source of private transfers and support is reciprocity: the donor makes a transfer hoping for a future service or reciprocation from the recipient (Bernheim, Shleifer, & Summers, 1985; Cox, 1987: & Foster & Rosenzweig, 2001). Under this model, the effect of public transfers on private transfers is also ambiguous. For example, if an elderly parent provides financial support to his or her children and expects to receive care from them in return, then it may not matter to the parent the amount of public transfers the child receives because this particular private transfer is given with the expectation of a payback (i.e., caring time).

Third, the mutual insurance hypothesis states that private transfers are part of informal insurance schemes with the purpose of sharing idiosyncratic risk and tackling negative shocks (Agarwal & Horowitz, 2002; Fafchamps, 2011). In this view, households establish mutual agreements to smooth consumption through inter-household transfers (Townsend, 1994). Note that this model predicts that a public transfer would crowd out private support. Nonetheless, if a household receives a negative shock that is not entirely compensated by the public transfer, the predictions of this model could still be ambiguous.

Although this paper does not examine motives for giving, it is important to take into consideration these differences when interpreting the results. Empirical evidence on the motives of private transfers is mixed, as there is evidence supporting the altruistic model (e.g., Kang & Sawada, 2003; Kazianga, 2006), the exchange model (e.g., Aldieri & Fiorillo, 2015; Clément, 2008; Cox et al., 1998), and the mutual insurance hypothesis (e.g., Fafchamps, 2011). Depending on the context (the culture and informal rules in a particular society), the type of population (e.g., low-income families or the elderly), and the type of

transfer (within families or between families) we can expect different motives for giving, which makes it difficult to anticipate the effect of public transfers on private support.

2.2. Empirical evidence on the relation between public and private transfers

Research on the interaction between public and private transfers from developed countries is mixed. First, Lampman and Smeeding (1983) found that between 1935 and 1979, private transfers as a share of total personal income in the U.S. declined from 6.5 to 5 percent while public transfers increased from 2.8 to 11.2 percent. Similarly, Reil-Held (2006) found that among the elderly population in Germany, the amount of public transfers was negatively associated with private transfer receipt. Although these results may suggest some crowding-out of private transfers by public transfers, with the data available it is not possible to infer a causal relationship. Schoeni (2002) used data from a supplement to the Panel Study of Income Dynamics (PSID) and instrumental variables techniques (using state level policies to instrument for unemployment compensation) and found that among the unemployed private benefits were displaced by unemployment compensation benefits by as much as 24-40 cents per dollar. More recently, Jung et al (2016) find that recipients of a public pension program expansion were not able to increase their total expenditures given that the pension program payments largely crowded out private financial transfers.

On the other hand, Guth et al. (2002) examined crowding-out in an experimental setting and found that imposing a high tax to pay for a compulsory pension system has a negative effect on voluntary grants from parents to children, but practically no effect on support from children to parents. Moreover, Cox and Jakubson (1995) used 1979 data from the President's Commission on Pension Policy survey (PCPP) and instrumental variables to find that public-income transfers had no significant crowding-out effects on private transfers, but actually some "crowding-in" effects: for example, AFDC payments increased the probability of alimony and child support payments. In addition, Kang & Sawada (2003) found crowding-in effects of public transfers on private transfers in Korea during the economic crisis.

In developing countries, most of the available research on this question focuses on the relationship between social security or pension income and private transfers from younger to

older generations. Cox and Jimenez (1992) examined this question in Peru and found that receiving social security reduced the probability of receiving private transfers by 8 percentage points. However, they found no relationship between the amount of social security income received and receipt of private transfers. Jensen (2003) looked at the effect of state old-age income in South Africa on remittances sent from migrant children and found that public pension income reduced private transfers from children living away from home (by 0.25 to 0.30 rands for each rand of public pension). More recently, using data from a Mexican income allowance program for senior citizens, Juarez (2009) found that the public subsidy received by the elderly had a large crowding-out effect on private transfers. That is also the case for Taiwan's old-age allowance program, where Lai & Orsuwan (2009) found a crowding-out effect on transfers from adult children to parents receiving the public subsidy.

Evidence on the effects of public subsidies on inter-household transfers is much more limited, and findings are mixed, depending on the context or type of program. A study from a randomized experiment of a food-for-training program in Southern Sudan found no evidence of a crowding-out effect on private transfers (Sulaiman, 2010). In the case of Burkina Faso, Kazianga (2006) found no crowding-out effects among low-income households, but did found crowding-out effects among middle-income households. Finally, in the case of Bangladesh, Mozumder, et al. (2009) found crowding out effects for a short-term intervention after a devastating flood, but no crowding-out effects for a means-tested longer-term intervention.

In the context of CCTs, evidence is inconclusive on the effect of the transfers on private support. In the case of Mexico, Albarran & Attanasio (2003) found crowding-out effects of the CCT program *Progresa* on private transfers. However, Teruel & Davis (2000), using more than one wave of follow-up data, found no crowding-out effects of the same program, either on cash or in-kind transfers from other households. Another study (Nielsen & Olinto, 2007) estimated the effects of CCTs in Nicaragua and Honduras and found no evidence of crowding-out effects on remittances in either country. However, the authors found a negative effect on food transfers in the case of Nicaragua. One possible explanation suggested by the authors is that the amount of the subsidy in Nicaragua is much larger than in Honduras.

These mixed results may hide a simple fact: the design of the public transfer may be important in terms of its impact on private support. For instance, providing a cash subsidy electronically, with no interaction among participants or among program staff and participants, is different than providing a cash subsidy that also enhances interactions among individuals. As explained in the next section, the CCT program we analyze in this paper has its own particular dynamics in terms of potential impact on crowding-out (or crowding-in), as it offers additional components that can foster collaboration among households.

3. The Conditional Cash Transfer Program

In this paper, we analyze the effect of Familias en Acción (FA) on inter-household private transfers. FA is Colombia's flagship CCT program, aimed at fostering human capital accumulation and reducing extreme poverty. The program targets families with children living in extreme poverty, and has two main components: an education subsidy and a health and nutrition subsidy. The education subsidy is provided to households with children between seven and 17 years old on the condition that the children are enrolled in school and their attendance is at least 80%. In 2002, when the program started, the subsidy was $14,000 COP (approximately US$6.15[1]) per month per child attending elementary school, and $28,000 COP (approximately US$12.30) per month per child attending secondary school. The health and nutrition component is delivered to households with children under six and is conditioned on regular medical check-ups and participation in vaccination programs. In 2002, the nutrition subsidy was $46,500 COP (US$20.44) per month per family. On average, between 2002 and 2006 each household received transfers of approximately 100,000 COP (US$44) per month, which represented a 37.4% increase in average family monthly income (DNP, 2006).

In addition to monetary subsidies conditioned on specific actions, FA's first phase, which began in 2000 and ended in 2006, included complementary strategies to promote education and health, and to foster social capital and collaboration among beneficiaries[2]. One of the strategy's main components was *Encuentros de Cuidado* (Caregiving Meetings). These

[1] Amount in 2002: $1 US$=$2,275 COP.

[2] We conducted unstructured interviews with program staff who had been working since the beginning of the program in March 2016. In those interviews, we also were able to recover some material that was delivered to beneficiaries in the first phase of the program, including informational booklets and decks of informative cards.

meetings offered beneficiary mothers from the same neighborhood (or municipality[3], in cases where these were small) a space to talk about their concerns related to their families, and to discuss strategies to improve their families' and their own well-being.

Encuentros de Cuidado had several planned features to build fellowship among the beneficiaries, and to strengthen social bonds between neighbors, friends, and family. Each meeting began with a ritual, in which every mother had to offer food, music, or another good to the other beneficiaries. According to printed material from the first phase of the program, "*the ritual recovers collective feelings related to the sacred and the collective experience of unity. (...) The offering of food, music, and play must be present in every Encuentro de Cuidado (...) It is a symbolic way to share and to build a proper place to meet (...) and to find collective well-being"* (Presidencia de la República, de Colombia 2004).

Each meeting was led by a *Madre Líder* (Leader Mother*),* who was responsible for organizing and facilitating the meetings, strengthening the relationships among beneficiaries in the neighborhood or municipality, supporting initiatives related to the improvement of beneficiaries' well-being through collective work, and managing aid from private sources (Acción Social, 2010; Presidencia de la República de Colombia, 2004). Beneficiary mothers elected the *Madre Líder* democratically: any mother could be a candidate, as long as she was a program beneficiary, was literate, and had good relationships with the community. The labor of each leader was voluntary and non-paid (Acción Social & DNP, 2010).

At *Encuentros de Cuidado* participants had access to printed material for all to read and discuss aloud*,* such as information booklets, decks of informative cards that were used for educational exercises and games with other beneficiaries, and a bi-monthly instructional journal. These materials focused strongly on fostering social capital, and explicitly addressed the idea that beneficiaries should support each other in hard times (see Presidencia de la República, 2002; 2005).

[3] Municipalities are the smallest administrative units in Colombia.

Previous evidence suggests that the program had an impact on social capital: games in a field experiment revealed that beneficiaries were more likely to cooperate, to participate in neighborhood decisions and meetings, and to have higher trust levels compared to individuals in the control group (Attanasio, Polania-Reyes, & Pellerano, 2015). In this context, it can be expected that cash transfers, instead of having a crowding-out effect, can actually have a crowding-in effect.

4. Data

We use data collected as part of the impact evaluation of FA. The program phase-in was not random across municipalities, but rather was targeted to hardcore poor households[4] living in small municipalities with fewer than 100,000 inhabitants and a minimum level of basic educational, health, and financial infrastructure. This program did not include district capitals, and did not include municipalities in the coffee region (which received special help after a 1995 natural disaster). Consequently, the program evaluators took a quasi-experimental approach to evaluate the program, selecting 57 treatment and 65 control municipalities (Gómez et al., 2004). Evaluators selected a random sample of beneficiary municipalities and matched them to control municipalities based on characteristics such as geography, urbanization (size of the population living in the municipality's urban area), number of eligible families, a quality of life index score, and education and health infrastructures.

Subsequently, a random sample of eligible households was selected from each municipality (IFS-Econometria-SEI, 2003). Nevertheless, due to political pressures the program started before evaluators collected baseline information in some municipalities, leaving 31 treatment municipalities with full baseline information. Since we do not have retrospective data on our outcome of interest (private help), we limit the sample to the municipalities with baseline information (31 treated and 65 control municipalities).

[4] Belonging to the lowest level of SISBEN (System for the Selection of Beneficiaries of Social Programs), the household welfare index used by the Colombian government to target social programs to poor households. The index is a function of a set of household demographic characteristics and variables related to the consumption of durable goods, human capital endowments, and current income. This index is divided into 6 strata, with SISBEN 1 corresponding to extremely poor or indigent, SISBEN 2 to poor, and SISBEN 3 to near poor.

We use baseline (collected between June and October 2002), first follow-up (July and November 2003), and second follow-up (November 2005 and April 2006) surveys from the impact evaluation, which allows us to identify short term and middle term effects of the CCT. Our sample consists of 5,781 households (2,341 in treated municipalities) that have complete data on both outcomes and covariates at both baseline and follow-up. Data includes socioeconomic and demographic characteristics of treated and control households, such as household composition, monthly income, head of household's educational attainment and marital status, and access to basic services, among others.

Additionally, the data includes information regarding whether the household received any transfer in cash, in kind (e.g., food, clothes), or in unpaid labor in the last 12 months, as well as who provided it (family, friend, or neighbor in the municipality or outside the municipality). The data also allows us to identify the total monetary value of the transfers. Households reported the monetary value of cash received from each source, as well as the value of in-kind help received, answering the question: "*how much would you have to pay for the in-kind help you received from each source.*" For unpaid labor, households reported the amount of *jornales* (i.e., working days) they received from each source. In order to estimate the monetary value of labor received, we multiplied the number of working days by the current minimum daily wage in Colombia for baseline and both follow-ups. Finally, we converted all monetary sums into 2002 Colombian Pesos (COP), considering annual inflation for the analysis.

As Table 1 shows, except for the number of banks and hospitals, no statistical differences emerged between treatment and control municipality characteristics. Nonetheless, there are some differences in household characteristics. On average, treated households had fewer adults with earnings and thus a smaller amount of monthly income. In addition, heads of households in the treatment group were younger compared those in the control group and households in the treatment group were less likely to have access to electricity or gas than households in the control group. Overall, our sample is composed of households living in extreme poverty at baseline: on average their monthly household income was 270,000 COP

(119 USD), and taking into account that six persons lived in each household on average, their monthly per capita income was less than 50,000 COP (22 USD).

Table 1. Sample characteristics by treatment group at baseline

Variable	Treatment (T)	Control (C)	Difference (T-C)	SE for difference (T-C)
A. Municipality (N)	31	65	96	96
Quality of life index	53.92	56.20	-2.28	2.33
Population (urban)	13,749	12,660	1,089	3,497
Population (rural)	12,274	10,084	2,189	2,157
Number of banks	0.08	0.04	0.04*	0.02
Number of hospitals	0.94	0.65	0.29**	0.10
Region				
Atlantic	0.32	0.29	0.03	0.10
Eastern	0.23	0.31	-0.08	0.10
Central	0.32	0.29	0.03	0.10
Pacific	0.13	0.11	0.02	0.07
Taxes collected (millions of COP)	2.71	2.59	1.27	1.53
B. Household (N)	2,341	3,440	5,781	5,781
Number of people in the household	6.06	5.95	0.11	0.06
Number of adults with earnings	1.5	1.6	-0.10***	0.02
Household monthly income (COP)	256,607	278,152	-21,545**	7,904
Household head age	42.92	44.09	-1.16***	0.33
Household head education				
None	0.44	0.45	-0.01	0.01
Elementary	0.16	0.15	0.01	0.01
Secondary	0.04	0.04	0.00	0.01
Household head marital status				
Married	0.34	0.33	0.01	0.01
Single	0.02	0.02	0.00	0.00
Household basic services				
Water	0.67	0.64	0.03*	0.01
Gas	0.06	0.08	-0.02**	0.01
Electricity	0.85	0.89	-0.04***	0.01
Sewage	0.30	0.26	0.04**	0.01
Toilet with connection	0.51	0.54	-0.02	0.01

Notes:
1. Results reported: number of household and municipalities in treatment and control group; mean of treatment and control groups at baseline; and standard errors for difference between treatment and control group.
2. Results for analytical sample for estimation (excluding program dropouts at follow-up and missing values).
3. Average annual exchange rate of $1 USD = $2,275 COP.
4. * Significant at 10%, ** Significant at 5%, *** Significant at 1%.

Furthermore, Table 2 presents household receipt of private support at baseline by treatment group. There are no significant differences in private support in the form of cash or labor between treatment and control groups. On average, 19% of households received cash transfers from private sources, and 7% received unpaid labor. There is a difference, however, in the receipt of in-kind support: households in the treatment group were less likely to receive

in-kind support from a private source (34%) than households in the control group (43%). It is important to note that that most of this aid came from neighbors, friends, and family living in the municipality, suggesting the existence of strong social networks in the municipalities where these households reside.

Table 2. Private support by treatment group at baseline

	Treatment (T)	Control (C)	Difference (T-C)	SE for difference (T-C)
A. Cash				
From any private source	0.19	0.20	-0.01	0.01
From neighbors	0.06	0.07	-0.01	0.01
From family or friends living in municipality	0.06	0.05	0.01	0.01
B. In-kind				
From any private source	0.34	0.43	-0.10***	0.01
From neighbors	0.15	0.23	-0.08***	0.01
From family or friends living in municipality	0.12	0.13	-0.01	0.01
C. Labor				
From any private source	0.07	0.07	0.00	0.01
From neighbors	0.04	0.04	0.00	0.01
From family or friends living in municipality	0.02	0.02	0.00	0.00
D. Summary: any help				
From any private source	0.45	0.53	-0.08***	0.01
From neighbors	0.21	0.29	-0.08***	0.01
From family or friends living in municipality	0.17	0.18	-0.01	0.01
E. Value of the transfers (COP)				
From neighbors	36,899	73,715	-36,816***	6,448
From family or friends living in municipality	52,580	31,633	-20,946***	6,237
Total help received	107,259	179,456	-72,196***	10,809
Number of households	2,341	3,440	5,781	5,781

Notes:
1. Results reported: number of household and municipalities in treatment and control group; mean of treatment and control groups at baseline; and standard errors for difference between treatment and control group.
2. Results for analytical sample for estimation (excluding program dropouts at follow-up and missing values).
3. Average annual exchange rate of $1 USD = $2,275 COP.
4. * Significant at 10%, ** Significant at 5%, *** Significant at 1%.

In terms of the monetary value of help received, households received on average $143,400 COP (63 USD) in one year. This is not a negligible amount bearing in mind that the minimum monthly wage in 2002 was $309,000 COP (135 USD). Moreover, private transfers represented

on average almost 5% of household's monthly income at baseline, which makes evident the importance of private support for the households in our sample.

In sum, we do not find statistically significant differences in cash or labor support between treatment and control groups. We do find, however, that households in the treatment group were less likely to receive in-kind support (from any source) than households in the control group and received a smaller amount. A mean differences between treated and control individuals, thus, may produce biased estimates, possibly in the direction of finding larger crowding-out effects given that there is a difference at baseline favoring control individuals. Although we carefully control for observed household and municipality characteristics throughout our analysis, pre-existing differences in our outcomes and control variables motivate the use of an identification strategy that allows us to clean unobserved heterogeneity in order to identify unbiased estimates.

5. Identification Strategy

Our outcomes of interest are whether the household received private support and the amount of private support received from each source. As explained above, FA was not assigned on a random basis, thus a simple difference in means would be biased if there were differences between treatment and control groups before the implementation of the program. Moreover, even after controlling for household and municipality characteristics we would have an omitted variable bias problem due to unobserved heterogeneity.

We take advantage of two features of the data to identify a causal effect. First, our sample consists of treated and control municipalities that were matched according to socioeconomic and demographic characteristics, which eases some concerns about the comparability between both groups (see Table 1, Panel A). Second, having baseline data allows us to use a difference-in-differences methodology (DD), which controls for unobserved pre-existing differences (Imbens & Wooldridge. 2007). This methodology allows us to identify a casual effect under the assumption that there are no differences in time-variant characteristics, which is plausible given that municipalities were matched to be comparable and individuals for the evaluation were selected randomly within each municipality.

We begin by estimating probabilistic models by maximum likelihood to identify the effect of the program on the probability of receiving different types of private help from different sources. Let us denote $Help_{i,t}$ the outcome of interest (which will vary across analyses) for household *i* in period *t.* The outcome of interest equals one if household *i* received τ help (τ=cash, in-kind, or labor) from *s* source (*s*=familiar or friend, or neighbor). We estimate a system of 12 equations for receiving help in each τ from each *s* and from receiving any help. Equation 1 presents our basic model, where FA_i is an indicator for being a program beneficiary, and T_t an indicator for follow-up. Our coefficient of interest is β_3, which estimates the average impact of the program on receiving τ help from *s* source.

$$P(Help)_{\tau,s,i,t} = \beta_0 + \beta_1 FA_i + \beta_2 T_t + \beta_3 FA_i * T_t + X_{i,t}\gamma + M_{i,t}\varphi + \mu_i \quad (1)$$

We also include a vector of household characteristics ($X_{i,t}$), and municipality characteristics ($M_{i,t}$) in order to improve estimator efficiency (Bernal & Peña, 2011). At the household level, we include monthly income, household head age, marital status, and education level, number of people living in the household (adults, and children between 0-6, 7-11, and 12-17 years old), a binary variable that equals one if a household member owns the house, number of bedrooms, main material of floors, walls, and roofs, ownership of assets, and access to basic services, such as electricity, water, and toilet. At the municipality level, we consider the quality of life index; population; presence of health, educational, and financial infrastructure; and fixed effects for urban/rural and for Colombia's main regions (Atlantic, Eastern, Central, and Pacific).

Subsequently, we estimate a system of equations by Ordinary Least Squares (OLS) to identify the effect of the program on the monetary value of different types of help received from different sources, and, particularly, the total value of transfers.[5] Equation 2 presents the basic model, where β_3 is our coefficient of interest.

$$Value_{\tau,s,i,t} = \beta_0 + \beta_1 FA_i + \beta_2 T_t + \beta_3 FA_i * T_t + X_{i,t}\gamma + M_{i,t}\varphi + \mu_i \quad (2)$$

[5] For this analysis, we removed extreme values (which reached as high as 18,000 USD), representing 1% of our sample.

Additionally, we use a difference-in-difference-in-differences methodology (DDD) to identify heterogeneous treatment effects across sub-populations (Imbens & Wooldridge, 2007). Particularly, we estimate if the program had differential effects across geographic location (rural and urban areas), and across income quintiles. Let us denote H_i as the sub-populations of interest. Equation 3 presents the DDD probabilistic model, where β_7 captures heterogeneous treatment effects for the sub-population of interest.

$$P(Help)_{\tau,s,i,t} = \beta_0 + \beta_1 FA_i + \beta_2 T_t + \beta_3 H_i + \beta_4 FA_i * T_t + \beta_5 FA_i * H_i + \beta_6 T_t * H_i + \beta_7 FA_i * T_t * H_i + X_{i,t}\gamma + M_{i,t}\varphi + \mu_i \quad (3)$$

Since we aim to identify short term and middle term impacts, we estimate our models comparing baseline with first follow-up data and baseline with second-follow-up data independently. Finally, in order to assess the robustness of the estimates, we perform additional analyses using a combination of matching and DD.

6. Results

6.1. Overall effect on the probability of receiving private transfers

Table 3 presents the impact estimates of receiving the CCT transfer on the probability of receiving private support. We present marginal effects from probabilistic models' maximum likelihood estimation for first follow-up (Columns 1, 2, and 3) and second follow-up (Columns 4, 5, and 6). We also present results without including covariates (Columns 1 and 4), including household and municipality characteristics (Columns 2 and 5), and including municipality fixed effects (Columns 3 and 6) to test the sensitivity of the results. We present results for each type of transfer (cash, in-kind, and labor) and from each source (any private source, neighbors, and family/friends). In addition, on the last panel, we present the overall effect for receiving any transfer from any private source and any help from neighbors or family/friends in the municipality.

Table 3. Difference-in-differences regression on the probability of receiving private transfers

	First Follow-up			Second Follow-up		
	(1)	(2)	(3)	(4)	(5)	(6)
A. Cash						
From any private source	-0,005	-0.006	-0.007	0.040***	0.042***	0.042***
	(0.014)	(0.015)	(0.015)	(0.015)	(0.016)	(0.015)
From neighbors	-0.010	-0.009	-0.008	0.004	0.004	0.004
	(0.09)	(0.08)	(0.008)	(0.009)	(0.009)	(0.009)
From family or friends living in Municipality	-0.005	-0.005	-0.006	0.007	0.006	0.006
	(0.009)	(0.009)	(0.008)	(0.009)	(0.009)	(0.008)
B. In kind						
From any private source	0.018	0.019	0.024	0.106***	0.110***	0.115***
	(0.017)	(0.019)	(0.019)	(0.018)	(0.019)	(0.019)
From neighbors	0.039**	0.042**	0.046***	0.077***	0.079***	0.083***
	(0.017)	(0.017)	(0.018)	(0.017)	(0.017)	(0.017)
From family or friends living in municipality	-0.012	-0.012	-0.017	0.030**	0.032**	0.028**
	(0.013)	(0.014)	(0.013)	(0.014)	(0.014)	(0.014)
C. Labor†						
From any private source	-0.001	-0.005	-0.004	0.035***	0.029***	0.029***
	(0.009)	(0.008)	(0.008)	(0.011)	(0.010)	(0.009)
From neighbors	-0.002	-0.004	-0.003			
	(0.007)	(0.007)	(0.007)	-	-	-
From family or friends living in municipality	0.004	0.002	0.002			
	(0.006)	(0.004)	(0.005)			
D. Summary: any help						
From any private source	0.017	0.018	0.026	0.100***	0.104***	0.101***
	(0.017)	(0.018)	(0.018)	(0.017)	(0.017)	(0.018)
From neighbors	0.028*	0.031*	0.034*	0.059***	0.062***	0.063***
	(0.017)	(0.018)	(0.018)	(0.017)	(0.017)	(0.018)
From family or friends living in municipality	-0.015	-0.015	-0.018	0.038**	0.040**	0.037**
	(0.015)	(0.015)	(0.015)	(0.016)	(0.016)	(0.016)
Control variables	No	Yes	Yes	No	Yes	Yes
Municipality fixed effects	No	No	Yes	No	No	Yes
Number of households	5,781	5,781	5,781	5,781	5,781	5,781

Notes:
1. Marginal effects from Probit model maximum likelihood estimation. Columns 1, 2, and 3 for first follow-up effects; columns 4, 5, and 6 for second follow-up effects.
2. * Significant at 10%, ** significant at 5%, *** significant at 1%.
3. Robust standard errors in parentheses.
4. Control variables: at household level we include monthly income, head age, marital status, and education level, number of people living at household per groups of age, an indicator for owning the house, number of bedroom, main material of floors, walls, and roofs, value of assets, access to basic services (electricity, water, and toilet). At municipality level, we include quality of life index, population, presence of health, educational, and financial infrastructure, fixed effects for urban/rural and regions.
† Second follow-up survey does not include information regarding the source of non-paid labor, then we only could identify whether each household received support in labor or not, but not its provenance.

For the first follow-up, we do not find evidence that the CCT crowds out cash and in-kind transfers or labor help from private sources. Conversely, we identify a positive impact of the program on the probability of receiving in-kind help from neighbors: for treated individuals, the probability of receiving in-kind help (food, clothes, or other goods) from private sources

increased by 4.6 percentage points. These results are robust to the inclusion of household and municipality level control variables, as well as to the inclusion of municipality fixed-effects.

For the second follow-up, we find positive effects of the program on private support. First, beneficiaries were 4.2 percentage points more likely to receive cash transfers from any private source, 11.5 percentage points more likely to receive in-kind support, and 2.9 percentage points more likely to receive non-paid labor from neighbors, family, or friends. Overall, households in treatment municipalities were 10.1 percentage points more likely to receive any type of help from any private source and 6.3 and 3.7 percentage points more likely to receive help from neighbors and from family or friends in the municipality respectively. These effects represent an increase of 20.6% (overall), 25.2% (neighbors), and 21.2% (familiar or friends) compared to baseline levels. Also, note that the effects of the CCT for receiving help in kind or in any type from neighbors, which were statistically significant at first follow-up, were almost double at second-follow-up, suggesting an increasing effect. As shown in Table A1 (appendix) these findings are robust using different matched DD specifications.

6.2. Overall effect on the value of private transfers

Table 4 presents results for the effect of receiving the public transfer on the monetary value of private support received. We follow the same structure presented in Table 3. At the first follow-up, FA increased support received in cash, in kind, and in non-paid labor from family and friends by 27,503 pesos (12 USD). Taking into account all help received (inside or outside the municipality), the program increased the monetary value of private support by 46,812 pesos (21 USD), which represents an increase of 32% compared to baseline levels.

Table 4. Difference-in-differences regression on the value of private transfers in the last 12 months (COP)

	First Follow-up			Second Follow-up		
	(1)	(2)	(3)	(4)	(5)	(6)
A. Cash						
From neighbors	21.40	90,46	141.73	2,118	2,185	2,228
	(3,219)	(3,217)	(3,225)	(2,820)	(2,820)	(2,834)
From family or friends	6,186*	6,269*	6,322*	2,569	2,652	2,637
living in municipality	(3,707)	(3,719)	(3,747)	(3,102)	(3,109)	(3,121)
B. In-kind						
From neighbors	3,375	3,458	3,483	12,335***	12,350***	12,338***
	(4,515)	(4,522)	(4,542)	(3,658)	(3,664)	(3,678)
From family or friends	11,823***	11,914***	11,996***	4,915	4,840	4,811
living in municipality	(4,589)	(4,597)	(4,631)	(3,145)	(3,147)	(3,159)
C. Labor†						
From neighbors	5,113	5,229	5,545			
	(3,532)	(3,549)	(3,587)	15,229***	15,435***	16,026***
From family or friends	14,443***	14,286***	14,731***	(3,358)	(3,382)	(3,423)
living in municipality	(4,517)	(4,526)	(4,565)			
D. Any help						
From neighbors	8,511	8,778	9,171	21,840***	22,092***	22,556***
	(6,837)	(6,851)	(6,890)	(5,348)	(5,360)	(5,399)
From family or friends	27,340***	27,240***	27,503***	12,668**	12,758**	12,882**
living in municipality	(6,801)	(6,812)	(6,865)	(4,988)	(4,999)	(5,028)
Total help received	45,944***	46,002***	46,812***	52,735***	53,271***	53,869***
	(10,731)	(10,718)	(10,780)	(8,993)	(9,012)	(9.063)
Control variables	No	Yes	Yes	No	Yes	Yes
Municipality fixed effects	No	No	Yes	No	No	Yes
Number of households	5,781	5,781	5,781	5,781	5,781	5,781

Notes:
1. Results from OLS estimation. Columns 1, 2, and 3 for first follow-up effects; columns 4, 5, and 6 for second follow-up effects.
2. * Significant at 10%, ** significant at 5%, *** significant at 1%.
3. Robust standard errors in parentheses.
4. Average annual exchange rate of $1 USD = $2,275 COP.
5. All control variables stated in Table 3 are included.
† Second follow-up survey does not include information regarding the source of non-paid labor, then we only could identify whether each household received support in labor or not and its value, but not its provenance.

The program had even stronger effects on treated municipalities at the second follow-up. Although cash transfers from private sources did not increase for beneficiaries, in-kind transfers increased by 12,338 pesos (5 USD), and non-paid labor support increased by 16,026 pesos (7 USD). Overall, private transfers from neighbors increased on average by 22,556 pesos (10 USD), and from family or friends in the municipality by 12,882 pesos (6 USD). Considering all types of help and sources, FA increased the value of support received by 53,969 pesos (24 USD), representing an increase of 38% compared to baseline levels. We present results from a matched DD regression using the same specification in Table A2

(appendix). The results from the DD and matched DD models show that most estimates are robust, while some are underestimated using the former approach, which as previously discussed is consistent with pre-existing differences in the outcomes favoring control individuals.

6.3. Heterogeneous treatment effects

Table 5 summarizes results for treatment heterogeneous effects estimated using equation 3. We consider two basic sub-populations for the analysis: the poorest of the poorest households (poorest quintile in our sample), and households living in rural areas. Columns 1 and 4 present the overall effect for first and second follow-up respectively. Columns 2 and 5 present the additional effect for poorest households and columns 3 and 6 the additional effect for households in rural areas. Note that at first follow-up there are not heterogeneous effects, but at second follow-up the effect of FA on increasing the probability of in-kind private support is 11 percentage points larger for the poorest households and 15.7 percentage points larger for households in rural areas. In addition, for households living in rural areas the effect of the public subsidy on receiving cash transfers from private sources is 8.6 percentage points larger than in rural areas.

Table 5. Difference-in-difference-in-differences estimation for heterogeneous treatment effects

	First Follow-up			Second Follow-up		
	Overall effect	Poorest households†	Rural areas	Overall effect	Poorest households†	Rural areas
A. Type of private help						
Cash	-0,005	0.017	0.030	0.040***	0.053	0.086*
	(0.014)	(0.049)	(0.049)	(0.015)	(0.052)	(0.055)
In-kind	0.018	-0.044	-0.016	0.106***	0.110*	0.157**
	(0.017)	(0.062)	(0.065)	(0.018)	(0.060)	(0.062)
Labor	-0.001	0.005	-0.034	0.035***	0.006	-0.006
	(0.009)	(0.029)	(0.015)	(0.011)	(0.028)	(0.026)
B. Any help						
From any private source	0.017	-0.056	-0.036	0.100***	0.089	0.120**
	(0.017)	(0.061)	(0.062)	(0.017)	(0.057)	(0.057)
From neighbors	0.028*	-0.002	0.085	0.059***	0.078	0.097*
	(0.017)	(0.058)	(0.068)	(0.017)	(0.059)	(0.063)
From family or friends	-0.015	-0.025	-0.050	0.038**	0.010	0.082
living in municipality	(0.015)	(0.045)	(0.044)	(0.016)	(0.047)	(0.059)
Number of households	5,781	5,781	5,781	5,781	5,781	5,781

Notes:
1. Marginal effects from Probit model maximum likelihood estimation. Heterogeneous treatment effects.
2. Coefficients reported for heterogeneous effects refer to the triple interaction. The total increase in the probability of a sub-population is the sum between that coefficient and the overall effect.
3. * Significant at 10%, ** significant at 5%, *** significant at 1%.
4. Robust standard errors in parentheses.
5. All control variables stated in Table 3 are included.
† Poorest households refer to the first group when dividing households in income quintiles, which is the poorest of the poorest households in the program.

6.4. Possible mechanisms

We find that the CCT *Familias en Acción* did not have a crowding-out effect on private transfers in the short-run. Furthermore, we find that FA had a crowding-in effect on private support by the second follow-up. This effect masks two possible mechanisms: receiving the cash subsidy and its subsequent effect on the behavior of family or friends (which depends on their motivation for giving, as discussed earlier), or additional features of the program that increased social capital. As described previously, the CCT had several features planned by the program staff aimed at strengthening social bonds between neighbors, friends, and family members in the municipality. These features included community meetings (*Encuentros de Cuidado*), delivery of information through booklets and games, and interaction with leaders (*Madre Líder*), whose duties involved an important component of fostering private support among beneficiaries and with other private sources.

In order to better understand the mechanisms behind the crowding-in effect, it would be very useful to identify the specific components of the program that contributed the most to increasing private support. However, it is not possible to make a causal estimate of each component because attendance at community meetings and participation in other program components was voluntary. Nevertheless, we can examine change over time in participation in these components. Data from the program evaluation includes information on attendance at community meetings, such as *Encuentros de Cuidado* and *Asambleas de Madres* (Mother's Assemblies), knowledge of informational booklets, and participation in the election of *Madre Líder.*

Table 6 presents the overall proportion of beneficiaries that participated in each component aforementioned at first follow-up and second follow-up. We also present these statistics for households in the first quintile in the distribution of income, and for households living in rural areas.

Table 6. Percentage of beneficiaries that participated in each FA's component

	Overall		Poorest households		Rural	
	First follow-up	Second follow-up	First follow-up	Second follow-up	First follow-up	Second follow-up
Assisted to *Encuentros de Cuidado*	28.1	79.6	29.1	79.1	24.3	83.0
Assitance						
One	45.8	6.3	42.5	7.4	35.5	3.9
Two	29.6	14.4	34.2	13.8	37.1	13.1
Three	13.5	22.2	10.0	19.9	12.9	31.1
Four	7.9	17.2	8.3	18.1	14.5	19.4
More tan five	3.3	39.8	4.9	40.7	0.0	32.5
Known any FA's information booklet	10.4	22.6	10.3	21.7	6.8	13.4
Assisted to *Asamblea de Madres*	61.9	84.4	61.3	83.5	62.2	83.4
Participated in election of *Madre Líder*	87.6	91.3	87.4	93.1	85.1	93.2

Attendance at *Encuentros de Cuidado* increased substantially between first and second follow-up: while at first follow-up 28.1% of households attended at least one meeting, at second follow-up the percentage was 79.6%, which represents an increase of almost 183%. The same occurs for other community meetings, such as *Asamblea de Madres.* Likewise, at second follow-up the proportion of beneficiaries who were familiar with FA information

booklets increased by 12.2 percentage points, and the percentage who participated in the elections for *Madre Líder* increased by 3.7 percentage points. In contrast, the average monthly amount of the cash subsidy did not change between first and second follow-up. This suggests that exposure to additional community activities, and not only the monetary transfer, plays an important role in explaining crowding-in effects.

7. Conclusions and Policy Implications

A common concern in the design of public subsidies is the possibility of introducing non-desirable effects that can render public investments inefficient. One such possible effect is that public transfers might crowd out private transfers. This is particularly important in the case of CCTs, as they have become the most important social protection program in many developing countries, particularly in Latin America. These programs were created with the objective of alleviating poverty in the short term and increasing human capital in the long term, but if CCTs crowd out private transfers, the potential for poverty reduction in the short term is limited.

This paper finds that the Colombian CCT Familias en Acción not only had no crowding-out effects on private support, but that it actually had a crowding-in effect. Almost five years after the program was implemented, FA increased the cash transfers received by program beneficiaries from private sources by 4.2 percentage points, in-kind support by 11.5 percentage points, and help with labor by 2.9 percentage points. Moreover, the program increased the total average value of private transfers received by households 38% at second follow-up compared to baseline levels. While these findings cannot be generalized to other CCT programs, they provide evidence of potential synergies that can be produced by social protection programs.

There are two main hypotheses that may help explain these results. One possible explanation, relying on the reciprocity model, is that family, friends, and neighbors behave strategically, and provide support to beneficiary households in the expectation of future compensation. Another possible explanation is that the program helps to enhance collaboration and solidarity within communities. Both qualitative and quantitative evidence suggest that FA had

a positive impact on social capital. Program staff and beneficiaries affirm that FA program features offered spaces that fostered fellowship and volunteer sharing (see Acción Social, 2010). Some beneficiaries affirmed: "Encuentros de Cuidado had been useful to strengthen the bond between us all" (Acción Social, 2010 p. 539), and "Meetings have strengthened solidarity and fraternity between households" (Acción Social, 2010, p. 543). The fact that crowding-in effects are observed mainly in the second follow-up (rather than the first), and that there was a substantial increase in participation in community activities between first and second follow-up, provides strong support for the second hypothesis.

Finally, these findings can shed some light on the design of social protection programs, particularly CCTs. Complementary activities beyond the provision of the cash subsidy can in fact have a multiplier effect on reducing income poverty and increasing families' well-being. For instance, community activities that foster solidarity and reciprocity have the potential to boost the effects of public transfers. Future research should further examine which components have the highest potential effectiveness.

8. References

Acción Social (2010). *Entre la memoria y el olvido: voces de las madres*. Bogotá, Colombia.

Acción Social & Departamento Nacional de Planeación, DNP, (2010). *El camino recorrido: diez años de Familias en Acción*. Bogotá, Colombia.

Albarran, P., & Attanasio, O. P. (2003). Limited commitment and crowding out of private transfers: Evidence from a randomised experiment. *The Economic Journal, 113*(486), C77-C85.

Aldieri, L. & Fiorillo, D. (2015). Private monetary transfers and altruism: an empirical investigation on Italian families. *Economic Analysis and Policy*, 46, 1-15.

Attanasio, O., Fitzimons, E., Gomez, A., Gutiérrez, A., Meguir, C. & Mesnard, A. (2010). Children's schooling and work in the presence of a conditional cash transfer program in rural Colombia. *Economic Development and Cultural Change*, 58(2), 181-210.

Attanasio, O., Polania-Reyes, S. & Pellerano, L. (2015). Building social capital: conditional cash transfers and cooperation. *Journal of Economic Behavior & Organization*, 118, 22-39.

Baez, J.E. & Camacho, A. (2011). *Assessing the long-term effects of conditional cash transfers on human capital: Evidence from Colombia.* Policy Research Working Paper No. 5681. Washington D.C: The World Bank.

Barro, R. J. (1974). Are government bonds net wealth? *Journal of Political Economy, 82*, 1063-1093.

Becker, G. (1974). A theory of social interactions. *Journal of Political Economy, 82*, 1063-1093.

Bernal, R. & Peña, X. (2011). *Guía práctica para la evaluación de impacto*. Ediciones Uniandes, Bogotá: Colombia.

Bernheim, B.D., Shleifer, A. & Summers, L. (1985). The strategic bequest motive. *Journal of Political Economy*, 93(6), 1045-1076.

Clément, M. (2008). The relationship between private transfers and household income with regard to the assumptions of altruism, exchange and risk sharing: an empirical analysis applied to Russia. *Post-Communist Economies*, 20(2), 173-187.

Cox, D. (1987). Motives for private income transfers. *Journal of Political Economy*, 95(3), 508-546.

Cox, D., Eser, Z. & Jimenez, E. (1998). Motives for private transfers over the lyfe cycle: an analytical framework and evidence for Peru. *Journal of Development Economics*, 55, 57-80.

Cox, D., & Jakubson, G. (1995). The connection between public transfers and private interfamily transfers. *Journal of Public Economics, 57*(1), 129.

Cox, D. & Jimenez, E. (1990). Achieving social objectives through private transfers: a review. *The World Bank Economic Review*, 5(2), 205-218.

Cox, D., & Jimenez, E. (1992). Social security and private transfers in developing countries: the case of Peru. *World Bank Economic Review, 6*(1), 155-169.

DNP –Departamento Nacional de Planeación (2006). *Programa Familias en Acción. Impacto del Programa a un año y medio de su ejecución*. Bogotá, Colombia.

Fafchamps, M. (2011). Risk sharing between households. In J. Benhabib, A. Bisin, & M. Jackson (Eds.), *Handbook of Social Economics* (pp. 1255–1279). Elsevier B.V.

Fiszbein, A., Schady, N., Ferreira, F.H.G., Grosh, M., Keleher, N., Olinto, P., Skoufias, E. (2009). Conditional Cash Transfers: Reducing Present and Future Poverty. World Bank Policy Research Report. Washington, DC: World Bank.

Foster, A. & Rosenzweig, M. (2001). Imperfect commitment, altruism, and the family: evidence from transfer behavior in low-income rural areas. *The Review of Economic Statistics*, 83(3), 389-407.

García, S., Harker, A. & Cuartas, J. (2016). Building dreams: the impact of a conditional cash transfer program on educational aspirations in Colombia. *Documento de Trabajo* No. 30, Escuela de Gobierno Alberto Lleras Camargo, Universidad de los Andes.

Garcia, S. & Hill, J. (2010). Impact of conditional cash transfers on children's school achievement: evidence from Colombia. *Journal of Development Effectiveness*, 2(1), 117-137.

Gómez, L. C., Attanasio, O., Corral, L. C., Alviar, C., Llane, L. (2004). *Evaluación del impacto del programa Familias en Acción – subsidio condicionados de la red de apoyo social: informe final línea de base*. IFS, Econometría S.A., SEI. Colombia.

Guth, W., Offerman, T., Potters, J., Strobel, M., & Verbon, H. A. A. (2002). Are family transfers crowded out by public transfers? *The Scandinavian Journal of Economics, 104*(4), 587.

IFS-Econometria-SEI (2003). *Methodological Report on the Evaluation of Familias en Acción (in Spanish)*. Bogotá.

Imbens, G., & Wooldridge, J. (2007). Difference-in-difference estimation. NBER Lecture 10: What's New in Econometrics?

Jensen, R. T. (2003). Do private transfers 'displace' the benefits of public transfers? Evidence from South Africa. *Journal of Public Economics, 88*, 89-112.

Juarez, L. (2009). Crowding out of private support to the elderly: Evidence from a demogrant in Mexico. *Journal of Public Economics, 93*(3-4), 454-463.

Jung, H., Pirog, E. & Lee, S.K. (2016). Do public pensions crowd out private transfers to the elderly? Evidence from South Korea. *Journal of Pension Economics and Finance*, 15(4), 455-477.

Kang, S.J. & Sawada, Y. (2003). Are private transfers altruistically motivated? The case of the Republic of Korea before and during the financial crisis. *The Developing Economies*, XLI-4, 484-501.

Kazianga, H. (2006). Motives for household private transfers in Burkina Faso. *Journal of Development Economics, 79*(1), 73-117.

Lai, M. S., & Orsuwan, M. (2009). Examining the impact of Taiwan's cash allowance program on private households. *World Development, 37*(7), 1250-1260.

Lampman, R. J., & Smeeding, T. M. (1983). Interfamily Transfers as Alternatives to Government Transfers to Persons. *Review of Income and Wealth, 29*(1), 45-66.

Mozumder, P., Bohara, A., Berrens, R., & Halim, N. (2009). Private transfers to cope with a natural disaster: evidence from Bangladesh. *Environment and Development Economics, 14*(2), 187.

Nielsen, M. E., & Olinto, P. (2007). *Do conditional cash transfers crowd out private transfers? Evidence from randomized trials in Honduras and Nicaragua*. Unpublished manuscript.

Presidencia de la República (2002). *Cuidados para crecer sanos, fuertes y felices.* Informative Booklet, Programa Familias en Acción. Colombia

Presidencia de la República (2004). Baraja de Familias en Acción. Deck of informative cards, Programa Familias en Acción. Colombia.

Presidencia de la República (2005). *Por un espacio que nos pertenece ¿cómo preservar los beneficios que ha generado Familias en Acción?* Informative Booklet, Programa Familias en Acción. Colombia.

Reil-Held, A. (2006). Crowding out or crowding in? Public and private transfers in Germany. *European Journal of Populaion, 22*, 263-280.

Schoeni, R. F. (2002). Does unemployment insurance displace familial assistance? *Public Choice, 110*, 99-119.

Sulaiman, M. (2010). *Incentive and crowding out effects of food assistance: evidence from randomized evaluation of food-for-training project in Southern Sudan*. London: London Schoool of Economics and BRAC.

Stampini, M. & Tornarolli, L. (2012). The growth of conditional cash transfers in Latin America and the Caribbean: did they go too far? *Policy Brief No. IDB-PB-185*, Inter-American Development Bank.

Teruel, G. & Davis, B. (2000). Una evaluación del impacto de los apoyos en efectivo de Progresa sobre las transferencias privadas entre los hogares. *Progresa Report*: 2000, Washington, D.C. International Food Policy Research Institute.

Townsend, R.M. (1994). Risk and insurance in village India. *Econometrica,* 62(3), 539-591.

9. Appendices

Table A1. Matched difference-in-differences regression on the probability of receiving private transfers

	Entropy balancing		Coarsened Exact Matching (CEM)	
	First Follow-up	Second Follow-up	First Follow-up	Second Follow-up
A. Cash				
From any private source	-0,005	0.079***	-0.024	0.034*
	(0.022)	(0.022)	(0.018)	(0.018)
From neighbors	-0.020	0.003	-0.031	0.001
	(0.016)	(0.013)	(0.013)	(0.011)
From family or friends living in municipality	-0.020	0.010	0.005	0.011
	(0.015)	(0.011)	(0.012)	(0.011)
B. In kind				
From any private source	-0.004	0.096***	-0.030	0.062***
	(0.026)	(0.025)	(0.021)	(0.023)
From neighbors	-0.022	0.037*	-0.023	0.029
	(0.023)	(0.020)	(0.019)	(0.018)
From family or friends living in municipality	-0.007	0.048**	-0.012	0.033*
	(0.020)	(0.019)	(0.017)	(0.016)
C. Labor†				
From any private source	0.013	0.041***	0.003	0.045***
	(0.013)	(0.013)	(0.012)	(0.012)
From neighbors	0.005		-0.002	
	(0.011)		(0.010)	
From family or friends living in municipality	0.010		0.008	
	(0.007)		(0.006)	
D. Summary: any help				
From any private source	0.035	0.121***	-0.005	0.074***
	(0.024)	(0.026)	(0.021)	(0.022)
From neighbors	-0.013	0.041*	-0.023	0.030
	(0.024)	(0.023)	(0.021)	(0.019)
From family or friends living in municipality	-0.000	0.059***	-0.004	0.042**
	(0.024)	(0.021)	(0.019)	(0.018)
Number of households	5,781	5,781	4,304	4,304

Notes:

1. Results after matched difference-in-differences regression. Columns 1 for first follow-up and 2 for second follow-up using entropy balancing, and columns 3 for first follow-up and 4 for second follow-up using Coarsened Exact Matching (CEM).
2. * Significant at 10%, ** significant at 5%, *** significant at 1%.
3. Robust standard errors in parentheses.

† Second follow-up survey does not include information regarding the source of non-paid labor, then we only could identify whether each household received support in labor or not, but not its provenance.

Table A2. Matched difference-in-differences on the value of private transfers in the last 12 months (COP)

	Entropy balancing		Coarsened Exact Matching (CEM)	
	First Follow-up	Second Follow-up	First Follow-up	Second Follow-up
A. Cash				
From neighbors	-7,401	33,639	-9,511	37,963
	(5,881)	(29,224)	(7,171	(35,119)
From family or friends living in municipality	66.58	20,777	8,651	42,269
	(7,410)	(34,566)	(6,319)	(39,625)
B. In-kind				
From neighbors	-7,570	109,431**	-18,153	98,889
	(15,535)	(55,122)	(14,029)	(68,887)
From family or friends living in municipality	20,093**	9,963	9,255	9,179
	(8,074)	(53,040)	(7,851)	(65,539)
C. Labor†				
From neighbors	7,560	122,525*	2,275	153,724*
	(5,281)	(74,806)	(5,663)	(88,995)
From family or friends living in municipality	16,455**		10,699	
	(6,874)		(8,222)	
D. Any help				
From neighbors	-7,411	157,804**	-25,389	149,616*
	(18,083)	(62,571)	(17,160)	(77,403)
From family or friends living in municipality	29,054**	38,944	26,331**	60,033
	(13,120)	(64,209)	(11,772)	(76,675)
Total help received	38,038*	294,821**	-11,467	313,848**
	(24,005)	(118,729)	(21,919)	(142,622)
Number of households	5,781	5,781	4,304	4,304

Notes:

1. Results after matched difference-in-differences regression. Columns 1 for first follow-up and 2 for second follow-up using entropy balancing, and columns 3 for first follow-up and 4 for second follow-up using Coarsened Exact Matching (CEM).
2. * Significant at 10%, ** significant at 5%, *** significant at 1%.
3. Robust standard errors in parentheses.
4. Average annual exchange rate of $1 USD= $2,275 COP.

† Second follow-up survey does not include information regarding the source of non-paid labor, then we only could identify whether each household received support in labor or not and its value, but not its provenance.

Universidad de los Andes
Escuela de Gobierno
Alberto Lleras Camargo

PROGRAMAS ACADÉMICOS

egob.uniandes.edu.co

Pregrado en
Gobierno y Asuntos Públicos

Preparar líderes para transformar lo público

- Título otorgado: Profesional en Gobierno y Asuntos Públicos
- SNIES: 102920. Registro calificado: resolución No. 16710 del 28 de noviembre de 2013, por 7 años
- Duración: 4 años (135 créditos académicos, distribuidos en ocho semestres)
- Modalidad: presencial en Bogotá

Maestría en
Políticas Públicas

Herramientas para mejorar el diseño, la implementación y la evaluación de las políticas públicas

- Título otorgado: Magíster en Políticas Públicas
- SNIES: 90798. Registro calificado: resolución No. 2056 del 17 de febrero de 2015, por 7 años
- Duración: 2 años (42 créditos académicos, distribuidos en cuatro semestres)
- Modalidad: presencial en Bogotá

Maestría en
Salud Pública

Evidencia y enfoque global que generan cambios en la salud y en la calidad de vida de la población

- Título otorgado: Magíster en Salud Pública
- SNIES: 91281. Registro calificado: resolución No. 3308 del 25 de abril de 2011, por 7 años
- Duración: 2 años (44 créditos académicos, distribuidos en cuatro semestres)
- Modalidad: presencial en Bogotá

Ofrecido en conjunto con la
Facultad de Medicina

Más Información

Escuela de Gobierno Alberto Lleras Camargo - Universidad de los Andes
Carrera 1 No. 19 - 27 - Bloque AU, tercer piso - Bogotá, Colombia
Teléfono: 3394949 ext. 2073

fb.com/EGOBUniandes
@EGOBUniandes

Universidad de los Andes | Vigilada Mineducación | Reconocimiento como Universidad: Decreto 1297 del 30 de mayo de 1964.
Reconocimiento personería jurídica: Resolución 28 del 23 de febrero de 1949 Minjusticia.

Universidad de los Andes
Escuela de Gobierno
Alberto Lleras Camargo

Documentos de trabajo EGOB es una publicación periódica de la Escuela de Gobierno Alberto Lleras Camargo de la Universidad de los Andes, que tiene como objetivo la difusión de investigaciones en curso relacionadas con asuntos públicos de diversa índole. Los trabajos que se incluyen en la serie se caracterizan por su interdisciplinariedad y la rigurosidad de su análisis, y pretenden fortalecer el diálogo entre la comunidad académica y los sectores encargados del diseño, la aplicación y la formulación de políticas públicas.

egob.uniandes.edu.co

fb.com/EGOBuniandes @EGOBUniandes

Universidad de los Andes | Vigilada Mineducación
Reconocimiento como Universidad: Decreto 1297 del 30 de mayo de 1964.
Reconocimiento personería jurídica: Resolución 28 del 23 de febrero de 1949 Minjusticia.