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How effective are conditional cash transfers? Evidence from Colombia[1]

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1. Introduction

Conditional cash transfer (CCT) programmes are becoming an extremely popular tool for improving the education and health outcomes of poor children in developing countries. An incomplete list of countries in which they are being implemented under the support of the World Bank and other international financial institutions includes Mexico, Honduras, Nicaragua, Brazil, Turkey and Mozambique. While the implementation details vary from country to country, many are modelled on the Mexican PROGRESA. In a typical CCT, mothers from poor backgrounds receive cash conditional on their promoting certain activities on behalf of their children. For their youngest children – usually those below the age of 6 – the conditionality involves visits to preventive healthcare centres in which their growth is monitored. School attendance is the most common stipulation for receipt of cash transfers for older children – usually those between 7 and 17 years old. This targeting of health and education of children is at the essence of the long-term poverty alleviation objective of CCT programmes. Such transfer programmes are also aimed at the short-term reduction of poverty, through the provision of immediate funds to indigent households.

In this Briefing Note, we will focus on the programme Familias en Acción (FA), the CCT implemented by the Colombian government from 2001/02. In particular, we will provide estimates of how the programme has influenced key welfare indicators such as school attendance, child nutrition and health status, as well as household consumption. In this respect, we will update the preliminary results that were reported in Attanasio et al. (2003 and 2004).

Whilst CCTs, through reducing the prices facing economic agents, may a priori be expected to impact favourably on the outcomes that they target, for several reasons this must of course be evaluated and validated or otherwise. First, the mere existence of a programme such as FA does not mean that individuals will

[1] This Briefing Note is a summary of the report *Evaluación del Impacto del Programa Familias en Acción – Subsidios Condicionados de la Red de Apoyo Social. Informe del Primer Seguimiento*, Bogotá, carried out by a consortium consisting of Econometría Consultores, the Institute for Fiscal Studies and Sistemas Especializados de Información.

enrol. Administrative obstacles and costly conditionalities could make the programme unattractive and render it less likely that households will enrol; further, even if they do enrol, corruption and other administrative problems might lead to their not receiving the transfer(s) to which they are entitled. Second, the amount of the transfer could be too small to make a difference to key outcomes that are targeted by the programme, such as school attendance and/or child nutritional status. Moreover, the conditionalities notwithstanding, transferring cash to poor households does not necessarily mean that it will be spent in the way deemed desirable by the designer of the programme. Households could use part of the transfer payment to consume tobacco, alcohol or other 'adult' commodities, which would generally be considered to be undesirable. Similarly, families could increase consumption of leisure in response to the receipt of money from the programme. Third, one may want to consider changes to the details and implementation of the programme to improve its efficiency. For these and other reasons, programmes such as FA should be evaluated to ensure that public resources are not wasted.

The Briefing Note is organised as follows. First, we briefly describe the FA programme. Second, we explain the evaluation tools and the methodology followed for the evaluation. Third, we show the impact that the programme has had on school attendance, consumption and child health. We do not describe here the population under study. For details of this, see Attanasio et al. (2004).

2. Familias en Acción

In 2000, the World Bank (WB) and the Inter-American Development Bank (IADB) approved a loan to the Colombian government to finance three welfare programmes intended to alleviate poverty and foster development in Colombia. The first programme, called Familias en Acción, was inspired by PROGRESA and consists of conditional subsidies to education and nutrition.[2] The programme was targeted first geographically. Of the 1,024 municipalities in Colombia, 691 qualified for the programme. The conditions for qualifying included: (i) the town consists of fewer than 100,000 inhabitants and is not a departmental capital; (ii) it has sufficient education and health infrastructure; (iii) it has a bank and the town mayor has to report some information and documents to the central government.

Within each qualifying town, all of the poorest households in which there were children aged 0–17 were eligible for the programme. In Colombia, all households are assigned to one of six levels of a welfare indicator, which summarises economic well-being. This indicator, called SISBEN, is used to target all welfare programmes as well as for utility pricing. FA was targeted to

[2] The other two programmes financed by the WB/IADB loan are a workfare programme and a training programme for young urban unemployed people.

households registered as SISBEN level 1 as of December 1999. SISBEN 1 includes roughly the 20% poorest households.

Beneficiary families with children under the age of 5 are entitled to receive a basic nutritional subsidy (approximately US$15 per month). To take part in the programme, mothers must take their children to growth and development check-ups (this explains why the programme could only be rolled out in communities with enough health infrastructure). Mothers are also encouraged to attend courses on hygiene, vaccination and contraception. Households with children aged 6–17 receive a separate monthly grant per child, conditional on the child attending at least 80% of school lessons. The grant is approximately US$8 for children attending primary schools and approximately US$16 for children attending secondary school. A final important feature of the programme, also following the design of the Mexican programme, is that the transfers are specifically targeted towards mothers.

3. Data collection

The evaluation of FA is based on a careful comparison of the relevant outcome variables (school attendance, child nutrition and so on) of eligible children living in treatment and control municipalities. Treatment municipalities are a stratified random sample of municipalities where the programme is operating.[3] Control municipalities are a sample of those municipalities where the programme will not operate in the foreseeable future. Within each stratum, control municipalities were chosen so as to be as similar as possible to the treatment municipalities in terms of population size, percentage of urbanisation and an index of quality of life. In practice, many of the control towns would have qualified in terms of health and education infrastructure but lacked a bank.[4]

The evaluation of FA is based on information collected through extensive household questionnaires. This includes information about the household socio-demographic structure, dwelling conditions, household assets, education, use of healthcare services, children's and mother's anthropometric indicators, household consumption, labour supply, income and transfers. The household questionnaire was administered to a sample of eligible households living in treatment municipalities as well as those living in control municipalities. Additionally, information about the municipality infrastructure, wages and food prices was collected through questionnaires to town authorities and visits to markets. The information collected through questionnaires was used to compute the outcomes of interest (child nutritional status, school attendance

[3] Strata were defined in terms of geography and basic health and education infrastructure.

[4] A bank was deemed necessary by the programme designer for the operation of the programme because of the difficulties of transferring cash in rural Colombia.

and so on), and included background information to improve the accuracy of the estimates and to control for pre-existing observed differences between children living in treatment municipalities and children living in control municipalities that might contaminate the impact results.

Households were interviewed twice. The baseline data were collected between June and September of 2002 and the follow-up data between July and November of 2003. The FA programme had not started to operate in the treatment municipalities when the first round of data was collected, but it was operating in all of them at the time of the second round.[5] This means we can apply the evaluation technique denoted 'differences-in-differences'. In brief, this allows us to take account of possible pre-existing differences between treatment and control towns which, being in existence before the programme became operative, may be considered not to be attributable to the programme. Suppose, for instance, that school attendance rates in treatment and control towns are 60% and 50% respectively before the programme and that, between the first and second rounds of data collection, they increase to 80% in treatment municipalities and to 60% in control municipalities. The differences-in-differences estimate of the impact of the programme is 10% (= {80%–60%}–{60%–50%}).

4. The impact of the programme

The programme FA is mainly targeted at increasing school attendance and household consumption, and at improving child health. Here we discuss how the programme has influenced these outcomes across children and households that are eligible for FA, independently of whether or not they enrol in the programme. Consequently, the estimates that we show reflect both the take-up of the programme and the impact of the programme on those children and households that choose to enrol. For instance, a low estimate of the impact of FA on school attendance could be due to: (i) few children enrolling in the FA programme; (ii) enrolled children who would have attended school even if the FA had not been in operation; or (iii) a combination of (i) and (ii). Having said this, however, we should mention that take-up of the programme was very high amongst eligible households, with an average 90% registration level.

For each outcome, we will present: (i) our best estimate of the average level of the outcome variable in the treatment municipalities had they not received the FA programme; (ii) the actual average level of the outcome variable, which incorporates the impact of the FA programme; and (iii) the impact of the FA programme, i.e. the difference between (ii) and (i).

[5] There is a group of treatment municipalities in which the programme was operating when the first round of data was collected. However, we exclude them from the analysis in this Briefing Note.

4.1 School attendance

The second column of Table 1 displays our best estimate of the percentage of children attending school had the FA programme not been in operation. Children between 8 and 11 years old have very high attendance rates, of over 90% in both urban and rural areas. Consequently, there is little room for improvement in the attendance rates for these children. In fact, the programme does not have any discernible impact on the attendance rates of children aged 8–11.

Table 1. Impact of FA on percentage of children who attend school

	Without FA	*With FA*	*Impact*
Rural			
Aged 8–11	93.0%	93.1%	0.1
Aged 12–17	46.2%	56.3%	10.1*
Urban			
Aged 8–11	95.2%	96.6%	1.4
Aged 12–17	68.5%	73.7%	5.2*

* Statistically significantly different from zero at the 95% confidence level.

The picture is quite different for 12- to 17-year-old children, amongst whom school attendance rates are much lower, especially for those living in rural areas – not even 50% of 12- to 17-year-olds in rural areas would have attended school had the programme not existed. The FA programme has had a very important impact on the school attendance of children of these ages, increasing it by 10.1 (5.2) percentage points in rural (urban) areas.

4.2 Household consumption

The programme FA gives cash to those mothers whose children satisfy the conditions of the nutrition and education subsidies. In addition, households with school-age children receive the education grants conditional on attendance. It is likely that total consumption of these households increases. In addition to measuring the size of the increase, we also look at what commodities the additional money provided by the cash transfer was spent on: 'desirable' goods (nutrient-rich food, healthcare and education) or 'undesirable' ones such as alcohol and tobacco. The analysis of the impact of FA on household consumption is also an indirect analysis of how the programme has influenced an important component of the welfare of households.

Table 2 shows the impact of FA on total consumption and on food consumption in Colombian pesos.[6] The programme increased total household

[6] US$1 is approximately 2,500 Colombian pesos.

consumption very considerably, by 19.5% in rural areas and by 9.3% in urban areas. It can be seen that most of the increase in consumption due to FA was dedicated to food. Table 3 shows how the programme increased the consumption of different types of food, as well as other components of consumption. For the sake of brevity, we only show the *impact* of the FA programme. It can be seen that consumption of protein-rich food (meat, chicken and milk) increases very considerably, in both urban and rural areas. The programme affects the consumption of other types of food much less. There is also a considerable increase in the consumption of clothes and footwear for children, while there is no significant effect on the consumption of these for adults. This seems to indicate that the programme benefits children rather than other members of the household. It is also important to note that FA has no significant effect on the consumption of tobacco and alcohol.

Table 2. Impact of FA on total consumption and on food consumption (in Colombian pesos)

	Without FA	*With FA*	*Impact*
Total consumption			
Rural	450,343	538,057	87,714*
Urban	477,460	521,846	44,386*
Food consumption			
Rural	279,042	349,213	70,171*
Urban	254,767	295,041	40,274*

* Statistically significantly different from zero at the 95% confidence level.

Table 3. Impact of FA on selected components of household consumption (in Colombian pesos)

	Urban	*Rural*
Meat, chicken and milk	21,831.4*	21,717.2*
Potatoes, yucca and other tubers	2,938.9*	4,133.1
Cereal	5,008.8*	9,094.6*
Fruit and vegetables	1,399.3	4,249.4
Pulses	313.6	2,008.4
Fat and oil	1,887.8*	3,139.4*
Sugar and pastries	1,234.6	647.2
Clothes and footwear for men	–3,952.4	–2,090.4
Clothes and footwear for women	–1,410.0	58.7
Clothes and footwear for children	12,088.1*	11,634.2*
Healthcare	1,898.7	3,641.9
Education	8,005.5*	–610.7
Alcohol and tobacco	2,175.1	–1,184.2

* Statistically significantly different from zero at the 95% confidence level.

4.3 Child health

According to the FA programme, families must keep their children up-to-date with the schedule of preventive healthcare visits in order to receive the nutritional subsidy ($15 per month). Consequently, we expect FA to increase considerably the percentage of children with such schedules up-to-date. Indeed, this is what Table 4 shows. For children less than 24 months old, the percentage with an up-to-date schedule of preventive healthcare visits increased from 17.2% to 40.0% due to FA. A large impact was also obtained for children between 24 and 48 months, with the percentage rising from 33.6% to 66.8%. For older children, the influence of FA is almost negligible, probably because these children require preventive healthcare visits much less often than younger children.

Table 4. Impact of FA on percentage of children with up-to-date schedule of preventive healthcare visits

Age	*Without FA*	*With FA*	*Impact*
<24 months	17.2%	40.0%	22.8*
24–48 months	33.6%	66.8%	33.2*
>48 months	38.9%	40.4%	1.5

* Statistically significantly different from zero at the 95% confidence level.

It is expected that mothers will receive useful advice about nutrition and the prevention of common diseases when they take them to preventive healthcare visits. Consequently, child health and nutritional status could improve due to FA, especially if household consumption, and in particular food consumption, has increased, as we saw previously.

We now consider the effects of FA on children's health and nutritional status. Table 5 shows the impact on the percentage of children who suffered from diarrhoea in the 15 days prior to the interview, as reported by the mother. The FA programme reduced the occurrence of diarrhoea from 32.6% to 22.0% for children less than 24 months old living in rural areas, and from 21.3% to 10.4% for children between 24 and 48 months (also in rural areas). No statistically significant impacts were found for older children or for children living in urban areas. We also analysed the effect of FA on the percentage of children who suffered any symptom of respiratory disease, but no statistically significant effects were found. More results are presented in the complete report, referenced in footnote 1 of this Briefing Note).

The long-term nutritional status of children can be measured using height. If a child is much shorter than the average for his/her age, he/she is said to be chronically malnourished. Now we analyse the impact of FA on children's height. This is a very important outcome variable, as 21% of the children aged 0–7 living in treatment municipalities are chronically malnourished according to this measure.

Table 5. Impact of FA on percentage of children who suffered from diarrhoea in the 15 days prior to the interview

Age	*Without FA*	*With FA*	*Impact*
Rural			
<24 months	32.6%	22.0%	–10.6*
24–48 months	21.3%	10.4%	–10.9*
>48 months	8.5%	7.0%	–1.5
Urban			
<24 months	38.6%	23.6%	–15.0
24–48 months	16.8%	13.5%	–3.3
>48 months	12.3%	8.1%	–4.2

* Statistically significantly different from zero at the 95% confidence level.

A very important nutritional programme, Hogares Comunitarios (HC), has been operating in both treatment and control municipalities since 1986 – 16 years before Familias en Acción was introduced.[7] HC is a nursery programme in which children receive childcare, one meal and two snacks each working day. Mothers have had to choose between enrolling their child in HC and enrolling them in FA, because children cannot be in both programmes. Consequently, our estimates of the impact of FA must be interpreted as the effects relative to those of HC. For instance, we could find negative impacts from FA if, for a particular outcome of interest, FA were worse than HC but some children still enrolled in FA. In towns where FA does not operate, HC is quite popular among children between 24 and 60 months old, but few children under 24 months participate in HC.

Table 6 shows the impact of the FA programme on boys' heights. The impacts for girls are very similar. According to Table 6, 12-month-old boys grew 0.44 centimetres more than if the FA programme had not been active. The impact of the programme on children older than 24 months seems negligible in the full results. This is consistent with two hypotheses. First, the youngest children have the highest rates of growth. Consequently, they are the ones who can show more benefit after only short exposure to the programme. Second, many children older than 24 months were already participating in HC, and some of these did not switch from HC to FA. Consequently, FA could not have any direct influence on them. For those children who did switch from HC to FA, FA could only benefit them marginally – by the extent, if any, that FA was better than HC. Attanasio and Vera-Hernández (2004) show that Hogares Comunitarios has had quite large impacts on children's nutritional status.

[7] See Attanasio and Vera-Hernández (2004) for more information on the Hogares Comunitarios programme.

Table 6. Impact of FA on boys' heights (in centimetres)

Age	*Without FA*	*With FA*	*Impact*
12 months	72.70	73.14	0.44*
36 months	87.54	87.58	0.04
60 months	104.22	104.27	0.05

* Statistically significantly different from zero at the 95% confidence level.

5. Conclusions

In this Briefing Note, we have reviewed the main impacts of Familias en Acción, the conditional cash transfer programme implemented by the Colombian government to reduce poverty and to foster human capital accumulation.

The programme has considerably increased household consumption, particularly consumption of protein-rich food as well as of children's clothes and footwear. FA has substantially increased the school attendance of 12- to 17-year-olds. There has been no effect on the attendance of children aged 8–11; however, this is most likely due to the fact that the school attendance of this group was very high even before the programme, so the scope for increasing it further was more limited. The programme has considerably increased the percentage of children with an up-to-date schedule of preventive healthcare visits. The nutritional status of the youngest children has improved due to the programme, but the programme does not seem to have affected the nutritional status (as measured by height) of older children. This is likely to be so partly because of the presence of alternative nutritional programmes in the community and partly because of the relatively short time that has elapsed since the start of the programme.

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